Sigma elektrik

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Sigma elektrik

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1993

Company Profile

Since 1992, ÜNLÜ GRUP has been supporting Turkish economy by production and export in textile, construction and foreign trade in its 26,000 m^2 facility in Istanbul\Sancaktepe with more than 1500 employees. SİGMA ELEKTRİK, which entered electricity sector with automatic fuse production in 1993, continues its operations under ÜNLÜ GRUP since 2009 in its factory in Istanbul\Sancaktepe with more than 320 expert staffs.

SİGMA ELEKTRİK serves both Turkish and global markets with its domestic production since 1993.

Thanks to the power that comes from its expert staff, SİGMA ELEKTRİK serves Low Voltage Switchgear Products sector, mainly with LV Circuit Breakers, Miniature Circuit Breakers, Residual Current Circuit Breakers, LV Current Transformers, Fuse Switch Disconnectors, NH Fuses, Automatic Transfer Switches, LV Contactors and with other various LV Protection and Measurement Devices in seven regions of Türkiye through its dealership network. Besides, with a commitment to quality and competitive pricing, it has secured significant market shares through its distributors in more than 50 countries in Europe, South America, Africa, Asia, Australia and the Middle East.

SİGMA ELEKTRİK has also many government approvals for projects in and abroad, participating and being granted with approval certificates.

SİGMA ELEKTRİK as a global company participates every year in worldwide known fairs such as Frankfurt Light and Building Fair, Messe Hannover, Middle East Energy in Dubai, Asean Super 8 Fair in Malaysia, Elcom in Ukraine and many others.

SİGMA ELEKTRİK, having various quality certificates including especially TSE, has expanded the certificate range by attaining international ASTA certificate recently. In addition to those certificates, SİGMA ELEKTRİK executes all work processes under ISO9000 quality assurance. Quality and customer satisfaction are the priorities of SİGMA ELEKTRİK. Therefore, all input raw materials are tested in laboratories that possess the latest version of test instruments, according to international standards; only after they pass the regarding tests, they are dispatched to production. Likewise, process control is executed throughout the whole production phases in accordance with quality criteria, and the products are transferred to customers only after their final quality inspection just before the shipment.

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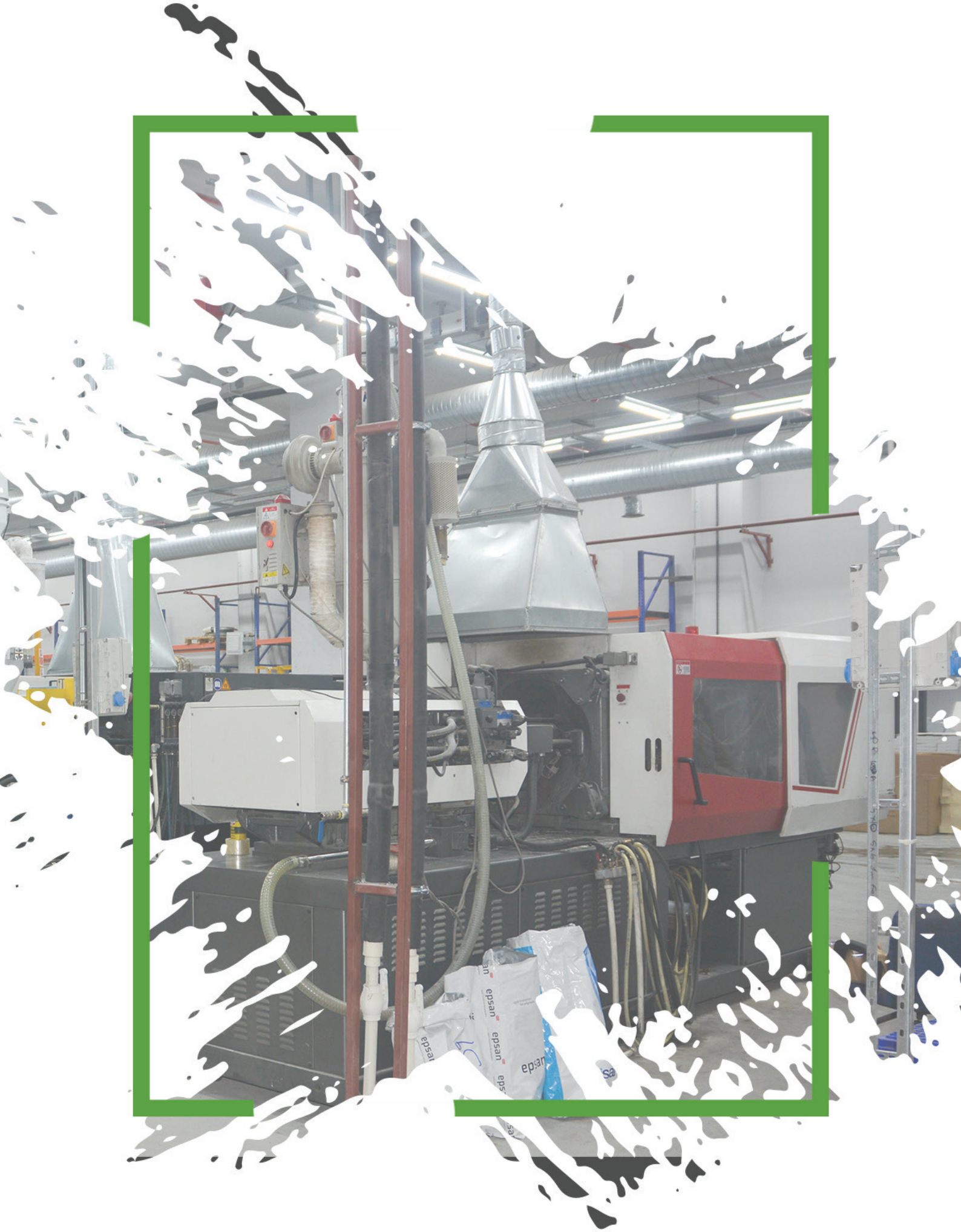
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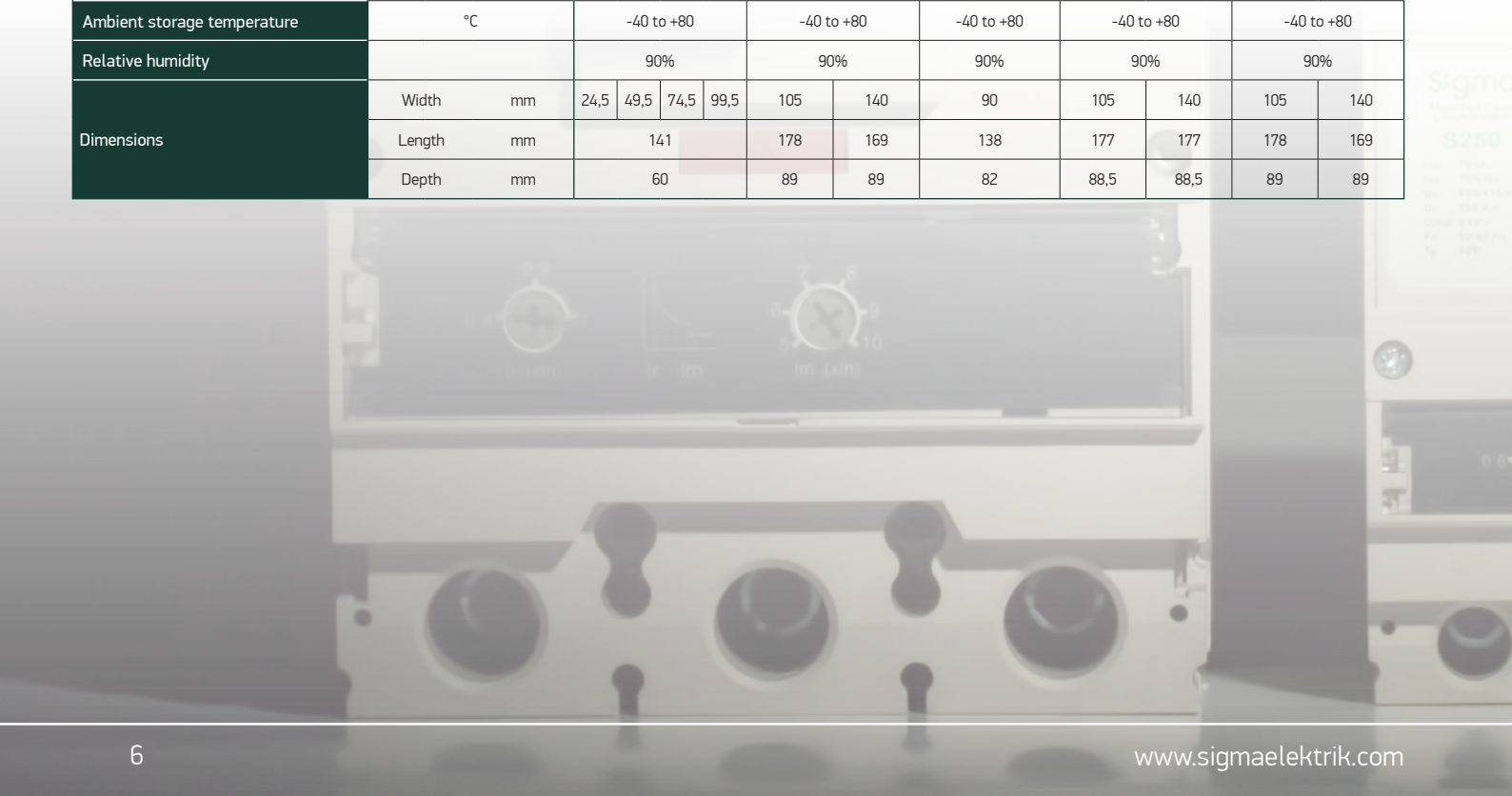
LV MOULDED CASE
CIRCUIT BREAKERS

The most important function of compact switches, also known as circuit breakers, is to protect the circuit in short circuit and overload situations, as well as to enable on-off operations of the circuit. At the same time, when used with the combination of leakage current protection relays and toroidal transformers, they protect the circuit against leakage currents.

- 1, 2, 3 and 4 poles
- Rated currents from 16A to 1600A
- 20kA, 25kA, 36kA, 50kA and 70kA breaking capacity
- Thermal-magnetic adjustable and fixed type options
- Short circuit interruption time thanks to the limiter feature
- Additional protection and control functions thanks to their compatibility with accessories (motor mechanism, trip coil, low voltage coil, connection terminal block, extension bar set, rotary extension arm, rotary control arm, mechanical padlock apparatus, auxiliary contact, alarm contacts)
- Highly durable body design with BMC body

LV MCCB, Thermal-Magnetic Adjustable Type - Technical Specifications

				B160				K160		M160	B250		K250	
Standard				IEC / EN 60947-2				IEC / EN 60947-2		IEC / EN 60947-2	IEC / EN 60947-2		IEC / EN 60947-2	
Rated current In (at 40°C)	A			25, 32, 40, 50, 63, 80, 100, 125, 160				16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160		40, 50, 63, 80, 100, 125, 160	200, 250	100, 125, 160, 200, 250	63, 80, 100, 125, 160, 200, 250	200, 250
Number of poles				1	2	3	4	3	4	3	3	4	3	4
Rated operating voltage	Ue	V	AC	400				415		400	400		400	
Rated insulation voltage	Ui	V	AC	1000				1000		1000	1000		1000	
Test Voltage at Industrial Frequency for 1 Minute		V	AC	3000				3000		3000	3000		3000	
Rated impulse Withstand voltage	Uimp	kV	AC	8				8		8	8		8	
Rated ultimate short circuit breaking capacity	Icu	kA	690V AC	8				8		10	8		8	
			500V AC	7				9		18	9		9	
			440V AC	15				22		42	22		22	
			415V AC	25				36		50	36		36	
			240V AC	35				50		65	50		50	
			250V DC (3 poles serial)	10				15		25	15		15	
Rated service short circuit breaking capacity	Ics	kA	690V AC	5				8		8	8		8	
			500V AC	7				9		14	9		9	
			440V AC	10				22		32	22		22	
			415V AC	25				36		50	36		36	
			240V AC	15				50		50	25		50	
			250V DC (3 poles serial)	5				10		19	5		10	
Category (IEC/EN 60947-2)				A				A		A	A		A	
Pollution degree				3				3		3	3		3	
Electrical life (No. operation)	ON - OFF		415 V	4.000				8.000		8.000	4.000		8.000	
Mechanical life (No. operation)	ON - OFF			10.000				20.000		20.000	10.000		20.000	
Protection unit				Thermal Adjustable Magnetic Fixed									Thermal Magnetic Adjustable	
Protection unit (power & network system protection)				Ir: (0,8-1)xIn; Im: 10xIn				Ir: (0,7-1)xIn; Im: 10xIn		Ir: (0,8-1)xIn; Im: 10xIn	Ir: (0,8-1)xIn; Im: 10xIn		Ir: (0,7-1)xIn; Im: (5-10)xIn	
Ambient operating temperature	°C			-20 to +60				-20 to +60		-20 to +60	-20 to +60		-20 to +60	
Ambient storage temperature	°C			-40 to +80				-40 to +80		-40 to +80	-40 to +80		-40 to +80	
Relative humidity				90%				90%		90%	90%		90%	
Dimensions	Width		mm	24,5	49,5	74,5	99,5	105	140	90	105	140	105	140
	Length		mm	141				178	169	138	177	177	178	169
	Depth		mm	60				89	89	82	88,5	88,5	89	89



M250		S250	K400	M400	S400		K630	M630	S630		M800	S800
IEC / EN 60947-2		IEC / EN 60947-2	IEC / EN 60947-2	IEC / EN 60947-2	IEC / EN 60947-2		IEC / EN 60947-2	IEC / EN 60947-2	IEC / EN 60947-2		IEC / EN 60947-2	IEC / EN 60947-2
63, 80, 100, 125, 160, 200, 250	100, 125, 160, 200, 250	100, 125, 160, 200, 250	315, 400	315, 400	315, 400		500, 630	500, 630	500, 630		800	800
3	4	3	3	3	3	4	3	3	3	4	3	3
400		400	400	400	400		400	400	400		400	400
1000		1000	1000	1000	1000		1000	1000	1000		1000	1000
3000		3000	3000	3000	3000		3000	3000	3000		3000	3000
8		8	8	8	8		8	8	8		8	8
10		16	12	17	16		12	17	16		22	16
18		42	20	25	42		20	25	42		35	42
42		50	25	35	50		25	35	50		42	50
50		70	36	50	70		36	50	70		50	70
65		100	65	50	100		65	80	100		100	100
25		30	25	30	30		25	30	30		30	30
10		8	12	17	8		12	17	8		22	8
18		21	20	25	21		20	25	21		35	21
42		25	25	35	25		25	35	25		42	25
50		52	36	50	52		36	50	52		25	35
65		50	36	80	50		36	50	50		50	50
25		23	20	23	23		23	23	23		23	23
A		A	A	A	A		A	A	A		A	A
3		3	3	3	3		3	3	3		3	3
8000		8000	6000	6000	6000		5000	5000	5000		5000	5000
20000		20000	15000	15000	15000		15000	15000	15000		10000	10000
Thermal Magnetic Adjustable			Thermal Magnetic Adjustable									
Ir: (0,7-1)xIn; Im: (5-10)xIn		Ir: (0,8-1)xIn; Im: (5-10)xIn	Ir: (0,8-1)xIn ; Im: (5-10)xIn	Ir: (0,8-1)xIn; Im: (5-10)xIn	Ir: (0,8-1)xIn; Im: (5-10)xIn		Ir: (0,8-1)xIn; Im: (5-10)xIn	Ir: (0,8-1)xIn; Im: (5-10)xIn	Ir: (0,8-1)xIn; Im: (5-10)xIn		Ir: (0,8-1)xIn ; Im: (5-10)xIn	Ir: (0,8-1)xIn; Im: (5-10)xIn
-20 to +60		-20 to +60	-20 to +60	-20 to +60	-20 to +60		-20 to +60	-20 to +60	-20 to +60		-20 to +60	-20 to +60
-40 to +80		-40 to +80	-40 to +80	-40 to +80	-40 to +80		-40 to +80	-40 to +80	-40 to +80		-40 to +80	-40 to +80
90%		90%	90%	90%	90%		90%	90%	90%		90%	90%
105	140	105	140	140	140	188	140	140	140	188	210	210
178	169	161	267	267	263	263	267	267	263	263	280	280
89	89	89	104	104	117	117	104	104	117	117	107	107

LV MCCB, Electronic Type - Technical Specifications

				U250	U400	U630	U1600
Standard				IEC / EN 60947-2	IEC / EN 60947-2	IEC / EN 60947-2	IEC / EN 60947-2
Rated current In (at 40°C)		A		40, 100, 160, 250	400	630	800, 1000, 1250, 1600
Number of poles				3 / 4	3 / 4	3 / 4	3
Rated operating voltage	Ue	V	AC	400	400	400	400
Rated insulation voltage	Ui	V	AC	1000	1000	1000	1000
Test Voltage at Industrial Frequency for 1 Minute		V	AC	3000	3000	3000	3000
Rated impulse Withstand voltage	Uimp	kV	AC	8	8	8	8
Rated ultimate short circuit breaking capacity	Icu	kA	690V AC	8	16	16	25
			500V AC	9	42	42	35
			440V AC	22	50	50	50
			415V AC	**36**	**70**	**70**	**70**
			240V AC	50	85	85	85
			250V DC (3 poles serial)	15	30	30	–
Rated service short circuit breaking capacity	Ics	kA	690V AC	8	16	16	25
			500V AC	9	42	42	35
			440V AC	22	50	50	50
			415V AC	**36**	**70**	**70**	**70**
			240V AC	50	85	85	85
			250V DC (3 poles serial)	10	23	23	–
Category (IEC/EN 60947-2)				A	A	A	A
Pollution degree				3	3	3	3
Electrical life (No. operation)	ON - OFF		415 V	8000	8000	8000	4000
Mechanical life (No. operation)	ON - OFF			20000	15000	15000	8000
Protection unit				Electronic	Electronic	Electronic	Electronic
Protection unit (power & network system protection)				Io: 0,4-1 Ir: (0,9-1) x Io Isd: (1,5-10) x Ir	Io: 0,5-1 Ir: (0,8-1) x Io Isd: (2-10) x Ir	Io: 0,5-1 Ir: (0,8-1) x Io Isd: (2-10) x Ir	Ir: (0,4-1)xIn; Im: (2-10)xIn
Ambient operating temperature		°C		-20 to +60	-20 to +60	-20 to +60	-20 to +60
Ambient storage temperature		°C		-40 to +80	-40 to +80	-40 to +80	-40 to +80
Relative humidity				90%	90%	90%	90%

ELECTRONIC TYPE
LV CIRCUIT BREAKERS

LV MCCB, Thermal-Magnetic Fixed Type - Technical Specifications

				KM200	A125		A160				A250		A400		A630		A800
Standard				IEC / EN 60947-2	IEC / EN 60947-2		IEC / EN 60947-2				IEC / EN 60947-2		IEC / EN 60947-2		IEC / EN 60947-2		IEC / EN 60947-2
Rated current In (at 40°C)		A		16, 20, 25, 32, 40, 50, 63, 80, 100, 125,160, 200	20, 25, 32, 40, 50, 63, 80,100, 125		16, 20, 25, 32, 40, 50, 63, 80,100, 125, 160				200, 250		315, 400		500, 630		800
Number of poles				1	2	3	1	2	3	4	3	4	3	4	3	4	4
Rated operating voltage	Ue	V	AC	400-415	400-415		415				400	415	415		415		415
Rated insulation voltage	Ui	V	AC	1000	1000		1000				1000		1000		1000		1000
Test Voltage at Industrial Frequency for 1 Minute		V	AC	3000	3000		3000				3000		3000		3000		3000
Rated impulse withstand voltage	Uimp	kV		8	8		8				8		8		8		8
Rated ultimate short circuit breaking capacity	Icu	kA	690V AC	12	7		8				12		12		12		12
			500V AC	20	8		10				25		20		20		20
			440V AV	25	15		20				25		25		25		25
			415V AC	36	20		25				36		36		36		36
			240V AC	50	30		35				50		50		50		50
			250V DC (3 poles serial)	15	8		15				15		15		15		15
Rated service short circuit breaking capacity	Ics	kA	690V AC	12	7		8				12		12		12		12
			500V AC	20	8		10				20		20		20		20
			440V AC	25	15		20				25		25		25		25
			415V AC	36	20		25				36		36		36		36
			240V AC	50	30		35				50		50		50		50
			250V DC (3 poles serial)	15	8		15				15		15		15		15
Pollution degree				3	3		3				3		3		3		3
Electrical life (No. operation)	ON-OFF		400/415V AC	4.000	4.000		5.000				4.000		3.000		1.000	2.000	1.500
Mechanical life (No. operation)	ON-OFF			10.000	8.000		12.000				10.000		7.000		4.000	6.000	5.000
Thermal adjustment				Fixed	Fixed		Fixed				Fixed		Fixed		Fixed		Fixed
Magnetic adjustment				Fixed	Fixed		Fixed				Fixed		Fixed		Fixed		Fixed
Operating ambient temperature			°C	-20 to +60	-20 to +60		-20 to +60				-20 to +60		-20 to +60		-20 to +60		-20 to +60
Storage temperature			°C	-40 to +80	-40 to +80		-40 to +80				-40 to +80		-40 to +80		-40 to +80		-40 to +80
Relative humidity				90%	90%		90%				90%		90%		90%		90%
Dimensions	Width		mm	35	50	75	24,5	49,5	74,5	99,5	105	140	139	186	139	280	280
	Length		mm	158	130	135	141	141	141	141	177	177	267	262	267	281	281
	Depth		mm	89	60	65	60	60	60	60	60,5	60,5	104	104	104	108	108

FIXED TYPE
LV CIRCUIT BREAKERS

Earth Leakage Circuit Breakers - Technical Specifications

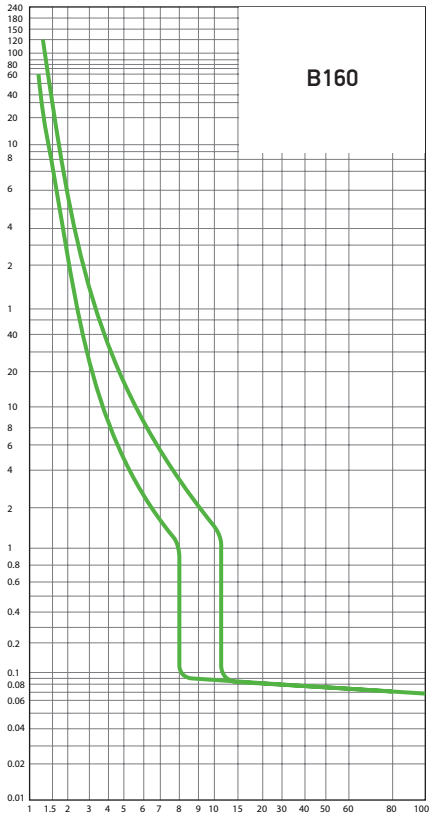
				H125	H125N	H250	H250N
Number of poles				3	4	3	4
Rated current In (at 40°C)	A			40, 50, 63, 80,100, 125	25, 32, 40, 50, 63, 80,100, 125	160, 200, 250	160, 200, 250
Sensitivity settings IΔn	mA			30, 300, 500	30, 300, 500	30, 300, 500	30, 300, 500
Tripping time IΔn	mili second			100, 300, 1000	100, 300, 1000	100, 300, 1000	100, 300, 1000
Instantaneous tripping time	mili second			<100	<100	<100	<100
Rated operating voltage	Ue	V	AC	400	400	400	400
Rated insulation voltage	Ui	V	AC	690	690	690	690
Rated impulse withstand voltage	Uimp	kV	AC	8	8	8	8
Rated ultimate short circuit breaking capacity	Icu	kA	690V AC	7	7	8	8
			500V AC	8	8	9	9
			440V AC	15	15	22	22
			415V AC	25	25	36	36
			240V AC	35	35	50	50
			"250V DC (3 poles serial) "	10	10	15	15
Rated service short circuit breaking capacity	Ics	kA	690V AC	7	7	8	8
			500V AC	8	8	10	10
			440V AC	12	12	14	14
			415V AC	12,5	12,5	18	18
			240V AC	18	18	25	25
			"250V DC (3 poles serial)"	7	7	9	9
Pollution degree				3	3	3	3
Electrical life (No. operation)	ON - OFF		400 / 415V AC	1.000	1.000	1.000	1.000
Mechanical life (No. operation)	ON - OFF			7.000	7.000	7.000	7.000
Overload protection				(0,8-1)xIn	(0,8-1)xIn	(0,8-1)xIn	(0,8-1)xIn
Rated short circuit breaking protection				10xIn	10xIn	10xIn	10xIn
Operating ambient temperature	°C			-20 to +60	-20 to +60	-20 to +60	-20 to +60
Storage temperature	°C			-20 to +60	-20 to +60	-20 to +60	-20 to +60
Relative humidity				90%	90%	90%	90%
Dimensions	Width		mm	75	100	105	140
	Length		mm	130	130	165	165
	Depth		mm	60	60	60	60

F250		D125	D250	D400	D630
3	4	4	4	4	4
40, 50, 63, 80, 100, 125, 160, 200, 250		40, 50, 63, 80, 100, 125	160, 200, 250	250, 315, 400	630
30, 300, 500, 1000, 3000		30, 100, 300, 500	30, 100, 300, 500	100, 200, 300, 500	100, 200, 300, 500
100, 500, 1000		100, 300, 500, 1000	100, 300, 500, 1000	100, 300, 500, 1000	100, 300, 500, 1000
<100		<100	<100	<100	<100
400		400	400	400	400
1000		690	690	690	690
8		8	8	8	8
8		8	8	10	10
9		9	9	18	18
22		22	22	42	42
36		36	36	50	50
50		50	50	65	65
15		15	15	25	25
8		8	8	7	7
10		10	10	8	8
14		14	14	15	15
18		18	18	25	25
25		25	25	35	35
9		9	9	10	10
3		3	3	3	3
5.000		5.000	5.000	5.000	4.000
15.000		15.000	15.000	15.000	10.000
(0,8-1)xIn		Fixed	Fixed	Fixed	Fixed
10xIn		10xIn	10xIn	10xIn	10xIn
-20 to +60		-20 to +60	-20 to +60	-20 to +60	-20 to +60
-40 to +80		-40 to +80	-40 to +80	-40 to +80	-40 to +80
90%		90%	90%	90%	90%
105	140	120	140	184	280
252	252	203	221	308	347
89	89	68	86	103	103

EARTH LEAKAGE CIRCUIT BREAKERS

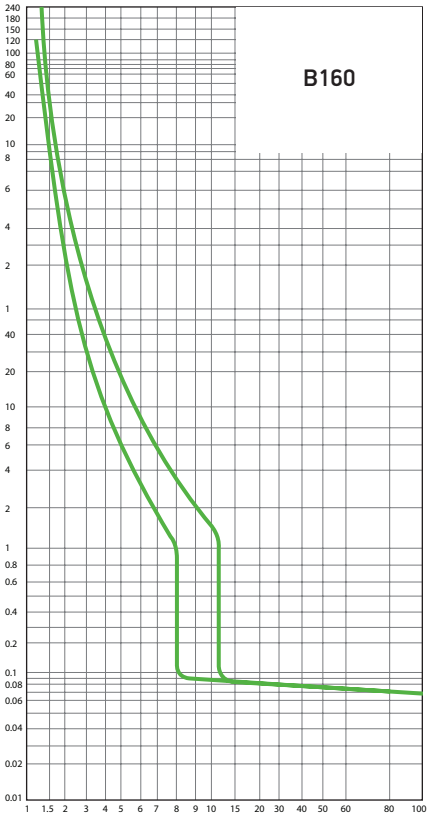
Time-Current Characteristic

16A~63A



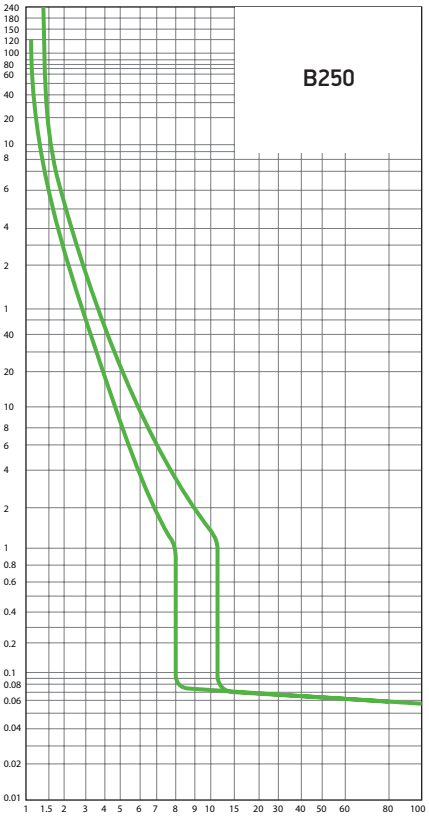
Attention: In≤32
Ii=400A(±%20)

80A~125A

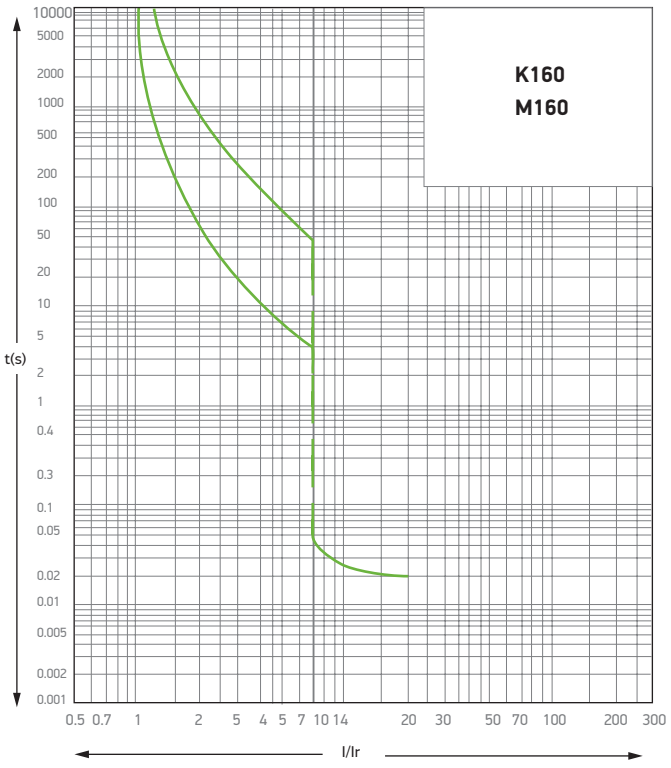


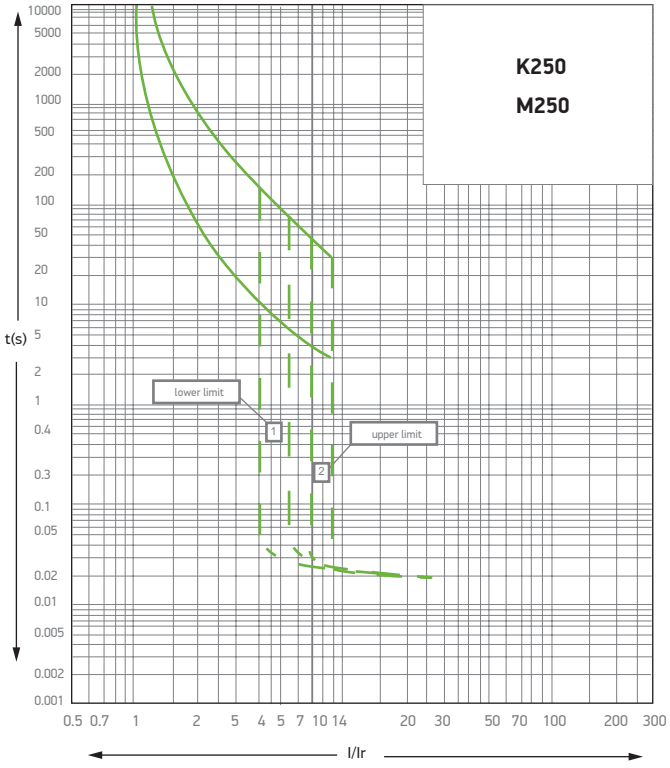
Attention: In>32
Ii=10*In(±%20)

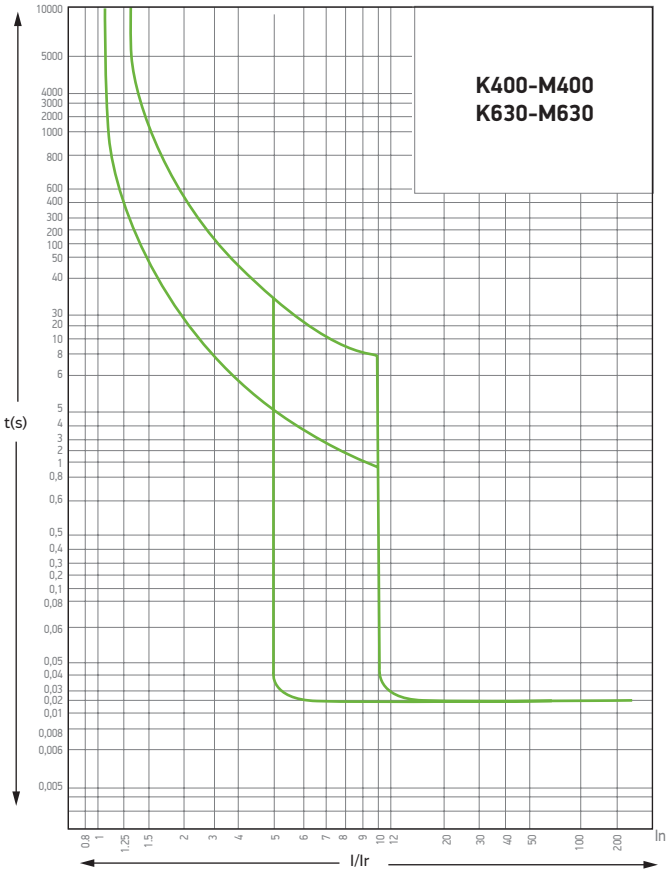
160A~250A

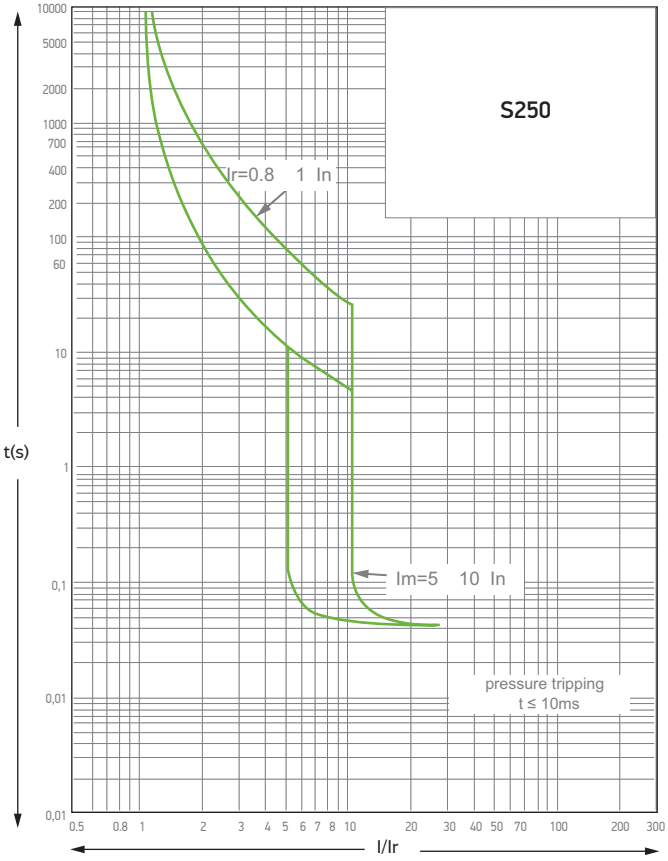


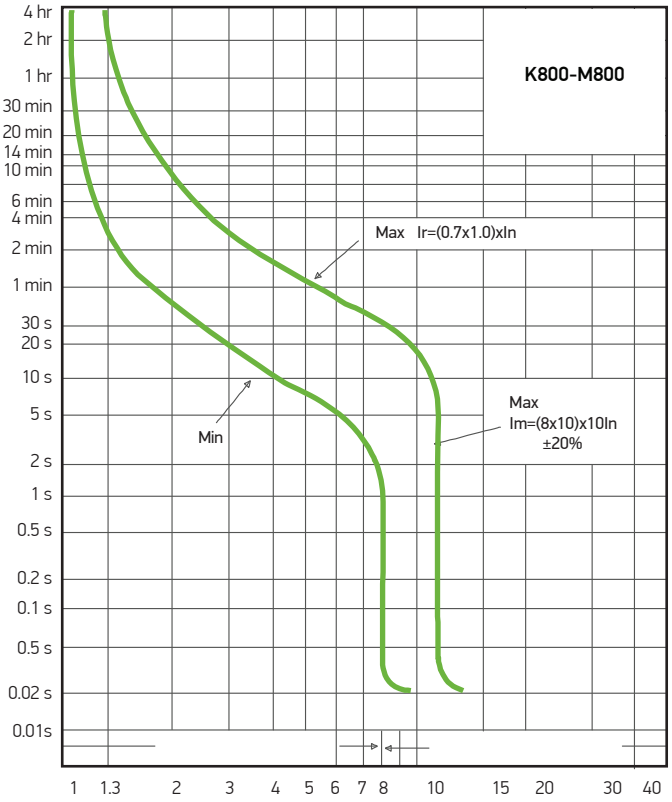
Attention: In>32
Ii=10*In(±%20)

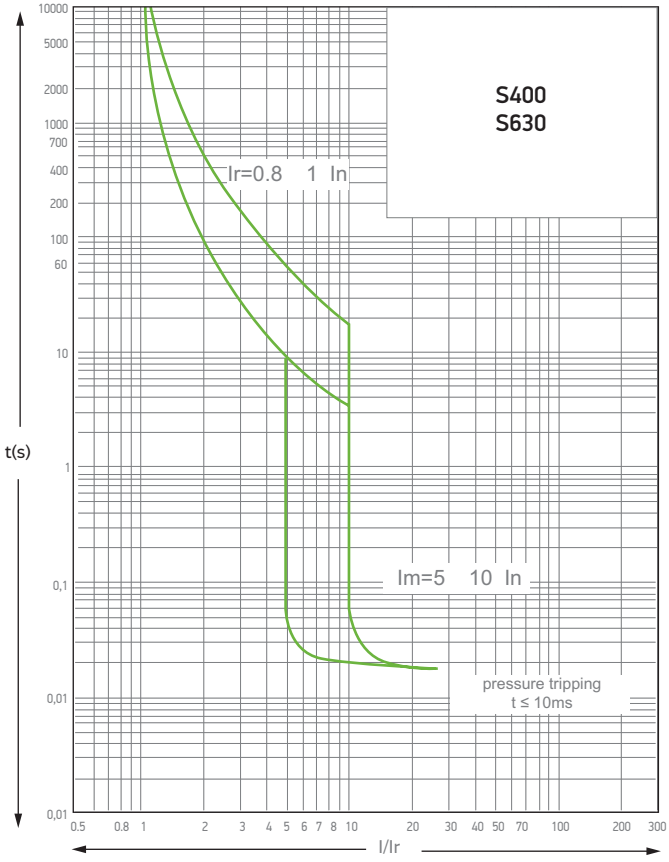


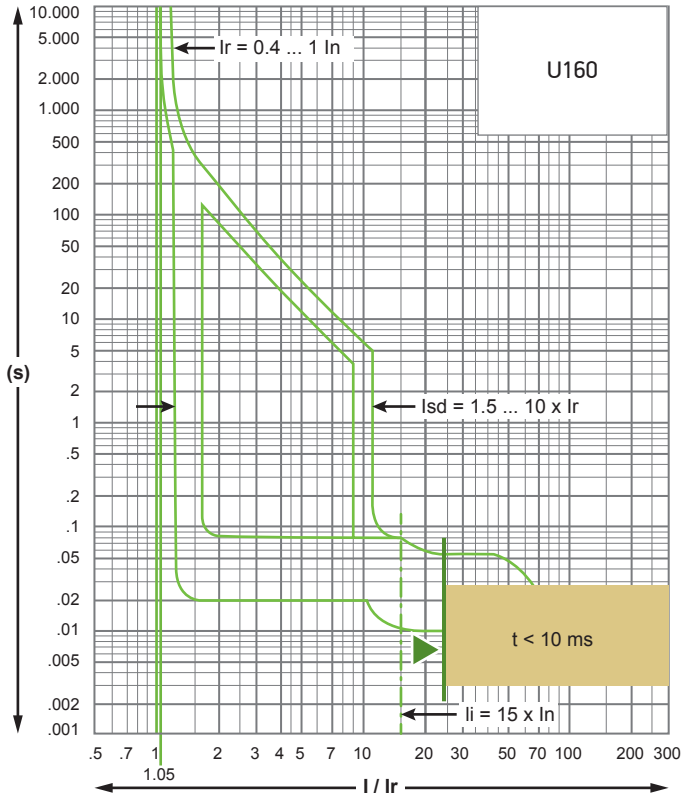


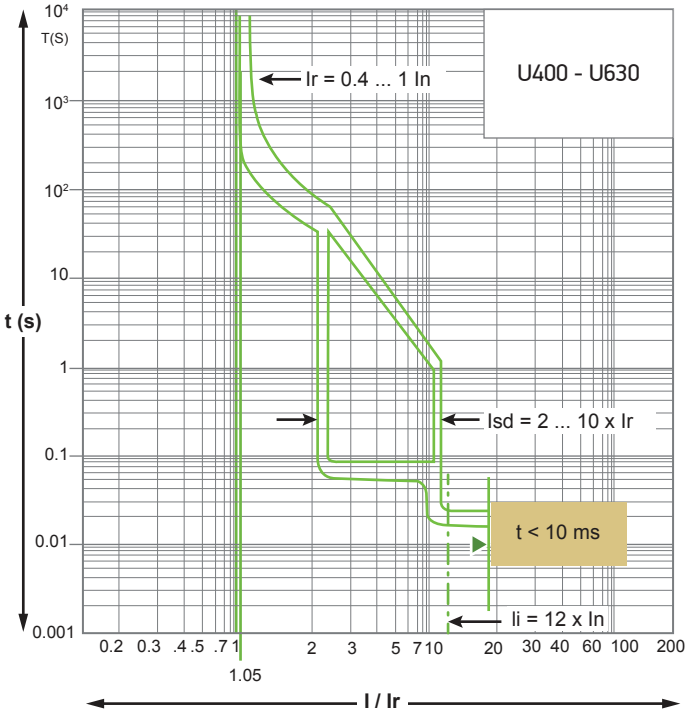

K400-M400
K630-M630
t(s)
I/Ir
In

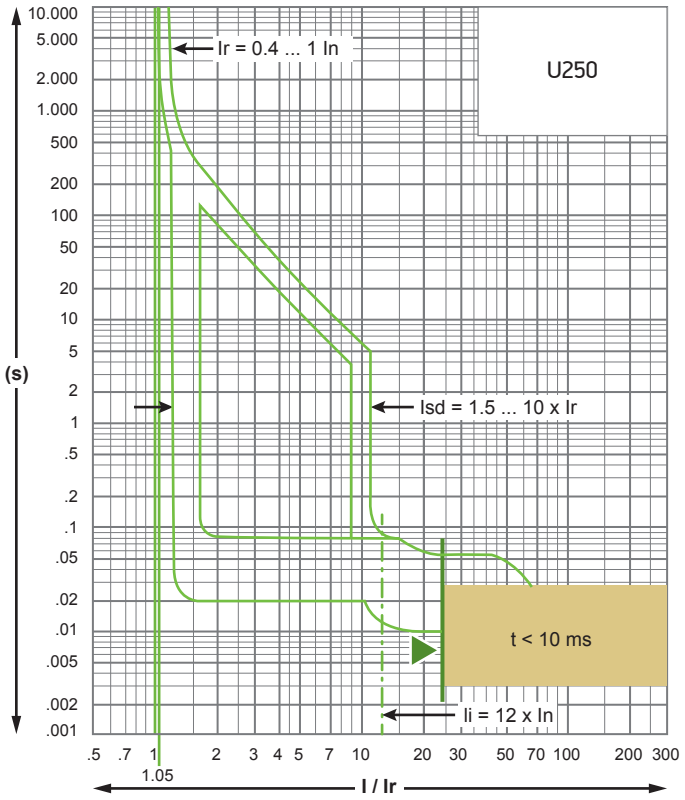

S250
Ir=0.8 1 In
Im=5 10 In
pressure tripping
t ≤ 10ms
t(s)
I/Ir

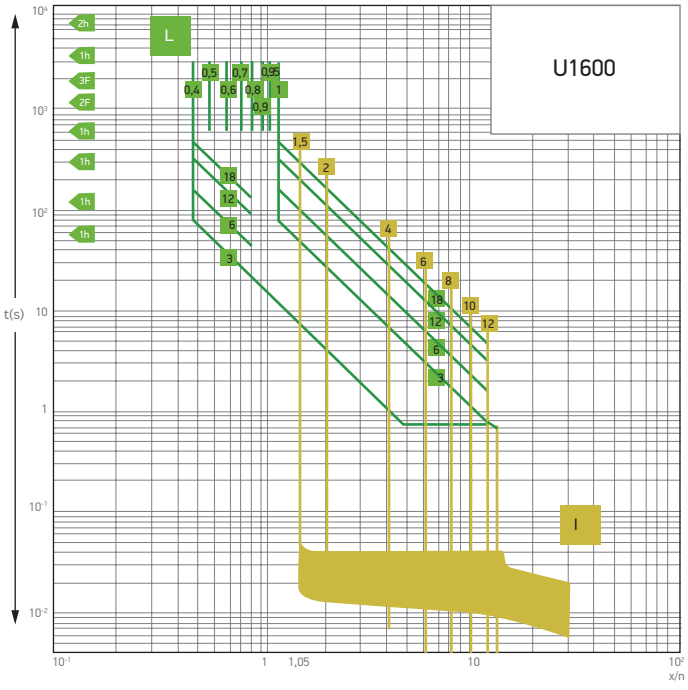

K800-M800
Max Ir=(0.7x1.0)xIn
Max
Im=(8x10)x10In
±20%
Min

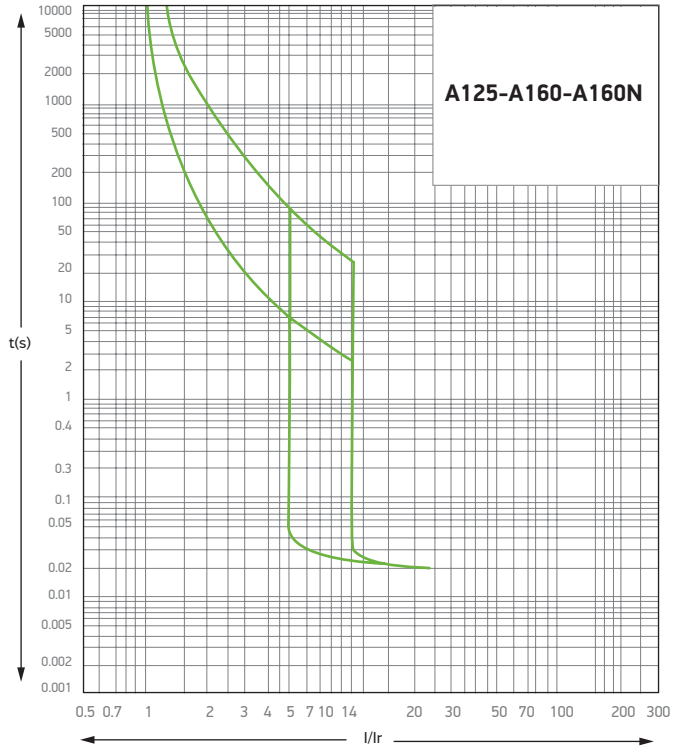

S400
S630
Ir=0.8 1 In
Im=5 10 In
pressure tripping
t ≤ 10ms
t(s)
I/Ir

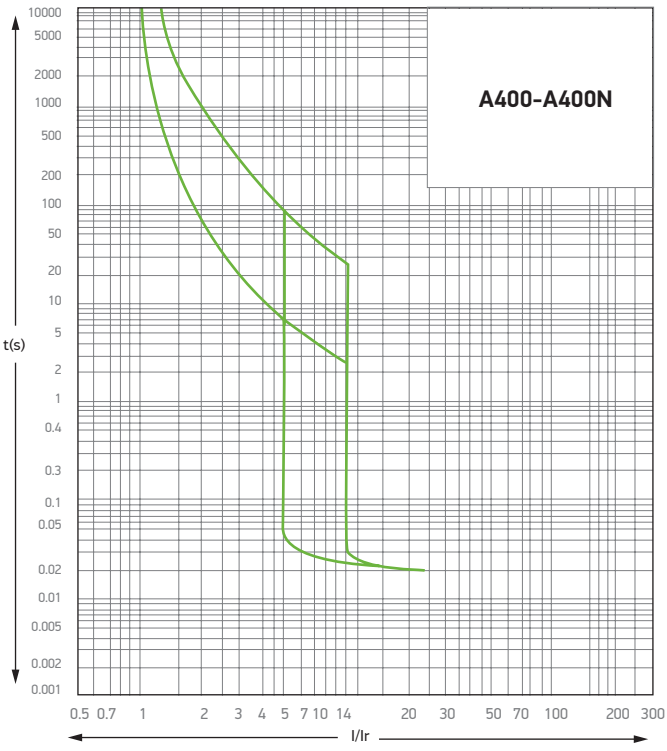

U160
Ir = 0.4 ... 1 In
Isd = 1.5 ... 10 x Ir
t < 10 ms
Ii = 15 x In
(s)
I / Ir
1.05

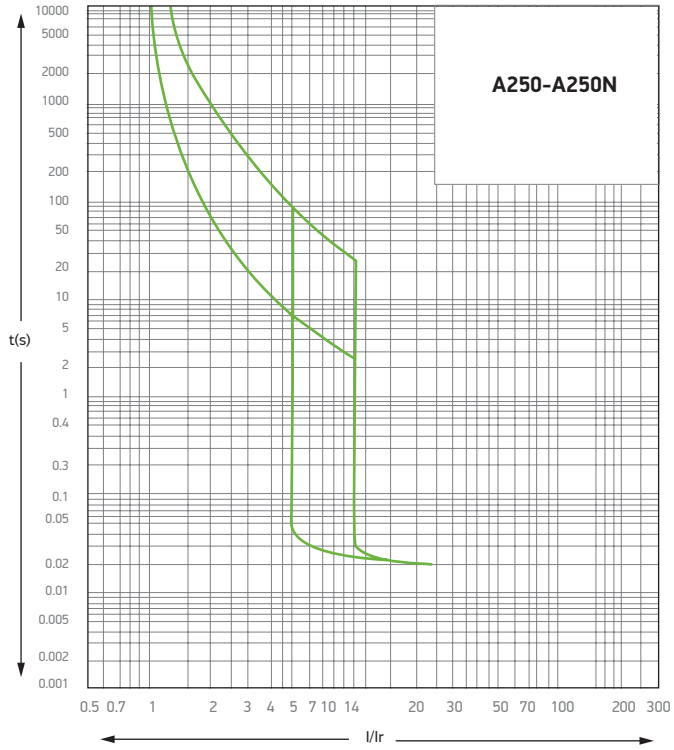

U400 - U630
Ir = 0.4 ... 1 In
Isd = 2 ... 10 x Ir
t < 10 ms
Ii = 12 x In
t (s)
T(S)
I / Ir
1.05

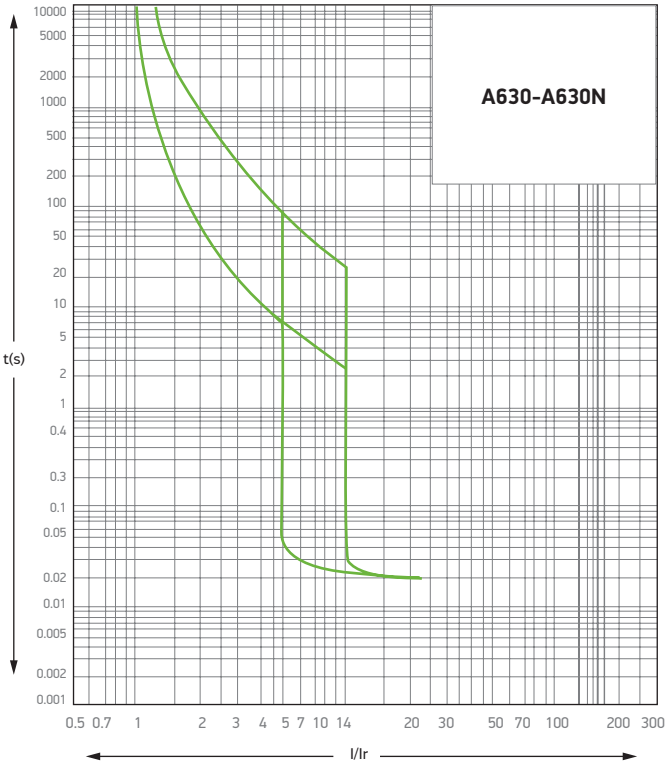

U250
Ir = 0.4 ... 1 In
Isd = 1.5 ... 10 x Ir
t < 10 ms
Ii = 12 x In
(s)
I / Ir
1.05


U1600
L
I
t(s)
x/n

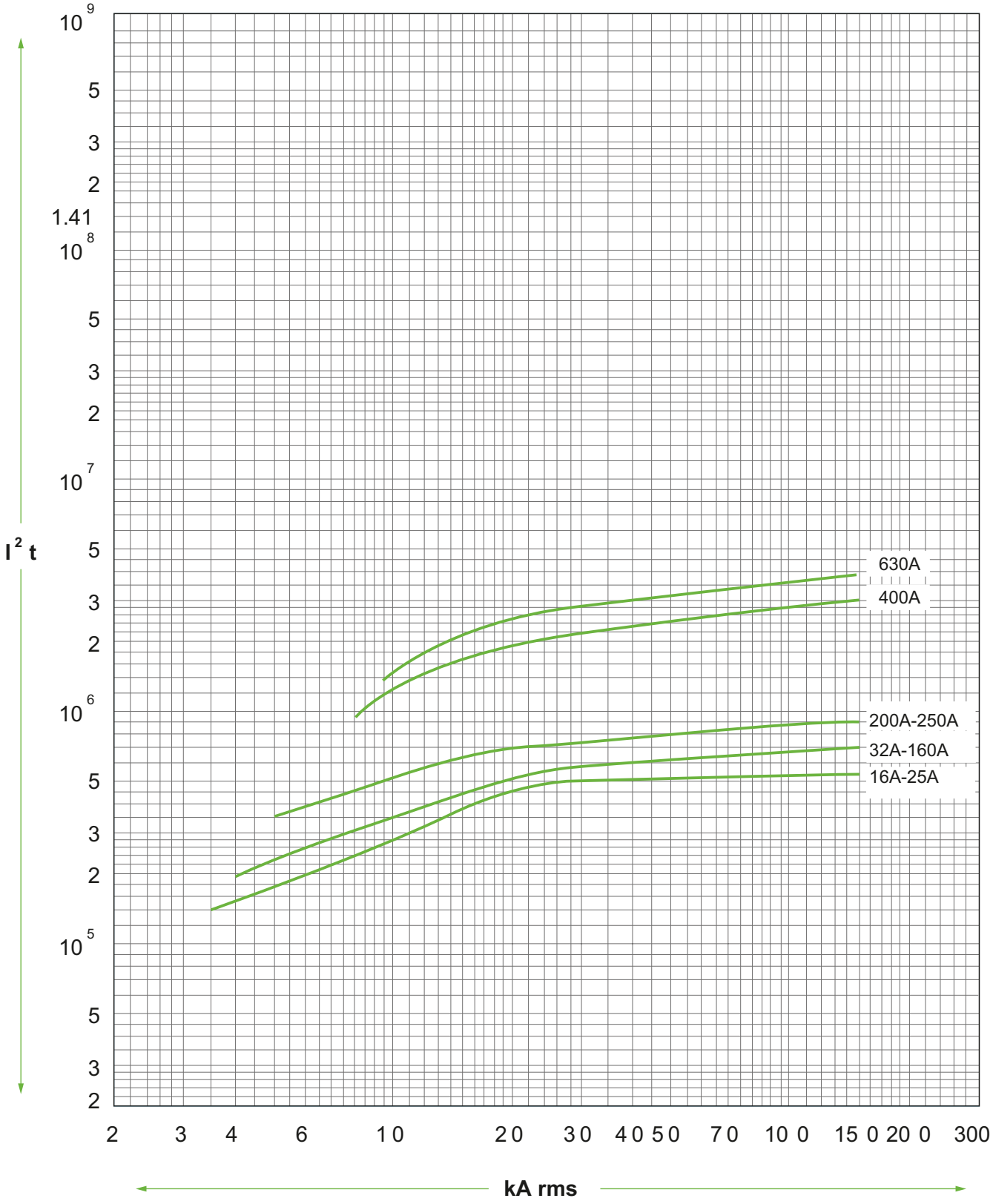

A125-A160-A160N
t(s)
10000
5000
2000
1000
500
200
100
50
20
10
5
2
1
0.4
0.3
0.1
0.05
0.02
0.01
0.005
0.002
0.001
0.5 0.7 1 2 3 4 5 7 10 14 20 30 50 70 100 200 300
I/Ir


A400-A400N
t(s)
10000
5000
2000
1000
500
200
100
50
20
10
5
2
1
0.4
0.3
0.1
0.05
0.02
0.01
0.005
0.002
0.001
0.5 0.7 1 2 3 4 5 7 10 14 20 30 50 70 100 200 300
I/Ir


A250-A250N
t(s)
10000
5000
2000
1000
500
200
100
50
20
10
5
2
1
0.4
0.3
0.1
0.05
0.02
0.01
0.005
0.002
0.001
0.5 0.7 1 2 3 4 5 7 10 14 20 30 50 70 100 200 300
I/Ir


A630-A630N
t(s)
10000
5000
2000
1000
500
200
100
50
20
10
5
2
1
0.4
0.3
0.1
0.05
0.02
0.01
0.005
0.002
0.001
0.5 0.7 1 2 3 4 5 7 10 14 20 30 50 70 100 200 300
I/Ir

MCCB I^2T


10 9
5
3
2
1.41
10 8
5
3
2
10 7
5
3
2
10 6
5
3
2
10 5
5
3
2
I 2 t
630A
400A
200A-250A
32A-160A
16A-25A
2
3
4
6
10
20
30
40 50
70
10 0
15 0 20 0
300
kA rms

1 Pole Fixed Type MCCB

Thermal **Fixed** - Magnetic **Fixed**

Type Code		Rated Current In (A)	Thermal Adj. Current Ir (A)	Instantaneous Tripping Current Im (A)	Breaking Capacity Icu (kA)	Pcs in a Box	Order Code
A160	NEW PRODUCT	16	Fixed	400A	25	20	1A160016
		20	Fixed	400A	25	20	1A160020
		25	Fixed	400A	25	20	1A160025
		32	Fixed	400A	25	20	1A160032
		40	Fixed	10xIn	25	20	1A160040
		50	Fixed	10xIn	25	20	1A160050
		63	Fixed	10xIn	25	20	1A160063
		80	Fixed	10xIn	25	20	1A160080
		100	Fixed	10xIn	25	20	1A160100
		125	Fixed	10xIn	25	20	1A160125
		160	Fixed	10xIn	25	20	1A160160
KM200		16	Fixed	500A	36	20	1KM200016
		20	Fixed	500A	36	20	1KM200020
		25	Fixed	500A	36	20	1KM200025
		32	Fixed	500A	36	20	1KM200032
		40	Fixed	500A	36	20	1KM200040
		50	Fixed	10xIn	36	20	1KM200050
		63	Fixed	10xIn	36	20	1KM200063
		80	Fixed	10xIn	36	20	1KM200080
		100	Fixed	10xIn	36	20	1KM200100
		125	Fixed	10xIn	36	20	1KM200125
		160	Fixed	10xIn	36	20	1KM200160
		200	Fixed	10xIn	36	20	1KM200200

2 Poles Thermal-Magnetic Adjustable Type MCCB

Thermal **Adjustable** - Magnetic **Fixed**

Type Code		Rated Current In (A)	Thermal Adj. Current Ir(A)	Instantaneous Tripping Current Im (A)	Breaking Capacity Icu (kA)	Pcs in a Box	Order Code
B160	NEW PRODUCT	16	13-16	400A	25	20	2B160016
		20	16-20	400A	25	20	2B160020
		25	20-25	400A	25	20	2B160025
		32	25-32	400A	25	20	2B160032
		40	32-40	10xIn	25	20	2B160040
		50	40-50	10xIn	25	20	2B160050
		63	50-63	10xIn	25	20	2B160063
		80	64-80	10xIn	25	20	2B160080
		100	80-100	10xIn	25	20	2B160100
		125	100-125	10xIn	25	20	2B160125
		160	128-160	10xIn	25	20	2B160160

2 Poles Thermal-Magnetic Fixed Type MCCB

	Type Code	Rated Current In (A)	Thermal Adj. Current Ir(A)	Instantaneous Tripping Current Im (A)	Breaking Capacity Icu (kA)	Pcs in a Box	Order Code
Thermal Fixed - Magnetic Fixed	A125	20	Fixed	320A	20	24	2A125020
		25	Fixed	320A	20	24	2A125025
		32	Fixed	320A	20	24	2A125032
		40	Fixed	10xIn	20	24	2A125040
		50	Fixed	10xIn	20	24	2A125050
		63	Fixed	10xIn	20	24	2A125063
		80	Fixed	10xIn	20	24	2A125080
		100	Fixed	10xIn	20	24	2A125100
		125	Fixed	10xIn	20	24	2A125125
	A160	20	Fixed	10xIn	25	24	2A160020
		25	Fixed	10xIn	25	24	2A160025
		32	Fixed	10xIn	25	24	2A160032
		40	Fixed	10xIn	25	24	2A160040
		50	Fixed	10xIn	25	24	2A160050
		63	Fixed	10xIn	25	24	2A160063
		80	Fixed	10xIn	25	24	2A160080
		100	Fixed	10xIn	25	24	2A160100
		125	Fixed	10xIn	25	24	2A160125
		160	Fixed	10xIn	25	24	2A160160

3 Poles Thermal-Magnetic Adjustable Type MCCB (For Motor Protection)

	Type Code	Rated Current In (A)	Thermal Adj. Current Ir(A)	Instantaneous Tripping Current Im (A)	Breaking Capacity Icu (kA)	Pcs in a Box	Order Code
Thermal Adjustable - Magnetic Fixed	K160	25	18-25	15xIn	36	8	MK160025
		32	23-32	15xIn	36	8	MK160032
		40	28-40	15xIn	36	8	MK160040
		50	35-50	15xIn	36	8	MK160050
		63	44-63	15xIn	36	8	MK160063
		80	56-80	15xIn	36	8	MK160080
		100	70-100	15xIn	36	8	MK160100
		125	88-125	15xIn	36	8	MK160125
		160	112-160	15xIn	36	8	MK160160
Thermal Adjustable - Magnetic Adjustable	K250	200	140-200	(10-15)xIn	36	6	MK250200
		250	175-250	(10-15)xIn	36	6	MK250250
	K400	315	250-315	(8-12)xIn	36	2	MK400315
		400	315-400	(8-12)xIn	36	2	MK400400
	K630 (with Extention Bar)	500	400-500	(8-12)xIn	36	2	MK630500
		630	500-630	(8-12)xIn	36	2	MK630630

3 Poles Thermal-Magnetic Adjustable Type MCCB (Protection for Power Distribution & Network)

	Type Code	Rated Current In (A)	Thermal Adj. Current Ir (A)	Instantaneous Tripping Current Im (A)	Breaking Capacity Icu (kA)	Pcs in a Box	Order Code
Thermal **Adjustable** - Magnetic **Fixed**	B160	16	13-16	400A	25	8	3B160016
		20	16-20	400A	25	8	3B160020
		25	20-25	400A	25	8	3B160025
		32	25-32	400A	25	8	3B160032
		40	32-40	10xIn	25	8	3B160040
		50	40-50	10xIn	25	8	3B160050
		63	50-63	10xIn	25	8	3B160063
		80	63-80	10xIn	25	8	3B160080
		100	80-100	10xIn	25	8	3B160100
		125	100-125	10xIn	25	8	3B160125
		160	125-160	10xIn	25	8	3B160160
	B250	200	160-200	10xIn	36	4	3B250200
		250	200-250	10xIn	36	4	3B250250
	K160	25	18-25	320A	36	6	3K160025
		32	23-32	320A	36	6	3K160032
		40	28-40	10xIn	36	6	3K160040
		50	35-50	10xIn	36	6	3K160050
		63	44-63	10xIn	36	6	3K160063
		80	56-80	10xIn	36	6	3K160080
		100	70-100	10xIn	36	6	3K160100
		125	88-125	10xIn	36	6	3K160125
		160	112-160	10xIn	36	6	3K160160
Thermal **Adjustable** - Magnetic **Adjustable**	K250	63	44-63	(5-10)xIn	36	6	3K250063
		80	56-80	(5-10)xIn	36	6	3K250080
		100	70-100	(5-10)xIn	36	6	3K250100
		125	88-125	(5-10)xIn	36	6	3K250125
		160	112-160	(5-10)xIn	36	6	3K250160
		200	140-200	(5-10)xIn	36	6	3K250200
		250	175-250	(5-10)xIn	36	6	3K250250
	K400	315	250-315	(5-10)xIn	36	2	3K400315
		400	315-400	(5-10)xIn	36	2	3K400400
	K630	500	400-500	(5-10)xIn	36	2	3K630500
		630	500-630	(5-10)xIn	36	2	3K630630
Thermal **Adjustable** - Magnetic **Fixed**	M160	25	18-25	400A	50	6	3M160025
		32	23-32	400A	50	6	3M160032
		40	28-40	10xIn	50	6	3M160040
		50	35-50	10xIn	50	6	3M160050
		63	44-63	10xIn	50	6	3M160063
		80	56-80	10xIn	50	6	3M160080
		100	70-100	10xIn	50	6	3M160100
		125	88-125	10xIn	50	6	3M160125
		160	112-160	10xIn	50	6	3M160160

Thermal **Adjustable** - Magnetic **Adjustable**

Type Code	Rated Current In (A)	Thermal Adj. Current Ir (A)	Instantaneous Tripping Current Im (A)	Breaking Capacity Icu (kA)	Pcs in a Box	Order Code
M250	63	44-63	(5-10)xIn	50	6	3M250063
	80	56-80	(5-10)xIn	50	6	3M250080
	100	70-100	(5-10)xIn	50	6	3M250100
	125	88-125	(5-10)xIn	50	6	3M250125
	160	112-160	(5-10)xIn	50	6	3M250160
	200	140-200	(5-10)xIn	50	6	3M250200
	250	175-250	(5-10)xIn	50	6	3M250250
M400	315	250-315	(5-10)xIn	50	2	3M400315
	400	315-400	(5-10)xIn	50	2	3M400400
M630	500	400-500	(5-10)xIn	50	2	3M630500
	630	500-630	(5-10)xIn	50	2	3M630630
M800	800	630-800	(5-10)xIn	50	2	3M800800
S250	100	80-100	(5-10)xIn	70	6	3S250100
	125	100-125	(5-10)xIn	70	6	3S250125
	160	125-160	(5-10)xIn	70	6	3S250160
	200	160-200	(5-10)xIn	70	6	3S250200
	250	200-250	(5-10)xIn	70	6	3S250250
S400	315	250-315	(5-10)xIn	70	2	3S400315
	400	315-400	(5-10)xIn	70	2	3S400400
S630	500	400-500	(5-10)xIn	70	2	3S630500
	630	500-630	(5-10)xIn	70	2	3S630630
S800	800	630-800	(5-10)xIn	70	2	3S800800

3 Poles Thermal-Magnetic Fixed Type MCCB (Protection for Power Distribution & Network)

Thermal Fixed - Magnetic Fixed

Type Code	Rated Current In (A)	Thermal Adj. Current Ir(A)	Instantaneous Tripping Current Im (A)	Breaking Capacity Icu (kA)	Pcs in a Box	Order Code
A125	20	Fixed	10xIn	20	6	3A125020
	25	Fixed	10xIn	20	6	3A125025
	32	Fixed	10xIn	20	6	3A125032
	40	Fixed	10xIn	20	6	3A125040
	50	Fixed	10xIn	20	6	3A125050
	63	Fixed	10xIn	20	6	3A125063
	80	Fixed	10xIn	20	6	3A125080
	100	Fixed	10xIn	20	6	3A125100
	125	Fixed	10xIn	20	6	3A125125
A160	20	Fixed	400A	25	6	3A160020
	25	Fixed	400A	25	6	3A160025
	32	Fixed	400A	25	6	3A160032
	40	Fixed	10xIn	25	6	3A160040
	50	Fixed	10xIn	25	6	3A160050
	63	Fixed	10xIn	25	6	3A160063
	80	Fixed	10xIn	25	6	3A160080
	100	Fixed	10xIn	25	6	3A160100
	125	Fixed	10xIn	25	6	3A160125
	160	Fixed	10xIn	25	6	3A160160
A250	200	Fixed	10xIn	36	6	3A250200
	250	Fixed	10xIn	36	6	3A250250
A400	315	Fixed	10xIn	36	2	3A400315
	400	Fixed	10xIn	36	2	3A400400
A630	500	Fixed	10xIn	36	2	3A630500
	630	Fixed	10xIn	36	2	3A630630

3 Poles Electronic Type MCCB

	Type Code	Rated Current In (A)	Thermal Adj. Current Ir (A)	Instantaneous Tripping Current Im (A)	Breaking Capacity Icu (kA)	Pcs in a Box	Order Code
Thermal **Adjustable** - Magnetic **Fixed**	U250	40	16-40	(1,5-10)xIn	36	6	3U250040
		100	40-100	(1,5-10)xIn	36	6	3U250100
		160	64-160	(1,5-10)xIn	36	6	3U250160
		250	100-250	(1,5-10)xIn	36	6	3U250250
	U400	400	160-400	(2-10)xIn	70	4	3U400400
	U630	630	250-630	(2-10)xIn	70	4	3U630630
	U1600	800	320-800	(1,5-10)xIn	70	1	3U160080
		1000	400-1000	(1,5-12)xIn	70	1	3U160010
		1250	500-1250	(1,5-12)xIn	70	1	3U160012
		1600	640-1600	(1,5-12)xIn	70	1	3U160016

4 Poles Electronic Type MCCB

	Type Code	Rated Current In (A)	Thermal Adj. Current Ir (A)	Instantaneous Tripping Current Im (A)	Breaking Capacity Icu (kA)	Pcs in a Box	Order Code
Thermal **Adjustable** - Magnetic **Adjustable**	U250N	40	16-40	(1,5-10)xIn	36	4	4U250040
		100	40-100	(1,5-10)xIn	36	4	4U250100
		160	64-160	(1,5-10)xIn	36	4	4U250160
		250	100-250	(1,5-10)xIn	36	4	4U250250
	U400N	400	100-400	(2-10)xIn	70	2	4U400400
	U630N	630	315-630	(2-10)xIn	70	2	4U630630

4 Poles Thermal-Magnetic Fixed Type MCCB (Protection for Power Distribution & Network)

	Type Code	Rated Current In (A)	Thermal Adj. Current Ir (A)	Instantaneous Tripping Current Im (A)	Breaking Capacity Icu (kA)	Pcs in a Box	Order Code
Thermal **Fixed** - Magnetic **Fixed**	A160N	20	Fixed	400A	25	6	4A160020
		25	Fixed	400A	25	6	4A160025
		32	Fixed	400A	25	6	4A160032
		40	Fixed	10xIn	25	6	4A160040
		50	Fixed	10xIn	25	6	4A160050
		63	Fixed	10xIn	25	6	4A160063
		80	Fixed	10xIn	25	6	4A160080
		100	Fixed	10xIn	25	6	4A160100
		125	Fixed	10xIn	25	6	4A160125
		160	Fixed	10xIn	25	6	4A160160
	A250N	200	Fixed	10xIn	36	6	4A250200
		250	Fixed	10xIn	36	6	4A250250
	A400N	315	Fixed	10xIn	36	2	4A400315
		400	Fixed	10xIn	36	2	4A400400
	A630N	500	Fixed	10xIn	36	1	4A630500
		630	Fixed	10xIn	36	1	4A630630
	A800N	800	Fixed	10xIn	36	1	4A800800

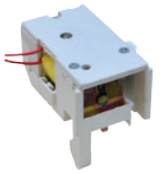
4 Poles Thermal-Magnetic Adjustable Type MCCB (Protection for Power Distribution & Network)

	Type Code	Rated Current In (A)	Thermal Adj. Current Ir (A)	Instantaneous Tripping Current Im (A)	Breaking Capacity Icu (kA)	Pcs in a Box	Order Code
Thermal **Adjustable** - Magnetic **Fixed**	B160N	16	13-16	400A	25	8	4B160016
		20	16-20	400A	25	8	4B160020
		25	20-25	400A	25	8	4B160025
		32	25-32	400A	25	8	4B160032
		40	32-40	10xIn	25	8	4B160040
		50	40-50	10xIn	25	8	4B160050
		63	50-63	10xIn	25	8	4B160063
		80	63-80	10xIn	25	8	4B160080
		100	80-100	10xIn	25	8	4B160100
		125	100-125	10xIn	25	8	4B160125
		160	125-160	10xIn	25	8	4B160160
	K160N	25	18-25	320A	36	4	4K160025
		32	23-32	320A	36	4	4K160032
		40	28-40	10xIn	36	4	4K160040
		50	35-50	10xIn	36	4	4K160050
		63	44-63	10xIn	36	4	4K160063
		80	56-80	10xIn	36	4	4K160080
		100	70-100	10xIn	36	4	4K160100
		125	88-125	10xIn	36	4	4K160125
		160	112-160	10xIn	36	4	4K160160
	B250N	100	70-100	10xIn	36	4	4B250100
		125	88-125	10xIn	36	4	4B250125
		160	112-160	10xIn	36	4	4B250160
		200	160-200	10xIn	36	4	4B250200
		250	200-250	10xIn	36	4	4B250250
Thermal **Adjustable** - Magnetic **Adjustable**	K250N	200	140-200	(5-10)xIn	36	4	4K250200
		250	175-250	(5-10)xIn	36	4	4K250250
	M250N	100	70-100	(5-10)xIn	50	4	4M250100
		125	88-125	(5-10)xIn	50	4	4M250125
		160	112-160	(5-10)xIn	50	4	4M250160
		200	140-200	(5-10)xIn	50	4	4M250200
		250	175-250	(5-10)xIn	50	4	4M250250
	S400N	315	250-315	(5-10)xIn	70	2	4S400315
		400	315-400	(5-10)xIn	70	2	4S400400
	S630N	500	400-500	(5-10)xIn	70	2	4S630500
		630	500-630	(5-10)xIn	70	2	4S630630

Shunt Trip Release

Applicable MCCB	Coil Voltage (V)	Order Code
B160 - B160N - A160 - A160N	230 AC	B0160AB230AC
B250 - B250N - A250 - A250N	230 AC	B0250AB230AC
K160 - K250 - M250 - K160N - K250N - M250N - U250	230 AC	K0250AB230AC
K160 - K250 - M250 - K160N - K250N - M250N - U250	24- 30 DC	K0250AB030DC
M160 - S250 - S400 - S630 - S400N - S630N - U400 - U630	230 AC	S0630AB230AC
K400 - M400 - K630 - M630 - A400 - A630	230 AC	K0630AB230AC
A400N - A630N - M800 - S800 - A800N	230 AC	A0800AB230AC
U1600	230 AC	U1600AB230AC

Under Voltage Release



Applicable MCCB	Coil Voltage (V)	Order Code
K160 - K250 - M250 - K160N - K250N - M250N - U250	400 AC	K0250DG400AC
M160 - S250 - S400 - S630 - S400N - S630N - U400 - U630	400 AC	S0630DG400AC
K400 - M400 - K630 - M630 - A400 - A630	400 AC	K0630DG400AC
A400N - A630N - M800 - S800 - A800N	400 AC	A0800DG400AC
U1600	400 AC	U1600DG400AC

Auxiliary Contact

Applicable MCCB	Auxiliary Contact	Order Code
B160 - B160N - B250 - B250N - A160 - A160N - A250 - A250N	1NO+1NC	B0250YK
B160 - B160N - B250 - B250N - A160 - A160N - A250 - A250N	2NO+2NC	B0250YL
K160 - K250 - M250 - K160N - K250N - M250N - U250	1NO+1NC	K0250YK
M160 - S250 - S400 - S630 - S400N - S630N - U400 - U630	1NO+1NC	S0630YK
K400 - M400 - K630 - M630 - A400 - A630	1NO+1NC	K0630YK
A400N - A630N - M800 - S800 - A800N	1NO+1NC	A0800YK
U1600	1NO+1NC	U1600YK

Alarm Contact

Applicable MCCB	Auxiliary Contact	Order Code
B160 - B160N - B250 - B250N - A160 - A160N - A250 - A250N	1NO+1NC	B0250AK
K160 - K250 - M250 - K160N - K250N - M250N - U250	1NO+1NC	K0250AK
M160 - S250 - S400 - S630 - S400N - S630N - U400 - U630	1NO+1NC	S0630AK
K400 - M400 - K630 - M630 - A400 - A630	1NO+1NC	K0630AK
A400N - A630N - M800 - S800 - A800N	1NO+1NC	A0800AK
U1600	1NO+1NC	U1600AK

Motor Operator

Applicable MCCB	Coil Voltage (V)	Order Code
K160 - K250 - M250 - K160N - K250N - M250N - U250	110-230 AC/DC	K0250MM
K400 - M400 - K630 - M630 - A400 - A630	110-230 AC/DC	K0630MM
S250	110-230 AC/DC	S0250MM
S400 - S630 - U400 - U630	110-230 AC/DC	S0400MM
M160	110-230 AC/DC	M0160MM
A400N	110-230 AC/DC	A0400MM
A630N - A800N - M800 - S800	110-230 AC/DC	A0800MM
U1600	110-230 AC/DC	U1600MM

Extension Rotary Handle (with extension shaft)

Applicable MCCB	Order Code
K160 - K250 - M250 - K160N - K250N - M250N	K0250DK
M160	M0160DK
S250	S0250DK
K400 - M400 - K630 - M630 - A400 - A630	K0630DK
A400N	A0400DK
A630N - M800 - K800 -S800 - A800N	A0800DK
U1600	U1600DK

Rotary Handle (Direct Assembly)

Applicable MCCB	Order Code
K160 - K250 - M250 - K160N - K250N - M250N - U250	K0250DU
M160	M0160DU
S250	S0250DU

Extension Bus Bar Set (6-8 Pcs/Set)

Applicable MCCB	Piece	Order Code
A160 - B160 - M160	6	B0160UB
A160N - B160N	8	B0160UN
K160 - K250 - M250 - S250 - A250 - U250 - B250	6	K0250UB
K160N - K250N - M250N - A250N - B250N	8	K0250UN
K400 - M400 - A400 - S400	6	A0400UB
A400N - S400N	8	A0400UN
S630	6	S0630UB
S630N	8	S0630UN
M800 - S800	6	M800UB
A800N	8	M800UN
U1600	6	U1600UB

Connection Terminals

Applicable MCCB	Piece	Order Code
K160 - K250 - M250 - U250	6	K3250BK
K160N - K250N - M250N - U250N	8	K4250BK
A160-B160	6	A3160BK
A160N-B160N	8	A4160BK
B250	6	B3250BK
B250N	8	B4250BK

Mechanical Pad Lock

Applicable MCCB	Order Code
KM160 - K160 - K250 - M250 - K400 - M400 - K630 - M630 - U250 - K160N - K250N - M250N - S400N - S630N - A400 - A630	SEMK101

Note: Padlock is not included offered price.

3 Poles Thermal Adjustable Earth Leakage Circuit Breakers

	Type Code	Rated Current In (A)	Breaking Capacity Icu (kA)	Thermal Adj. Current Ir (A)	Number of poles	Residual Current IΔn (mA)	Tripping Time (s)	Pcs in a Box	Order Code
Thermal **Adjustable** - Magnetic **Fixed**	H125	40	36	32-40	3	30-300-500	0.1-0.3-1	8	3H125040
		50	36	40-50				8	3H125050
		63	36	50-63				8	3H125063
		80	36	63-80				8	3H125080
		100	36	80-100				8	3H125100
		125	36	100-125				8	3H125125
	H250	160	36	128-160	3	30-300-500	0.1-0.3-1	4	3H250160
		200	36	160-200				4	3H250200
		250	36	200-250				4	3H250250

Note: Please ask delivery period for 160-200-250 A.

3 Poles Thermal Adjustable Earth Leakage Circuit Breakers (with Shunt Trip Release)

	Type Code	Rated Current (A)	Breaking Capacity Icu (kA)	Thermal Adj. Current Ir (A)	Number of poles	Residual Current IΔn (mA)	Tripping Time (s)	Pcs in a Box	Order Code
Thermal **Adjustable** - Magnetic **Fixed**	H125	40	36	32-40	3	30-300-500	0.1-0.3-1	8	3J125040
		50	36	40-50				8	3J125050
		63	36	50-63				8	3J125063
		80	36	63-80				8	3J125080
		100	36	80-100				8	3J125100
		125	36	100-125				8	3J125125
	H250	160	36	128-160	3	30-300-500	0.1-0.3-1	4	3J250160
		200	36	160-200				4	3J250200
		250	36	200-250				4	3J250250

Note: Please ask delivery period for 160-200-250 A

4 Poles Thermal Adjustable Earth Leakage Circuit Breakers

	Type Code	Rated Current (A)	Breaking Capacity Icu (kA)	Thermal Adj. Current Ir (A)	Number of poles	Residual Current IΔn (mA)	Tripping Time (s)	Pcs in a Box	Order Code
Thermal **Adjustable** - Magnetic **Fixed**	NEW	25	36	20-25	4	30-300-500	0.1-0.3-1	8	4H125025
	NEW	32	36	25-32				8	4H125032
	H125N	40	36	32-40				8	4H125040
		50	36	40-50				8	4H125050
		63	36	50-63				8	4H125063
		80	36	63-80				8	4H125080
		100	36	80-100				8	4H125100
		125	36	100-125				8	4H125125
	H250N	160	36	128-160	4	30-300-500	0.1-0.3-1	4	4H250160
		200	36	160-200				4	4H250200
		250	36	200-250				4	4H250250

Note: Please ask delivery period for 160-200-250 A.

4 Poles Thermal Adjustable Earth Leakage Circuit Breakers (with Shunt Trip Release)

	Type Code	Rated Current (A)	Breaking Capacity Icu (kA)	Thermal Adj. Current Ir (A)	Number of poles	Residual Current IΔn (mA)	Tripping Time (s)	Pcs in a Box	Order Code
Thermal **Adjustable** - Magnetic **Fixed**	NEW	25	36	20-25	4	30-300-500	0.1-0.3-1	8	4J125025
	NEW	32	36	25-32				8	4J125032
	H125N	40	36	32-40				8	4J125040
		50	36	40-50				8	4J125050
		63	36	50-63				8	4J125063
		80	36	63-80				8	4J125080
		100	36	80-100				8	4J125100
		125	36	100-125				8	4J125125
	H250N	160	36	128-160	4	30-300-500	0.1-0.3-1	4	4J250160
		200	36	160-200				4	4J250200
		250	36	200-250				4	4J250250

Note: Please ask delivery period for 160-200-250 A.

4 Poles Earth Leakage Circuit Breakers

	Type Code	Rated Current In (A)	Breaking Capacity Icu (kA)	Threshold Current (A)	Tripping Time (s)	Minimum Order	Pcs in a Box	Order Code
Thermal **Fixed** - Magnetic **Fixed**	D100	40	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4D100040
		50	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4D100050
		63	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4D100063
		80	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4D100080
		100	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4D100100
		125	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	2	4D250125
	D250	160	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	2	4D250160
		200	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	2	4D250200
		250	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	2	4D250250
	D400	315	50	0,1-0,2-0,3-0,5	0,1-0,3-0,5-1	1	2	4D400315
		400	50	0,1-0,2-0,3-0,5	0,1-0,3-0,5-1	1	2	4D400400
	D630	630	50	0,1-0,2-0,3-0,5	0,1-0,3-0,5-1	1	1	4D630630

Note: D400 and D630 type LV Circuit breakers are dispatched with bus bars as standard.
Please ask delivery period for D250 250A LV MCCB.

4 Poles Earth Leakage Circuit Breakers (with Shunt Trip Release)

	Type Code	Rated Current In (A)	Breaking Capacity Icu (kA)	Residual Current (A)	Tripping Time (s)	Minimum Order	Pcs in a Box	Order Code
Thermal **Fixed** - Magnetic **Fixed**	D100	40	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4E100040
		50	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4E100050
		63	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4E100063
		80	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4E100080
		100	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4E100100
		125	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	2	4E100125
	D250	160	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	2	4E250160
		200	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	2	4E250200
		250	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	2	4E250250
	D400	315	50	0,1-0,2-0,3-0,5	0,1-0,3-0,5-1	1	2	4E400315
		400	50	0,1-0,2-0,3-0,5	0,1-0,3-0,5-1	1	2	4E400400
	D630	630	50	0,1-0,2-0,3-0,5	0,1-0,3-0,5-1	1	1	4E630630

Note: D400 and D630 type LV Circuit breakers are dispatched with bus bars as standard.
Please ask delivery period for D250 250A

4 Poles Earth Leakage Circuit Breakers (Shunt Trip Release +Auxiliary Contacts)

	Type Code	Rated Current In (A)	Breaking Capacity Icu (kA)	Residual Current (A)	Tripping Time (s)	Minimum Order	Pcs in a Box	Order Code
Thermal **Fixed** - Magnetic **Fixed**	D100	40	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4F100040
		50	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4F100050
		63	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4F100063
		80	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4F100080
		100	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	4	4F100100
		125	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	2	4F250125
	D250	160	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	2	4F250160
		200	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	2	4F250200
		250	36	0,03-0,1-0,3-0,5	0,1-0,3-0,5-1	1	2	4F250250
	D400	315	50	0,1-0,2-0,3-0,5	0,1-0,3-0,5-1	1	2	4F400315
		400	50	0,1-0,2-0,3-0,5	0,1-0,3-0,5-1	1	2	4F400400
	D630	630	50	0,1-0,2-0,3-0,5	0,1-0,3-0,5-1	1	1	4F630630

Note: D400 and D630 type LV Circuit breakers are dispatched with bus bars as standard.
Please ask delivery period for D250 250A

3 Poles, Earth Leakage Circuit Breakers

	Type Code	Rated Current In (A)	Breaking Capacity Icu (kA)	Residual Current (A)	Tripping Time (s)	Pcs in a Box	Order Code	Order Code (With Shunt Trip Release)
Thermal Adjustable - Magnetic Adjustable	F250	25	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	3F250025	3G250025
		32	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	3F250032	3G250032
		40	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	3F250040	3G250040
		50	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	3F250050	3G250050
		63	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	3F250063	3G250063
		80	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	3F250080	3G250080
		100	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	3F250100	3G250100
		125	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	3F250125	3G250125
		160	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	3F250160	3G250160
		200	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	3F250200	3G250200
		250	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	3F250250	3G250250

4 Poles, Earth Leakage Circuit Breakers

	Type Code	Rated Current In (A)	Breaking Capacity Icu (kA)	Residual Current (A)	Tripping Time (s)	Pcs in a Box	Order Code	Order Code (With Shunt Trip Release)
Thermal Adjustable - Magnetic Adjustable	F250N	25	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	4F250025	4G250025
		32	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	4F250032	4G250032
		40	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	4F250040	4G250040
		50	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	4F250050	4G250050
		63	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	4F250063	4G250063
		80	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	4F250080	4G250080
		100	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	4F250100	4G250100
		125	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	4F250125	4G250125
		160	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	4F250160	4G250160
		200	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	4F250200	4G250200
		250	36	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	6	4F250250	4G250250

Earth Leakage Module

Applicable MCCB	Residual Current (A)	Tripping Time (s)	Order Code
K160 - K250 - M250 - U250	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	3F250
K160N - K250N - M250N - U250N	0,03-0,3-0,5-1-3	0,1-0,3-0,5-1	4F250

Earth Leakage Detection Relay

Threshold Current (A)	Tripping Time (s)	Order Code
0,03 - 30	0,05-3	SAR103LE

Toroidal Current Transformers

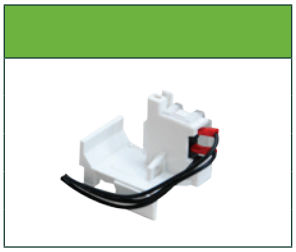
Type	Inner Diameter Φ (mm)	Pcs in a Box	Order Code
ST-80	80,3	40	ST080
ST-110	110,3	30	ST110
ST-160	160,5	15	ST160
ST-210	210,5	12	ST210
ST-300	300,5	1	ST300
STA-110*	110,5	1	STA-110
STA-210*	210,5	1	STA-210
ST-280x115 (Rectangle)	280x115	1	STD280
ST-470x160 (Rectangle)	470x160	1	STD470

Toroidal Current Transformers should be ordered with SAR-103LE Earth Leakage Protection Relay.
* Split-Core Type Current Transformers

Selection Chart for Toroidal Current Transformer

Type	Diameter (mm)	Applicable MCCB
ST-80	80,3	B160, A160
ST-110, STA-110	110,3	B250, K160, M160, K250, M250, A250, S250, U250, A160N, B160N
ST-160	160,5	K400, M400, S400, A400, K630, M630, S630, A250N, B250N, K250N, M250N, K160N
ST-210, STA210	210,5	A630, S800, A400N, S400N, S630N, U1600
ST-300	300,5	A630N, A800N
ST-280*115	280*115	A630N, A800N
ST-470*160	470*160	SFA1600, SFA2000, SFA1600N, SFA2000N, SFA2500, SFA3200, SDA1000, SDA1250, SDA1600, SDA2000

Auxiliary Contacts



Applicable MCCB	Auxiliary Contact	Order Code
D100	1NO+1NC	D0100YK
D250	1NO+1NC	D0250YK
D400	1NO+1NC	D0400YK
D630	1NO+1NC	D0630YK
F250	1NO+1NC	K0250YK

Shunt Trip Release

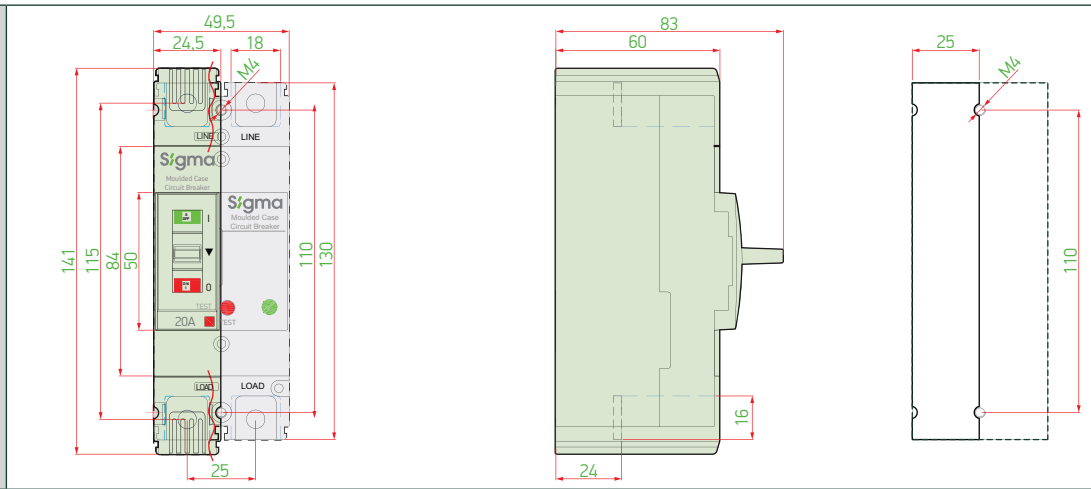
Applicable MCCB	Coil Voltage (V)	Order Code
D100	230 AC	D0100AB
D250	230 AC	D0250AB
D400	230 AC	D0400AB
D630	230 AC	D0630AB
F250	230 AC	K0250AB230AC

Shunt Trip Release

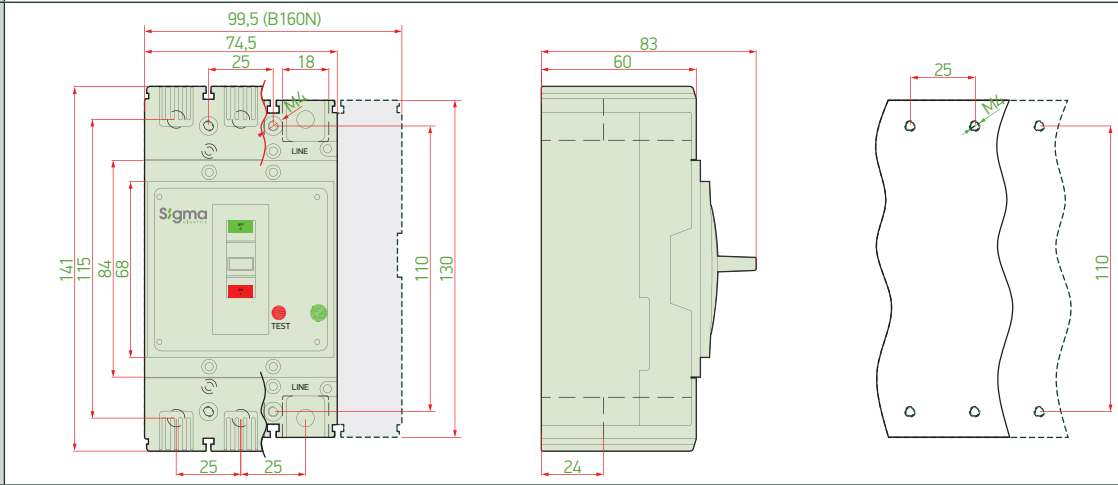
Type Code	Rated Current In (A)	Applicable MCCB	Order Code
H125AB	230	40-250 A	B0160AB230AC
H250AB	230	40-250 A	B0250AB230AC

Dimensions

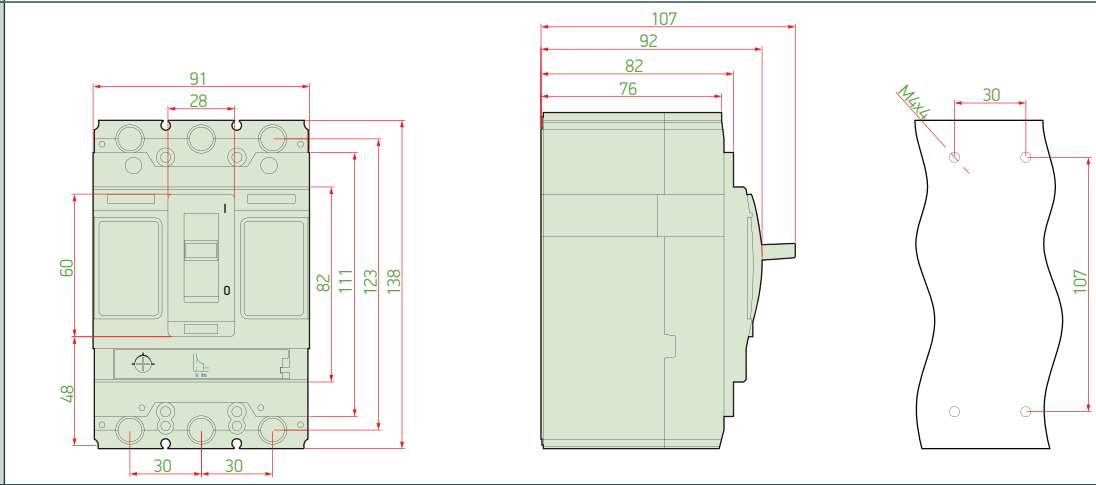
A160(1P) - B160 (1P - 2P)



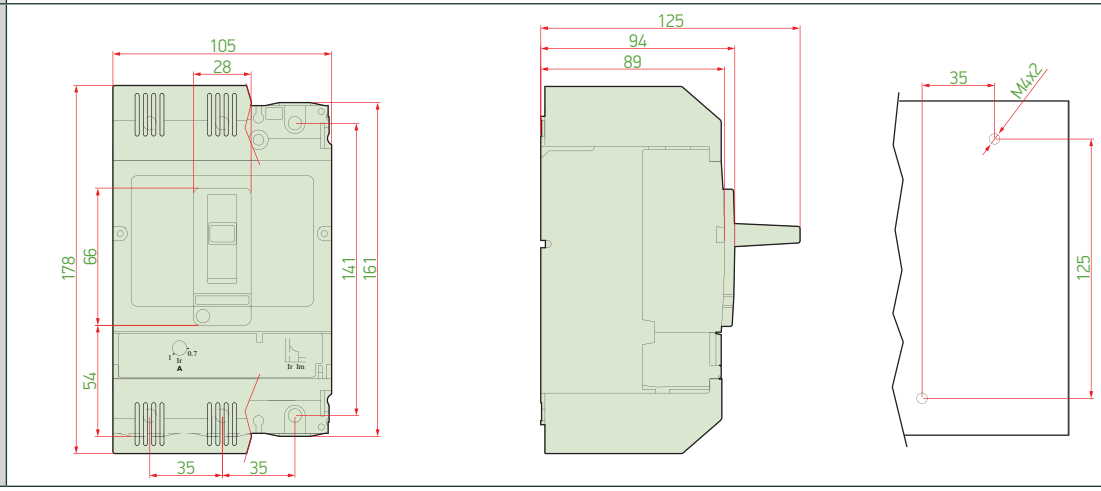
B160 - B160N



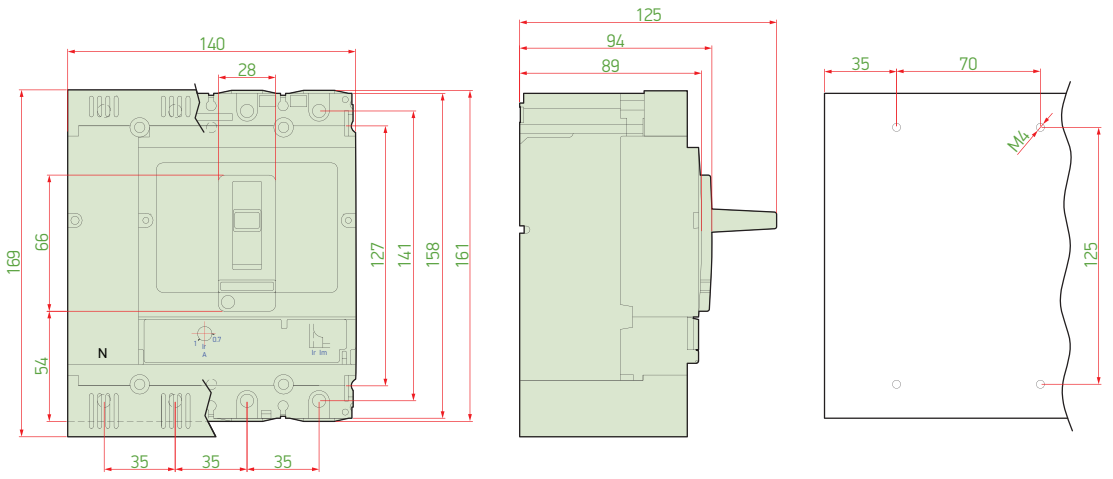
M160



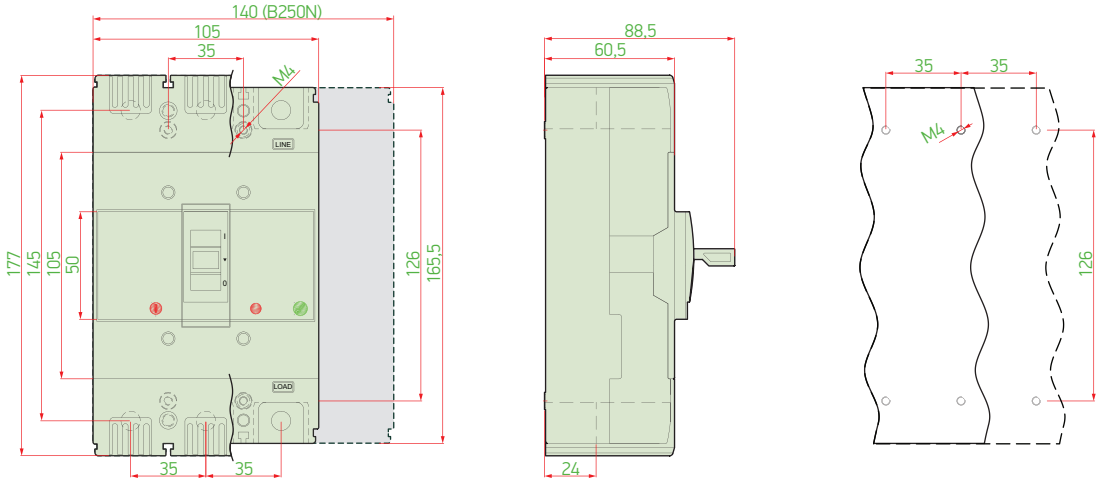
K160 - K250 - M250



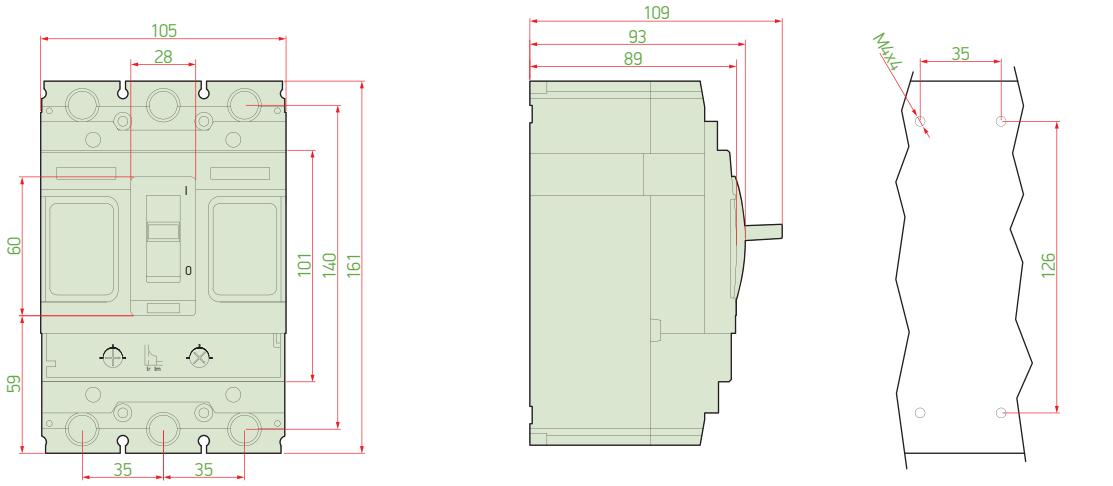
K160N - K250N - M250N



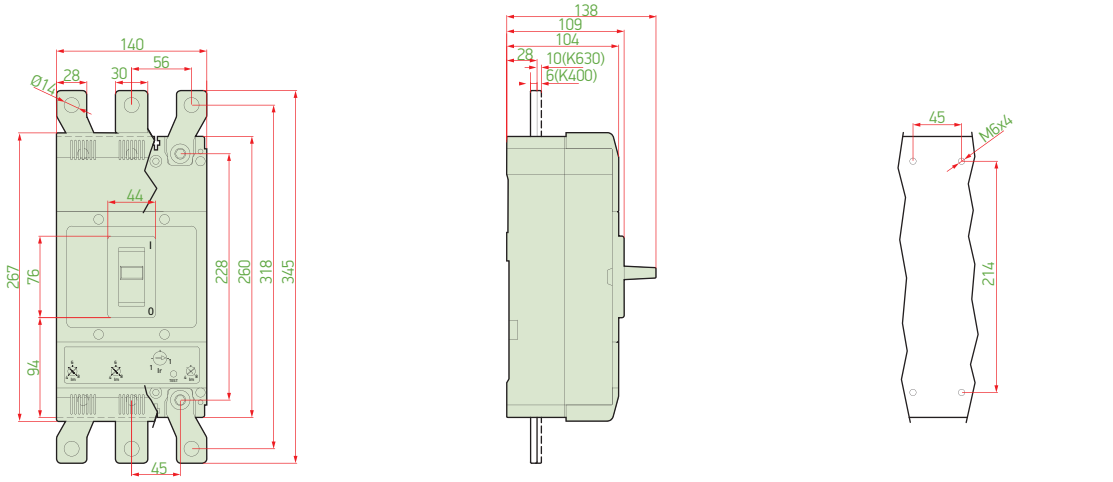
B250 - B250N



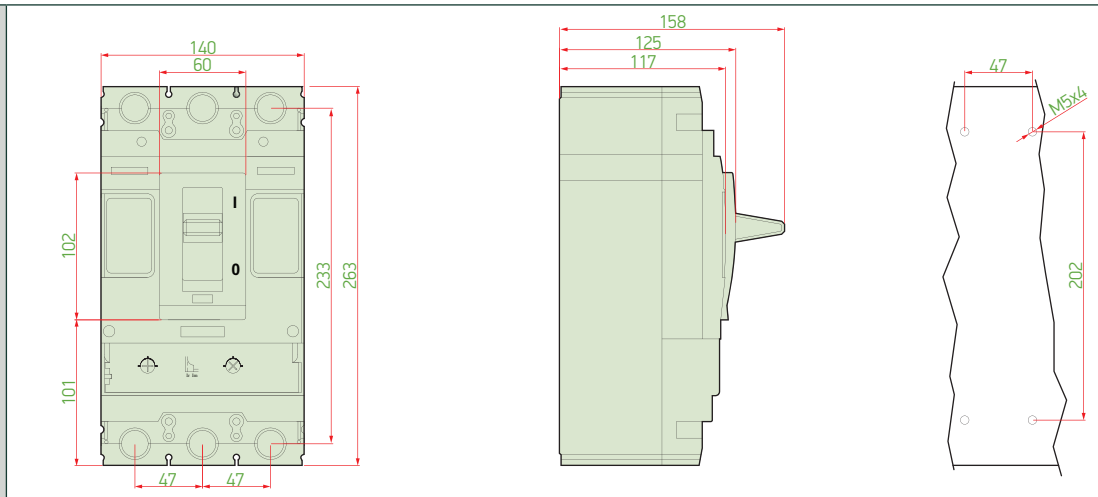
S250



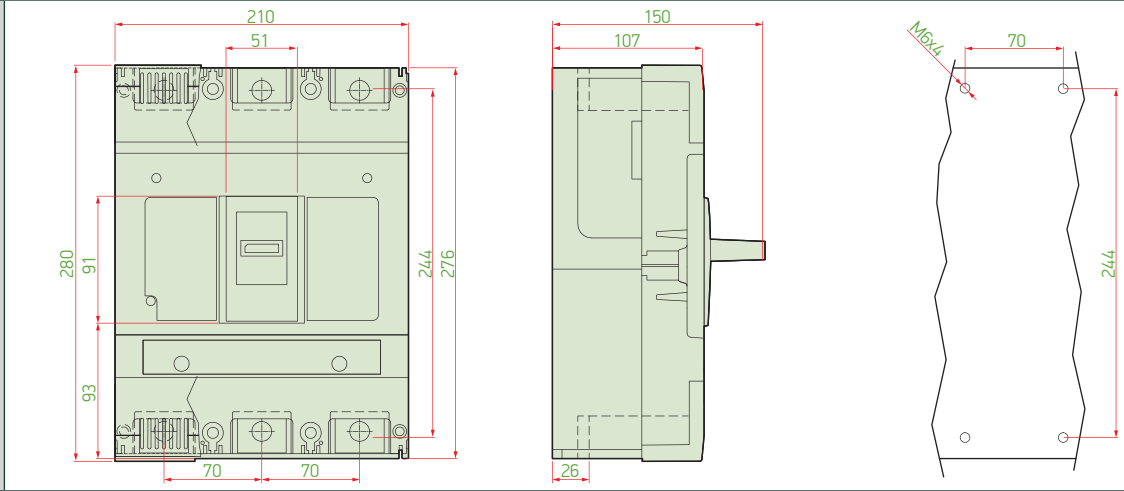
K400-K630 (Extension bars are not available in K400)
M400-M630 (Extension bars are not available in M400)



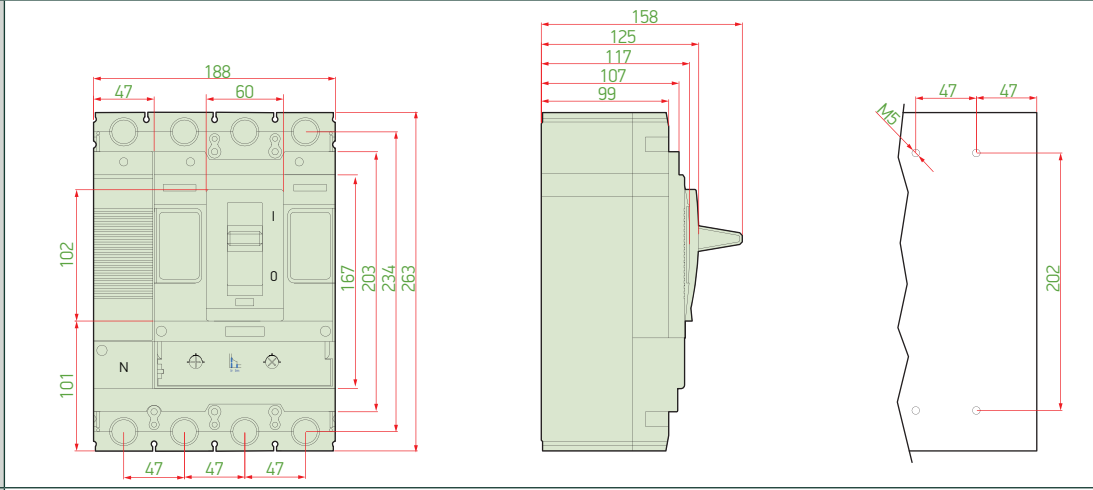
S400-S630



M800-S800



S400N - S630N



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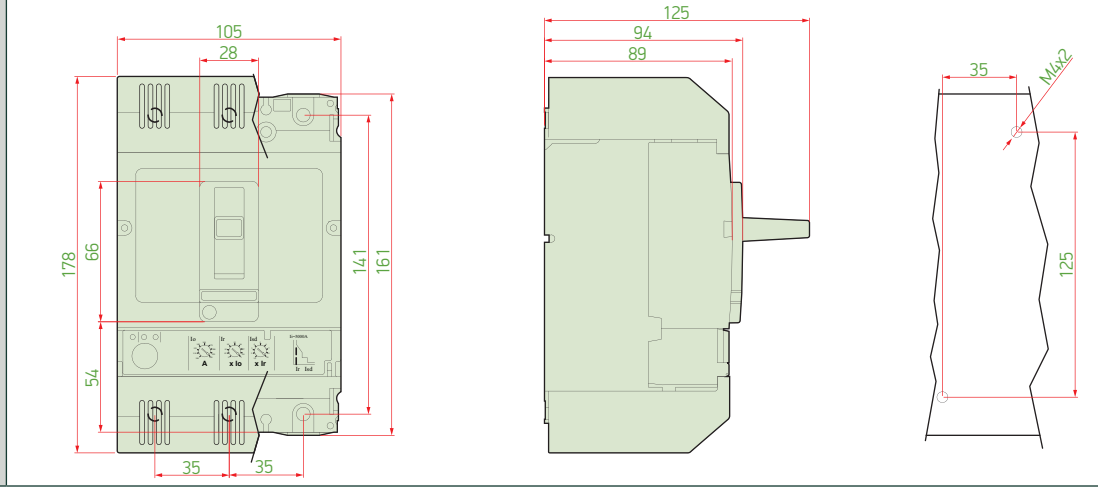

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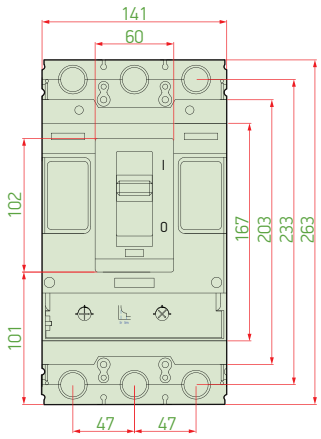

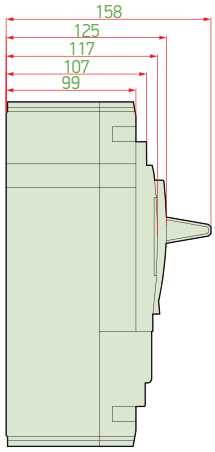

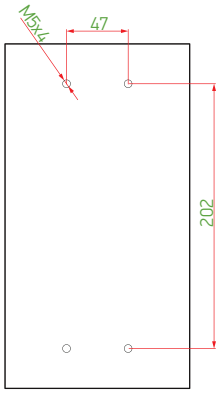

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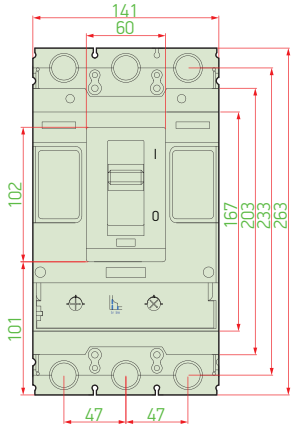

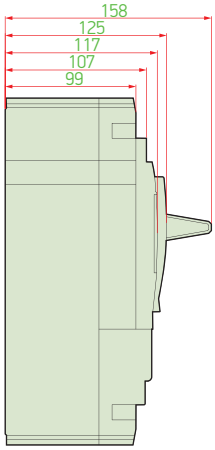

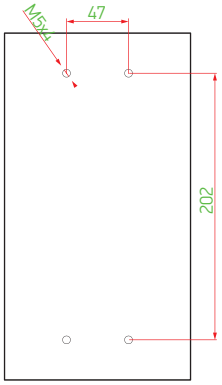

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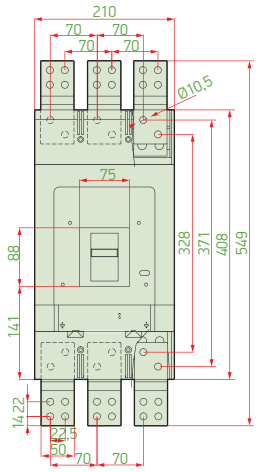
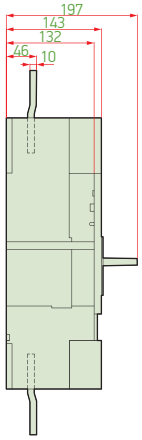
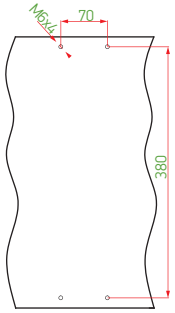
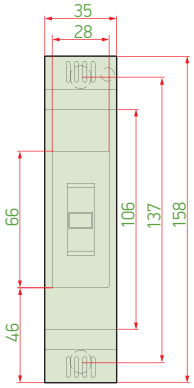
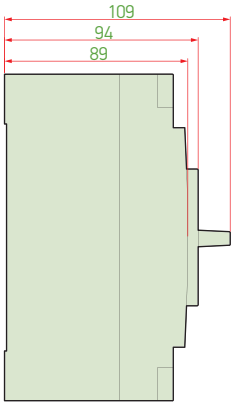


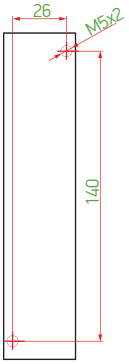




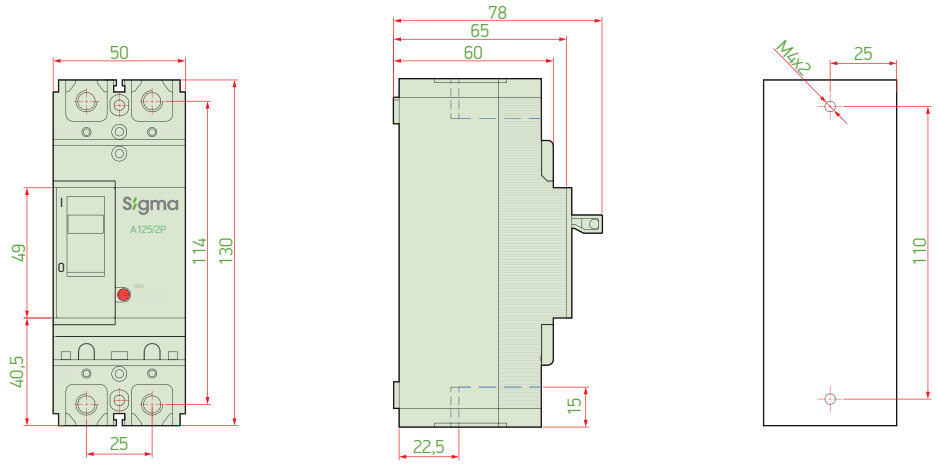
KM200



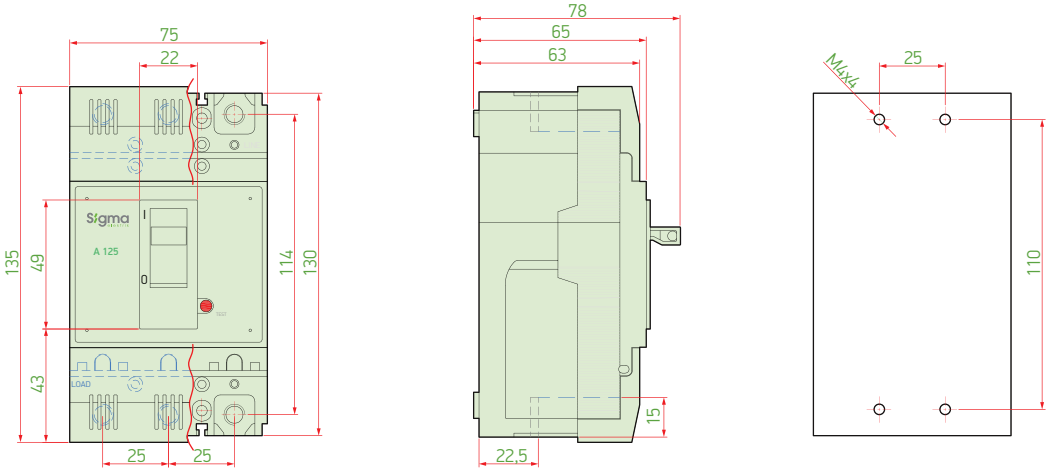




A125-2P



A125-3P



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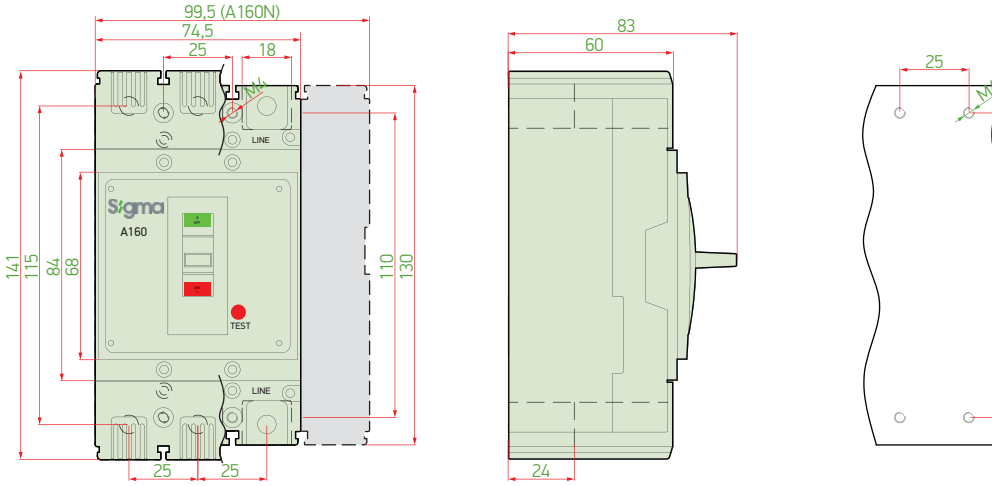

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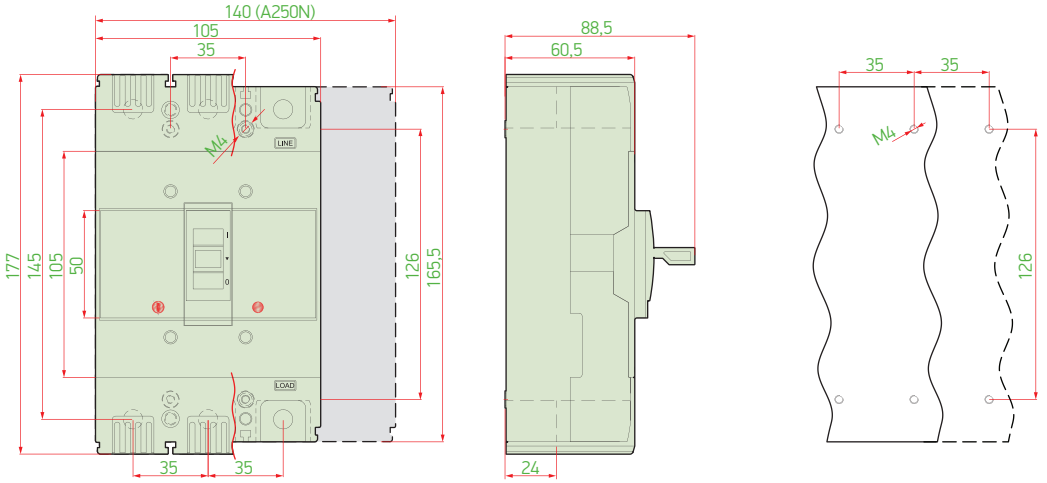

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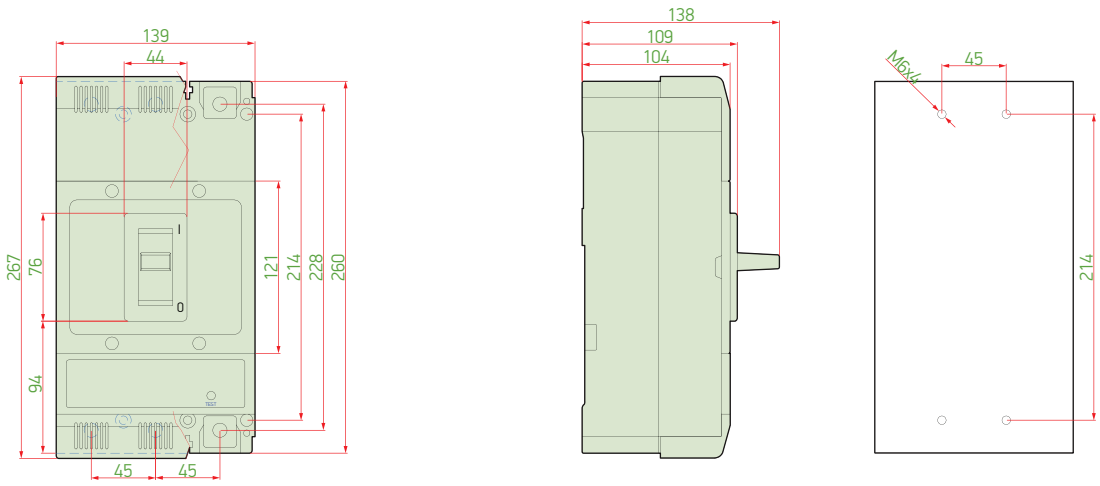

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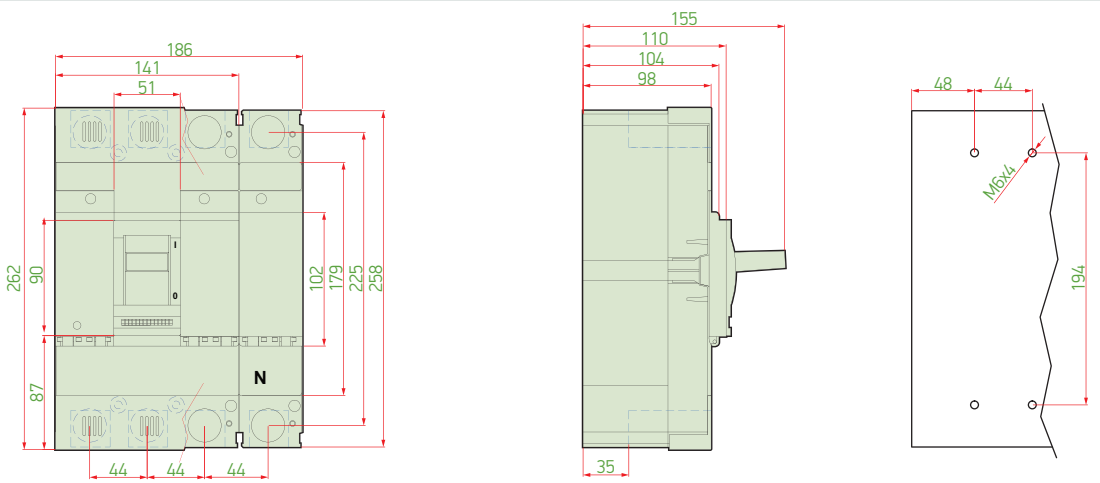

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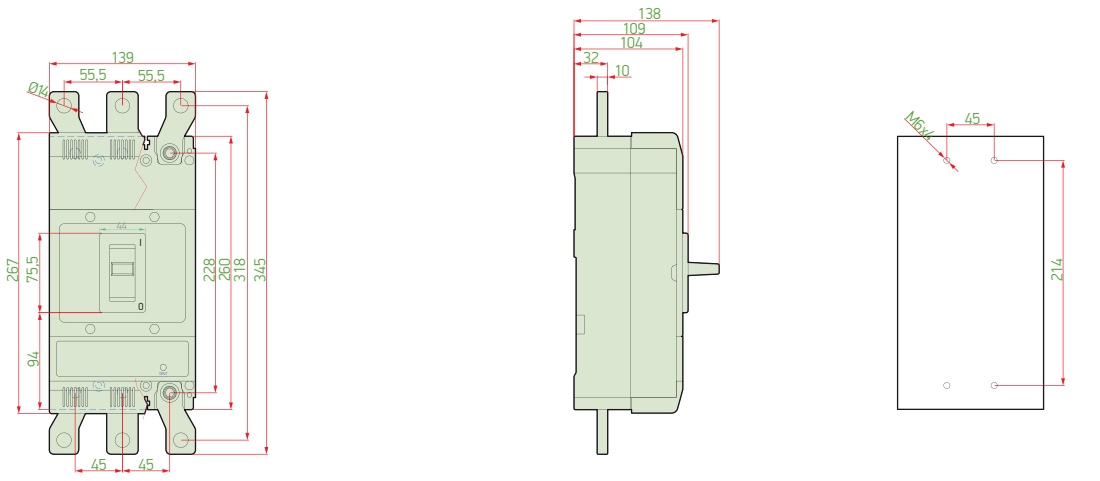

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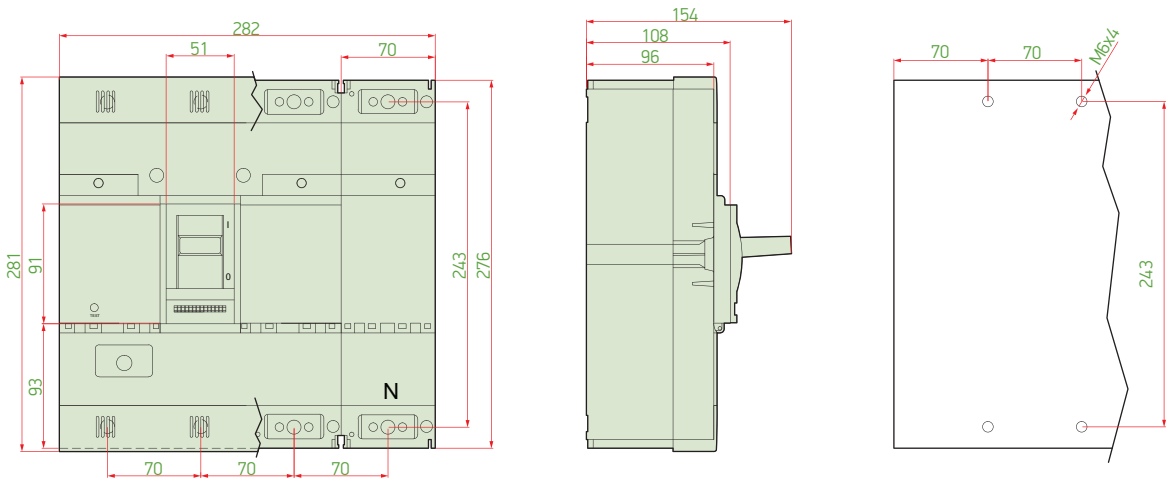

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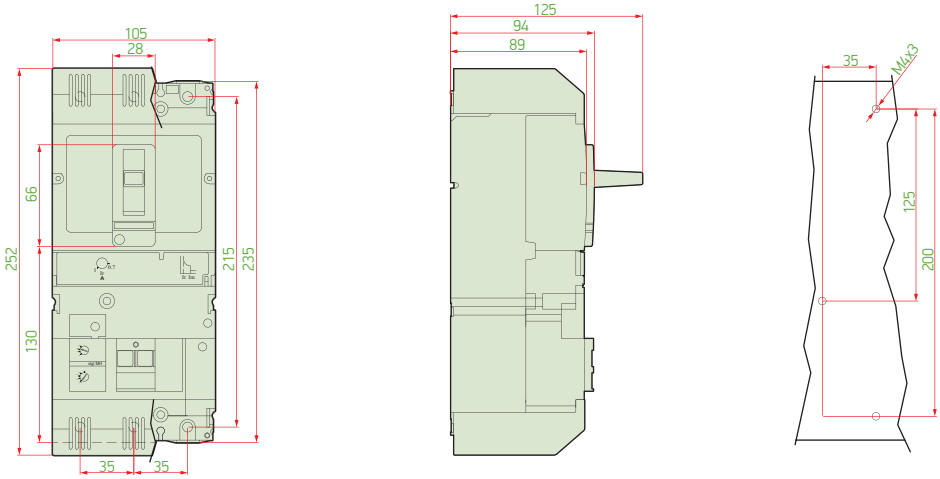

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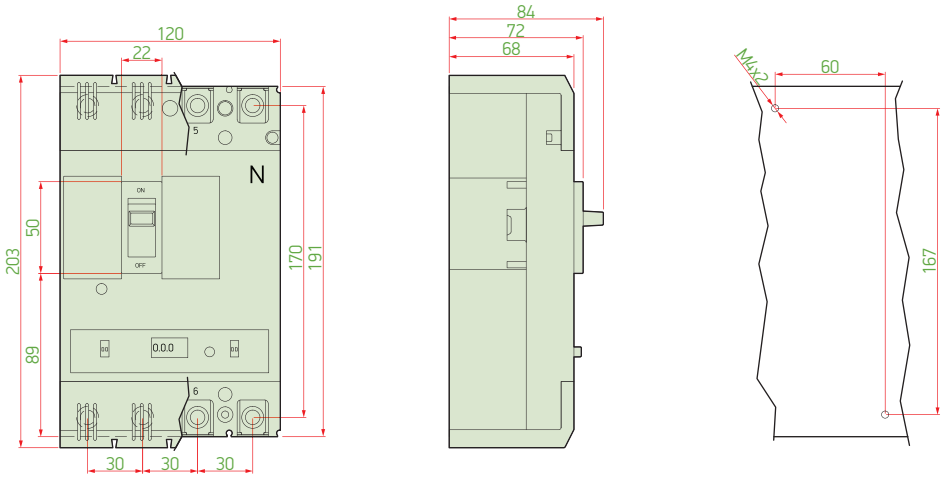
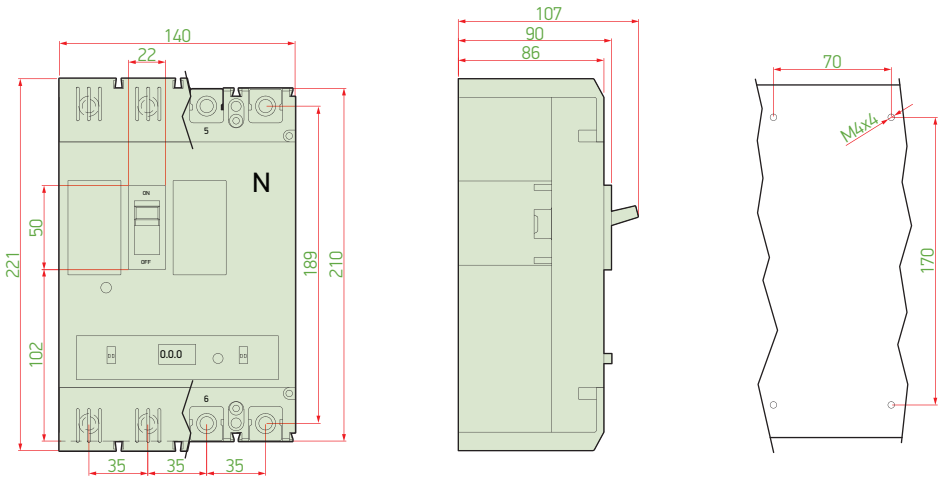


D250



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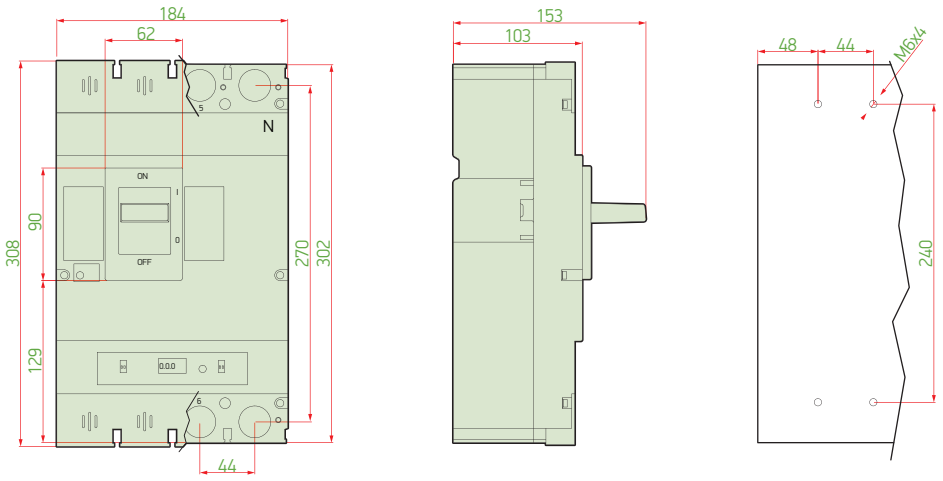

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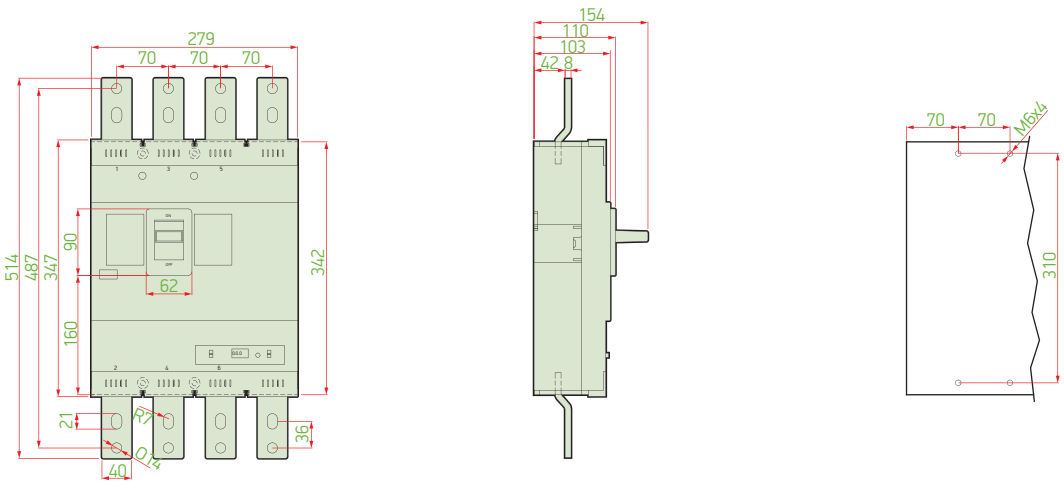

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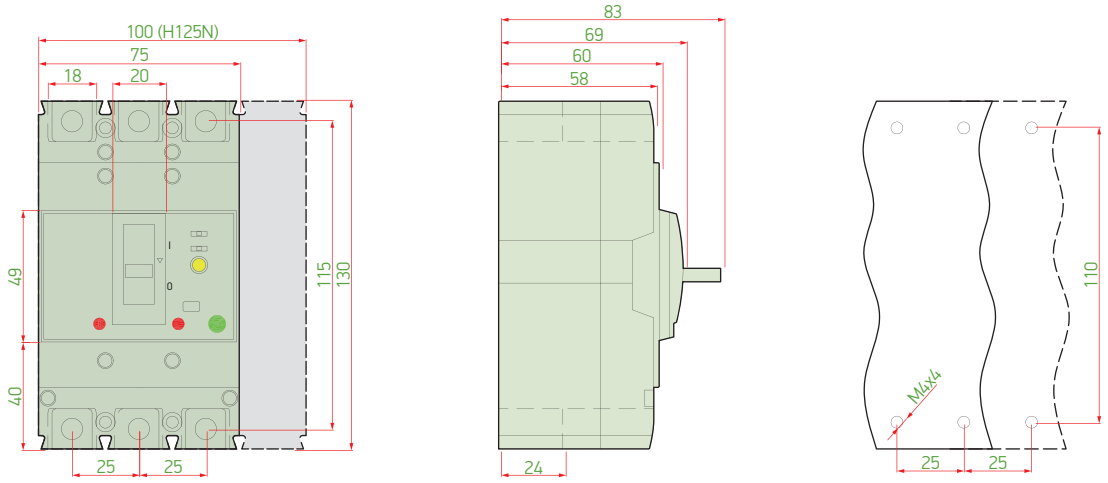

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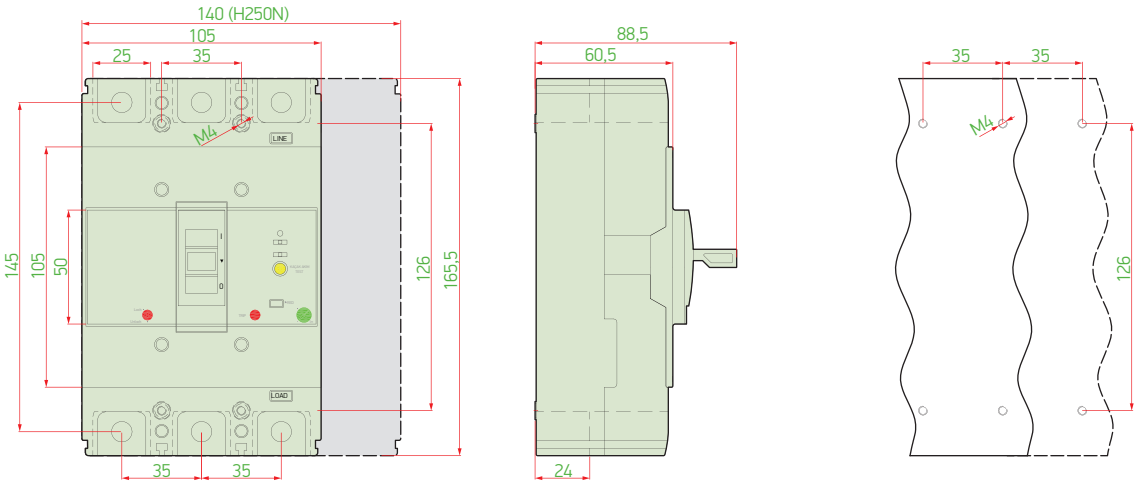
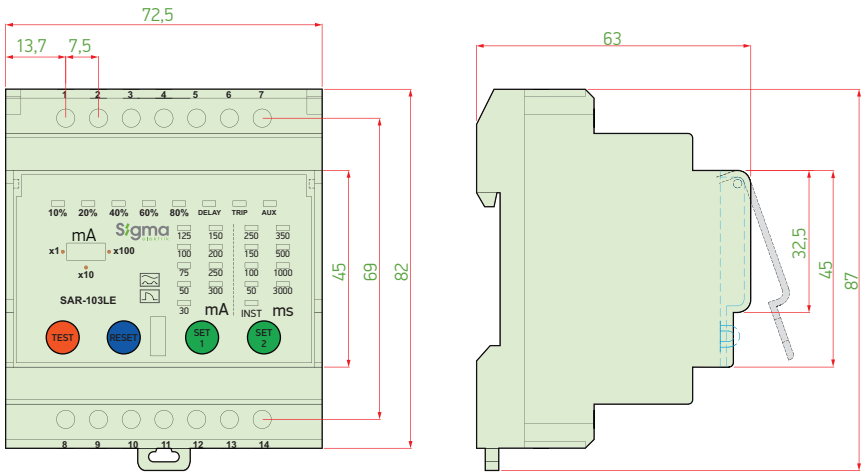


SAR-103LE



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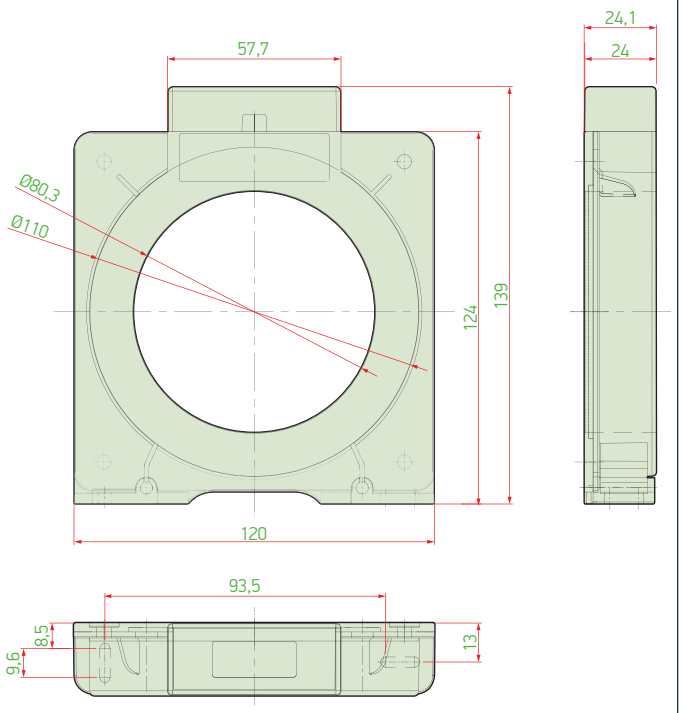
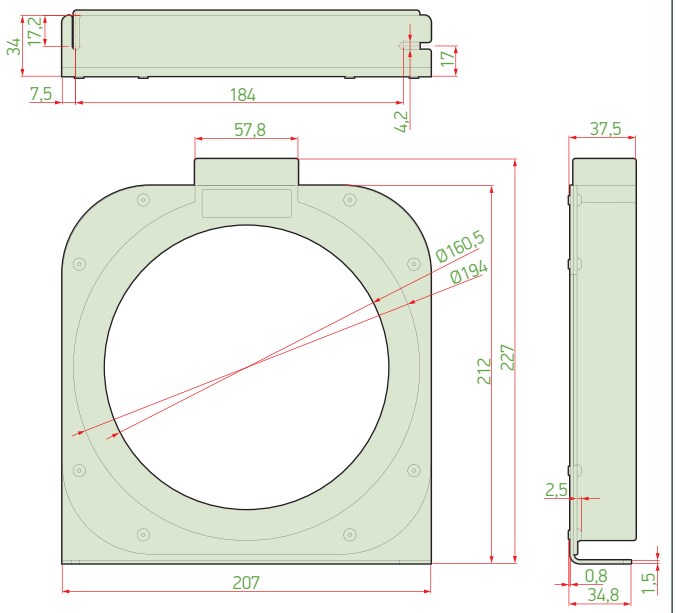
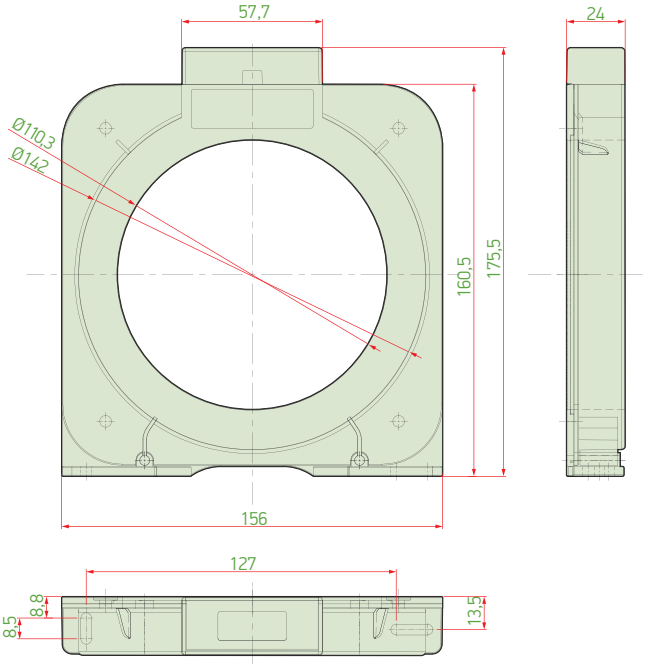


ST160



ST110



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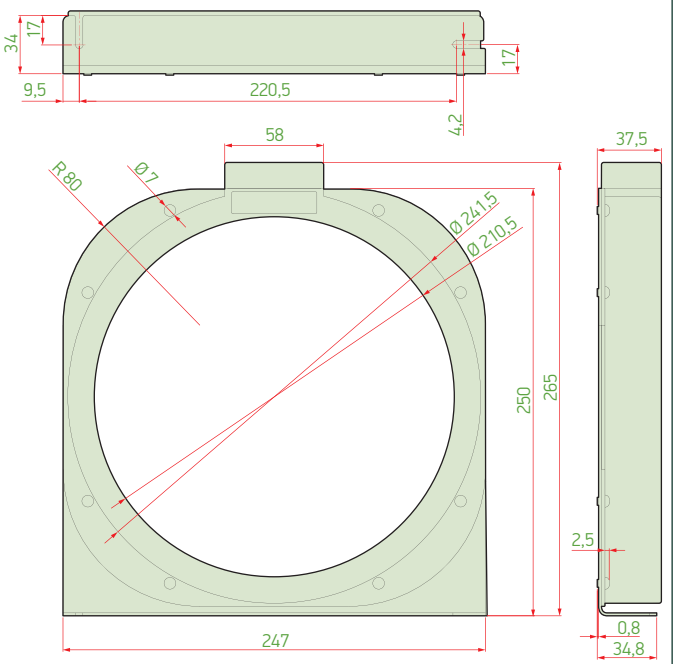
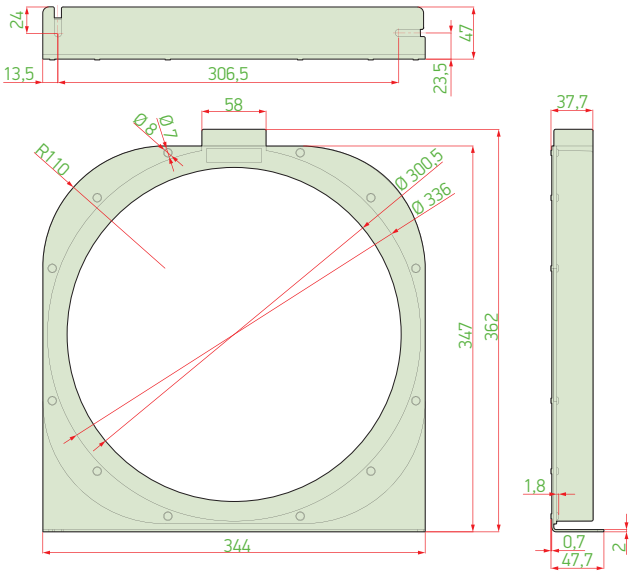
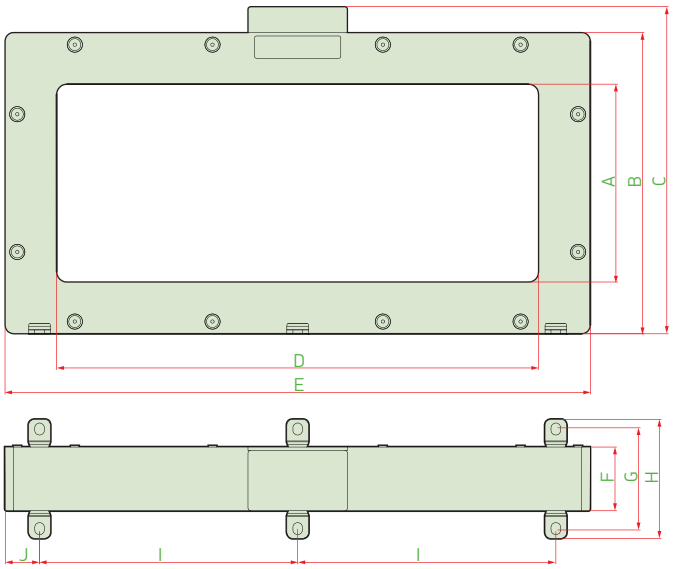


ST300

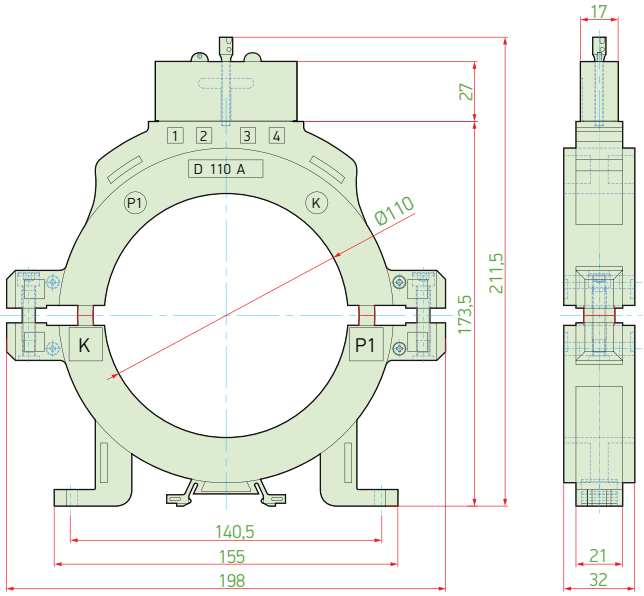


STD280x115 - STD470x160

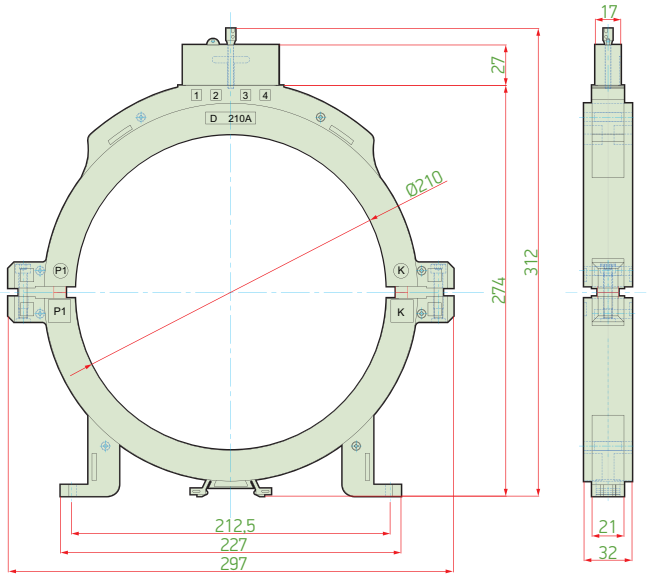


	A	B	C	D	E	F	G	H	I	J
STD280x115	115	175	190	280	340	37	59	69	150	**20**
STD470x160	161	234	249	471	546	37,5	64	78	180	-

STA-110



STA-210



Sigma elektrik

LV AIR CIRCUIT **BREAKERS**

Air type power circuit breakers are designed as main breaker to protect electrical equipment against overload currents, short circuit currents and ground faults. They are suitable for use in power plants, factories, mines and smart building distribution systems, especially in buildings that are expected to draw high loads. When equipped with a motor mechanism, they are ready to get shut off at any time.

- 3 and 4 poles
- 80kA,100kA and 120kA short circuit breaking capacity
- Rated current from 630A to 6300A
- 1000V AC rated insulation voltage
- Possibility of maintenance and repair without cutting off system power with draw-out types
- Possibility to monitor phase voltages and phase currents on the LCD screen
- Showing phase information where the error occurred

LV Air Circuit Breakers - Technical Specifications

Type				SDA-2000/ SFA-2000	SDA-3200/ SFA-3200	SDA-4000/ SFA-4000	SDA-6300 SFA-6300
Type of structure				Draw-Out/Fixed	Draw-Out/Fixed	Draw-Out/Fixed	Draw-Out/Fixed
Number of poles				3-4	3-4	3-4	3-4
Electrical specifications							
Rated current (at 40°C)		A		630, 800, 1000, 1250, 1600, 2000	2500, 3200	4000	5000, 6300
Rated operating voltage	Ue	V	AC	415	415	415	415
Rated insulation voltage	Ui	V		1000	1000	1000	1000
Rated impulse withstand voltage	Uimp	kV		8	8	8	8
Breaking capacity							
Rated ultimate short circuit breaking capacity	Icu	kA	690V AC	50	80	80	80
			415V AC	80	100	100	120
Rated service short circuit breaking capacity	Ics	kA	690V AC	40	50	50	50
			415V AC	50	65	65	65
Utilization category				A, B	A, B	A, B	A, B
Pollution degree				3	3	3	3
Electrical life (No. operation)	ON-OFF		415V	1000	500	500	500
Mechanical life (No. operation)	ON-OFF			10000	10000	8000	8000
Protection unit				Electronic	Electronic	Electronic	Electronic
Long time delay current	Ir1	A		(0,4-1)xIn	(0,4-1)xIn	(0,4-1)xIn	(0,4-1)xIn
Long time delay time	t1	sn		0-480	0-480	0-480	0-480
Short time delay current	Ir2	A		(0,4-15)xIn	(0,4-15)xIn	(0,4-15)xIn	(0,4-15)xIn
Short time delay time	t1	sn		0,1-1	0,1-1	0,1-1	0,1-1
Instantaneous breaking current	Ir3	A		In...50 kA +OFF	In...50 kA +OFF	In...50 kA +OFF	In...50 kA +OFF
Earth fault current	Ir4	A		(0,2-0,8)xIn+OFF	(0,2-0,8)xIn+OFF	(0,2-0,8)xIn.OFF	(0,2-0,8)xIn.OFF
Operating ambient temperature		°C		-25 to +70	-25 to +70	-25 to +70	-25 to +70
Storage temperature		°C		-40 to +80	-40 to +80	-40 to +80	-40 to +80
Relative humidity				90 %	90 %	90 %	90 %
Accessories							
Shunt trip coil (230V AC)				On request	On request	On request	On request
Under voltage coil (230V AC)				On request	On request	On request	On request
Delay type under voltage coil (230V AC)				On request	On request	On request	On request
Closing coil (230V AC)				On request	On request	On request	On request
Auxilary contact (2NO+2NC)				Standard	Standard	Standard	Standard
Motor operator (230V AC)				On request	On request	On request	On request
Mechanical interlock				Optional	On request	On request	On request
Counter	NEW PROPERTY			Standard	Standard	Standard	Standard

Protection Properties for Air Circuit Breakers

Long-Time Delay Overcurrent Protection

Setting Current (Ir1)	Error	Current	Tripping Time (sec)						Time Error
(0.4~1)xIn	±%10	1.05xIr1	<2h non-tripping						
		1.30xIr1	<1h trip						
		1.5x Ir1 (t1)	15	30	60	120	240	480	±10%
		2.0xIr1	8.4	16.9	33.7	67.5	135	270	±10%

Short-Time Delay Overcurrent Protection

Setting Current (Ir1)	Error	Current	Tripping Time (sec)				Time Error
(0,4~15)xIr2	±%10	≤0.9xIr2	<2h non-tripping				
		>1.1xIr2	<1h trip				
		Delay setting (ts)	0.1	0.2	0.3	0.4	±15%
		>8xIr2	0.06	0.14	0.23	0.35	±15%

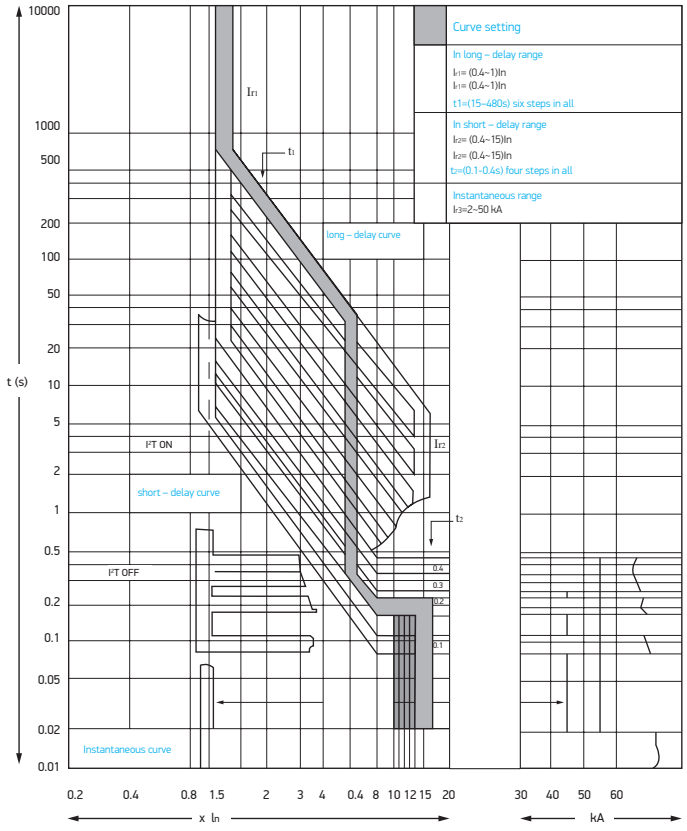
Instantaneous Tripping Protection

Setting Current (Ir1)	Error	Current	Time Error
1.0 In~50kA	±%15	≤0.85Ir3	non-tripping
		>1.15Ir3	trip

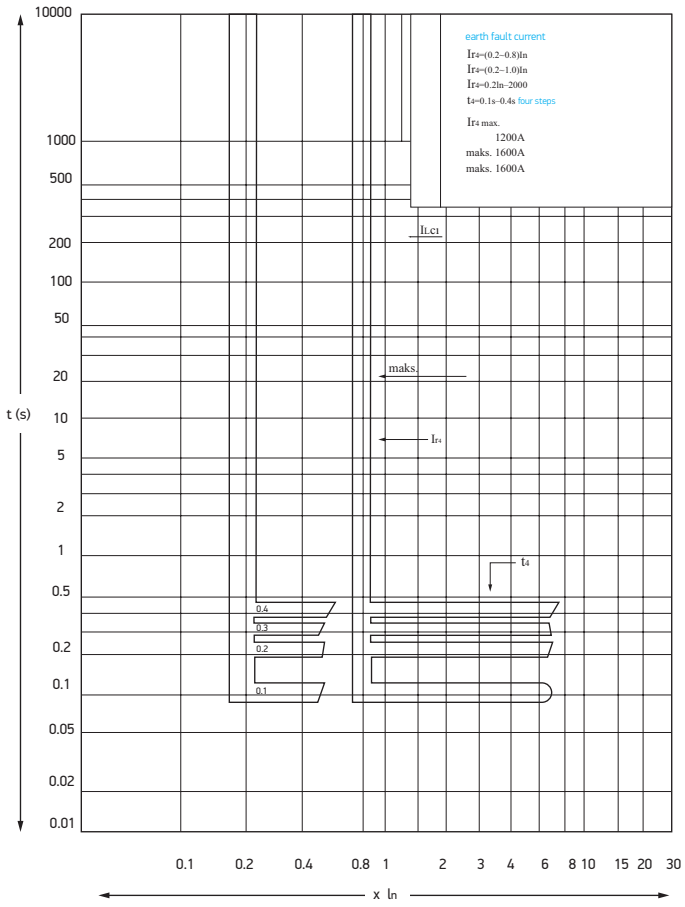
Ground Fault Protection

Setting Current (Ir1)	Error	Current	Tripping Time (sec)				Time Error
(0.2~0.8)Ir4	±%10	≤0.9xIr4	non-tripping				
		>1.10Ir4	Tripping				
		Tripping time (sec)	0.1	0.2	0.3	0.4	±15%

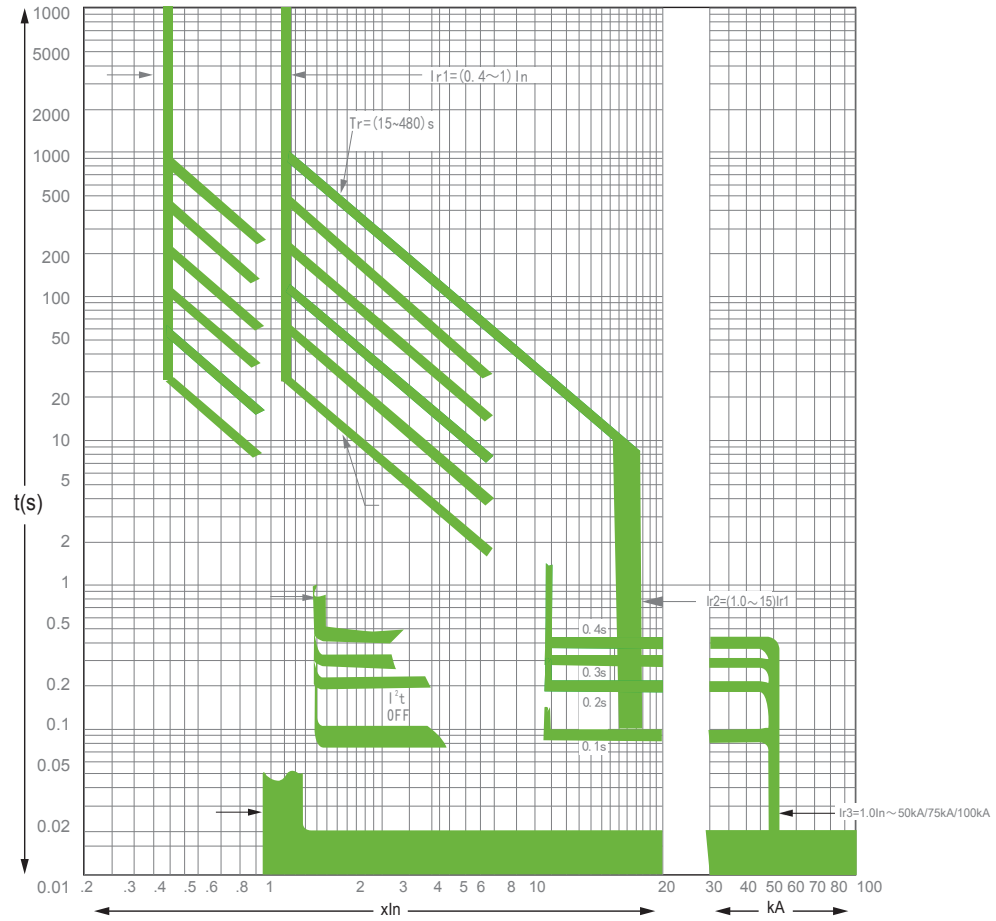
Overcurrent Protection Current-Time Curve



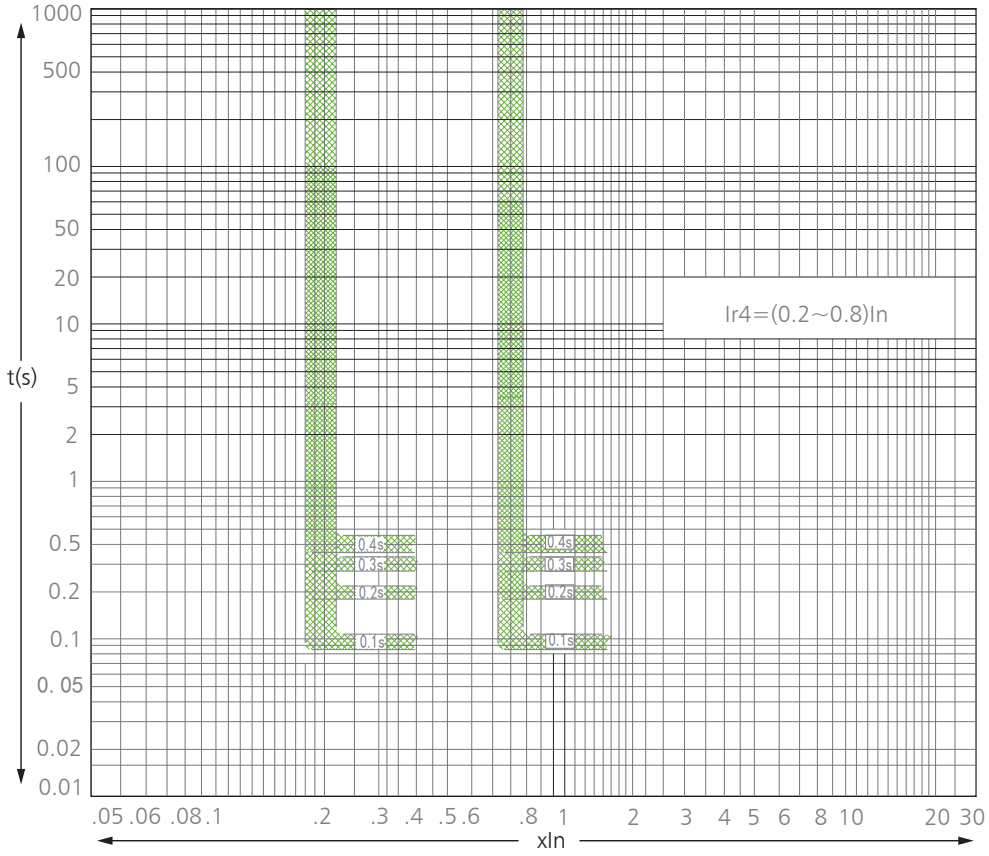
Ground Fault Protection Current-Time Curve



Overload Time-Current Characteristic for ACB



Ground Fault Protection Time-Current Characteristic for ACB



3 Poles, Fixed Type, Air Circuit Breakers

Type Code		Rated Current In (A)	Adj. Current Range (Ir1)	Breaking Capacity Icu (kA)	Operation Mechanism	Order Code	Order Code (with RS485)
SFA-2000		630	252-630	80	Manuel	SFA0630H3	SFA0630H3C
		800	320-800	80	Manuel	SFA0800H3	SFA0800H3C
		1000	400-1000	80	Manuel	SFA1000H3	SFA1000H3C
		1250	500-1250	80	Manuel	SFA1250H3	SFA1250H3C
		1600	640-1600	80	Manuel	SFA1600H3	SFA1600H3C
		2000	1200-2000	80	Manuel	SFA2000H3	SFA2000H3C
SFA-3200		2500	1000-2500	100	Manuel	SFA2500H3	SFA2500H3C
		3200	1280-3200	100	Manuel	SFA3200H3	SFA3200H3C
SFA-4000		4000	1600-4000	100	Manuel	SFA4000H3	SFA4000H3C
SFA-6300	NEW PRODUCT	5000	2000-5000	120	Manuel	SFA5000H3	SFA5000H3C
	NEW PRODUCT	6300	2520-6300	120	Manuel	SFA6300H3	SFA6300H3C
SFA-2000		630	252-630	80	Motorized	SFA0630M3	SFA0630M3C
		800	320-800	80	Motorized	SFA0800M3	SFA0800M3C
		1000	400-1000	80	Motorized	SFA1000M3	SFA1000M3C
		1250	500-1250	80	Motorized	SFA1250M3	SFA1250M3C
		1600	640-1600	80	Motorized	SFA1600M3	SFA1600M3C
		2000	1200-2000	80	Motorized	SFA2000M3	SFA2000M3C
SFA-3200		2500	1000-2500	100	Motorized	SFA2500M3	SFA2500M3C
		3200	1280-3200	100	Motorized	SFA3200M3	SFA3200M3C
SFA-4000		4000	1600-4000	100	Motorized	SFA4000M3	SFA4000M3C
SFA-6300	NEW PRODUCT	5000	2000-5000	120	Motorized	SFA5000H3	SFA5000H3C
	NEW PRODUCT	6300	2520-6300	120	Motorized	SFA6300H3	SFA6300H3C

Note: All ACBs have 4NO+4NC auxiliary contacts as standard product.

3 Poles Draw-Out Type Air Circuit Breakers

Type Code		Rated Current In (A)	Adj. Current Range (Ir1)	Breaking Capacity Icu (kA)	Operation Mechanism	Order Code	Order Code (with RS485)
	NEW PRODUCT	630	252-630	80	Manuel	SDA0630H3	SDA0630H3C
	NEW PRODUCT	800	320-800	80	Manuel	SDA0800H3	SDA0800H3C
SDA-2000		1000	400-1000	80	Manuel	SDA1000H3	SDA1000H3C
		1250	500-1250	80	Manuel	SDA1250H3	SDA1250H3C
		1600	640-1600	80	Manuel	SDA1600H3	SDA1600H3C
		2000	1200-2000	80	Manuel	SDA2000H3	SDA2000H3C
SDA-3200		2500	1000-2500	100	Manuel	SDA2500H3	SDA2500H3C
		3200	1280-3200	100	Manuel	SDA3200H3	SDA3200H3C
SDA-4000		4000	1600-4000	100	Manuel	SDA4000H3	SDA4000H3C
SDA-6300		5000	2000-5000	120	Manuel	SDA5000H3	SDA5000H3C
		6300	2560-6300	120	Manuel	SDA6300H3	SDA6300H3C
	NEW PRODUCT	630	252-630	80	Motorized	SDA0630M3	SDA0630M3C
	NEW PRODUCT	800	320-800	80	Motorized	SDA0800M3	SDA0800M3C
SDA-2000		1000	400-1000	80	Motorized	SDA1000M3	SDA1000M3C
		1250	500-1250	80	Motorized	SDA1250M3	SDA1250M3C
		1600	640-1600	80	Motorized	SDA1600M3	SDA1600M3C
		2000	1200-2000	80	Motorized	SDA2000M3	SDA2000M3C
SDA-3200		2500	1000-2500	100	Motorized	SDA2500M3	SDA2500M3C
		3200	1280-3200	100	Motorized	SDA3200M3	SDA3200M3C
SDA-4000		4000	1600-4000	100	Motorized	SDA4000M3	SDA4000M3C
SDA-6300		5000	2000-5000	120	Motorized	SDA5000M3	SDA5000M3C
		6300	2560-6300	120	Motorized	SDA6300M3	SDA6300M3C

Note: (*) All ACBs have 4NO+4NC auxiliary contacts as standard product.

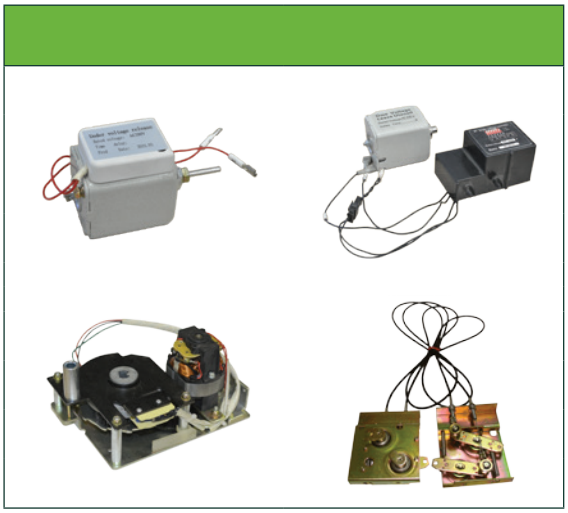
4 Poles, Fixed Type, Air Circuit Breakers

Type Code		Rated Current In (A)	Breaking Capacity Icu (kA)	Operation Mechanism	Order Code	Order Code (with RS485)
SFA-2000	NEW PRODUCT	252-630	80	Manuel	SFA0630H4	SFA0630H4C
	NEW PRODUCT	320-800	80	Manuel	SFA0800H4	SFA0800H4C
		400-1000	80	Manuel	SFA1000H4	SFA1000H4C
		500-1250	80	Manuel	SFA1250H4	SFA1250H4C
		640-1600	80	Manuel	SFA1600H4	SFA1600H4C
		1200-2000	80	Manuel	SFA2000H4	SFA2000H4C
SFA-3200		1000-2500	100	Manuel	SFA2500H4	SFA2500H4C
		1280-3200	100	Manuel	SFA3200H4	SFA3200H4C
SFA-4000	NEW PRODUCT	1600-4000	100	Manuel	SFA4000H4	SFA4000H4C
SFA-6300	NEW PRODUCT	2000-5000	120	Manuel	SFA5000H4	SFA5000H4C
	NEW PRODUCT	2520-6300	120	Manuel	SFA6300H4	SFA6300H4C
SFA-2000	NEW PRODUCT	252-630	80	Motorized	SFA0630M4	SFA0630M4C
	NEW PRODUCT	320-800	80	Motorized	SFA0800M4	SFA0800M4C
		400-1000	80	Motorized	SFA1000M4	SFA1000M4C
		500-1250	80	Motorized	SFA1250M4	SFA1250M4C
		640-1600	80	Motorized	SFA1600M4	SFA1600M4C
		1200-2000	80	Motorized	SFA2000M4	SFA2000M4C
SFA-3200		1000-2500	100	Motorized	SFA2500M4	SFA2500M4C
		1280-3200	100	Motorized	SFA3200M4	SFA3200M4C
SFA-4000	NEW PRODUCT	1600-4000	100	Motorized	SFA4000M4	SFA4000M4C
SFA-6300	NEW PRODUCT	2000-5000	120	Motorized	SFA5000M4	SFA5000M4C
	NEW PRODUCT	2520-6300	120	Motorized	SFA6300M4	SFA6300M4C

4 Poles Draw-Out Type Air Circuit Breakers

Type Code		Rated Current In (A)	Breaking Capacity Icu (kA)	Operation Mechanism	Order Code	Order Code (with RS485)
SDA-2000	NEW PRODUCT	252-630	80	Manuel	SDA0630H4	SDA0630H4C
	NEW PRODUCT	320-800	80	Manuel	SDA0800H4	SDA0800 3P / 4P H4C
		400-1000	80	Manuel	SDA1000H4	SDA1000H4C
		500-1250	80	Manuel	SDA1250H4	SDA1250H4C
		640-1600	80	Manuel	SDA1600H4	SDA1600H4C
		1200-2000	80	Manuel	SDA2000H4	SDA2000H4C
SDA-3200		1000-2500	100	Manuel	SDA2500H4	SDA2500H4C
		1280-3200	100	Manuel	SDA3200H4	SDA3200H4C
SDA-4000		1600-4000	100	Manuel	SDA4000H4	SDA4000H4C
SDA-6300	NEW PRODUCT	2000-5000	120	Manuel	SDA5000H4	SDA5000H4C
	NEW PRODUCT	2520-6300	120	Manuel	SDA6300H4	SDA6300H4C
SDA-2000	NEW PRODUCT	252-630	80	Motorized	SDA0630M4	SDA0630M4C
	NEW PRODUCT	320-800	80	Motorized	SDA0800M4	SDA0800M4C
		400-1000	80	Motorized	SDA1000M4	SDA1000M4C
		500-1250	80	Motorized	SDA1250M4	SDA1250M4C
		640-1600	80	Motorized	SDA1600M4	SDA1600M4C
		1200-2000	80	Motorized	SDA2000M4	SDA2000M4C
SDA-3200		1000-2500	100	Motorized	SDA2500M4	SDA2500M4C
		1280-3200	100	Motorized	SDA3200M4	SDA3200M4C
SDA-4000		1600-4000	100	Motorized	SDA4000M4	SDA4000M4C
SDA-6300	NEW PRODUCT	2000-5000	120	Motorized	SDA5000M4	SDA5000M4C
	NEW PRODUCT	2520-6300	120	Motorized	SDA6300M4	SDA6300M4C

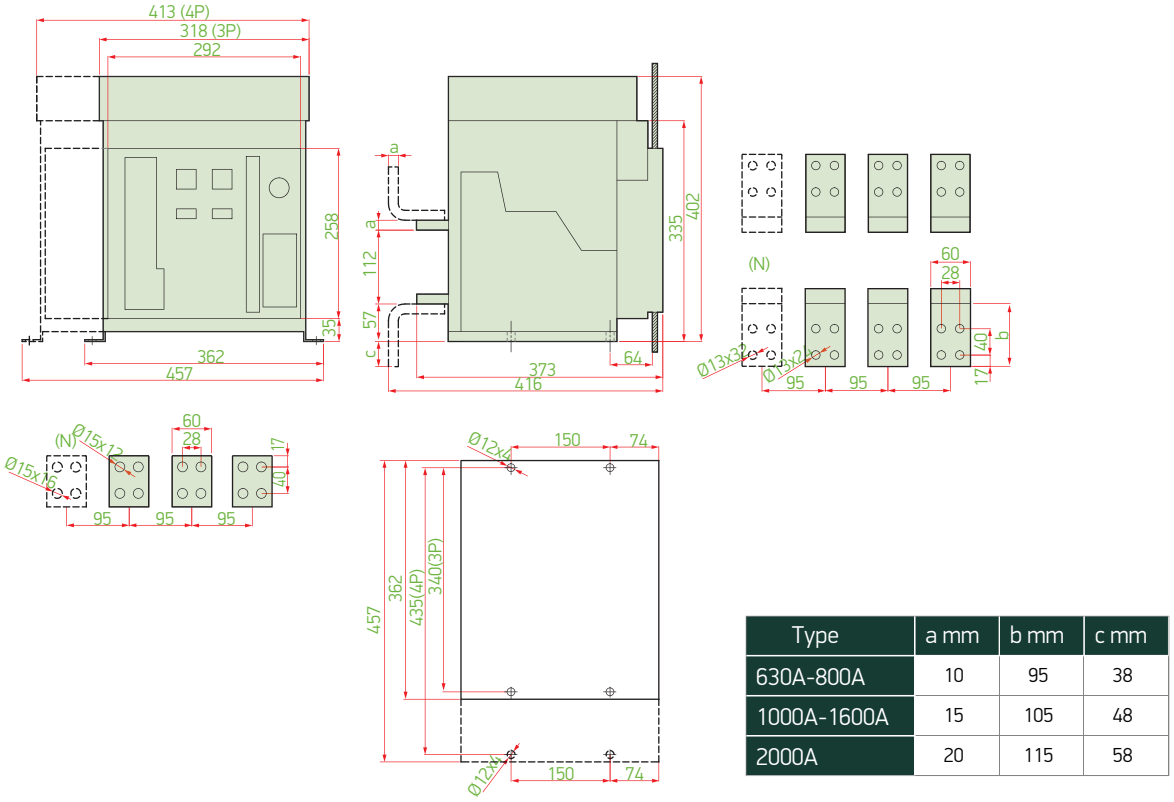
Accessories



Type Code	Description	Features	Order Code
SADG	Under Voltage Release - Without Delay	110V AC/DC, 230V AC	SADG230
	Under Voltage Release - Without Delay	380V AC	SADG380
SAGDG	Under Voltage Release - With Delay	230V AC	SAGDG230
	Under Voltage Release - With Delay	400V AC	SAGDG400
SAAB	Shunt Trip Coil	110-230V AC/DC	SAAB
SAKB	Closing Coil	110-230V AC/DC	SAKB
SAMM-1	Motor Operator (630...2000 A)	110-230V AC/DC	SAM1
SAMM-2	Motor Operator (2500..6300 A)	110-230V AC/DC	SAM2
SAMK	Mechanical Interlock	Wire Type	SAMK

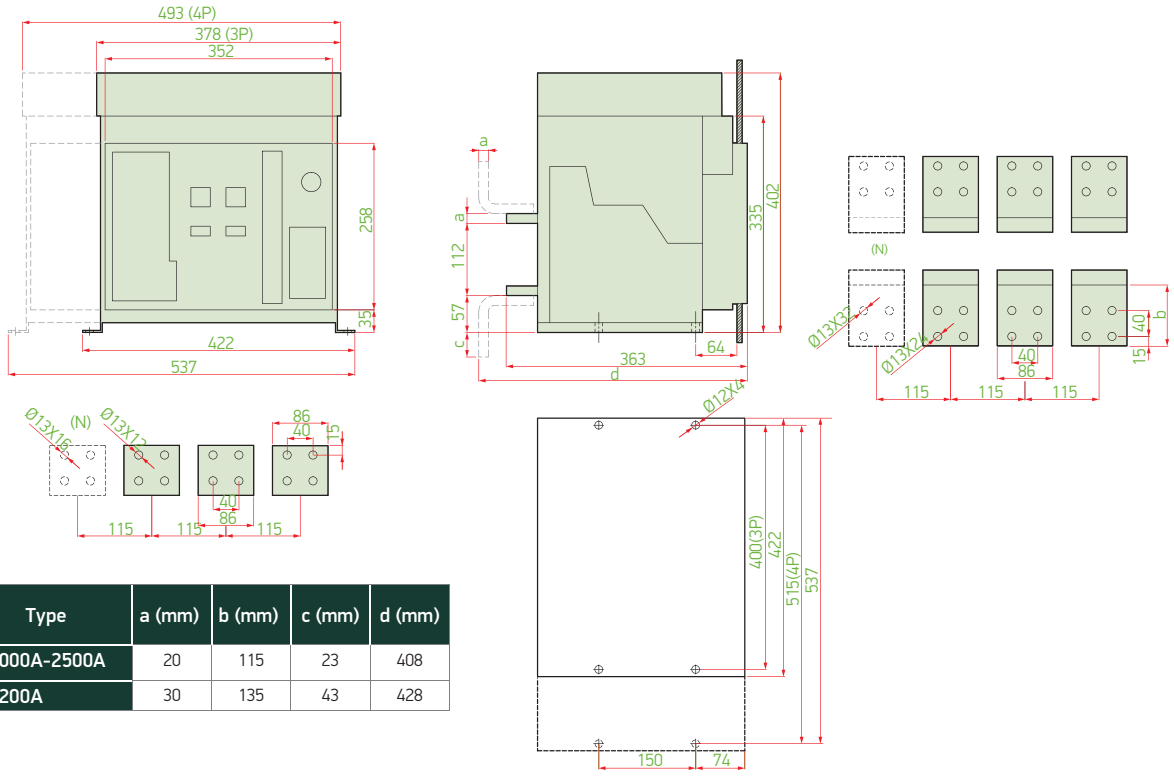
Dimensions

SFA-1600, SFA-2000 - SFA-1600(N), SFA-2000(N)



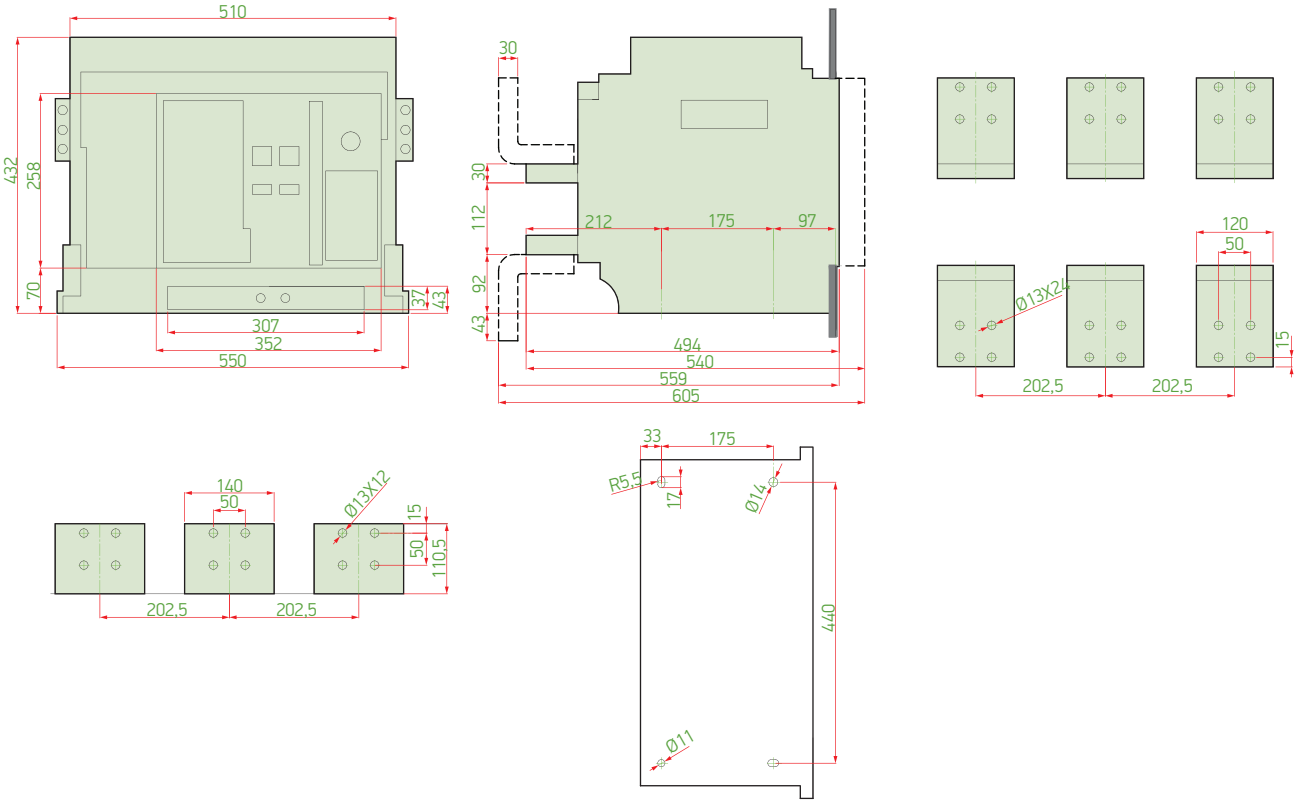
Type	a mm	b mm	c mm
630A-800A	10	95	38
1000A-1600A	15	105	48
2000A	20	115	58

SFA-2500, SFA-3200 - SFA-2500(N), SFA-3200(N)

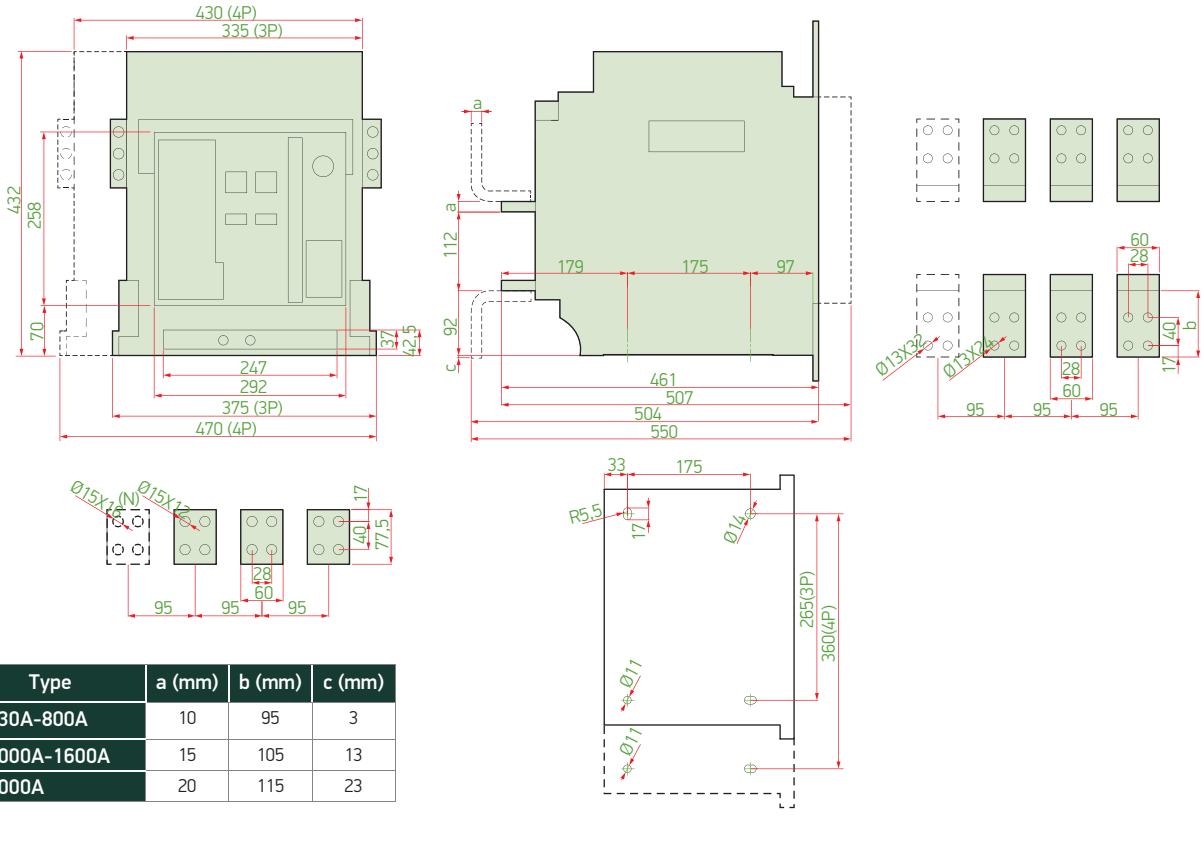


Type	a (mm)	b (mm)	c (mm)	d (mm)
2000A-2500A	20	115	23	408
3200A	30	135	43	428

SFA-4000

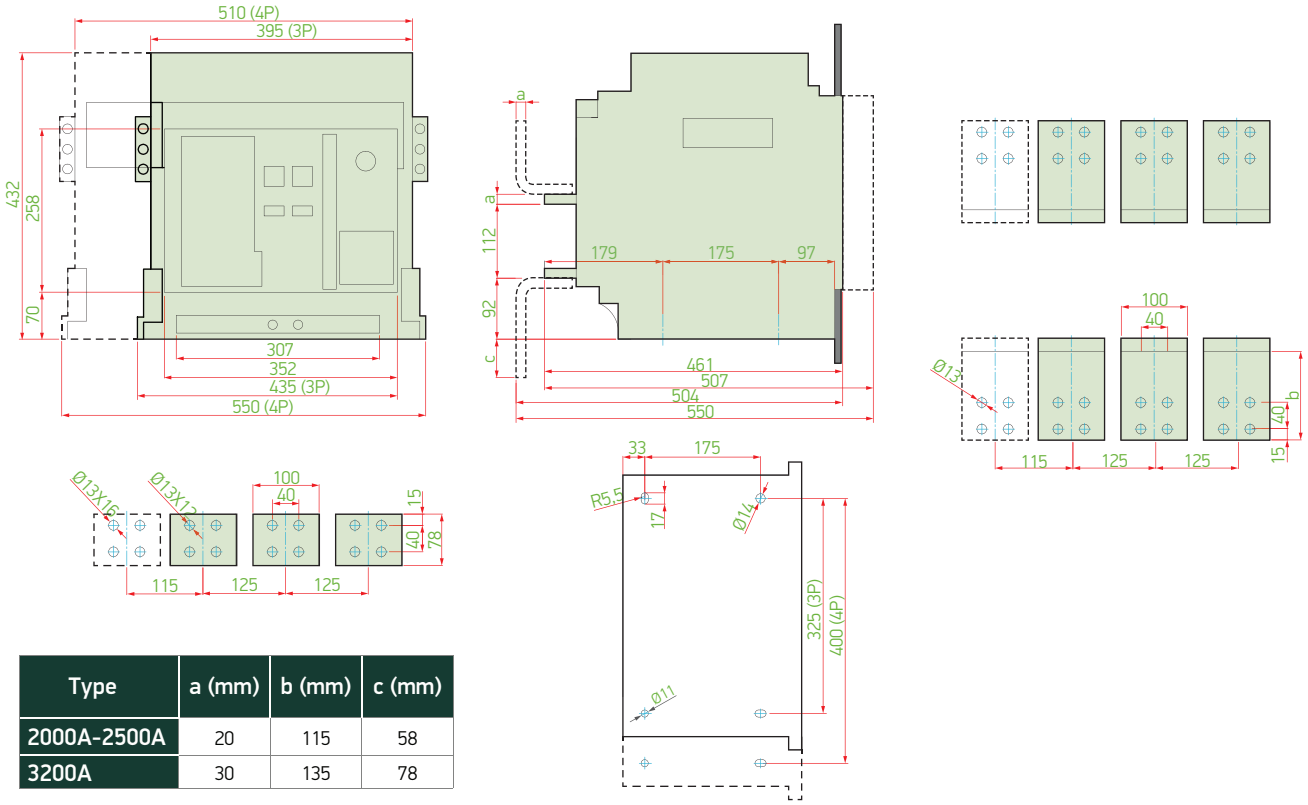


SDA-(1000-1250-1600-2000)



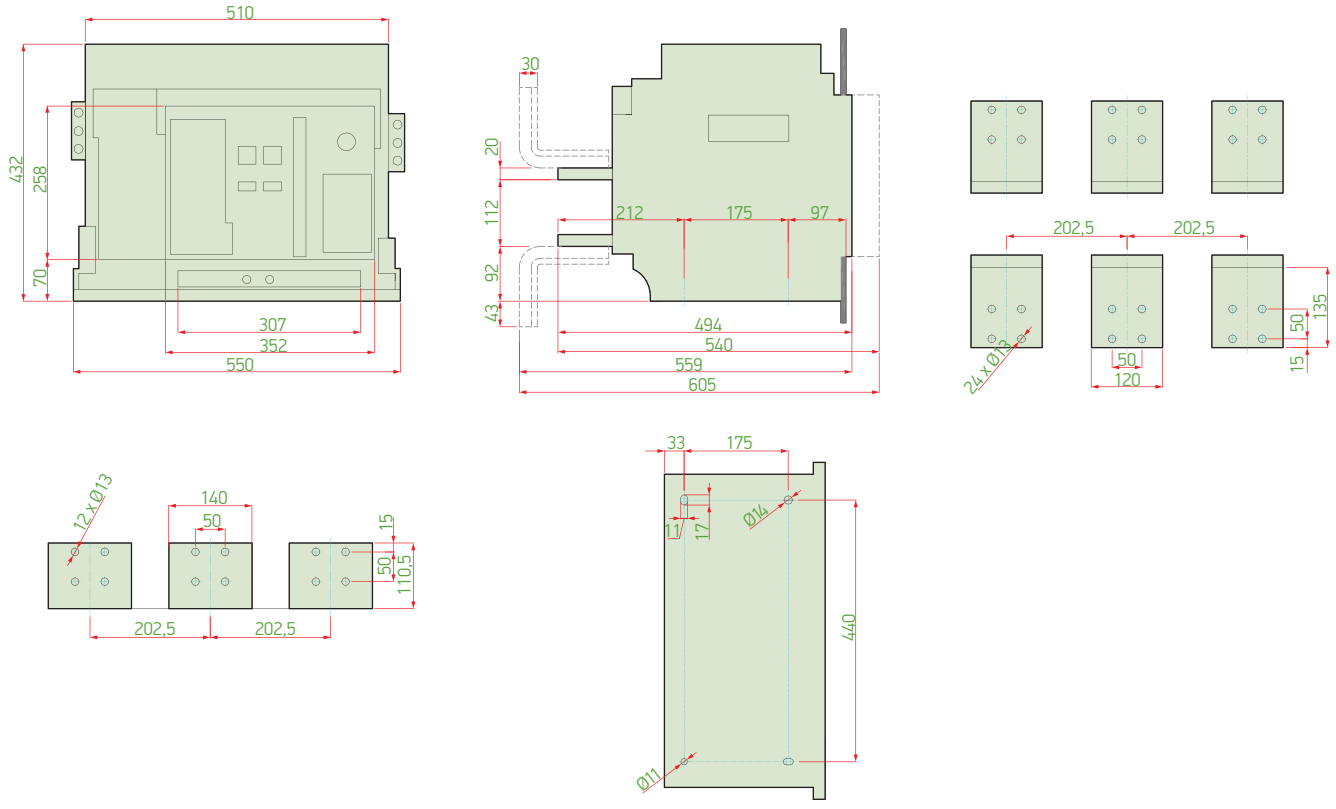
Type	a (mm)	b (mm)	c (mm)
630A-800A	10	95	3
1000A-1600A	15	105	13
2000A	20	115	23

SDA-2500, SDA-3200

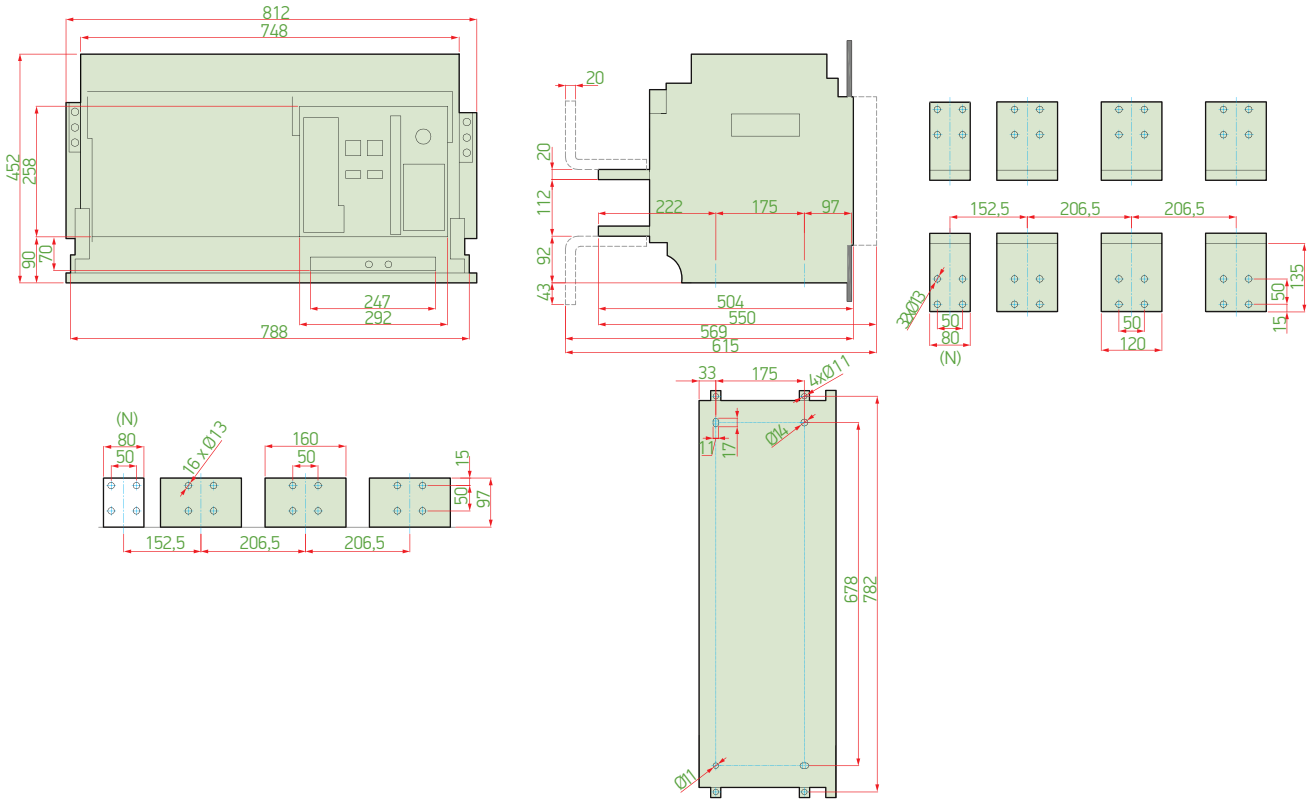


Type	a (mm)	b (mm)	c (mm)
2000A-2500A	20	115	58
3200A	30	135	78

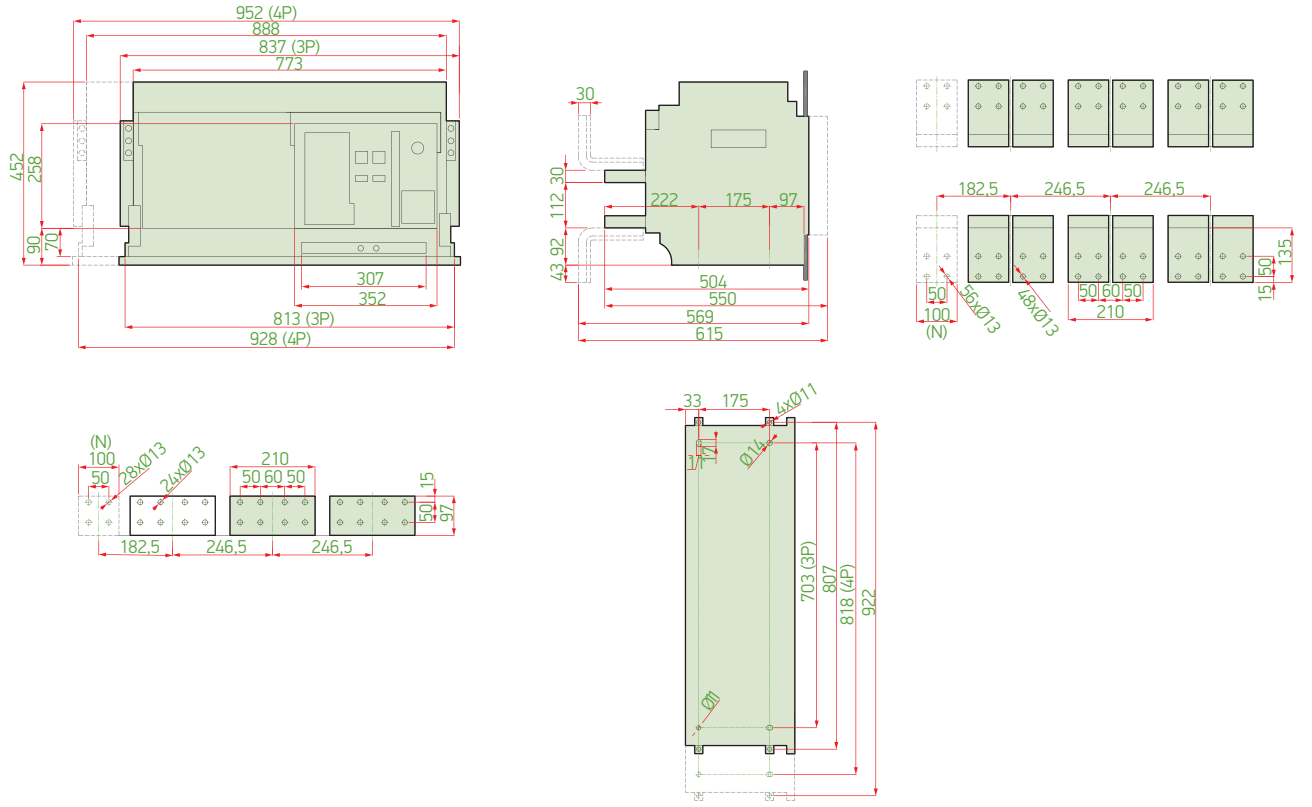
SDA-4000 (3P)



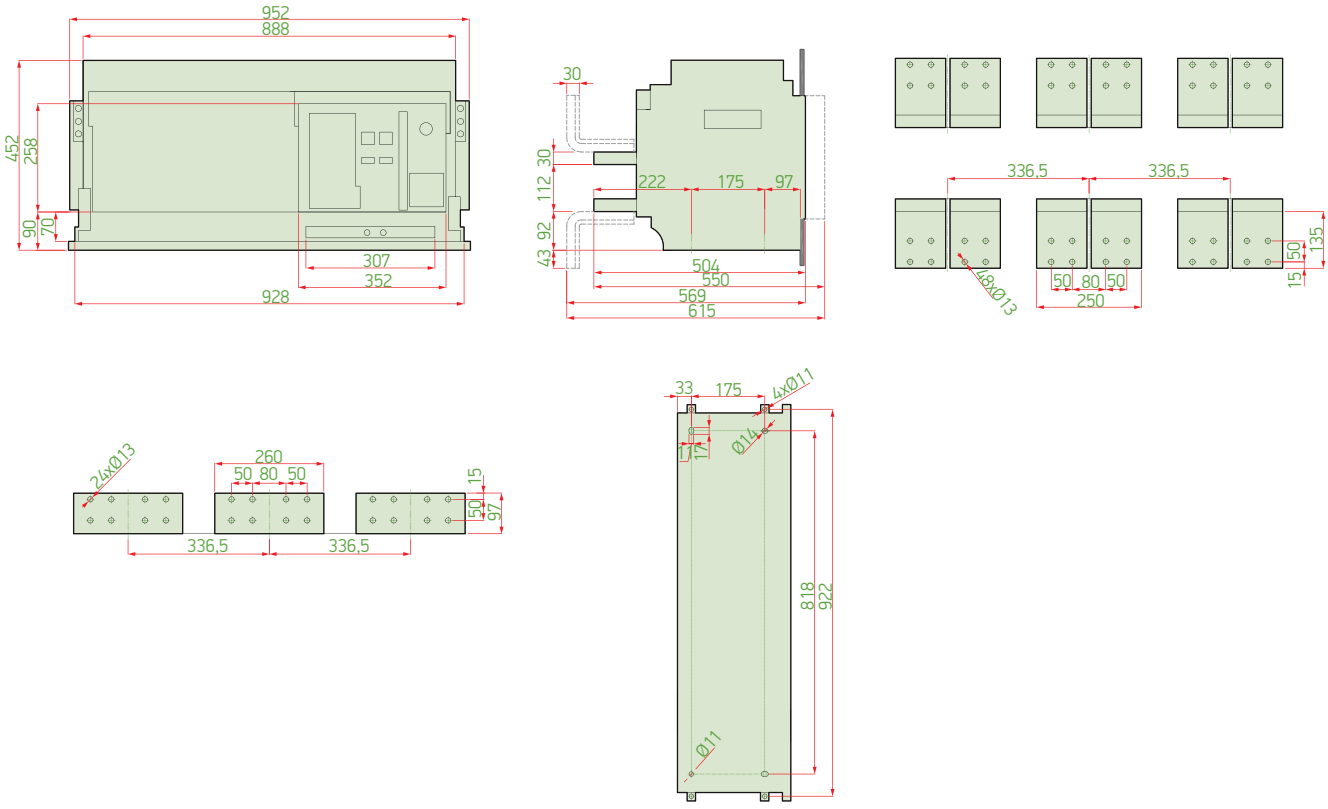
SDA-4000 (4P)



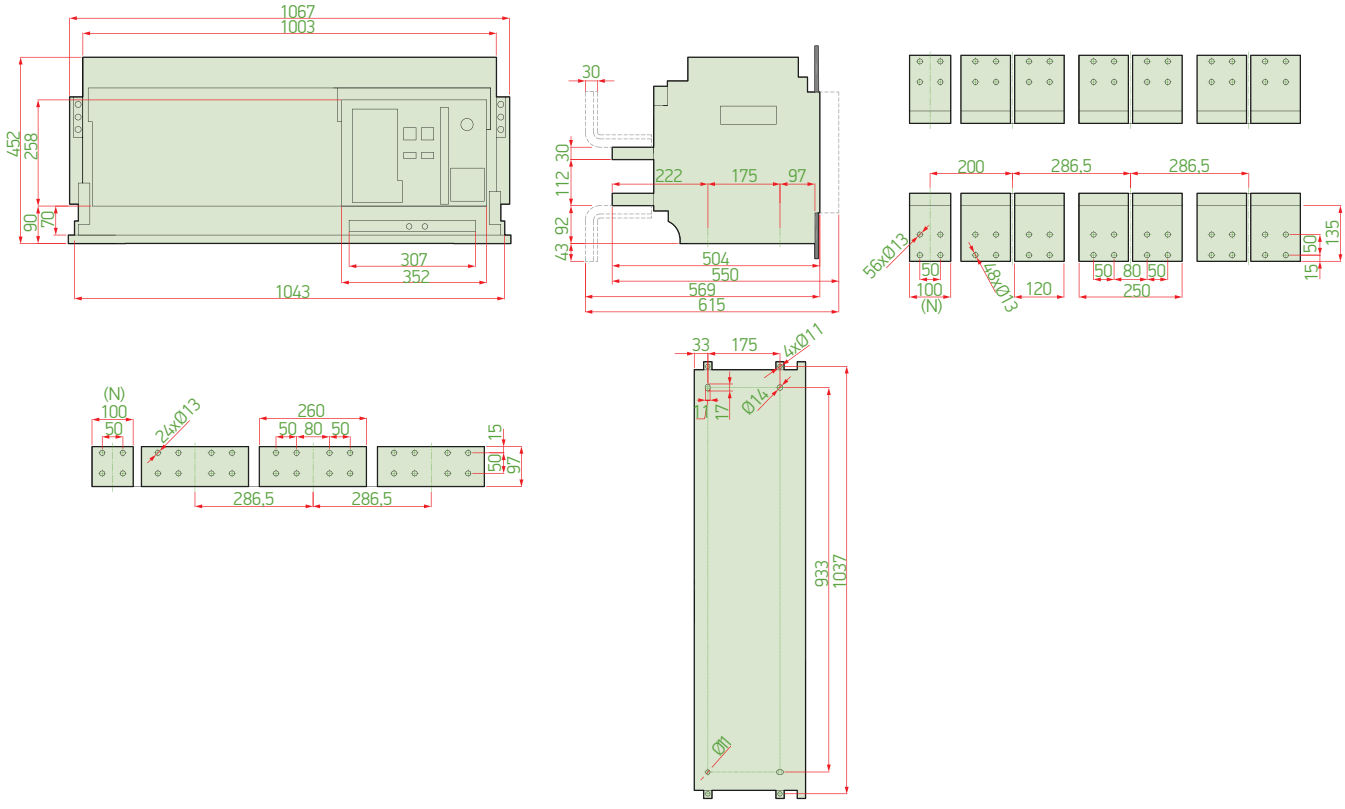
SDA-6300 (3P-4P 5000A)



SDA-6300 (3P-6300A)



SDA-6300 (4P-6300A)



Sigma elektrik

AUTOMATIC
TRANSFER SWITCHES

Automatic transfer switches are devices that automatically transfer the load from one power source (mains, UPS, generator, etc.) to another power source (mains, UPS, generator, etc.), allowing them to cut, transmit, carry and isolate the current. They are used to carry out load transfers safely in areas where power outages are frequent, where uninterrupted power is needed and where the outage would cause great damage (hospitals, shopping malls, banks, factories, residences, etc.).

- Rated current from 32A to 3200A
- 3 different product ranges with Automatic Fuse, Thermal Magnetic Switch and Load Breaker types
- Possibility of adjusting transfer times (optional)
- Ability to protect the system against overvoltages and undervoltages caused by the source

Automatic Transfer Switches - Technical Specifications

	SATS-100	SATS-250				SATS-400	SATS-630	SATS-800
Nominal current Ith (40°C)	100 A	125 A	160 A	200 A	250 A	400 A	630 A	800 A
Ambient operating temperature range	-5°C~+40°C (24 hours avarage not more than 35°C)							
Ambient storage temperature range	-20°C~+60°C							
Relative Humidity	90%							
Altitude	Not more than 2000m							
Pollution degree	3							
Nominal operating voltage (Ue)	400V AC 50Hz							
Electrical Specifications								
Number of poles	4P	4P	4P	4P	4P	4P	4P	4P
Nominal current Ith (40°C)	100 A	125 A	160 A	200 A	250 A	400 A	630 A	800 A
Nominal insulation voltage Ui (V)	800	800	800	800	800	800	1000	1000
Rated impulse withstand voltage Uimp (kV)	8	8	8	8	8	8	12	12
Nominal short circuit breaking capacity (Icu) (kA)	25	36	36	36	3636	36	36	36
Switching Time								
UN-UR or UR-UN switching time (s)	0-180s	0-180s	0-180s	0-180s	0-180s	0-180s	0-180s	0-180s
UN-0 or UR-0 switching time (s)	2s	2s	2s	2s	2s	2s	2s	2s
Mechanical Properties								
Mechanical service life	6000	6000	6000	6000	4000	4000	3000	3000
Protection degree	IP30 (Other than Terminals)							
Electrical Connection								
Maximum copper cable section (mm^2)	35	35	50	85	95	185	2x150	2x240
Tightening torque min / max (Nm)	9/13	9/13	9/13	20/26	20/26	20/26	20/26	20/26
Control Unit Properties								
Nominal application voltage	230V ±%20							
Power consumption	10W							
Installation mode	Fixed Type							
Connection mode	Frontal							
Operating frequency	50/60Hz							
Auxiliary power supply	24V DC (-10%, +15%)							

Automatic Transfer Switches - Technical Specifications (Motorized Switch Disconnector)

	MATS-100	MATS-160	MATS-250	MATS-630	MATS-1000	MATS-1600	MATS-2000	MATS-2500	MATS-3200
Rated thermal current (Ith)	100	160	250	630	1000	1600	2000	2500	3200
Rated insulation voltage [Ui(V)]	800	800	800	800	800	800	1000	1000	1000
Rated impulse withstand voltage Uimp (kV)	8	8	8	8	8	8	12	12	12
Rated short circuit making capacity Icm(kA) peak	8	17	17	26	55	55	55	55	55
Short Circuit Resistance Capacity Icw (kA/0.1sn)	9	25	25	50	90	90	50	50	55
Rated limited short circuit current Iq (kA)	120	120	120	120	120	120	80	80	80
Transfer time	1,7	2,3	3,1	2,1	2,6	2,6	2.45	2.45	2.45
Contact transfer time	0,7	1	1,2	0,8	1	1	1	1	1
Weight (kg)	4	6,1	10,7	22	54	61			
Phase lost detect	3 phase								
Utilization category	AC-33İB (GB standart) / AC-32B (IEC standart)								

Automatic Transfer Switches (with MCB)

Type Code	Rated Current In (A)	Breaking Capacity Icu (kA)	Order Code
SATS-32	32	6	SATS032
SATS-40	40	6	SATS040
SATS-50	50	6	SATS050
SATS-63	63	6	SATS063

Note: Sats type automatic transfer switch is protected by in built MCB against overcurrents.

Automatic Transfer Switches (with MCCB)

Type Code	Rated Current In (A)	Breaking Capacity Icu (kA)	Order Code
SATS-100	100	25	SATS100
SATS-125	125	36	SATS125
SATS-160	160	36	SATS160
SATS-200	200	36	SATS200
SATS-250	250	36	SATS250
SATS-400	400	36	SATS400
SATS-630	630	36	SATS630
SATS-800	800	36	SATS800

Note: 3 phases of Sats type automatic transfer switch is protected against over voltage and under voltage.

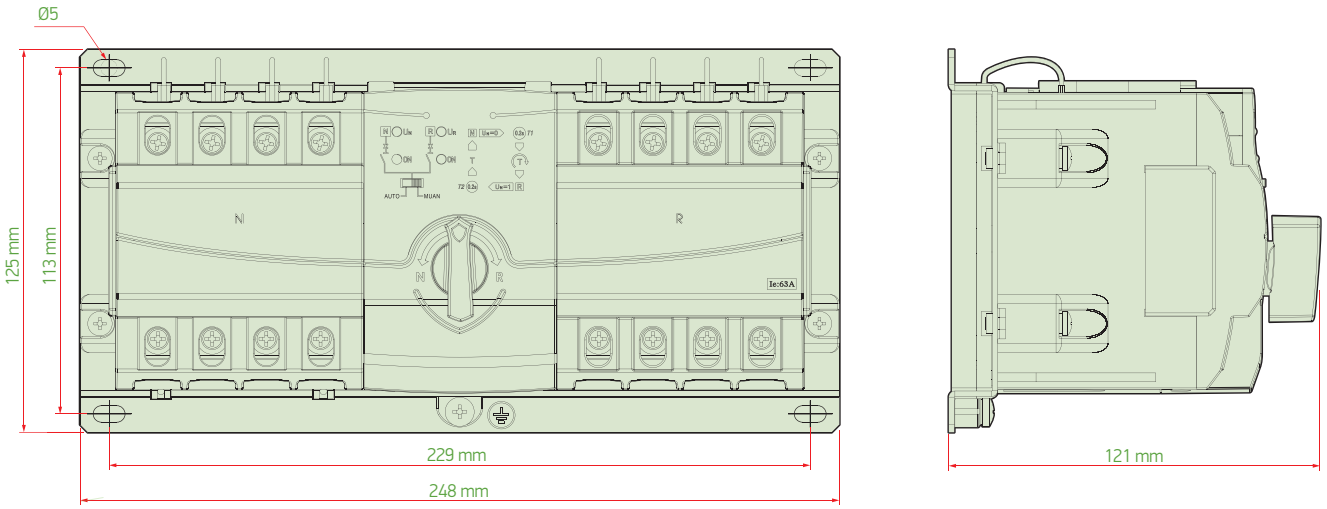
Automatic Transfer Switches (Motorized Switch Disconnector)

Type Code	Rated Current In (A)	Rated short circuit making capacity Icm(kA) peak	Order Code
MATS-100	100	8	MATS100-B
MATS-160	160	17	MATS160-B
MATS-250	250	17	MATS250-B
MATS-630	630	26	MATS630-B
MATS-1000	1000	55	MATS1000-B
MATS-1600	1600	55	MATS1600-B
MATS-2000	2000	55	MATS2000-B
MATS-2500	2500	55	MATS2500-B
MATS-3200	3200	55	MATS3200-B

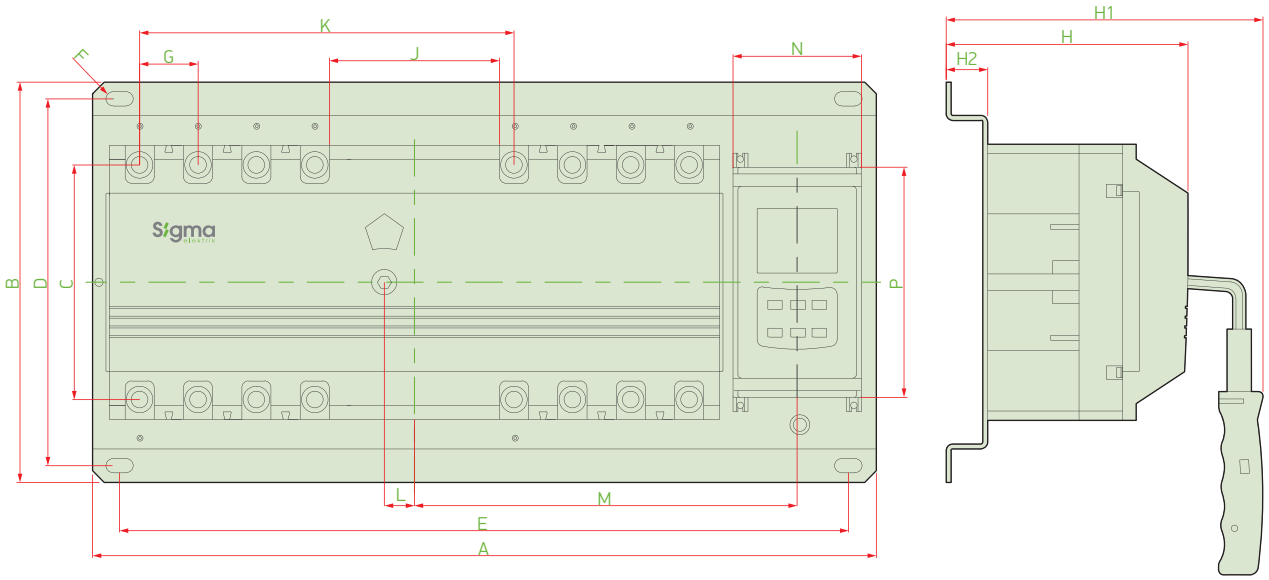
Note: Over current protection is not available for Mats type Automatic Transfer Switch.
Note: 3 phase of Mats type Automatic Transfer switch are protected againist phase losses.

Dimensions

Automatic Transfer Switches (with MCB) (32A-63A)

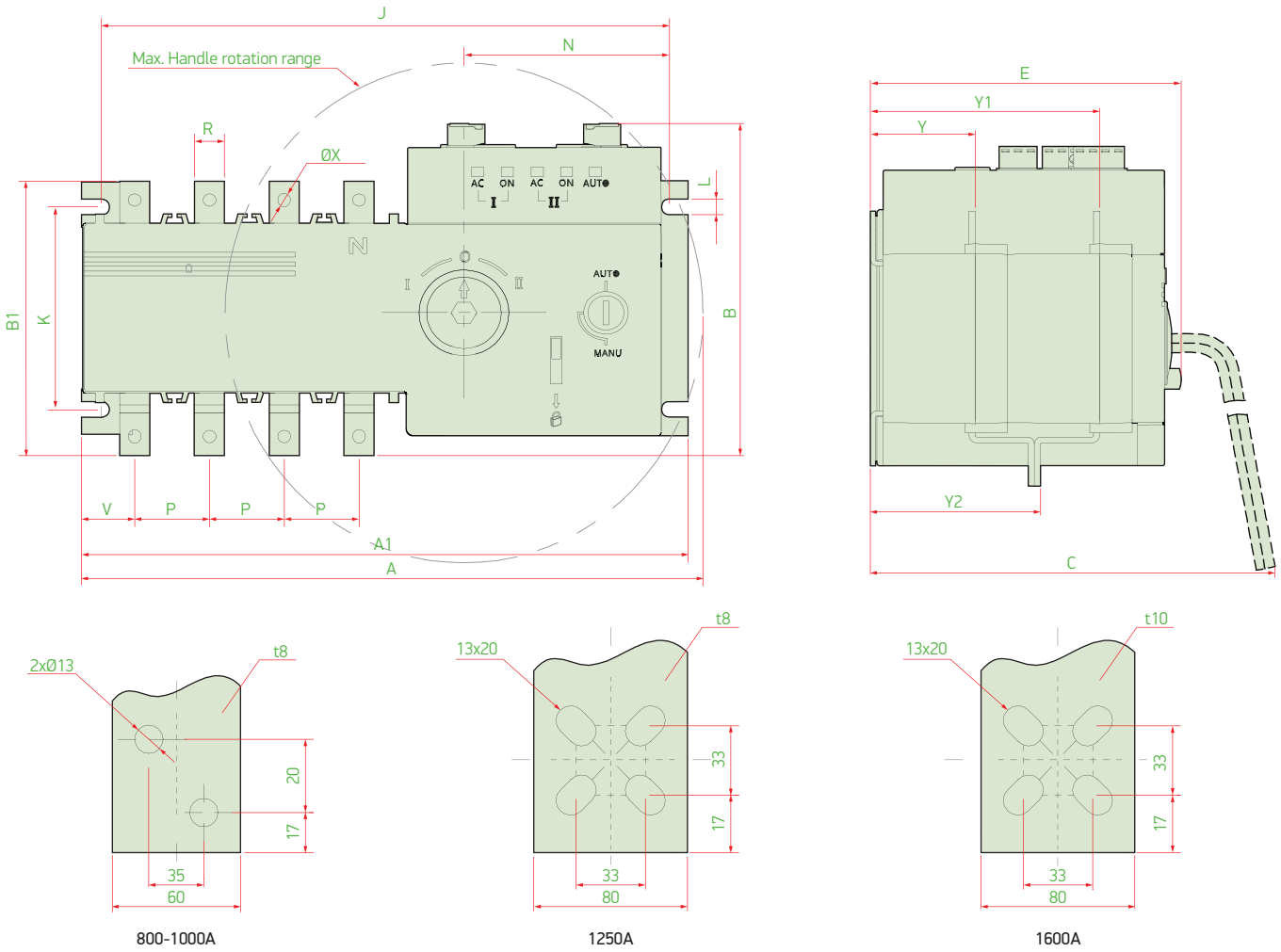


Automatic Transfer Switches (with MCCB) (100A-800A)



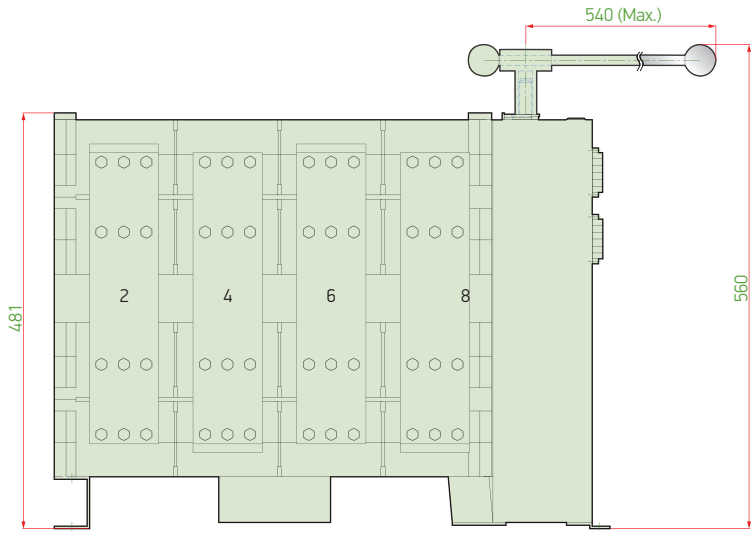
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	J (mm)	K (mm)	L (mm)	M (mm)	N (mm)	P (mm)	H (mm)	H1 (mm)	H2 (mm)
SATS 100	420	240	135	220	387	M8	30	86	194	16	205	77	140	145	190	25
SATS 125-200	470	240	141	220	437	M8	35	102	225	18	230	77	140	145	190	25
SATS 250-400	615	330	224	300	555	M10	48	133	303	25	303	82	260	200	235	24
SATS 630	740	330	234	300	680	M10	58	180	385	34	360	82	260	200	259	24
SATS 800	790	350	243	320	735	M10	70	155	395	38	390	82	260	200	262	24

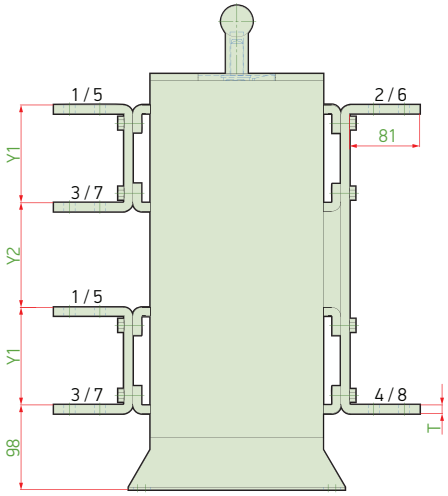
Automatic Transfer Switches (Motorized Switch Disconnector - (100A-1600A))

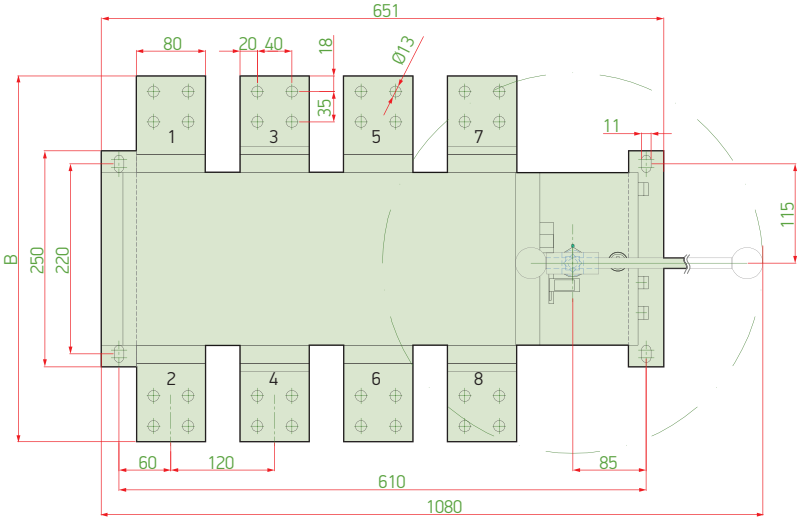


	A (mm)	A1 (mm)	B (mm)	B1 (mm)	C (mm)	E (mm)	J (mm)	K (mm)	L (mm)	N (mm)	P (mm)	R (mm)	V (mm)	ØX (mm)	Y (mm)	Y1 (mm)	Y2 (mm)
MATS 100	330	244	135	115	165	125	228	85	6,5	83	30	12	21	6,5	41,5	91,5	66,5
MATS 160	374	301	175	140	200	150	285	102	7	94	36	20	31	8,5	55,5	125,5	92,5
MATS 250	436	373	200	178	250	198	344	108	6,5	99	50	24	37	11	72	157	116
MATS 630	502	433	265	260	295	244	416	180	9	101	65	40	47,5	12	83	193	140
MATS 800	1050	636	345	337	373	320	612	220	11	83,5	120	60	71	13	108	241	196
MATS 1000	1050	636	345	337	373	320	612	220	11	83,5	120	80	71	13	108	241	196
MATS 1250	1050	636	345	337	373	320	612	220	11	83,5	120	80	71	13	108	241	106
MATS 1600	1050	636	345	337	373	320	612	220	11	83,5	120	80	71	13	109	242	106

Automatic Transfer Switches (Motorized Switch Disconnector - (2000A-3200A))







	B (mm)	T (mm)	Y1 (mm)	Y2 (mm)
MATS 2000	423	10	113	121
MATS 2500	433	15	118	116
MATS 3200	443	20	123	111

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FUSE SWITCH
DISCONNECTORS

They provide safe separation of rated currents under load in AC circuits in accordance with the usage category and operating voltage, while also providing safe protection against overload currents and short circuit currents.

- Design suitable for NHC00, NH00, NH1, NH2, NH3 fuse use
- Option to open 3 phases together or separately (Vertical type)
- Fireproof BMC body material with very high mechanical and electrical insulation features
- Saving on maintenance and repair costs

Vertical Type Fuse Switch Disconnectors - Technical Specifications

Type			SDY160	SDY250	SDY400	SDY630
Standard			TS EN 60947-3, IEC60947-3			
Rated current		A	160A	250A	400A	630A
Rated Thermal Current (with NH fuse) (Ith)		A	160	250	400	630
Rated Thermal Current with Solid Links (Ith)		A	200	400	630	800
Number of poles			3	3	3	3
Rated operating voltage (Ue)		V (AC)	400 - 500 - 690	400 - 500 - 690	400 - 500 - 690	400 - 500 - 690
Rated insulation voltage (Ui)		V (AC)	1000	1000	1000	1000
Rated impulse withstand voltage (Uimp)		kV (AC)	12	12	12	12
Rated Short Circuit Breaking Capacity with Fuse Protection (Icc)		kA	100	100	100	100
NH Fuse link size			NH00C - NH00	NH1 - NH2	NH1 - NH2 - NH3	NH1 - NH2 - NH3
Electrical life (No. operation)	ON - OFF		200	200	200	200
Mechanical life (No. operation)	ON - OFF		1600	1600	1000	1000
IP degree of protection	On	Off	IP20 / IP30	IP20 / IP30	IP20 / IP30	IP20 / IP30
Ambient operating temperature		°C	(-25 / +55)*	(-25 / +55)*	(-25 / +55)*	(-25 / +55)*
Relative Humidity		%	90	90	90	90
Rated frequency		Hz	50-60HZ	50-60HZ	50-60HZ	50-60HZ
Utilization category			AC23B/AC22B/AC21B	AC23B/AC22B/AC21B	AC23B/AC22B/AC21B	AC23B/AC22B/AC21B
Connection Cross Section		mm^2	70	120	240	2x185
Power loss per pole		W	12	23	34	48
Tightening torque		Nm	6	10	10	14
Hole diameter		Ø	M8	M10	M10	M12
Distance between main busbar terminals		mm	185	185	185	185
Weight		kg	2,3	4,7	4,7	5,85
Accessories						
Fuse holder			√	√	√	√
Terminal cover			√	√	√	√
Parking position			√	√	√	√
Micro switch			√	√	√	√
Mechanical padlock apparatus			√	√	√	√
Position indicator + mechanic fuse monitor			√	√	√	√
Fixing screws			√	√	√	√

* 24 hours operating average can not exceed + 35 ° C.

Horizantal Type Fuse Switch Disconnectors - Technical Specifications

Type		SFH 160			SFH 250			SFH 400		
Standard		TS EN 60947-3, EN 60947-3								
Nh fuse link size		NH00C- NH00			NH1			NH2		
Number of poles		3			3			3		
Rated operational current	A	160	160	100	250	250	200	400	400	315
Rated voltage	V	400	500	690	400	500	690	400	500	690
Rated insulation voltage	V	800			800			800		
Fuse protected rated short circuit current	kA	100	100	80	100	100	80	100	100	80
Utilization category		AC23B, AC22B, AC21B			AC23B, AC22B, AC21B			AC23B, AC22B, AC21B		
Relative Humidity	%	90			90			90		
Weight	kg	0,7			1,5			3,3		

Vertical Type Fuse Switch Disconnectors

Type	Rated Current	Feature	NH Fuse / Length	Order Code
SDY-160	160A	3 phase can open separately	NH000- NH00	SDY1160N
	160A	3 phase can open separately (with current transformer)		SDY1160CT
	160A	3 phase can open together		SDY3160N
	160A	3 phase can open together (with current transformer)		SDY3160CT
SDY-250	250A	3 phase can open separately	NH1-NH2	SDY1250N
	250A	3 phase can open separately (with current transformer)		SDY1250CT
	250A	3 phase can open together		SDY3250N
	250A	3 phase can open together (with current transformer)		SDY3250CT
	250A	3 phase can open separately (with right side output)		SDY1250R
	250A	3 phase can open together (with right side output)		SDY3250R
	250A	3 phase can open separately (with left side output)		SDY1250L
	250A	3 phase can open together (with left side output)		SDY3250L
SDY-400	400A	3 phase can open separately	NH1-NH2-NH3	SDY1400N
	400A	3 phase can open separately (with current transformer)		SDY1400CT
	400A	3 phase can open together		SDY3400N
	400A	3 phase can open together (with current transformer)		SDY3400CT
	400A	3 phase can open separately (with right side output)		SDY1400R
	400A	3 phase can open together (with right side output)		SDY3400R
	400A	3 phase can open separately (with left side output)		SDY1400L
	400A	3 phase can open together (with left side output)		SDY3400L
SDY-630	630A	3 phase can open separately	NH1-NH2-NH3	SDY1630N
	630A	3 phase can open separately (with current transformer)		SDY1630CT
	630A	3 phase can open together		SDY3630N
	630A	3 phase can open together (with current transformer)		SDY3630CT
	630A	3 phase can open separately (with right side output)		SDY1630R
	630A	3 phase can open together (with right side output)		SDY3630R
	630A	3 phase can open separately (with left side output)		SDY1630L
	630A	3 phase can open together (with left side output)		SDY3630L

Current Fransformers for Vertical Type Fuse Switch Disconnectors

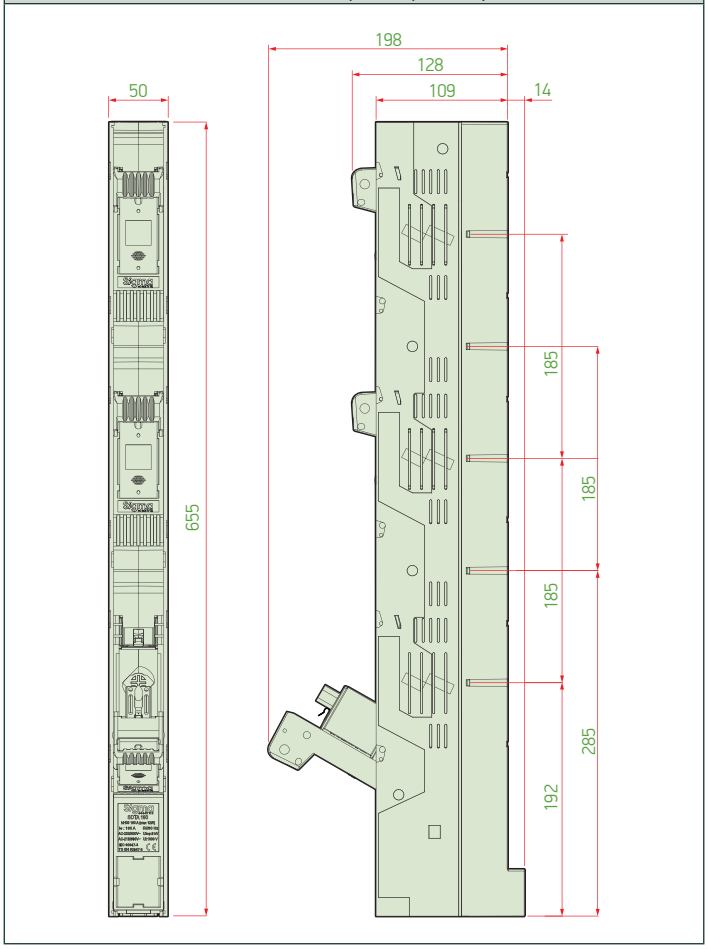
Type Code	Primary Current	Secondary Current	Power (VA)	Class	Order Code
SDY20	160A	1A	2,5VA	0,5cl	SDY201600502
	250A	1A	2,5VA	0,5cl	SDY202500502
	400A	1A	2,5VA	0,5cl	SDY204000502
	630A	1A	2,5VA	0,5cl	SDY206300502

Horizantal Type Fuse Switch Disconnectors

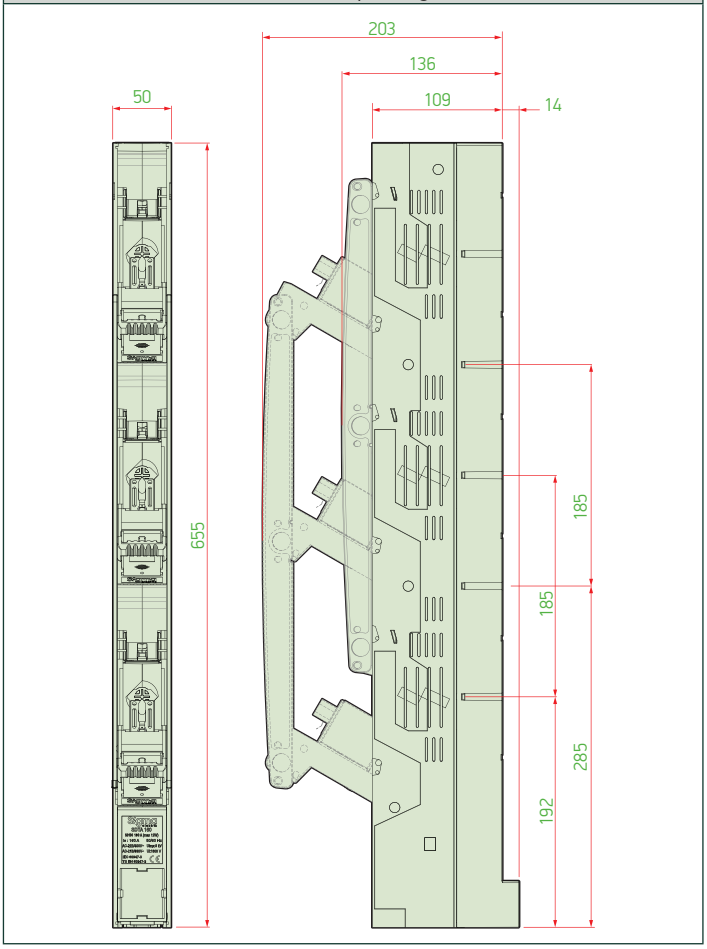
Size	Rated Current In (A)	Fuse Size	Minimum Order (pcs)	Pcs in a Box (pcs)	Order Code
SFH-160	160	C00-00	1	9	SFH160
SFH-250	250	1	1	3	SFH250
SFH-400	400	2	1	1	SFH400
SFH-630	630	3	1	1	SFH630

Dimensions

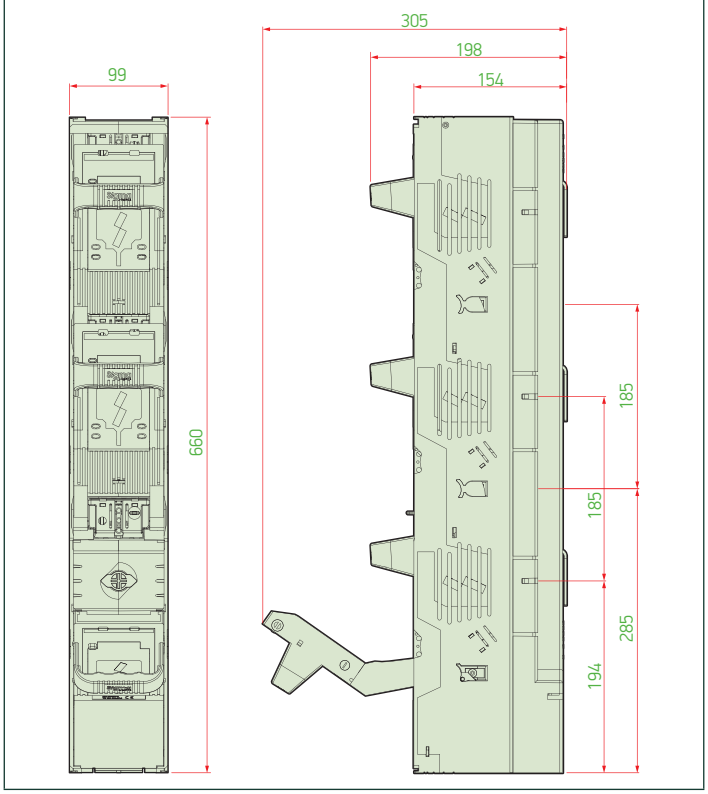
SDY160
(3 Phase can open seperately)



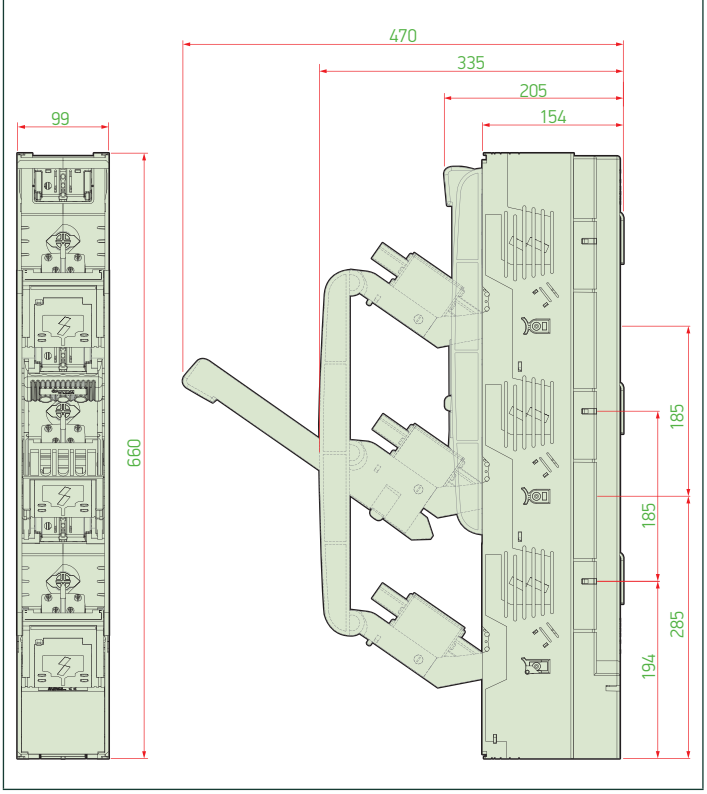
SDY160
(3 Phase can open together)



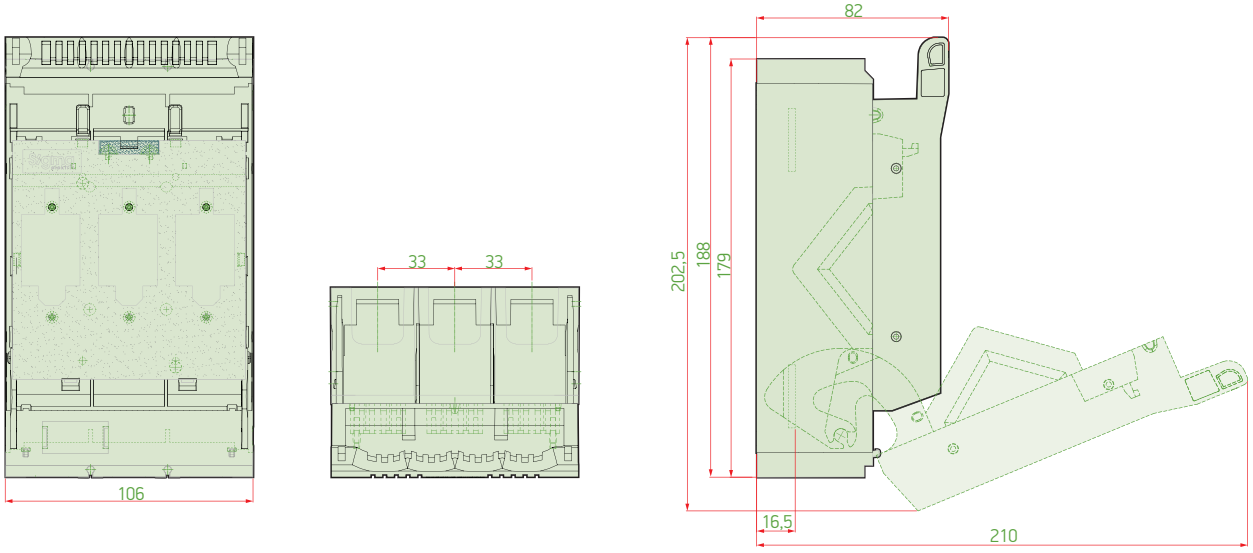
SDY250-400-630
(3 Phase can open seperately)



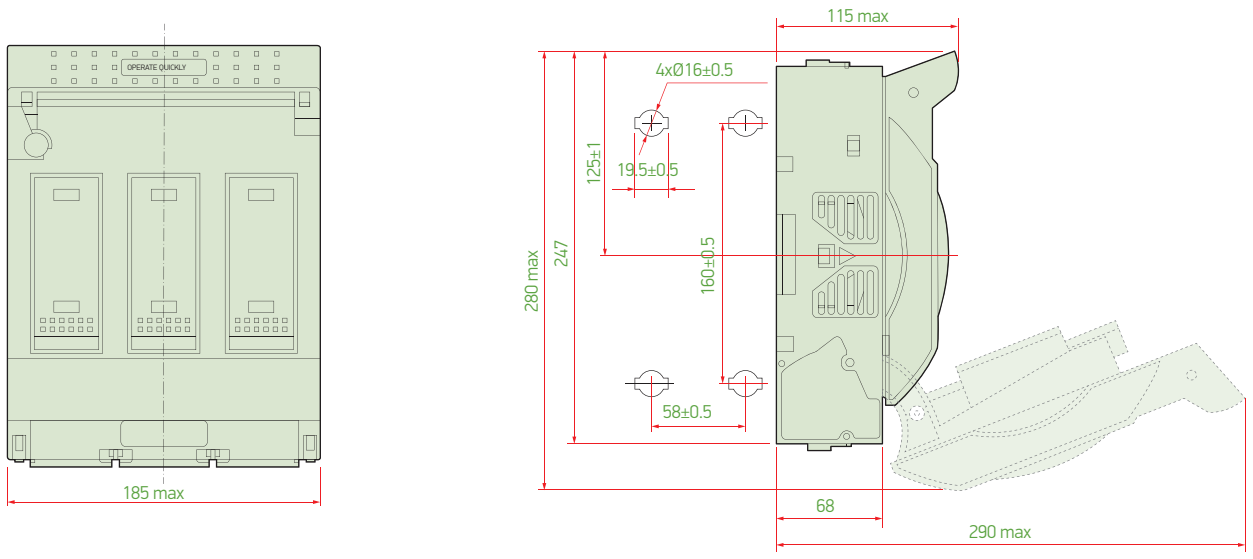
SDY250-400-630
(3 Phase can open together)



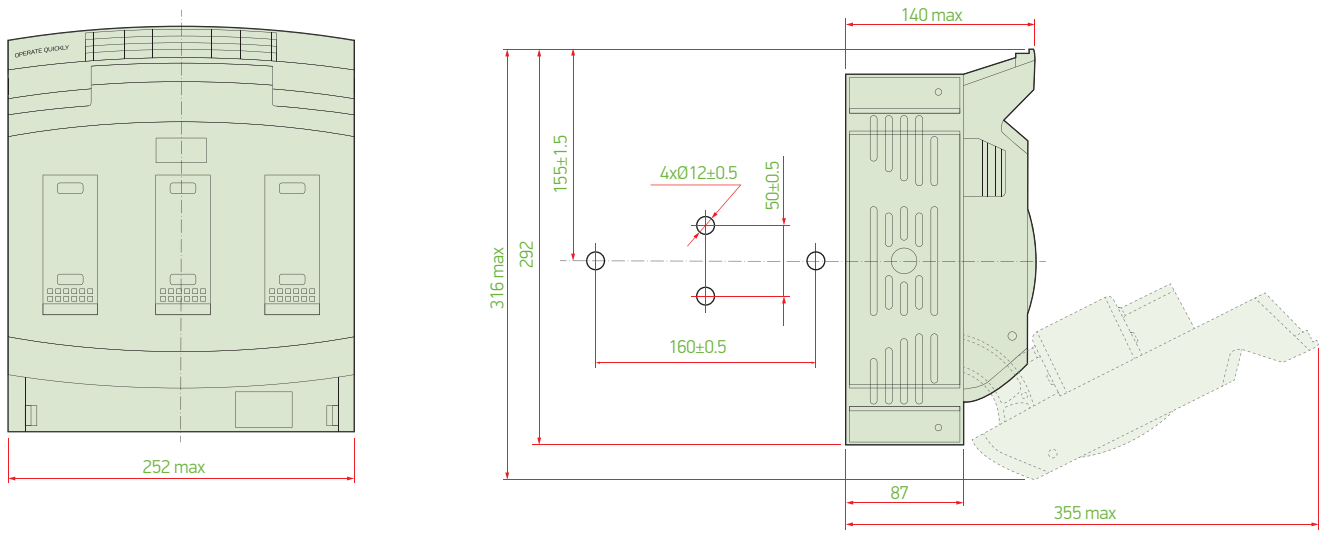
SFH160



SFH250

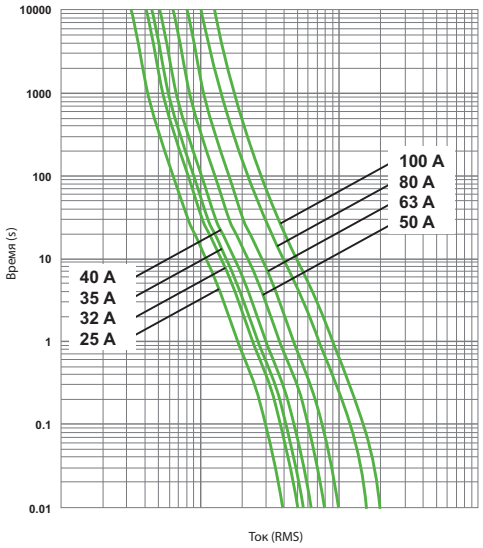


SFH400

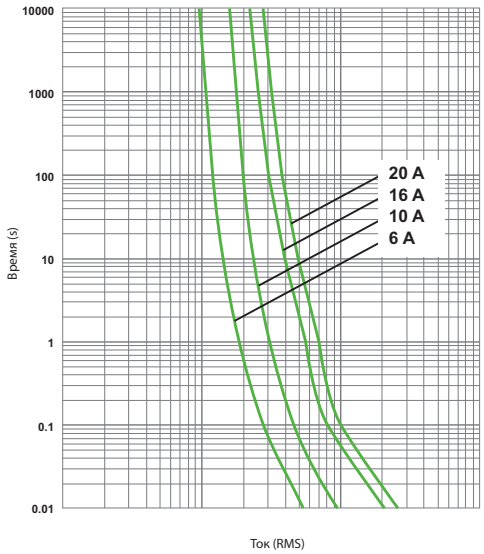


Time-Current Curves

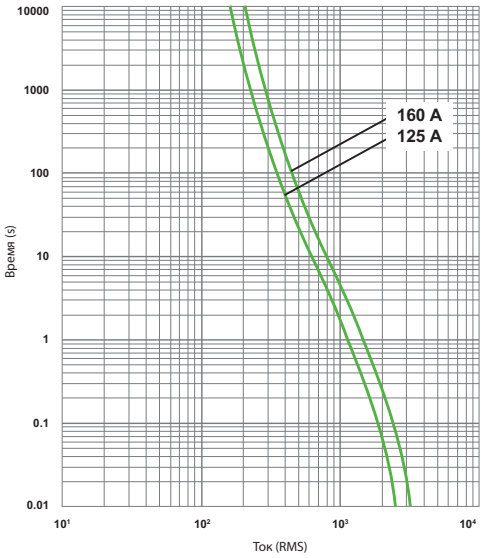
NH00C



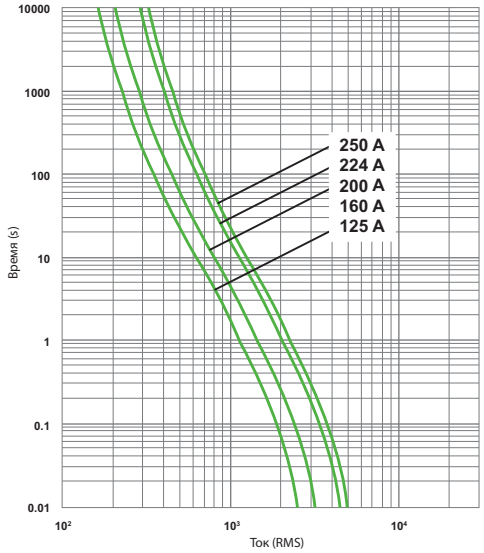
NH00C



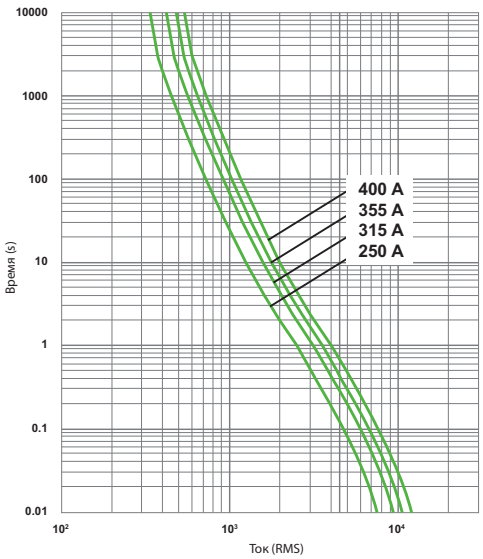
NH00



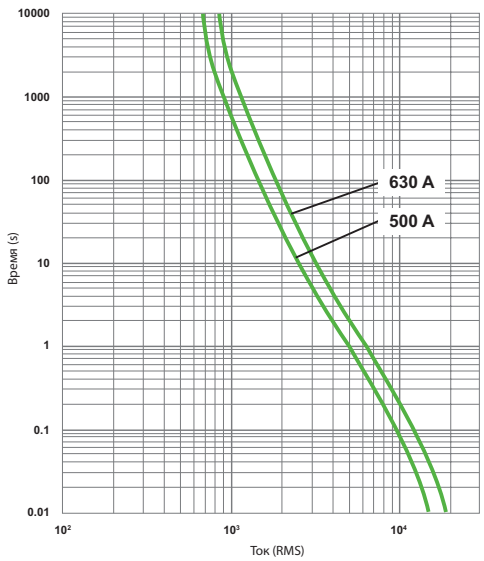
NH1



NH2



NH3



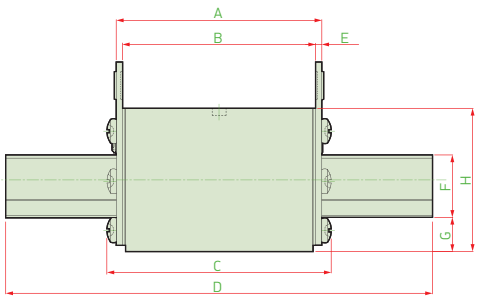
NH Fuses (Double Indicator)





Size	Rated Current In (A)	Breaking Cap. (kA)	Minimum Order	Pcs in a Box	Order Code
NHC00	6	120	3	180	SNHC00I006
	10	120	3	180	SNHC00I010
	16	120	3	180	SNHC00I016
	20	120	3	180	SNHC00I020
	25	120	3	180	SNHC00I025
	32	120	3	180	SNHC00I032
	40	120	3	180	SNHC00I040
	50	120	3	180	SNHC00I050
	63	120	3	180	SNHC00I063
	80	120	3	180	SNHC00I080
	100	120	3	180	SNHC00I100
NH00	6	120	3	96	SNH00I0006
	10	120	3	96	SNH00I0010
	16	120	3	96	SNH00I0016
	20	120	3	96	SNH00I0020
	25	120	3	96	SNH00I0025
	32	120	3	96	SNH00I0032
	40	120	3	96	SNH00I0040
	50	120	3	96	SNH00I0050
	63	120	3	96	SNH00I0063
	80	120	3	96	SNH00I0080
	100	120	3	96	SNH00I0100
	125	120	3	96	SNH00I0125
	160	120	3	96	SNH00I0160
NH1	40	120	3	36	SNH1I00040
	63	120	3	36	SNH1I00063
	80	120	3	36	SNH1I00080
	100	120	3	36	SNH1I00100
	125	120	3	36	SNH1I00125
	160	120	3	36	SNH1I00160
	200	120	3	36	SNH1I00200
	250	120	3	36	SNH1I00250
NH2	63	120	3	24	SNH2I00063
	80	120	3	24	SNH2I00080
	100	120	3	24	SNH2I00100
	125	120	3	24	SNH2I00125
	160	120	3	24	SNH2I00160
	200	120	3	24	SNH2I00200
	250	120	3	24	SNH2I00250
	315	120	3	24	SNH2I00315
	400	120	3	24	SNH2I00400
NH3	315	120	3	24	SNH3I0315
	400	120	3	24	SNH3I0400
	500	120	3	24	SNH3I0500
	630	120	3	24	SNH3I0630

Dimensions

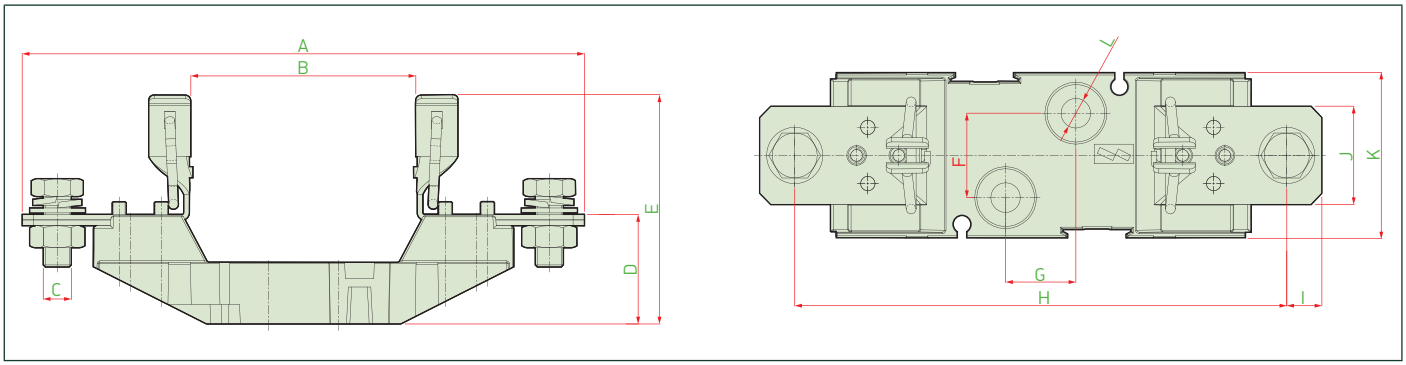


	A	B	C	D	E	F	G	H	I	J	K
NH3	66	62	72	151	2	32	17	72	72	6	60
NH2	66	62	72	151	2	25	15	57	57	6	48,5
NH1	66	62	72	137	2	20	11	46	46	6	40
NH00	50	46	54	79	2	15	13	43	30	6	35
NH00C	50	46	54	79	2	15	8	40	21	6	35

NH Fuse Bases

Size	Rated Current In (A)	Body Material	Minimum Order	Box Qty	Order Code
NHC00-NH00	160	BMC	5	45	SNB00
NH1	250	BMC	5	15	SNB01
NH2	400	BMC	5	9	SNB02
NH3	630	BMC	5	9	SNB03

Dimensions



	A	B	C	D	E	F	G	H	I	J	K	L
NH3	240	80	M10	40	98	30	25	210	15	35	59	Ø10,5
NH2	225	80	M10	39,5	89	30	25	200	12,5	35	59	Ø10,5
NH1	200	80	M10	39	82	30	25	175	12,5	35	59	Ø10,5
NH00	120	58	M8	23	56	-	25	100	10	20	35	Ø7,5

NH Fuse Handle

Type Code	Rated Voltage	Order Code
SNHE	1000	SNHE

Maximum Power Dissipation for NH Fuse Links

	Rated Current In (A)	IEC EN 60269-1	SİGMA
SNH00C	6	12 W	1.8 W
	10	12 W	2.1 W
	16	12 W	2.4 W
	20	12 W	2.7 W
	25	12 W	2.9 W
	32	12 W	3.7 W
	40	12 W	4.3 W
	50	12 W	4.7 W
	63	12 W	6 W
	80	12 W	6.8 W
	100	12 W	8.8 W

	Rated Current In (A)	IEC EN 60269-1	SİGMA
SNH00	**6**	12 W	2 W
	10	12 W	3 W
	16	12 W	3 W
	20	12 W	4 W
	25	12 W	4 W
	32	12 W	4 W
	40	12 W	5 W
	50	12 W	6 W
	63	12 W	7 W
	80	12 W	9 W
	100	12 W	10 W
	125	12 W	12 W
	160	12 W	12 W
SNH1	40	23 W	**8,5 W**
	63	23 W	**9,5 W**
	80	23 W	10 W
	100	23 W	12 W
	125	23 W	14 W
	160	23 W	16 W
	200	23 W	18 W
	250	23 W	22 W

	Rated Current In (A)	IEC EN 60269-1	SİGMA
SNH2	63	34 W	10 W
	80	34 W	12 W
	100	34 W	14 W
	125	34 W	16 W
	160	34 W	18 W
	200	34 W	20 W
	250	34 W	30 W
	315	34 W	32 W
	400	34 W	34 W
SNH3	315	48 W	30 W
	400	48 W	36 W
	500	48 W	48 W
	630	48 W	48 W

Sigma elektrik

MINIATURE CIRCUIT **BREAKERS**

Automatic fuses are devices that protect the circuit they are connected to against overload and short circuits, and also perform the function of opening and closing the circuit.

- Rated current from 1A to 125A
- 4.5kA, 6kA, 10kA, 16kA short circuit breaking capacity
- 1, 2, 3 and 4 pole product variety
- IP20 protection degree
- High electrical and mechanical life
- Crowning handle compatible with accessories (Auxiliary contact, opening coil, motor mechanism, alarm contact).

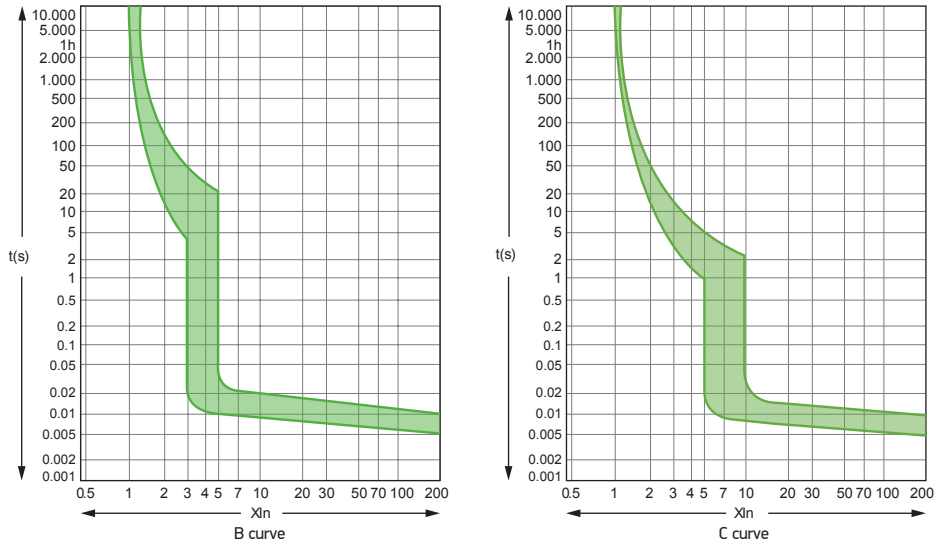
Miniature Circuit Breaker - Technical Specifications

Type			SND 4500				SND 6000				SLD 6000			
Number of poles			1	2	3	4	1	2	3	4	1	2	3	4
Rated nominal current (at 30°C)	In	A	2, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63				1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50,63				80, 100, 125			
Instantaneous tripping class			B : (3-5)xIn C : (5-10)xIn				B : (3-5)xIn C : (5-10)xIn D : (10-20)xIn				C : (5-10)xIn			
Power supply			AC				AC				AC			
Rated operating voltage	Ue	AC (V)	230/400	400			230/400	400			230/400	400		
Rated insulation voltage	Ui	V	750				750				750			
Rated impulse withstand voltage	Uimp	kV	6				6				6			
Rated short circuit capacity	Icn	kA	4,5				6				6			
Energy limiting class			3				3				3			
Electrical life (No. operation)	op.	230 V	4.000				6.000				5.000			
Mechanical life (No. operation)	op.		20.000				20.000				20.000			
Protection class			IP 20				IP 20				IP 20			
Operating temperature		°C	-30 to +60				-30 to +60				-30 to +60			
Storage temperature		°C	-40 to +70				-40 to +70				-40 to +70			
Relative Humidity		%	90				90				90			
Assembly (EN 60715)			35 mm. DIN Rail				35 mm. DIN Rail				35 mm. DIN Rail			
Min. Max. Connection section		mm^2	1 – 25				1 – 25				25 – 50			
Max. Clamping torque		Nm	2				2				3,5			

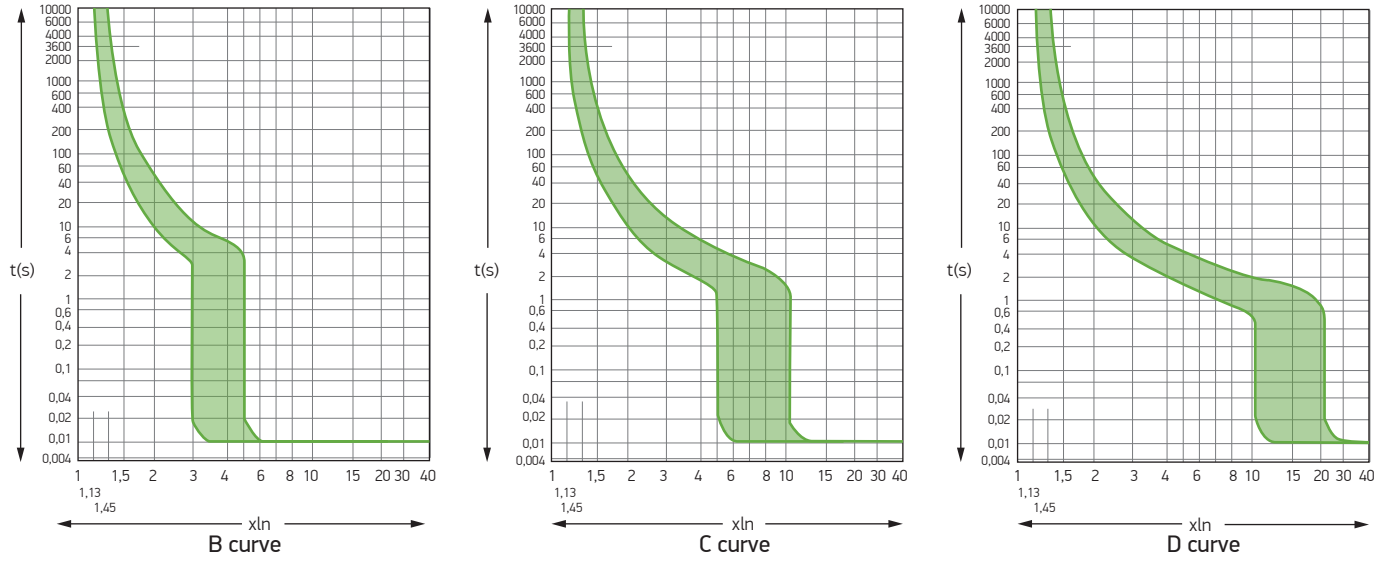
Type			SMD 10000				SLD 10000				SND 16000
Number of poles			1	2	3	4	1	2	3	4	1
Rated nominal current (at 30°C)	In	A	2, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63				80, 100, 125				40, 50, 63, 80, 100, 125
Instantaneous tripping class			B : (3-5)xIn C : (5-10)xIn D : (10-20)xIn				C : (5-10)xIn				C : (5-10)xIn
Power supply			AC				AC				AC
Rated operating voltage	Ue	AC (V)	230/400	400			230/400	400			230/400
Rated insulation voltage	Ui	V	750				750				750
Rated impulse withstand voltage	Uimp	kV	6				6				6
Rated short circuit capacity	Icn	kA	10				10				16
Energy limiting class			3				3				3
Electrical life (No. operation)	op.	230 V	6.000				5.000				4.000
Mechanical life (No. operation)	op.		20.000				20.000				15.000
Protection class			IP 20				IP 20				IP 20
Operating temperature		°C	-30 to +60				-30 to +60				-30 to +60
Storage temperature		°C	-40 to +70				-40 to +70				-40 to +70
Relative Humidity		%	90				90				90
Assembly (EN 60715)			35 mm. DIN Rail				35 mm. DIN Rail				35 mm. DIN Rail
Min. Max. Connection section		mm^2	1 – 25				25 – 50				2,5 – 50
Max. Clamping torque		Nm	2				3,5				3,5

Time- Current Characteristic

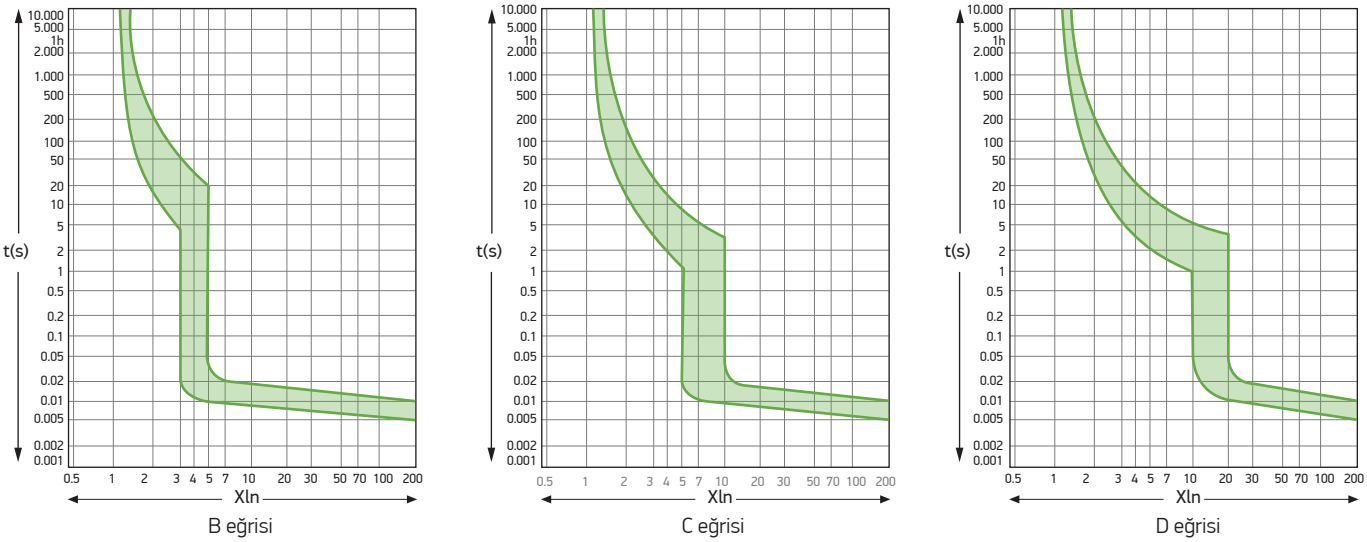
SND 4500



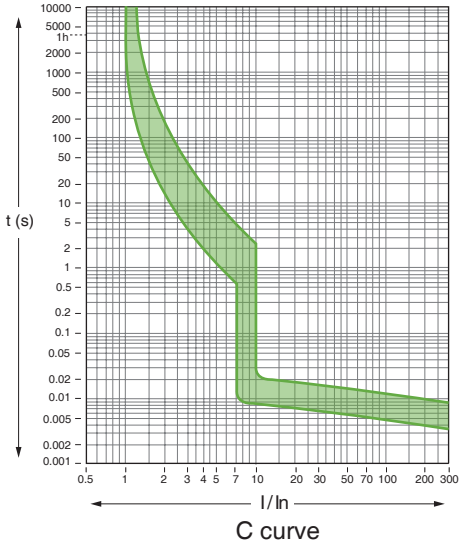
SND 6000



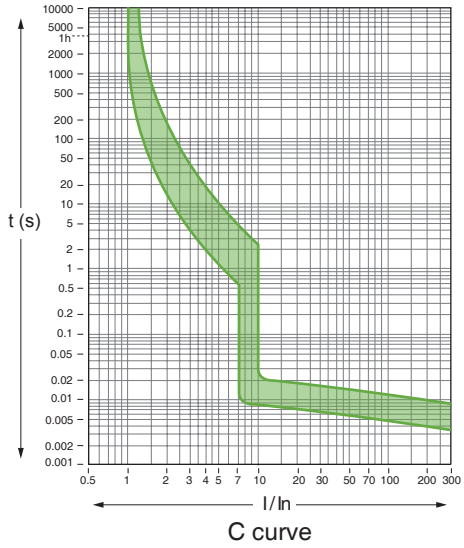
SMD 10000 (TÜV Approved)



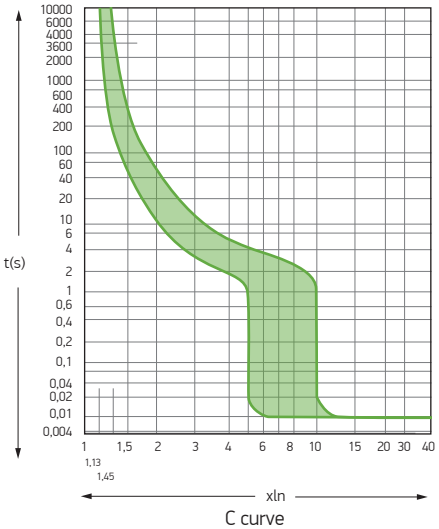
SLD 6000



SLD 10000

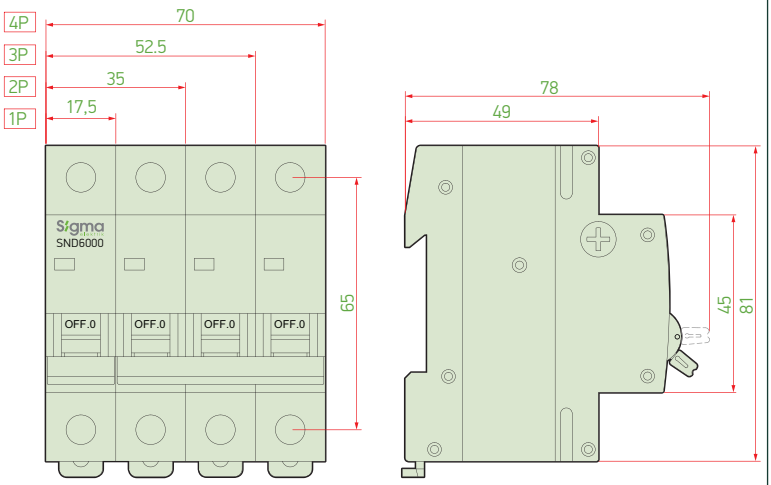


SND 16000

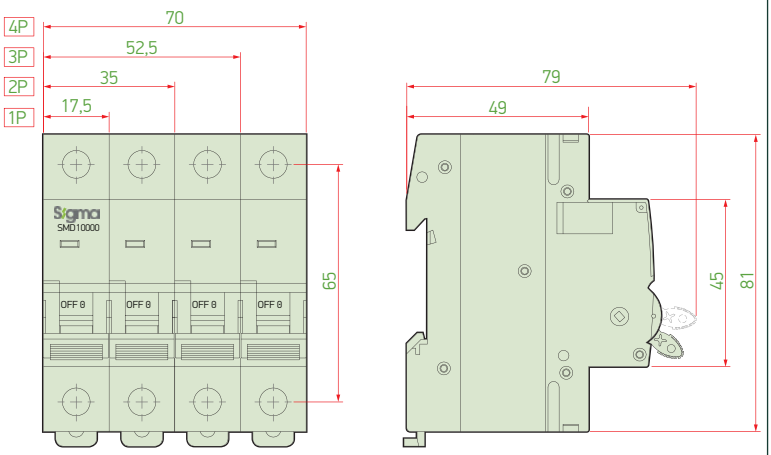


Dimensions

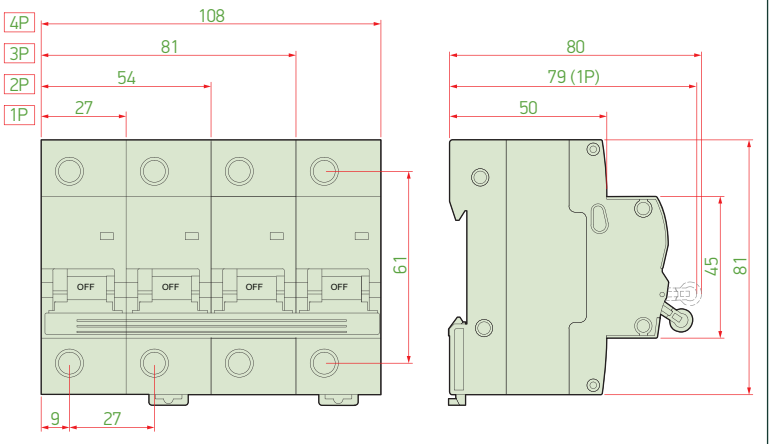
4,5 kA - 6 kA (1A-63A) [SND 4500, SND 6000]



10 kA (2A-63A) [SMD 10000]



6kA - 10kA (80A-100A-125A) [SLD 6000, SLD 10000]



4.5 kA MCB / SND 4500

NEW PRODUCT

Number of poles	Rated Current In (A)	Min. Order Quantity	Pcs in a Box	Order Code for B Type	Order Code for C Type
1P	1	12	240		4SM101C
	2	12	240	4SM102B	4SM102C
	3	12	240		4SM103C
	4	12	240	4SM104B	4SM104C
	6	12	240	4SM106B	4SM106C
	10	12	240	4SM110B	4SM110C
	16	12	240	4SM116B	4SM116C
	20	12	240	4SM120B	4SM120C
	25	12	240	4SM125B	4SM125C
	32	12	240	4SM132B	4SM132C
	40	12	240	4SM140B	4SM140C
	50	12	240	4SM150B	4SM150C
	63	12	240	4SM163B	4SM163C

2P	2	6	120		4SM202C
	4	6	120		4SM204C
	6	6	120		4SM206C
	10	6	120		4SM210C
	16	6	120		4SM216C
	20	6	120		4SM220C
	25	6	120		4SM225C
	32	6	120		4SM232C
	40	6	120		4SM240C
	50	6	120		4SM250C
	63	6	120		4SM263C

3P	2	4	80		4SM302C
	4	4	80		4SM304C
	6	4	80		4SM306C
	10	4	80		4SM310C
	16	4	80		4SM316C
	20	4	80		4SM320C
	25	4	80		4SM325C
	32	4	80		4SM332C
	40	4	80		4SM340C
	50	4	80		4SM350C
	63	4	80		4SM363C

4P	2	3	60		4SM402C
	4	3	60		4SM404C
	6	3	60		4SM406C
	10	3	60		4SM410C
	16	3	60		4SM416C
	20	3	60		4SM420C
	25	3	60		4SM425C
	32	3	60		4SM432C
	40	3	60		4SM440C
	50	3	60		4SM450C
	63	3	60		4SM463C

Note: Pls kindly ask delivery time and prices for RoHS approved MCBs

6 kA MCB / SND 6000

Number of poles	Rated Current In (A)	Min. Order Quantity	Pcs in a Box	Order Code for B Type	Order Code for C Type
1P	1	12	240	6SM101B	6SM101C
	2	12	240	6SM102B	6SM102C
	3	12	240	6SM103B	6SM103C
	4	12	240	6SM104B	6SM104C
	5	12	240	6SM105B	6SM105C
	6	12	240	6SM106B	6SM106C
	10	12	240	6SM110B	6SM110C
	16	12	240	6SM116B	6SM116C
	20	12	240	6SM120B	6SM120C
	25	12	240	6SM125B	6SM125C
	32	12	240	6SM132B	6SM132C
	40	12	240	6SM140B	6SM140C
	50	12	240	6SM150B	6SM150C
	63	12	240	6SM163B	6SM163C

2P	2	6	120		6SM202C
	4	6	120		6SM204C
	6	6	120		6SM206C
	10	6	120		6SM210C
	16	6	120		6SM216C
	20	6	120		6SM220C
	25	6	120		6SM225C
	32	6	120		6SM232C
	40	6	120		6SM240C
	50	6	120		6SM250C
	63	6	120		6SM263C

3P	2	4	80		6SM302C
	4	4	80		6SM304C
	6	4	80		6SM306C
	10	4	80		6SM310C
	16	4	80		6SM316C
	20	4	80		6SM320C
	25	4	80		6SM325C
	32	4	80		6SM332C
	40	4	80		6SM340C
	50	4	80		6SM350C
	63	4	80		6SM363C

4P	2	3	60		6SM402C
	4	3	60		6SM404C
	6	3	60		6SM406C
	10	3	60		6SM410C
	16	3	60		6SM416C
	20	3	60		6SM420C
	25	3	60		6SM425C
	32	3	60		6SM432C
	40	3	60		6SM440C
	50	3	60		6SM450C
	63	3	60		6SM463C

Note: Pls kindly ask delivery time and prices for RoHS approved MCBs

10 kA MCB / SMD 10000 (TÜV Approved)

TÜVRheinland®

Number of poles	Rated Current In (A)	Min. Order Quantity	Pcs in a Box	Order Code for B ype	Order Code for C Type
1P	2	12	240	1SMD102B	1SMD102C
	4	12	240	1SMD104B	1SMD104C
	6	12	240	1SMD106B	1SMD106C
	10	12	240	1SMD110B	1SMD110C
	16	12	240	1SMD116B	1SMD116C
	20	12	240	1SMD120B	1SMD120C
	25	12	240	1SMD125B	1SMD125C
	32	12	240	1SMD132B	1SMD132C
	40	12	240	1SMD140B	1SMD140C
	50	12	240	1SMD150B	1SMD150C
	63	12	240	1SMD163B	1SMD163C

2P	2	6	120		1SMD202C
	4	6	120		1SMD204C
	6	6	120		1SMD206C
	10	6	120		1SMD210C
	16	6	120		1SMD216C
	20	6	120		1SMD220C
	25	6	120		1SMD225C
	32	6	120		1SMD232C
	40	6	120		1SMD240C
	50	6	120		1SMD250C
	63	6	120		1SMD263C

3P	2	4	80		1SMD302C
	4	4	80		1SMD304C
	6	4	80		1SMD306C
	10	4	80		1SMD310C
	16	4	80		1SMD316C
	20	4	80		1SMD320C
	25	4	80		1SMD325C
	32	4	80		1SMD332C
	40	4	80		1SMD340C
	50	4	80		1SMD350C
	63	4	80		1SMD363C

4P	2	3	60		1SMD402C
	4	3	60		1SMD404C
	6	3	60		1SMD406C
	10	3	60		1SMD410C
	16	3	60		1SMD416C
	20	3	60		1SMD420C
	25	3	60		1SMD425C
	32	3	60		1SMD432C
	40	3	60		1SMD440C
	50	3	60		1SMD450C
	63	3	60		1SMD463C

Note: Pls kindly ask delivery time and prices for RoHS approved MCBs

80-100-125A MCB 6 kA / SLD 6000

	Number of poles	Rated Current In (A)	Min. Order Quantity	Pcs in a Box	Order Code
	1P	80	12	120	6SL180C
		100	12	120	6SL100C
		125	12	120	6SL112C
	2P	80	6	60	6SL280C
		100	6	60	6SL200C
		125	6	60	6SL212C
	3P	80	4	40	6SL380C
		100	4	40	6SL300C
		125	4	40	6SL312C
	4P	80	3	30	6SL480C
		100	3	30	6SL400C
		125	3	30	6SL412C

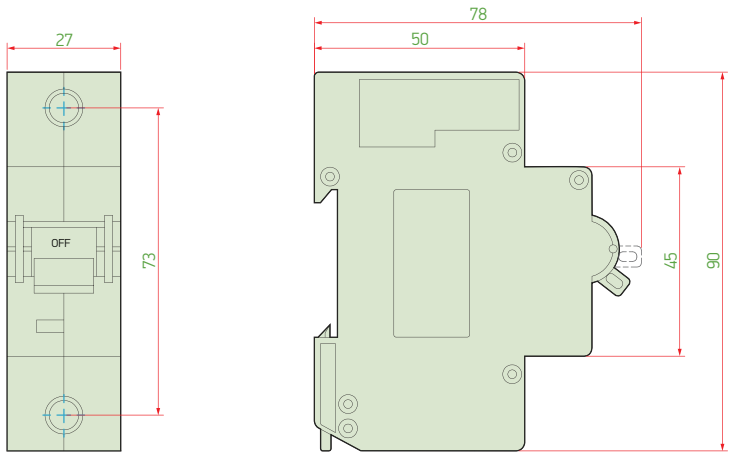
80-100-125A MCB 10 kA / SLD 10000

	Number of poles	Rated Current In (A)	Min. Order Quantity	Pcs in a Box	Order Code
	1P	80	12	120	1SL180C
		100	12	120	1SL100C
		125	12	120	1SL112C
	2P	80	6	60	1SL280C
		100	6	60	1SL200C
		125	6	60	1SL212C
	3P	80	4	40	1SL380C
		100	4	40	1SL300C
		125	4	40	1SL312C
	4P	80	3	30	1SL480C
		100	3	30	1SL400C
		125	3	30	1SL412C

16 kA MCB / SND 16000

Number of poles	Rated Current In (A)	Min. Order Quantity	Order Code
1P	C40	1	5SM140C
	C50	1	5SM150C
	C63	1	5SM163C
	C80	1	5SM180C
	C100	1	5SM100C
	C125	1	5SM125C

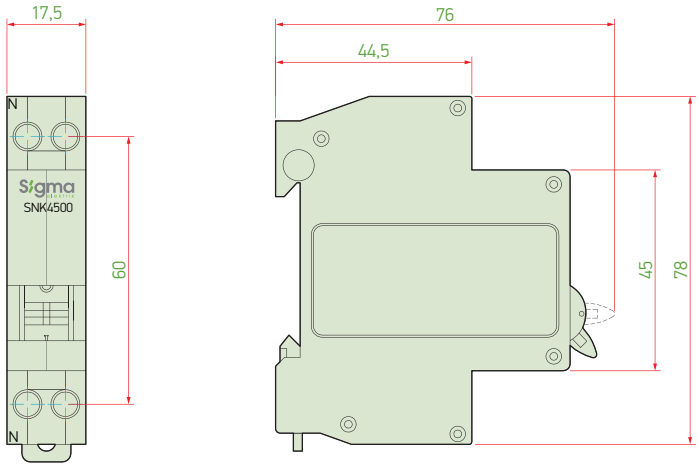
SND 16000



4.5 kA Phase-Neutral MCB 1P+N (18 mm) / SNK 4500

Number of poles	Rated Current In (A)	Min. Order Quantity	Pcs in a Box	Order Code
1P+N	6	12	240	4SN106C
	10	12	240	4SN110C
	16	12	240	4SN116C
	20	12	240	4SN120C
	25	12	240	4SN125C
	32	12	240	4SN132C

SNK 4500



Accessories

Type Code	Description	Order Code
SEYK011	1NO+1NC Aux Contact (for SND 6000 and SDC 10000)	SEYK011
SMDYK	1NO+1NC Aux Contact (for SND 4500 and SMD 10000)	SMDYK011
SLDYK	1NO+1NC Aux Contact (Ith:3 A, 415V AC) (for SLD 6000-SLD 10000)	SLDYK011
SND6AK	1NO+1NC Alarm Contact (Ith:4 A, 250V AC) (for SND 6000 and SDC10000)	SND6AK
SMDAK	1NO+1NC Alarm Contact (Ith:4 A, 250V AC) (for SND 4500 and SMD 10000)	SMDAK
SND6AB	24-48 V AC-DC Shunt Trip Release (for SND 6000 - SDC 10000)	SND6AB024
SND6AB	230V AC Shunt Trip Release (for SND 6000- SDC 10000)	SND6AB230
SMDAB	230V AC Shunt Trip Release (for SND 4500 and SMD 10000)	SMDAB
SNDDG	230V AC Under Voltage Release (for SND 6000 and SDC 10000)	SNDDG230
SMDDG	230V AC Under Voltage Release (for SND 4500 and SMD 10000)	SMDDG
SMEK	Safety Lock (for all type MCB)	SMEK
SMDRD1	Motor operator (for 1 P SMD 10000)	SMDRD1
SMDRD2	Motor operator (for 2 P SMD 10000)	SMDRD2
SMDRD3	Motor operator (for 3 P SMD 10000)	SMDRD3
SMDRD4	Motor operator (for 4 P SMD 10000)	SMDRD4

Required Data for a MCB Order

- Rated Current (1...125A)
- Rated Breaking Capacity (4.5kA - 6kA - 10kA - 16kA)
- Required Number of Poles (1P-2P-3P-4P)
- Tripping Curve Type (B-C-D)

MCB Selection According to Instantaneous Tripping Curve

B Curve: It is used for protection of illumination of incondescent light bulb and heaters.

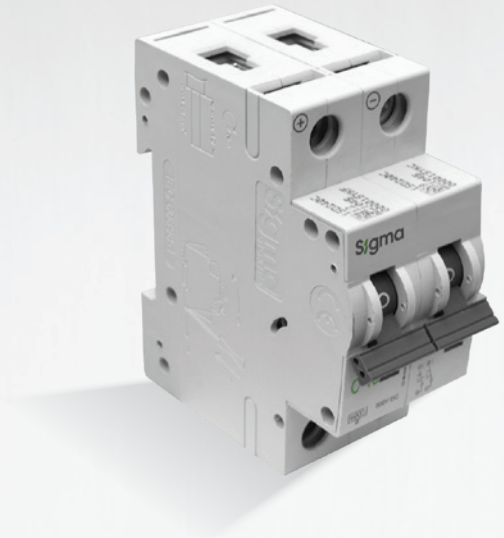
C Curve: It is used for protection of inductive loads like fluorescant lamps, transformers, power socket plugs, machines, low power motors, air-conditions, cooling machines, power distribution panels.

D Curve: It is used for protection of high power motors, pomps, compressors, capacitors and welding machines.

Miniature Circuit Breakers Tripping and Non-Tripping Conditions

Tripping Curve	Rated Current	Applied Test Current	Tripping Time	Result (should be)
B, C, D	In≤63	1.13 In	t ≥ 3600s	Non trip
B, C, D	In≤63	1.45 In	t < 3600s	Trip
B, C, D	In>63	1.13 In	t ≥ 7200s	Non trip
B, C, D	In>63	1.45 In	t < 7200s	Trip
B, C, D	In≤32	2.55 In	1s < t < 60s	Trip
B, C, D	In>32	2.55 In	1s < t < 120s	Trip
B	All	3 In	t ≥ 0.1s	Non trip
B	All	5 In	t <0.1s	Trip
C	All	5 In	t ≥ 0.1s	Non trip
C	All	10 In	t <0.1s	Trip
D	All	10 In	t ≥ 0.1s	Non trip
D	All	20 In	t <0.1s	Trip

Sigma elektrik



DC PRODUCTS FOR **PHOTOVOLTAIC (SOLAR) SYSTEM**

DC products are needed in every field where DC circuits are used.

DC Miniature Circuit Breakers

- 1, 2 and 4 poles
- 10kA short circuit breaking capacity
- Rated current from 6A to 125A
- Type C

DC LV Circuit Breakers

- Rated current from 80A to 250A
- 36kA breaking capacity
- 1000V DC rated voltage

DC LV Surge Arresters

- 20kA short circuit breaking capacity
- Possibility of remote monitoring with auxiliary contact function

DC Cylindrical (Cartridge) Fuse Bases

- 1 pole
- 25A and 50A rated currents

DC Cylindrical (Cartridge) Fuse

- Rated current from 8A to 30A
- 20kA and 25kA short circuit breaking capacity
- 10*38mm and 10*85mm cartridge size

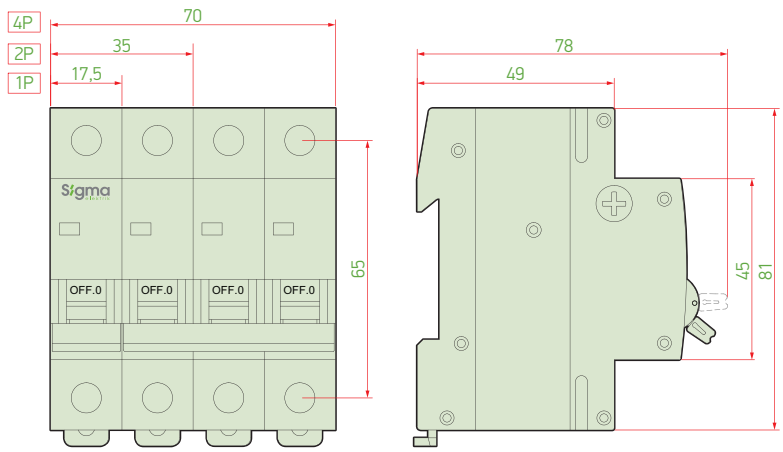
DC MCB - 10kA

	SDC 10000			
Number of poles	1P	2P	3P	4P
Rated nominal current	6-63A	6-63A	-	6-63A
Rated insulation voltage	1000V	1000V	-	1000V
Rated operating voltage	250V	500V	-	1000V
Rated impulse withstand voltage	4kV	4kV	-	4kV
Rated short circuit breaking capacity	10kA	10kA	-	10kA
Instantaneous tripping class	C	C	-	C
Mechanical life (No. operation)	20000	20000	-	20000
Electrical life (No. operation)	2500	2500	-	2500
Operating temperature	-25 to +60	-25 to +60	-	-25 to +60
Storage temperature	-40 to +80	-40 to +80	-	-40 to +80
Relative Humidity	90%	90%	-	90%

	Number of poles	Rated Current In (A)	Pcs in a Box	Rated short circuit breaking capacity	Rated operating voltage	Order Code
	1P	6	240	10 kA	250	1SD106C
		10	240			1SD110C
		16	240			1SD116C
		20	240			1SD120C
		25	240			1SD125C
		32	240			1SD132C
		40	240			1SD140C
		50	240			1SD150C
		63	240			1SD163C
	NEW PRODUCT	80	240			1SD180C
	NEW PRODUCT	100	240			1SD100C
	NEW PRODUCT	125	240			1SD112C
	2P	6	120	10 kA	500	1SD206C
		10	120			1SD210C
		16	120			1SD216C
		20	120			1SD220C
		25	120			1SD225C
		32	120			1SD232C
		40	120			1SD240C
		50	120			1SD250C
		63	120			1SD263C
	NEW PRODUCT	80	120			1SD280C
	NEW PRODUCT	100	120			1SD200C
	NEW PRODUCT	125	120			1SD212C
	4P	6	60	10 kA	1000	1SD406C
		10	60			1SD410C
		16	60			1SD416C
		20	60			1SD420C
		25	60			1SD425C
		32	60			1SD432C
		40	60			1SD440C
		50	60			1SD450C
		63	60			1SD463C
	NEW PRODUCT	80	60			1SD480C
	NEW PRODUCT	100	60			1SD400C
	NEW PRODUCT	125	60			1SD412C

Dimensions

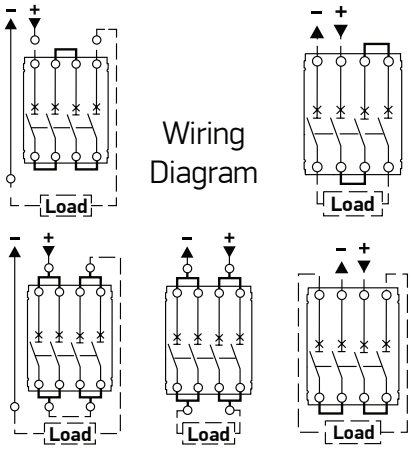
SDC 10000



DC LV MCCB - 1000 V Technical Specifications

Type				DC160				DC250			
Standard				IEC / EN 60947-2				IEC / EN 60947-2			
Rated current (at 40°C)	A			80, 100, 125, 160				200, 250			
Number of poles				1	2	3	4	1	2	3	4
Rated operating voltage	Ue	V	DC	250	500	750	1000	250	500	750	1000
Rated insulation voltage	Ui	V	DC	1000				1000			
Rated impulse withstand voltage	Uimp	kV		8				8			
Rated ultimate short circuit capacity	Icu	kA	1000V DC	36				36			
Utilization category				A				A			
Pollution degree				3				3			
Electrical life (No. operation)	ON - OFF		1000V DC	1500				1500			
Mechanical life (No. operation)	ON - OFF			10000				10000			
Protection unit				Thermal Adjustable Magnetic Fixed				Thermal Magnetic Fixed			
Ip degree of protection				IP40				IP40			
Current threshold for overload protection				0,7...1xIn				1xIn			
Current threshold for short-circuit protection				7xIn				7xIn			
Ambient operating temperature	°C			-20 to +60				-20 to +60			
Ambient storage temperature	°C			-40 to +80				-40 to +80			
Relative Humidity	%			90				90			
Accessories											
Shunt trip release				√				√			
Under voltage release				√				√			
Auxiliary contact				√				√			
Alarm contact				√				√			
Motor operator				√				–			
Ext. Rotary handle				√				√			
Connection clamp				√				–			
Mechanical lock ped				√				√			
Extention bus bar				√				√			

Wiring Diagram

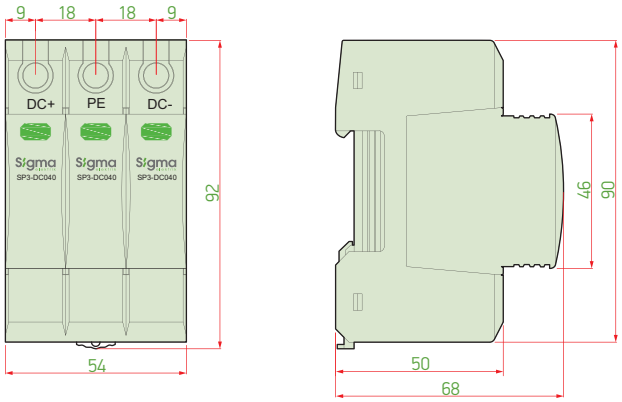


DC LV MCCB - 1000 V - Order Information

Type Code	Rated Voltage DC (V)	Rated Current In (A)	Thermal Adj. Current Ir(A)	Instantaneous Tripping Current (Im)	Breaking Capacity Icu (kA)	Pcs in a Box	Order Code
DC160	1.000	80	56-80	7xIn	36	4	DC160080
	1.000	100	70-100	7xIn	36	4	DC160100
	1.000	125	88-125	7xIn	36	4	DC160125
	1.000	160	112-160	7xIn	36	4	DC160160
DC250	1.000	200	Fixed	7xIn	36	4	DC250200
	1.000	250	Fixed	7xIn	36	4	DC250250

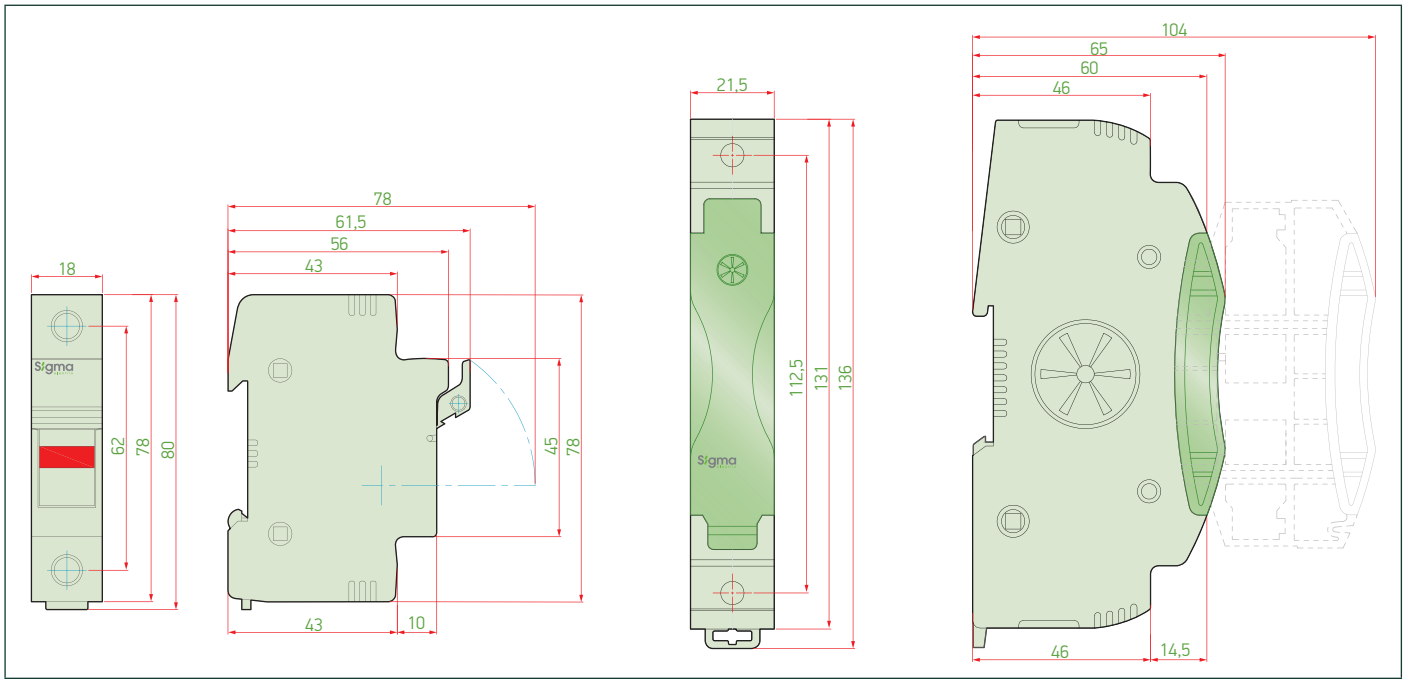
DC Low Voltage Surge Arresters

Type	Un(V) AC	Imax (kA)	In (kA)	Up (kV)	Order Code
SP3-DC040	1000	40	20	<3	SP3-DC040



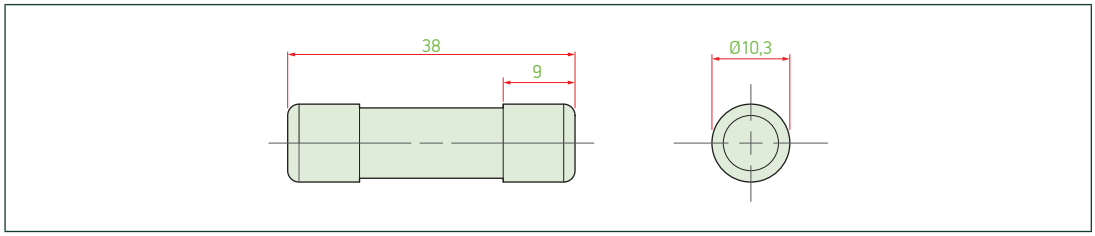
DC Cylindrical (Cartridge) Fuse Bases

Type	Rated Current (A)	Rated Voltage DC (V)	Number of poles	Cartridge (mm)	Min. Order Quantity	Pcs in a Box	Order Code
SDC-125	25	1000	1	10x38	12	360	SDC125
SDC-132	32	1500	1	10X85	1	1	SDC132



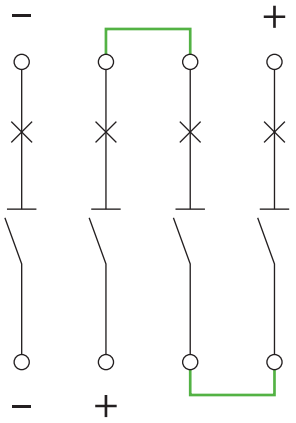
10x38 mm DC Cylindrical (Cartridge) Fuses

Type	Rated Current (A)	I1 (kA)	Rated Voltage DC (V)	Cartridge (mm)	Min. Order Quantity	Pcs in a Box	Order Code
DC systems protection	8	25	1000	10x38	10	2000	SFDC08
	20	25	1000	10x38	10	2000	SFDC20
	25	25	1000	10x38	10	2000	SFDC25
	20	20	1500	10X85	1	1000	SLDC20
	25	20	1500	10X85	1	1000	SLDC25
	30	20	1500	10X85	1	1000	SLDC30

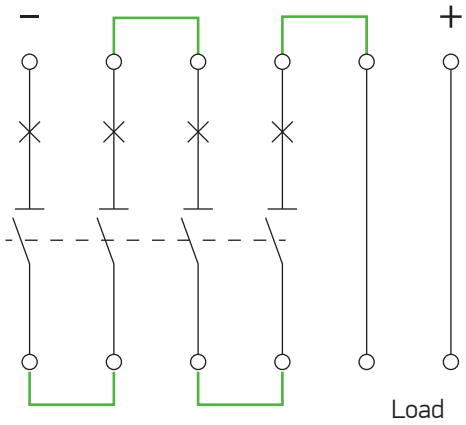


Circuit Diagram

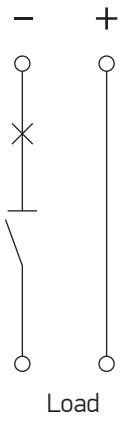
DC MCCB (750 V)



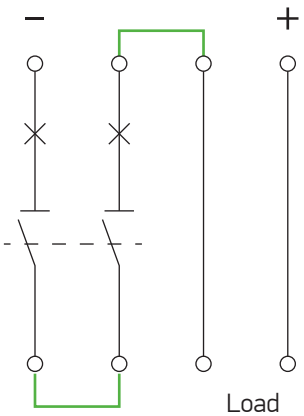
DC MCCB (1000 V - 4P)



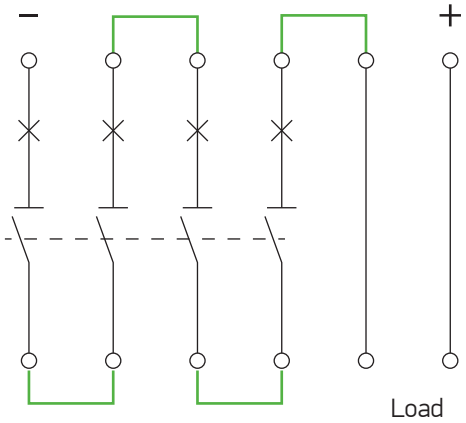
DC Fuse 1P
(SDC10000 - 250 V)



DC Fuse 2P
(SDC10000 - 500 V)



DC Fuse 4P
(SDC10000 - 1000 V)



Sigma elektrik

RESIDUAL CURRENT
CIRCUIT BREAKERS

Residual current protection switches are protection equipments that help protect living beings from the harmful effects of electrical energy. RCCBs prevent from possible dangers by opening the circuit in case of a leakage current in the system, in order not to endanger the lives of living beings and to prevent from damage to the devices in the system.

- Product diversity in AC, A and B types
- Life (human protection) protection function at 10mA and 30mA, installation (fire protection) protection function at 100mA and 300mA
- 2 and 4 pole product variety
- 6kA and 10kA short circuit breaking capacity
- Rated current from 16A to 125A
- Delayed types, AC type at 300mA and A type at 300mA
- Test button that allows testing electrical and mechanical operability
- Double indicator design

Residual Current Circuit Breakers - Technical Specification

Type			SGM-2	SGM-4	SFM-2	SFM-4	SHM-2		SHM-4
Number of poles			2	4	2	4	2	2	4
Rated current	In	A	25, 32,40, 63, 80, 100, 125		25, 32, 40, 63, 80, 100		16, 25	25, 32, 40, 50, 63, 80, 100	
Rated residual current	IΔ	mA	30, 100, 300		30, 100, 300		10	30, 100, 300	
Rated frequency		Hz	50-60		50-60		50-60		
Type of residual current			AC		A		AC		
Tripping unit			Electro-mechanic		Electro-mechanic		Electro-mechanic		
Tripping time			0.5.....1 x IΔn		0.11.....1.4 x IΔn		0.5.....1 x IΔn		
Breaking time at residual current (IΔn)		ms	< 50		< 50		< 50		
Operating characteristic			General		General		General		
Rated operating voltage	Ue	(AC) V	240	415	240	415	240	240	415
Rated insulation voltage	Ui	V	660		660		660		
Rated impulse withstand voltage	Uimp	kV	6		6		6		
Rated short circuit withstand current with fuse (Inc/IΔc)		kA	10		10		6		
Electrical life (No. operation)	operation	(230 V)	6000		6000		6000		
Mechanical life (No. operation)	operation		20000		20000		20000		
Degree of protection (after assembly)			IP 20 (IP 40)		IP 20 (IP 40)		IP 20 (IP 40)		
Ambient operating temperature		°C	-25 to +60		-25 to +60		-25 to +60		
Storage temperature		°C	-40 to +70		-40 to +70		-40 to +70		
Relative humidity		%	90		90		90		
Dimensions	Width	mm	35	70	35	70	35	35	70
	Length	mm	80		80		80		
Assembly type (EN 60715)			35 mm DIN Rail		35 mm DIN Rail		35 mm DIN Rail		
Min.. Max. Connection section		mm^2	1.5 - 35		1.5 - 35		1.5 - 35		

Type			SDM-2	SDM-4	SLM-2	SLM-4	SKM-2	SKM-4	SNM-2	SNM-4
Number of poles			2	4	2	4	2	4	2	4
Rated current	In	A	25, 32, 40, 63, 80		25, 40, 63, 80, 100		25, 40, 63		25, 40, 63	
Rated residual current	IΔ	mA	300		300		30, 300		30 mA AC - 6 mA DC	
Rated frequency		Hz	50-60		50-60		50-60		50-60	
Type of residual current			AC		A		B		B	
Tripping unit			Electro-mechanic		Electro-mechanic		Electro-mechanic		Electro-mechanic	
Tripping time			0.5.....1 x IΔn		0.5.....1 x IΔn		0.5.....1 x IΔn		0.5.....1 x IΔn	
Breaking time at residual current (IΔn)		ms	130 < t < 500		130 < t < 500		< 50		< 50	
Operating characteristic			Delay Time Selectivity		Delay Time Selectivity		General		General	
Rated operating voltage	Ue	(AC) V	240	415	230	415	230	415	230	415
Rated insulation voltage	Ui	V	660		660		660		660	
Rated impulse withstand voltage	Uimp	kV	6		6		6		6	
Rated short circuit withstand current with fuse (Inc/IΔc)		kA	6		10		10		10	
Electrical life (No. operation)	operation	(230 V)	6000		6000		4000		4000	
Mechanical life (No. operation)	operation		20000		20000		2000		2000	
Degree of protection (after assembly)			IP 20 (IP 40)		IP 20 (IP 40)		IP 20 (IP 40)		IP 20 (IP 40)	
Ambient operating temperature		°C	-25 to +60		-25 to +60		-25 to +40		-25 to +40	
Storage temperature		°C	-40 to +70		-40 to +70		-25 to +70		-25 to +70	
Relative humidity		%	90		90		90		90	
Dimensions	Width	mm	35	70	35	70	53,5	71,5	53,5	71,5
	Length	mm	80		80		81,5		81,5	
Assembly type (EN 60715)			35 mm DIN Rail		35 mm DIN Rail		35 mm DIN Rail		35 mm DIN Rail	
Min.. Max. Connection section		mm^2	1.5 - 35		1.5 - 35		1.5 - 35		1.5 - 35	

Residual Current Circuit Breakers (AC Type) 6 kA

	Type Code	Rated Current In (A)	Number of poles	Protection	Residual Current IΔn (mA)	Operating characteristic	Pcs in a Box	Order Code
	NEW PRODUCT	16	2P	Shock Protection	10	Instantaneously	100	SHM2016010
	NEW PRODUCT	25					100	SHM2025010
	SHM-2	25	2P	Shock Protection	30	Instantaneously	100	SHM2025030
		32					100	SHM2032030
		40					100	SHM2040030
		50					100	SHM2050030
		63					100	SHM2063030
		80					100	SHM2080030
		100					100	SHM2100030
		25	2P	Shock Protection	100	Instantaneously	100	SHM2025100
		32					100	SHM2032100
		40					100	SHM2040100
		50					100	SHM2050100
		63					100	SHM2063100
		80					100	SHM2080100
		100					100	SHM2100100
		25	2P	Shock Protection	300	Instantaneously	100	SHM2025300
		32					100	SHM2032300
		40					100	SHM2040300
		50					100	SHM2050300
		63					100	SHM2063300
		80					100	SHM2080300
		100					100	SHM2100300
	SHM-4	25	4P	Shock Protection	30	Instantaneously	50	SHM4025030
		32					50	SHM4032030
		40					50	SHM4040030
		50					50	SHM4050030
		63					50	SHM4063030
		80					50	SHM4080030
		100					50	SHM4100030
		25	4P	Fire Protection	100	Instantaneously	50	SHM4025100
		32					50	SHM4032100
		40					50	SHM4040100
		50					50	SHM4050100
		63					50	SHM4063100
		80					50	SHM4080100
		100					50	SHM4100100
		25	4P	Fire Protection	300	Instantaneously	50	SHM4025300
		32					50	SHM4032300
		40					50	SHM4040300
		50					50	SHM4050300
		63					50	SHM4063300
		80					50	SHM4080300
		100					50	SHM4100300
	SDM-2 (Selective Type)	25	2P	Fire Protection (Selectivity Option)	300	Min. 130 ms	100	SDM2025300
		40					100	SDM2040300
		63					100	SDM2063300
		80					100	SDM2080300
	SDM-4 (Selective Type)	25	4P				50	SDM4025300
		40					50	SDM4040300
		63					50	SDM4063300
		80					50	SDM4080300

Residual Current Circuit Breakers (AC Type) 10 kA

Type Code	Rated Current In (A)	Number of poles	Protection	Residual Current IΔn (mA)	Operating characteristic	Pcs in a Box	Order Code
SGM-2	25	2P	Shock Protection	30	Instantaneously	100	SGM2025030
	32					100	SGM2032030
	40					100	SGM2040030
	63					100	SGM2063030
	80					100	SGM2080030
	100					100	SGM2100030
	125					100	SGM2125030
	25	2P	Fire Protection	100	Instantaneously	100	SGM2025100
	32					100	SGM2032100
	40					100	SGM2040100
	63					100	SGM2063100
	80					100	SGM2080100
	100					100	SGM2100100
	125					100	SGM2125100
	25	2P	Fire Protection	300	Instantaneously	100	SGM2025300
	32					100	SGM2032300
	40					100	SGM2040300
	63					100	SGM2063300
	80					100	SGM2080300
	100					100	SGM2100300
	125					100	SGM2125300
SGM-4	25	4P	Shock Protection	30	Instantaneously	50	SGM4025030
	32					50	SGM4032030
	40					50	SGM4040030
	63					50	SGM4063030
	80					50	SGM4080030
	100					50	SGM4100030
	125					50	SGM4125030
	25	4P	Fire Protection	100	Instantaneously	50	SGM4025100
	32					50	SGM4032100
	40					50	SGM4040100
	63					50	SGM4063100
	80					50	SGM4080100
	100					50	SGM4100100
	125					40	SGM4125100
	25	4P	Fire Protection	300	Instantaneously	50	SGM4025300
	32					50	SGM4032300
	40					50	SGM4040300
	63					50	SGM4063300
	80					50	SGM4080300
	100					50	SGM4100300
	125					40	SGM4125300

Residual Current Circuit Breakers (A Type) 10 kA

	Type Code	Rated Current In (A)	Number of poles	Protection	Rated Residual Current IΔn (mA)	Operating characteristic	Pcs in a Box	Order Code
	SFM-2	25	2P	Shock Protection (AC residual current Pulsating DC residual current)	30	Instantaneously	100	SFM2025030
		40					100	SFM2040030
		63					100	SFM2063030
		25	2P	Fire and Equipment Protection (AC residual current Pulsating DC residual current)	100	Instantaneously	100	SFM2025100
		40					100	SFM2040100
		63					100	SFM2063100
		80					100	SFM2080100
		100					100	SFM2100100
		25	2P	Fire and Equipment Protection (AC residual current Pulsating DC residual current)	300	Instantaneously	100	SFM2025300
		40					100	SFM2040300
		63					100	SFM2063300
		80					100	SFM2080300
		100					100	SFM2100300
	SFM-4	25	4P	Shock Protection (AC residual current Pulsating DC residual current)	30	Instantaneously	50	SFM4025030
		40					50	SFM4040030
		63					50	SFM4063030
		80					50	SFM4080030
		100					50	SFM4100030
		25	4P	Fire and Equipment Protection (AC residual current Pulsating DC residual current)	100	Instantaneously	50	SFM4025100
		40					50	SFM4040100
		63					50	SFM4063100
		80					50	SFM4080100
		100					50	SFM4100100
		25	4P	Fire and Equipment Protection (AC residual current Pulsating DC residual current)	300	Instantaneously	50	SFM4025300
		40					50	SFM4040300
		63					50	SFM4063300
		80					50	SFM4080300
		100					50	SFM4100300
	SLM-2 (Selective Type)	25	2P	Fire and Equipment Protection (Selectivity Option)	300	Min. 130 ms	100	SLM2025300
		40					100	SLM2040300
		63					100	SLM2063300
		80					100	SLM2080300
		100					100	SLM2100300
	SLM-4 (Selective Type)	25	4P	Fire and Equipment Protection (Selectivity Option)			50	SLM4025300
		40					50	SLM4040300
		63					50	SLM4063300
		80					50	SLM4080300
		100					50	SLM4100300

Note: A Type RCB's are used to provide protection against residual currents of electronic devices including UPS, Power Supplies, Elevators, Thyristor and Diode

Residual Current Circuit Breakers (B Type) 10 kA

Type Code	Rated Current In (A)	Number of poles	Protection	Rated Residual Current IΔn (mA)	Operating characteristic	Pcs in a Box	Order Code
SKM-2	25	2P	Shock Protection (AC residual current Pulsating DC residual current Smooth DC residual current Mixed frequency current up to 1kHz)	30 mA	Instantaneously	100	SKM2025030
	40					100	SKM2040030
	63					100	SKM2063030
	25	2P	Fire and Equipment Protection (AC residual current Pulsating DC residual current Smooth DC residual current Mixed frequency current up to 1kHz)	300 mA	Instantaneously	100	SKM2025300
	40					100	SKM2040300
	63					100	SKM2063300

Type Code	Rated Current In (A)	Number of poles	Protection	Rated Residual Current IΔn (mA)	Operating characteristic	Pcs in a Box	Order Code
SKM-4	25	4P	Shock Protection (AC residual current Pulsating DC residual current Smooth DC residual current Mixed frequency current up to 1kHz)	30 mA	Instantaneously	50	SKM4025030
	40					50	SKM4040030
	63					50	SKM4063030
	25	4P	Fire and Equipment Protection (AC residual current Pulsating DC residual current Smooth DC residual current Mixed frequency current up to 1kHz)	300 mA	Instantaneously	50	SKM4025300
	40					50	SKM4040300
	63					50	SKM4063300

Residual Current Circuit Breakers (A+6 mA DC Type) 10 kA (For the protection of Electric Vehicle Charging Units)

NEW PRODUCT

Type Code	Rated Current In (A)	Number of poles	Protection	Rated Residual Current IΔn (mA)	Operating characteristic	Pcs in a Box	Order Code
SNM-2	25	2P	Shock Protection (AC and DC residual current)	30 mA AC / 6 mA DC	Instantaneously	100	SNM2025030
	40					100	SNM2040030
	63					100	SNM2063030

Type Code	Rated Current In (A)	Number of poles	Protection	Rated Residual Current IΔn (mA)	Operating characteristic	Pcs in a Box	Order Code
SNM-4	25	4P	Shock Protection (AC and DC residual current)	30 mA AC / 6 mA DC	Instantaneously	50	SNM4025030
	40					50	SNM4040030
	63					50	SNM4063030

Auto Reclosing Device For RCCB

Type Code	Rated Voltage (V)	Function	Pcs in a Box	Order Code
SCRC-03	230	Reclose time periods: 1st: 10s, 2nd: 60s, 3th: 300s, 4th: locked	100	SCRC03

Note: It is suitable for SHM type RCCB

Residual Current Circuit Breakers Test Instrument

Residual Current Circuit Breakers Test Instrument Characteristics		Type Code
Residual current test levels	15 - 30 - 50-100 - 150 -300 mA - adjustable:	SCT-100
Trip time measurement	Trip time measurement on the basis of ms at 15 - 30 - 50-100 - 150 -300 mA	
Max. Signal application period for the test	1000 ms	
Phase measurement	It is possible to see on the screen with PWR Led light whether there is energy in the socket to be controlled	
Product operating voltage	230V AC	
Screen	2x8 LCD screen	
Battery life	Product may perform 1500 measurements with 9V charged battery	

RCBO - Residual Current Circuit Breaker with Over Current Protection

Type Code	Number of poles	Rated Current In (A)	Residual Current IΔn (mA)	Type of Residual Current	Breaking Capacity	Pcs in a Box	Order Code
SRM-2	1P+N	6	30mA	AC	6 kA	100	SRM2006030
		10		AC	6 kA	100	SRM2010030
		16		AC	6 kA	100	SRM2016030
		20		AC	6 kA	100	SRM2020030
		25		AC	6 kA	100	SRM2025030
		32		AC	6 kA	100	SRM2032030
		40		AC	6 kA	100	SRM2040030
		6	300mA	AC	6 kA	100	SRM2006300
		10		AC	6 kA	100	SRM2010300
		16		AC	6 kA	100	SRM2016300
		20		AC	6 kA	100	SRM2020300
		25		AC	6 kA	100	SRM2025300
		32		AC	6 kA	100	SRM2032300
		40		AC	6 kA	100	SRM2040300

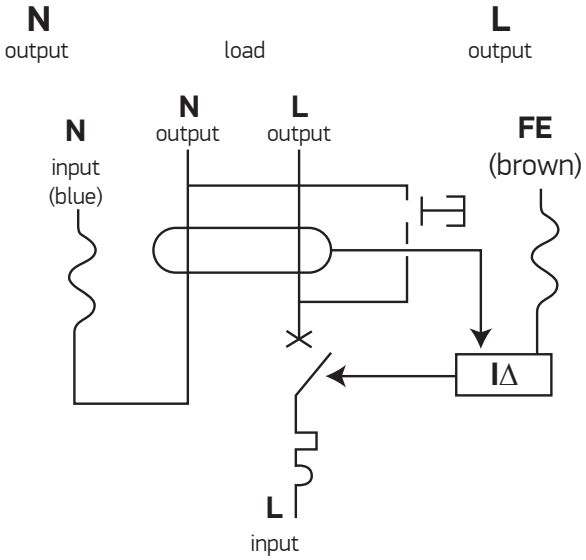
RCBO - Residual Current Circuit Breaker with Over Current Protection (Wired)

Type Code	Number of poles	Rated Current In (A)	Residual Current IΔn (mA)	Type of Residual Current	Breaking Capacity	Pcs in a Box	Order Code
SRE-2	1P+N	6	30mA	AC	6 kA	100	SRE2006030
		10		AC	6 kA	100	SRE2010030
		16		AC	6 kA	100	SRE2016030
		20		AC	6 kA	100	SRE2020030
		25		AC	6 kA	100	SRE2025030
		32		AC	6 kA	100	SRE2032030
		40		AC	6 kA	100	SRE2040030
		6	100mA	AC	6 kA	100	SRE2006100
		10		AC	6 kA	100	SRE2010100
		16		AC	6 kA	100	SRE2016100
		20		AC	6 kA	100	SRE2020100
		25		AC	6 kA	100	SRE2025100
		32		AC	6 kA	100	SRE2032100
		40		AC	6 kA	100	SRE2040100
		6	300mA	AC	6 kA	100	SRE2006300
		10		AC	6 kA	100	SRE2010300
		16		AC	6 kA	100	SRE2016300
		20		AC	6 kA	100	SRE2020300
		25		AC	6 kA	100	SRE2025300
		32		AC	6 kA	100	SRE2032300
		40		AC	6 kA	100	SRE2040300

Technical Specifications

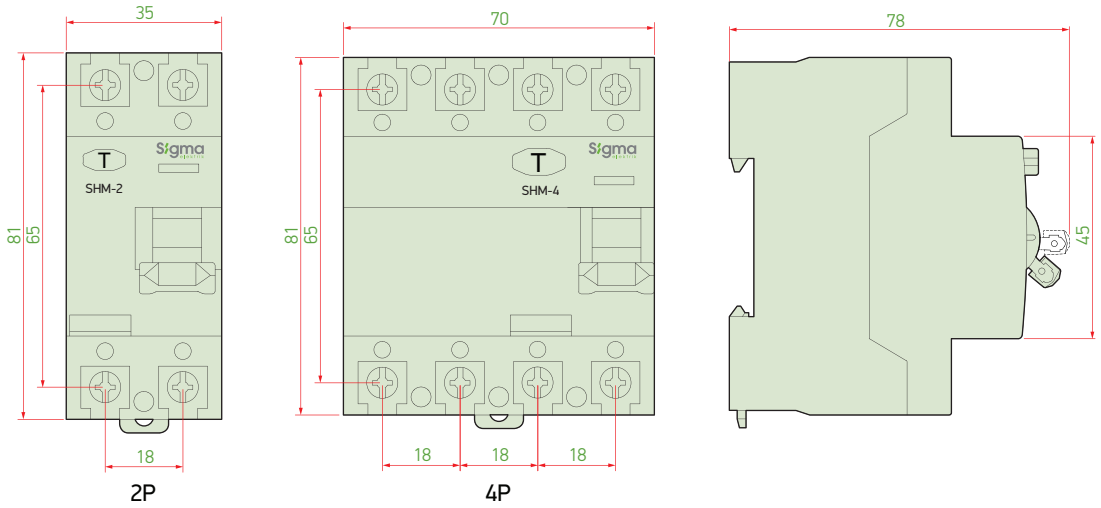
		SRE-2	SRM-2
Instantaneous tripping characteristic		B, C	B, C
Rated operating voltage	V AC	230 (240)	230
Rated frequency	Hz.	50...60	50...60
Rated current (In)	A	6, 10, 16, 20, 32, 40	6, 10, 16, 20, 32, 40
Residual current (IΔn)	mA	30-100-300	30-300
Rated ultimate short-circuit breaking capacity	kA	6	6
Connection section	mm²	0.75 ... 16	1.5 - 3.5
Max. clamping torque	Nm	2	2
Degree of protection		IP20	IP20
Electrical life (No. operation)		6.000	6.000
Mechanical life (No. operation)		20.000	20.000
Storage ambient temperature	°C	-40 to +75	-40 to +70
Operating ambient temperature	°C	-25 to +55	-25 to +55
Relative humidity	%	90	90
CFC-silicone free		Yes	Yes

Circuit Diagram

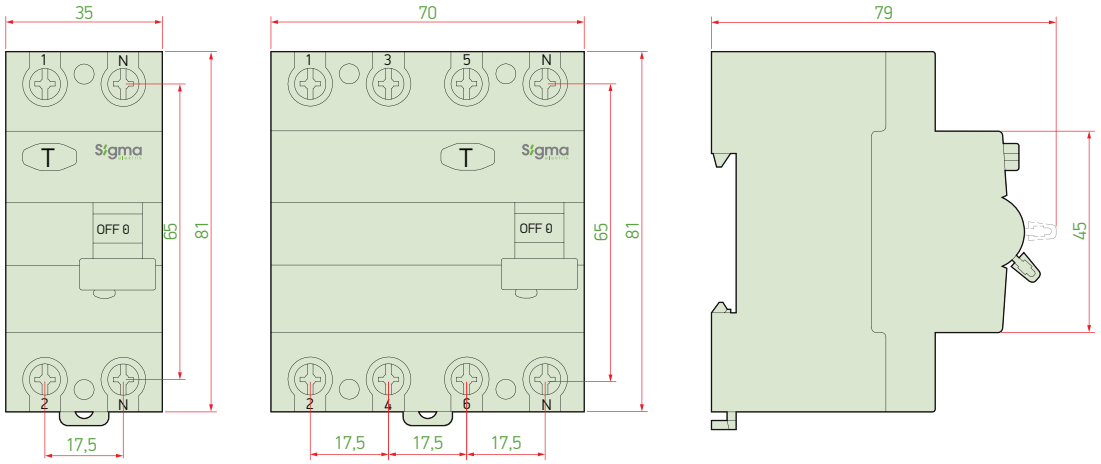


Dimensions

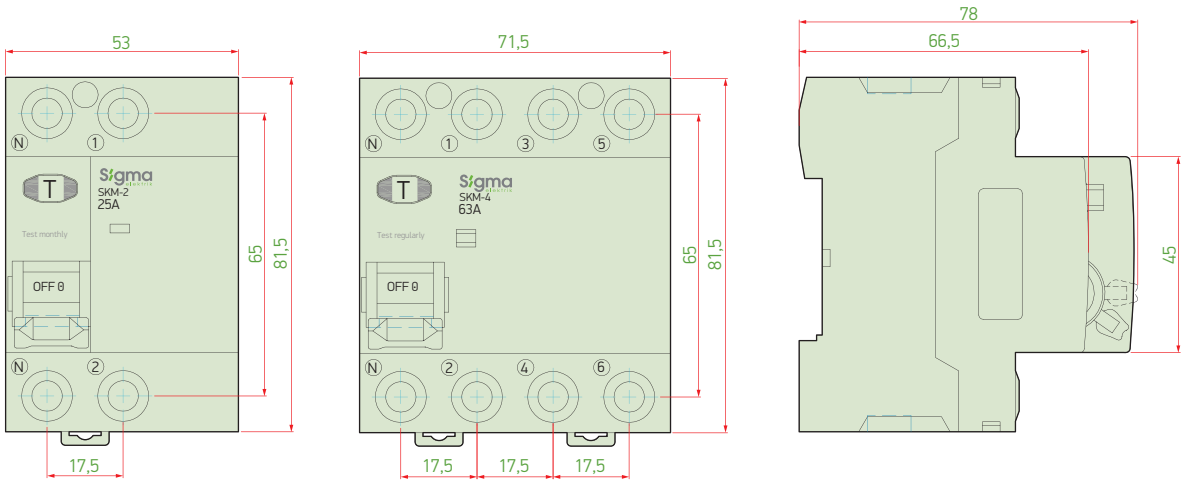
SHM2 - SHM4 / SDM2 - SDM4



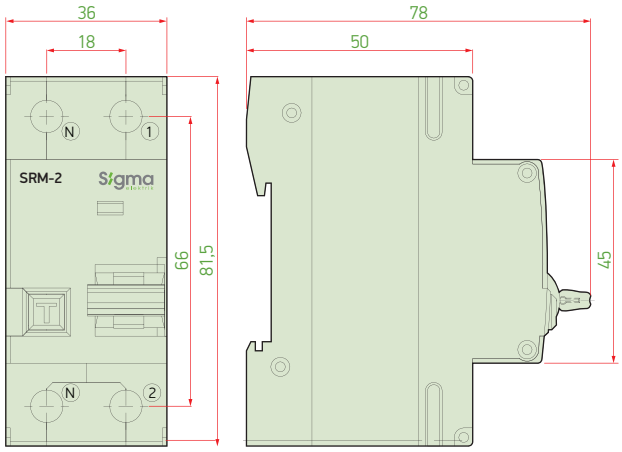
SFM-2 / SFM-4 / SGM-2 / SGM-4



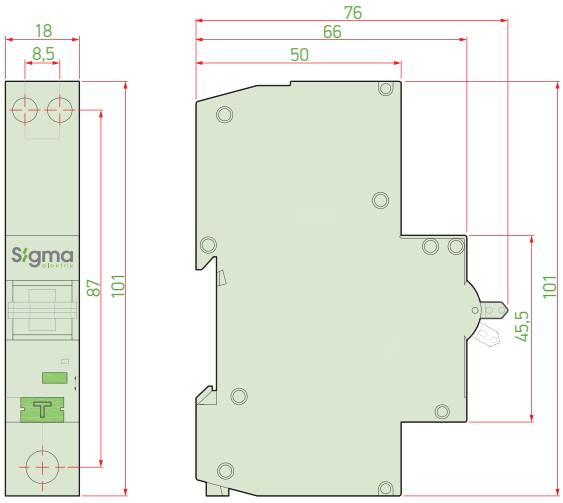
SKM-2 / SKM-4



SRM-2



SRE-2



Sigma Auto Recloser (SCRC03)

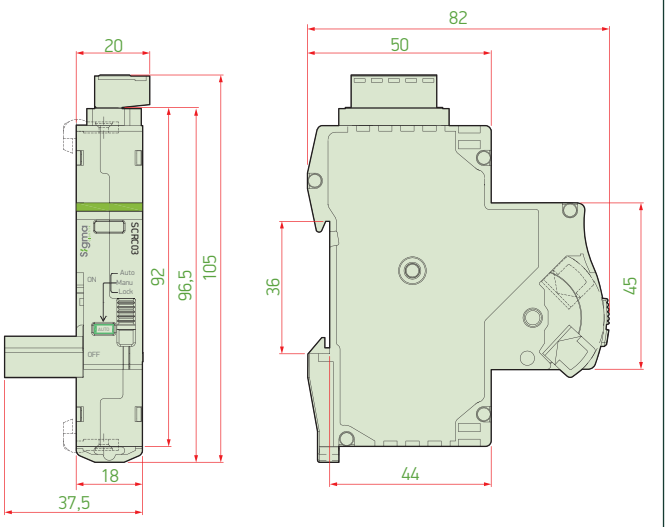
The recloser is a device with an innovative and technological structure that ensures auto reclosing of the residual current circuit breaker in case of unwanted tripping. A residual current circuit breaker can often cause power outage due to temporary or permanent faults.

Technical Data

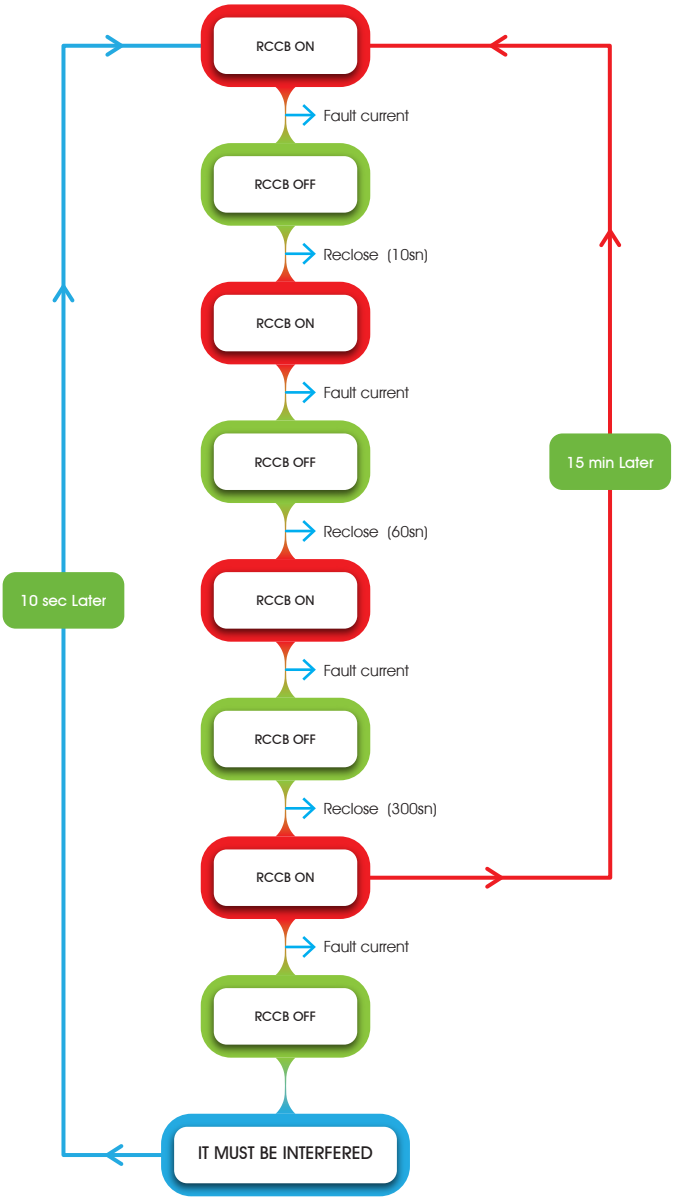
Power wiring	1P+N
Rated voltage	230V
Rated frequency	50/60Hz
Mecanical life	10.000 times
Trip time	Trips ≤ 0.2s Reclose ≤ 0.3s (time delay excluded)
Reclose time delay	1st: 10s, 2nd: 60s, 3th: 300s, 4th: locked
Protection Grade	IP20
Operation / Storage Temperature	-25 ... +55 / -40 ... +70
Relative Humidity	90%
Auto/Manu/Lock **Operation Mode**	**Auto:** Auto reclose function in work condition, as well as both open & close contacts work well.
	Manu: Auto reclose function doesn't work, both open & close contacts doesn't work as well.
	Lock: the device won't reclose after locked with hole diameter is 4.5mm, even manually.
Göstergeler	**Green & Long Bright:** Normal work
	Red & flash(1time/1s): Auto-reclosing
	Red & Long Bright: Locked, auto reclose function and both open & close contacts doesn't work
Release "LOCK"	After visit at site and solved the faulty problem, the electrician needs to switch "AUTO" to "MANU"and "AUTO"again;

Dimensions

SCRC-03



Function Description (Auto Mode)



MODULAR **PRODUCTS**

Modular products are products that combine monitoring (measurement), efficiency, functionality and comfort.

DIN Rail Type LED Signal Indicators and LED Signal Indicators

- Long service life, high brightness and low power loss opportunities
- Options with connection clamps or rail mounting for mounting on device covers, panels, control cabinets
- Single piece rail mounting or cabin front cover plate mounting option
- 5 color options: red, green, yellow, blue, white

Cylindrical (Cartridge) Fuses

- Series suitable for AC and DC loads,
- Options for fuses suitable for load classes; gG, aM, Ar
- Product variety from 2A to 100A

Cylindrical (Cartridge) Fuse Holders

- Product variety from 32A, 50A and 100A
- 1, 1P+N, 3, 4 pole options in cartridge slots

Modular DIN Rail Sockets

- Design resistant to high temperatures thanks to thermoplastic body material
- IP20 protection degree
- 230V, 6A
- Easy mounting on DIN rail

Impulse Relays

- 230V AC, 16A, 1NO production
- 960°C heat resistant body material
- IP20 protection degree
- High electrical and mechanical life

Isolator Switches (without protection)

- 1, 2, 3 and 4 poles
- 40A and 125A rated current

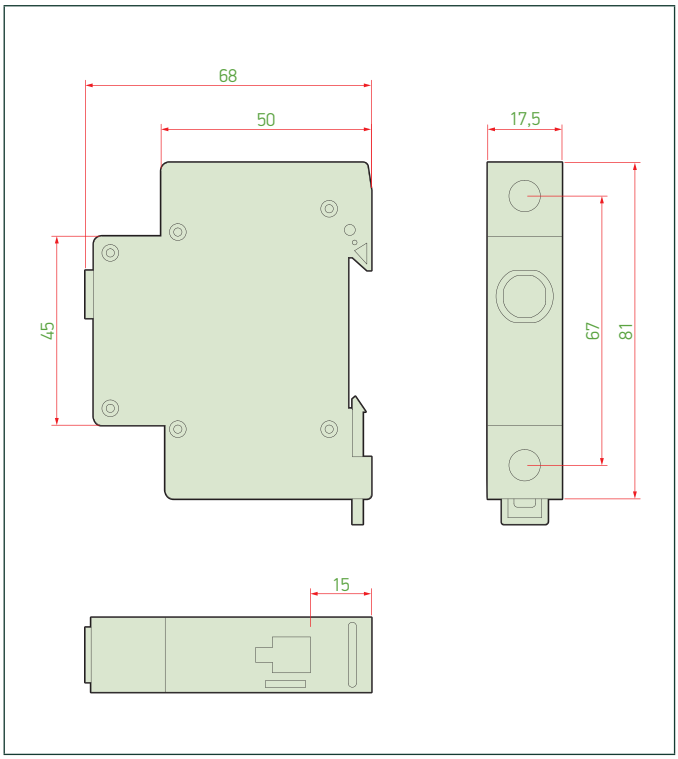
DIN Rail Type Led Signal Indicators

Colour	Rated Voltage (V)	Min. Order Quantity	Pcs in a Box	Order Code
Blue	220V AC	12	120	SSL-B220A
	24V AC	12	120	SSL-B024A
	24V DC	12	120	SSL-B024D
Red	220V AC	12	120	SSL-R220A
	24V AC	12	120	SSL-R024A
	24V DC	12	120	SSL-R024D
Green	220V AC	12	120	SSL-G220A
	24V AC	12	120	SSL-G024A
	24V DC	12	120	SSL-G024D
Yellow	220V AC	12	120	SSL-Y220A
	24V AC	12	120	SSL-Y024A
	24V DC	12	120	SSL-Y024D

Technical Specifications

Type			SSL
Standard			EN 60947-5-1
Rated current AC12	In	A	20
Lamp type			LED
Colors			Green, Red, Blue, Yellow
Rated operating voltage	Ue	V	230 (AC), 24 (AC), 24 (DC)
Rated insulation voltage	Ui	V	500
Electrical life (No. operation)		hour	> 30.000
Degree of protection			IP 20
Operating ambient temperature		°C	-30 to +60
Storage ambient temperature		°C	-40 to +70
Relative Humidity		%	90
Mounting type (EN 60715)			35 mm DIN Rail
Connection section		mm^2	1-16
Max. clamping torque		Nm	3,5

Dimensions



Led Signal Indicators

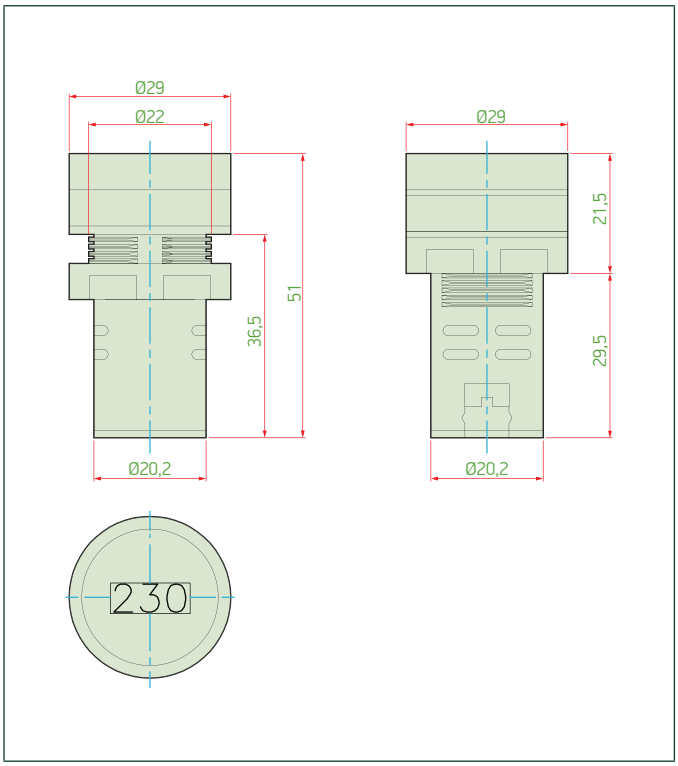
Type Code	Description	Rated Voltage (V)	Dimensions (mm)	Colour	Pcs in a Box	Order Code
SL-22-22DS	Led Indicator	220V AC	22	Red	240	SL22-220DSR
				Green	240	SL22-220DSG
				Yellow	240	SL22-220DSY
				Blue	240	SL22-220DSB
				White	240	SL22-220DSW
		24V AC/DC		Red	240	SL22-024DSR
				Green	240	SL22-024DSG
				Yellow	240	SL22-024DSY
				Blue	240	SL22-024DSB
				White	240	SL22-024DSW

Type Code	Description	Rated Voltage (V)	Dimensions (mm)	Colour	Pcs in a Box	Order Code
SL-22-22VM	Led Indicator with Voltmeter Function	50-500V AC	22	Red	240	SL22-22VMR
				Green	240	SL22-22VMG
				Yellow	240	SL22-22VMY
				Blue	240	SL22-22VMB
				White	240	SL22-22VMW
		5-60V DC	22	Red	240	SL22-22VMRD
				White	240	SL22-22VMWD
SL-22-22AM	Led Indicator with Ammeter Function	0-100 A	22	Red	240	SL22-22AMR
				White	240	SL22-22AMW
SL-22-22VAM	Led Indicator with Voltmeter-Ammeter Functions	50-500V AC 0-100 A AC	22	Red	240	SL22-22VAMR
				White	240	SL22-22VAMW
SL-22-22HM	Led Indicator with Frequency Meter Function	0-50 Hz	22	Red	240	SL22-22HMR
				White	240	SL22-22HMW
SL-22-22TM	Led Indicator with Temperature Function	-20...+ 199 °C	22	Red	240	SL22-22TMR
				White	240	SL22-22TMW

Technical Specifications

Type		Led Indicators	Led Indicators with measurement functions (V-A-VA-Hz-°C)
Standard		IEC/EN60947-5-1	
Mounting diameter		22 mm	
Device mounting		Fixing hole: Ø 22,5 mm	
Source of light		Led	
Color		Red, Green, Yellow, Blue, White	Red, White
Rated operating voltage	V	220V AC , 24V ACDC	12-500V AC
Rated impulse voltage	kV	6 kV	
Electrical life (No. operation)	Hour	70000 hour at nominal voltage and 25 °C	
Degree of protection		IP20 (back side), IP40 (front side)	
Operating ambient temperature	°C	-25...55 °C	
Storage ambient temperature	°C	-40...70 °C	
Relative Humidity	%	90	
Connection terminal		Screw clamp terminals : <= 2 x 1,5 mm^2 cable terminal	
Height	mm	29 mm	
Width	mm	29 mm	
Depth	mm	54 mm	
Weight	Kg	0.018 kg	
Overvoltage category		Class III	
Tightening torque	N.m.	0.8...1.2 N.m	

Dimensions



Cylindrical (Cartridge) Fuses

Type	Rated Current (A)	Cartridge Diameter (Øxmm)	Min. Order Quantity	Pcs in a Box	Order Code
gG Type cylindrical fuses (General protection of cables and electrical systems against overload and short circuit).	2	10x38	10	2000	SFLG02
	4	10x38	10	2000	SFLG04
	6	10x38	10	2000	SFLG06
	10	10x38	10	2000	SFLG10
	16	10x38	10	2000	SFLG16
	20	10x38	10	2000	SFLG20
	25	10x38	10	2000	SFLG25
	32	10x38	10	2000	SFLG32
	40	14x51	10	2000	SFNG040
	50	14x51	10	2000	SFNG050
	63	22x58	10	2000	SFMG063
	80	22x58	10	2000	SFMG080
	100	22x58	10	2000	SFMG100

Type	Rated Current (A)	Cartridge Diameter (Øxmm)	Min. Order Quantity	Pcs in a Box	Order Code
aM Type cylindrical fuses (Protection of Motor systems against short circuits)	2	10x38	10	2000	SFLM02
	4	10x38	10	2000	SFLM04
	6	10x38	10	2000	SFLM06
	10	10x38	10	2000	SFLM10
	16	10x38	10	2000	SFLM16
	20	10x38	10	2000	SFLM20
	25	10x38	10	2000	SFLM25
	32	10x38	10	2000	SFLM32

Type	Rated Current (A)	Cartridge Diameter (Øxmm)	Min. Order Quantity	Pcs in a Box	Order Code
aR Type high speed fuses (Protection against short-circuit of semi-conductor and power systems ; UPS, soft starter, inverter, converter, AC/DC starters e.g.)	2	10x38	10	2000	SFLR02
	4	10x38	10	2000	SFLR04
	6	10x38	10	2000	SFLR06
	10	10x38	10	2000	SFLR10
	16	10x38	10	2000	SFLR16
	20	10x38	10	2000	SFLR20
	25	10x38	10	2000	SFLR25
	32	10x38	10	2000	SFLR32

Cylindrical (Cartridge) Fuse Holders

Type	Rated Current (A)	Number of poles	Cartridge Diameter (Øxmm)	Min. Order Quantity	Pcs in a Box	Order Code
SFH032	32	1	10x38	12	144	SFH132
	32	1P+N	10x38	6	72	SFH232
	32	3	10x38	4	48	SFH332
	32	4	10x38	3	36	SFH432
SFH050	50	1	14x51	1	50	SFH1050
	50	1P+N	14x51	1	50	SFH2050
	50	3	14x51	1	50	SFH3050
SFH100	100	1	22x58	1	60	SFH1100
	100	1P+N	22x58	1	60	SFH2100
	100	3	22x58	1	60	SFH3100

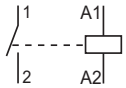
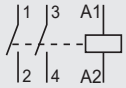
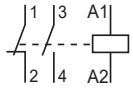
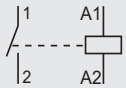
Modular DIN Rail Socket

Specification	Min. Order Quantity	Pcs in a Box	Order Code
6 A, 230 V	5	50	SPP-16T

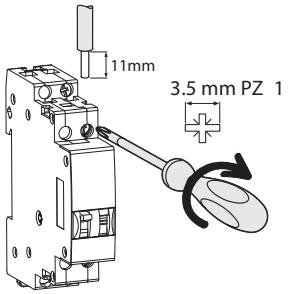
Isolator Switch (Without Protection)

Number of poles	Rated Current In (A)	Min. Order Quantity	Pcs in a Box	Order Code
1P	40	12	240	SYA1040
	63	12	240	SYA1063
	80	12	240	SYA1080
	100	12	240	SYA1100
	125	12	240	SYA1125
2P	40	6	120	SYA2040
	63	6	120	SYA2063
	80	6	120	SYA2080
	100	6	120	SYA2100
	125	6	120	SYA2125
3P	40	4	80	SYA3040
	63	4	80	SYA3063
	80	4	80	SYA3080
	100	4	80	SYA3100
	125	4	80	SYA3125
4P	40	3	60	SYA4040
	63	3	60	SYA4063
	80	3	60	SYA4080
	100	3	60	SYA4100
	125	3	60	SYA4125

Impulse Relay

Rated Current (Ie)	Contact Structure	Coil Voltage	Min. Order Quantity	Circuit Diagram	Order Code
16 A	1NO	230V AC	12		SDA-16A
16 A	2NO	230V AC	12		SDA-16A/2
16 A	1NO+1NC	230V AC	12		SDA-16A/1+1
32A	1NO	230V AC	12		SDA-32A

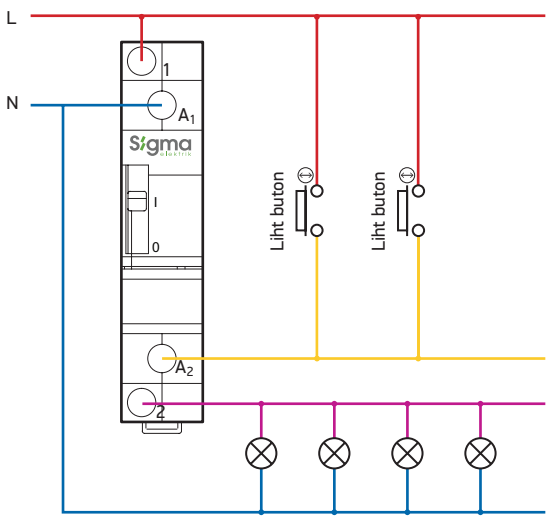
Impulse Relay Connection



Type	Rated Current	Circuit	Tightening torque	Copper cables	
				Rigid or ferrule	Flexible or ferrule
					
SDA-16	16A	Control	1N.m	0.5 ~ 4mm²	1 ~ 4mm²
		Control		1.5 ~ 4mm²	1.5 ~ 4mm²

Main Parameters

Control Circuit		
Dissipated power (during the impulse)		19 VA
Illuminated PB control		Max. current 3 mA (if > use an ATLz)
Operating threshold		Min. 85 % of Un
Duration of the control order		50 ms to 1 s (200 ms recommended)
Response time		50 ms
Power Circuit		
Voltage rating (Ue)	1P, 2P	250V AC
Frequenc		50/60 Hz
Maximum number of operations per minute		5
Maximum number of switching operation a day		100
Endurance		200,000 cycles AC21
		100,000 cycles AC22
Yüksek Voltaj Kategorisi		IV
Insulation voltage (Ui)		440V AC
Pollution degree		III
Rated impulse withstand voltage (Uimp)		6kV
Degree of protection (IEC 60529)	Device only	IP20
	Device in modular	IP40 (Insulation class II)
Operating temperature		-5 ... +60
Storage temperature		-40 ... +70
Tropicalization (IEC 60068.1)		Relative humidity 90%, at 55°C

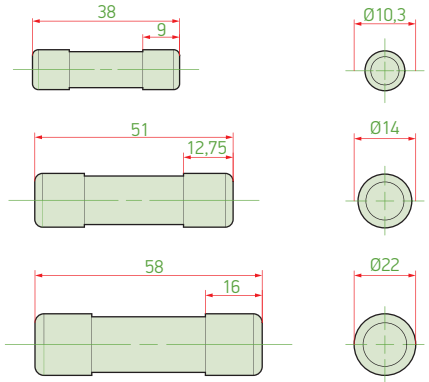


WARNING!

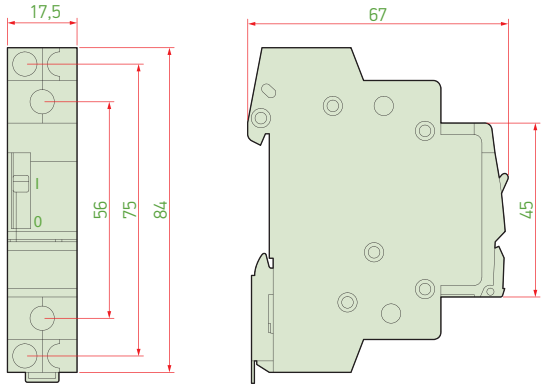
LIHT BUTTON must be used to switch the coil voltage.

Dimensions

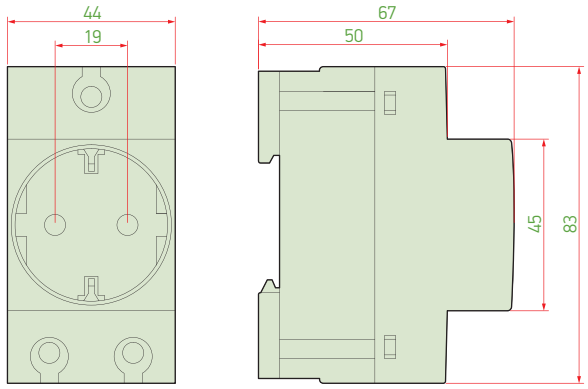
Cylindrical Fuses



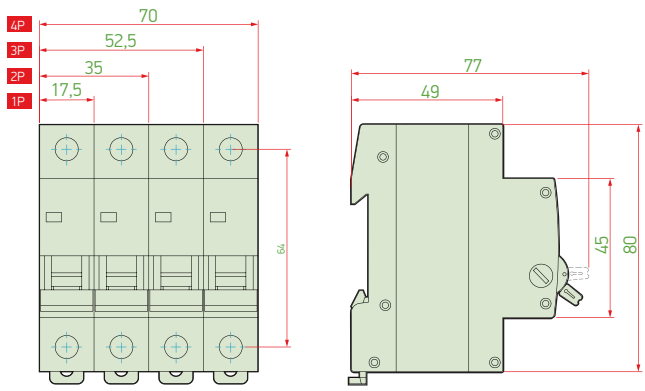
Impulse Relay



DIN Rail Type Socket for Panel boards

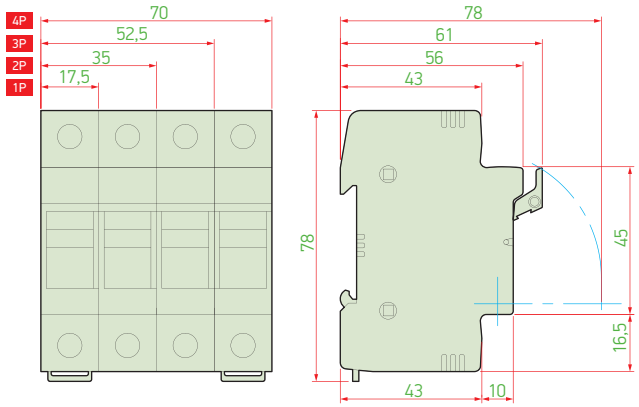


Isolator Switch

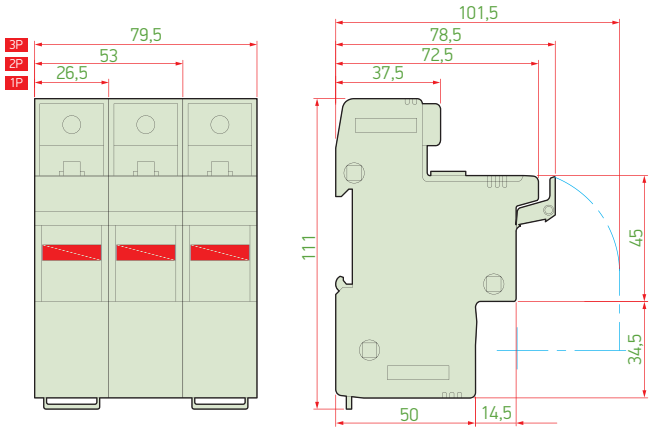


Cylindrical (cartridge) Fuse Holders

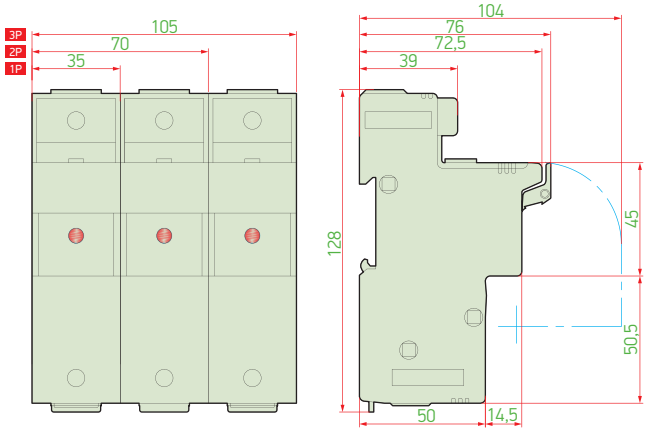
SFH032

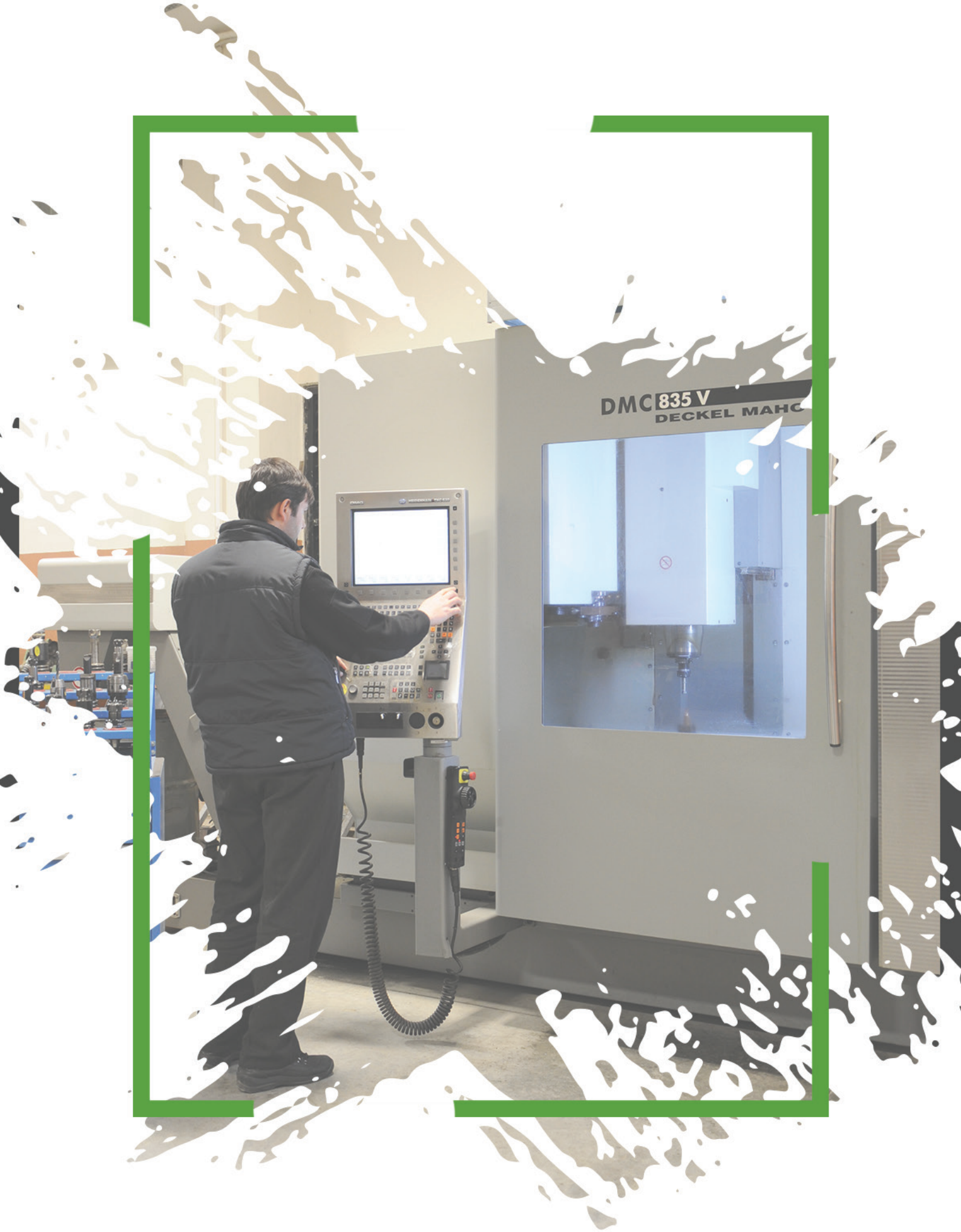


SFH050



SFH0100




DMC 835 V
DECKEL MAHC

Sigma elektrik

LV SURGE PROTECTION **DEVICES**

Surge arresters are protection equipments that discharge excessive voltage occurring in energy transmission lines to the ground. They act as open circuit when no pulse passes through it and provide isolation between active circuit elements and ground. When exposed to a voltage pulse, they increase their impedance within nanoseconds, act as closed circuit, and transmit the pulse current to the ground.

- Product diversity in B, C, B+C and D types
- 5kA, 40kA and 100kA short circuit breaking capacities
- 1, 2, 3 and 4 poles
- Possibility of remote monitoring with auxiliary contact function

LV Surge Protection Devices

Type	Description	Number of poles	Uc (V) AC	Iimp	Imax (kA)	In (kA)	Up (kV)	PE grounding section*	Order Code
SP1-B100	Type 1 B Class (install before electricity meter)	1	255	50 (10/350µs)		100 (8/20µs)	2.5	16 mm²	SP1-B100
SP4-B100	Type 1 B Class (install before electricity meter)	4	255	50 (10/350µs)		100 (8/20µs)	2.5	16 mm²	SP4-B100
SP4-BC100	Type 1+Type 2 B+C Class (install before electricity meter)	4	385	12,5 (10/350µs)	100 (8/20µs)	20 (8/20µs)	1.6	16 mm²	SP4-BC100
SP1-C040	Type 2 C Class (install after electricity meter)	1	275		40 (8/20µs)	20 (8/20µs)	1.4	4 mm²	SP1-C040
SP2-C040	Type 2 C Class (install after electricity meter)	2	275		40 (8/20µs)	20 (8/20µs)	1.4	4 mm²	SP2-C040
SP3-C040	Type 2 C Class (install after electricity meter)	3	275		40 (8/20µs)	20 (8/20µs)	1.4	4 mm²	SP3-C040
SP4-C040	Type 2 C Class (install after electricity meter)	4	275		40 (8/20µs)	20 (8/20µs)	1.4	4 mm²	SP4-C040
SP1-D005	Type 3 D Class (install after electricity meter)	1	275		5 (8/20µs)	3 (8/20µs)	1,6	4 mm²	SP1-D005
SP1-C040K	Spare cartridge for C Class surge protection	1	275		40 (8/20µs)	20 (8/20µs)	1.4	–	SP1-C040K
SLP12.5-950	Type 1+Type 2 B+C Class. 800V AC surge protection device for string inverter protection	3	950	12,5	100	20 (8/20µs)	4	25 mm²	SLP12.5-950

Note: The LV Surge Protection devices are offered with signal contact except B type.
Note: Connection cross-sections are shown as min.

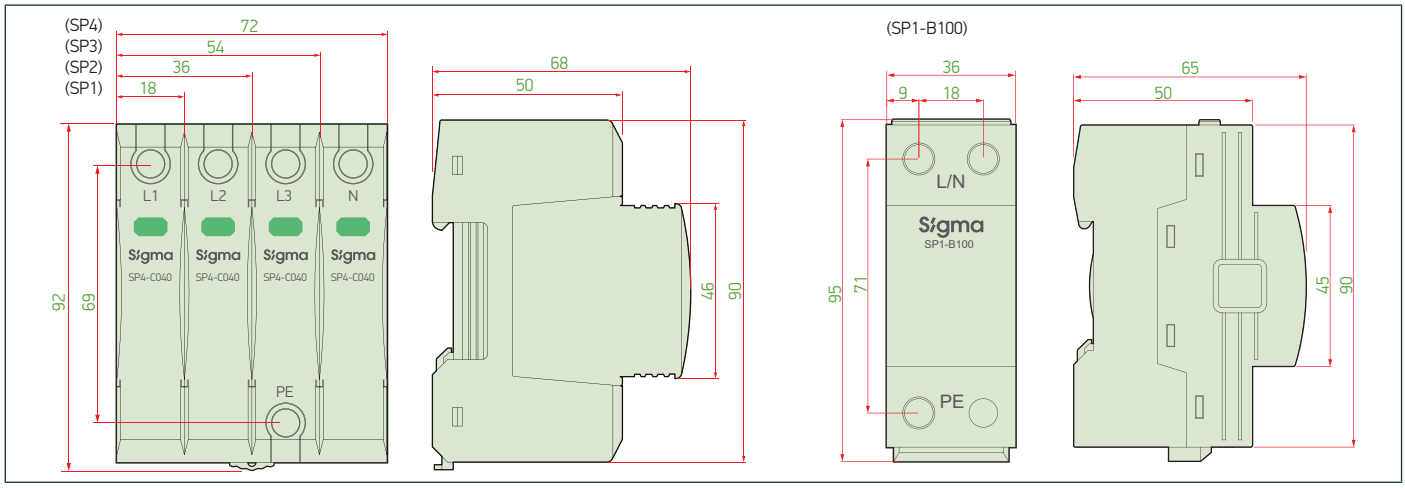
Selection of cable cross-section

Connection between the energy supply and the surge arrester: In post-meter input connections, the cable must have at least the same cross-section as the cable coming from the upper circuit. In pre-meter connections, phases and neutral should be 10 mm² in the main panel and ground should be 16 mm².

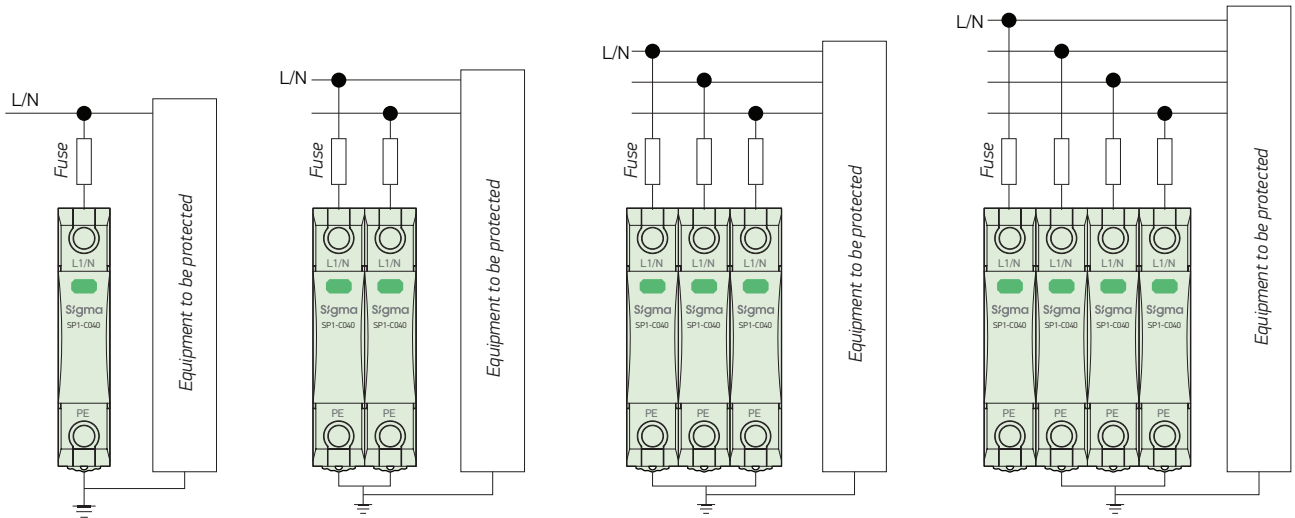
Surge arrester ground connection:

If there is no lightning rod, the minimum cross-section should be 4 mm², and if there is a lightning rod, it should be minimum 10 mm². However, it is recommended to choose a larger cross-section of 10-20 mm². Standard terminal connection for single-core sections max. 35mm², max. in multi-core sections. 25mm² connection can be made.

Dimensions

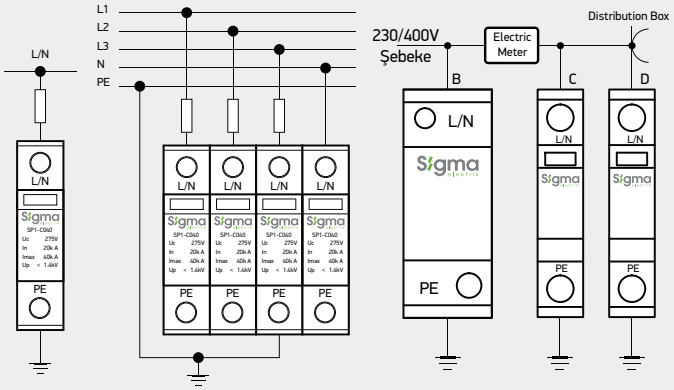


Wiring Diagram



Wiring Diagram

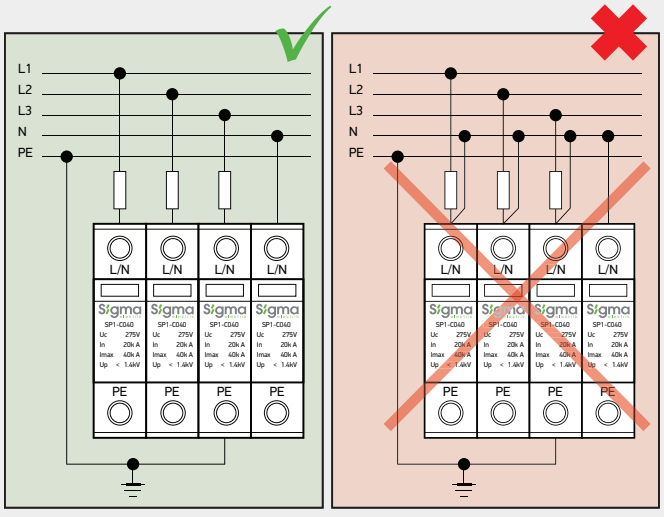
Monophase, Threephase line connections

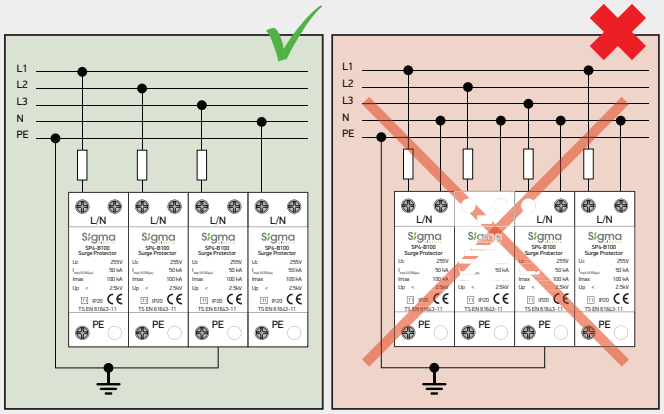


ATTENTION !!!

L/N EXPRESSION INDICATES THAT PHASE OR NEUTRAL CAN BE CONNECTED TO THE TERMINAL BLOCKS. SINCE THE TERMINAL BLOCKS HAVE SHORT CIRCUIT FROM THE INTERNAL SIDE, **ONLY PHASE** OR **ONLY NEUTRAL** CAN BE CONNECTED.

SEE THE FIGURES BELOW.





CAT6 Data Line Surge Protection Device

SP1-D003 Data and signal surge protective device is mainly used to protect such as Ethernet network, security camera, data communication, server equipment, working station (intranet) ...

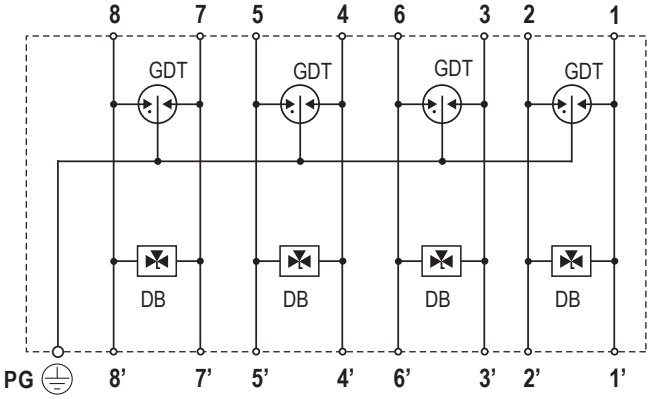
Type	Description	Number of poles	Uc (V) AC	Imax (kA)	In (kA)	Up (kV)	Order Code
SP1-D003	Ethernet lines, IP Cameras, Data lines, Server equipment and systems, Intranet protection	1	48V DC	10	3	≤100	SP1-D003

Technical Data

Electrical			
Number of Protected Pairs			4 Pairs (8 Conductors)
Nominal Operating Voltage (DC)		Un	48 V
Maximum Continuous Operating Voltage (DC)	(Line-Line)	Uc	50 V
	(Pair-Pair)		72 V
Rated Load Current at 25ºC		IL	1 A
Nominal Discharge Current (8/20 µs)	(Line-Line)	In	150 A
C2 Total Discharge Current (8/20 µs)	(Lines-Ground)	In	10 kA
D1 Impulse Current (10/350 µs)		Iimp	1 kA
Voltage Protection Level at In	(Line-Line)	Up	150 V
	(Line-Ground)		550 V
Response Time		tA	< 10 ns
Cut-off Frequency		fG	250 MHz

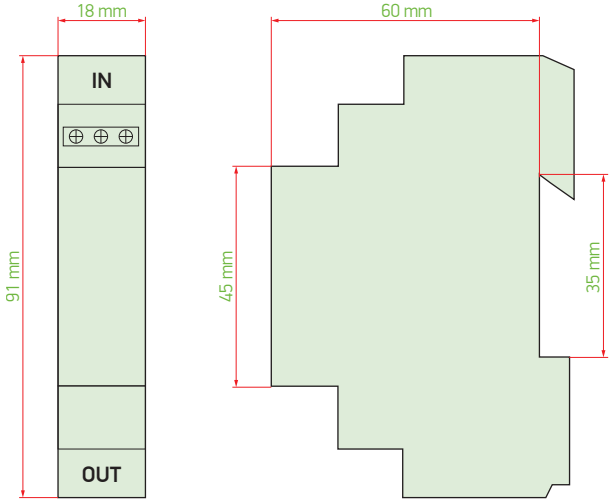
Mechanical	
Operating Temperature Range	-40 ºF to +176 ºF [-40 ºC to +80 ºC]
Relative Humidity	90%
Connection Type	Input/Output: RJ45 Sockets
Degree of Protection IEC/EN 60529	IP 20
Housing Material	Plastic
Mounting IEC/EN 60715	35 mm DIN Rail
Place of installation	Indoor Installation

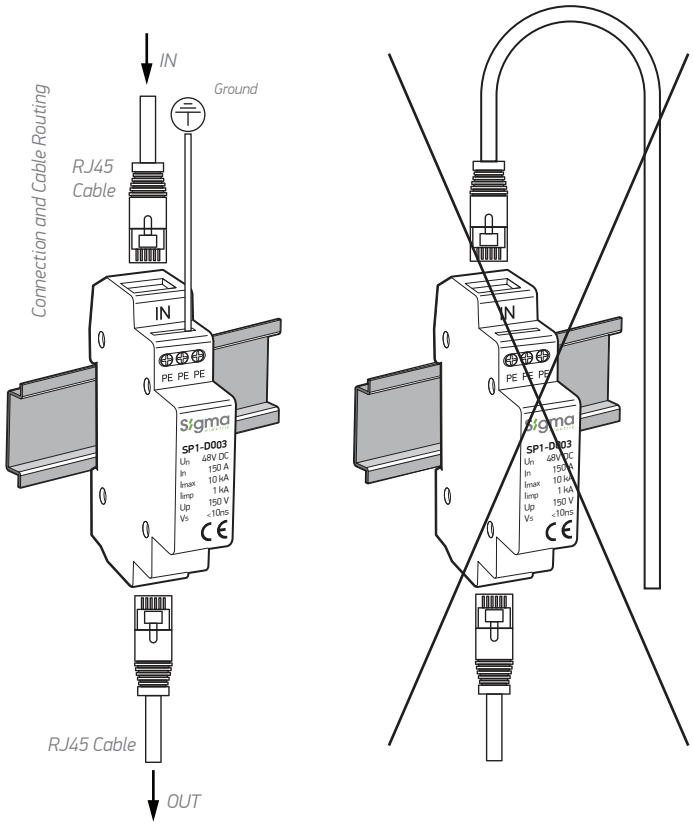
Internal Configuration



Diode block	DB
Gas discharge tube	GDT
Protective grounding	PG

Dimension





800V AC surge protection device for string inverter protection

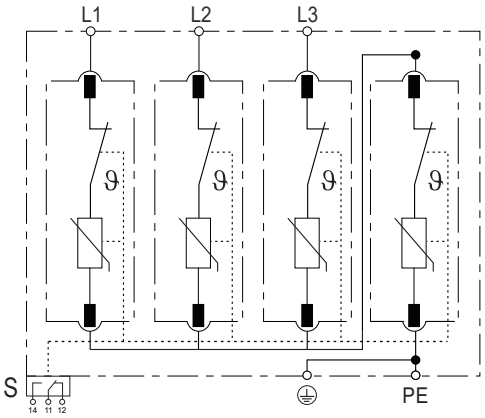
800V AC string inverter protection surge arrester is used to protect string inverters against overvoltages in solar energy systems

Type	Description	Number of poles	Uc (V) AC	Imax (kA)	In (kA)	Up (kV)	Order Code
SLP12,5	Type 1+Type 2 B+C Class. 800V AC surge protection device for string inverter protection	3	950	100	20 (8/20µs)	4	SLP12.5-950

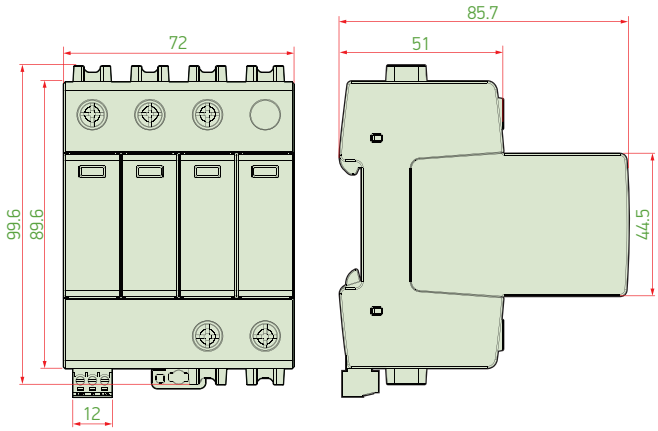
Technical Data

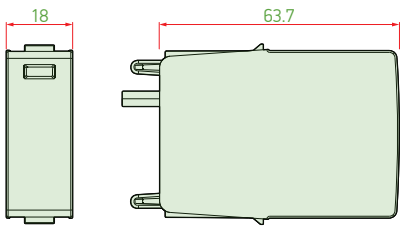
IEC Electrical		
Nominal AC Voltage (50/60Hz)	U_o / U_n	800 V
Maximum Continuous Operating Voltage (AC)	U_c	950 V
Nominal Discharge Current (8/20 µs)	I_n	20 kA
Maximum Discharge Current (8/20 µs)	I_{max}	100 kA
Impulse Discharge Current (10/350 µs)	I_{imp}	12.5 kA
Voltage Protection Level	U_p	4000 V
Residual Current at Uc	I_{PE}	< 0, 5 mA
Response Time	tA	< 25 ns
Back-Up Fuse (max)		160 A gL / gG
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA
Number of Ports		1
Mechanical & Environmental		
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]
Permissible Operating Humidity	RH	5%...95%
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m
Terminal Screw Torque	M_{max}	39.9 lbf-in [4.5 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)
		35 mm² (Solid, Stranded) / 25 mm² (Flexible)
Mounting		35 mm DIN Rail, EN 60715
Degree of Protection		IP 20 (built-in)
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0
Thermal Protection		Green ok / Red defect
Operating State / Fault Indication		Optional
Remote Contacts (RC)		Yes
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm2 (Solid)

Internal Configuration



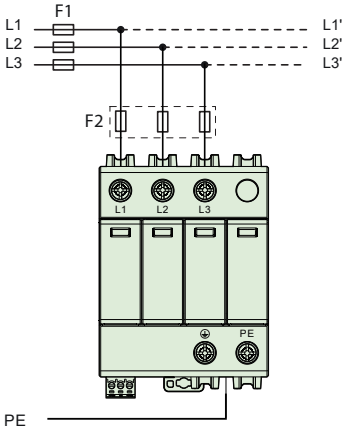
Dimension





Wiring Diagram

TN-C, IT (Three-phase, 3+0)



Sigma elektrik

POWER **CONTACTORS**

Contactors are switching elements that work according to the electromagnetic field principle that controls the opening and closing of the electrical circuit.

They allow remote control of electrical facilities such as electric motors, compensation and heating systems via cable. When used with thermal relays, they protect facilities and devices in the system against overload currents.

- 3 and 4 pole product options
- Wide range from 9A to 800A
- Wide coil options (24, 42, 48, 110, 230, 400, 415 AC/DC)
- Wide product range, including power, modular (silent), 6-pole and 8-pole changeover, compensation and mini type contactors
- Possibility of attaching accessories from the top, left side and right side
- Double-sided coil terminal inputs (for SCG types)

Technical Specifications

Type		3 poles AC coil		SCG 9	SCG 12	SCG 18	SCG 25	SCG 32	SCG 40	SCG 50	SCG 65	SCG 80	SCG 95	SCG 100
TypeRated operational current for AC-3 (Ue : 400 V)		A		9	12	18	25	32	40	50	65	80	95	100
Rated thermal current (at 40°C)	Ith	A		20	25	40	40	50	60	80	100	110	135	135
Rated operational current for AC-1 (Ue: 400 V) (≤ 40°C)		A		20	25	40	40	50	60	80	100	110	135	135
Rated insulation voltage	Ui	V		1000										
Rated impulse voltage	Uimp	kV		8										
Max. Rating of slipring or squirrel-cage motors	AC-3	kW	500 V	4	7.5	7.5	15	18.5	22	30	37	45	45	55
			380-440 V	4	5.5	7.5	11	15	18.5	22	30	37	45	55
			220-240 V	2.5	3.5	4.5	5.5	7.5	11	15	18.5	22	25	30
Switching discharge lamps (mercury vapour lamps)	AC-5a	A		14	16	25	32	40	55	80	85	105	120	125
Electrical life (No. operation) (x1000)				2.000.000					1.500.000			1.000.000		500.000
Mechanical life (No. operation) (x1000)				20.000.000						15.000.000				10.000.000
Auxiliary contact technical specifications														
Number of auxiliary contacts (standard)				1NO+1NC										
Number of auxiliary contact options				1NO+1NC, 2NO+2NC, 4NO, 4NC, 3NO+1NC, 1NO+3NC										
Control unit specifications														
Coil type				SGB 1						SGB 2				
Supply voltages		V	AC	24, 42, 48, 110, 230, 400, 415										
Max. Operating temperature		°C		-25 to +55										
Max. Storage temperature		°C		-40 to +65										
Relative humidity				90%										

Type		4 poles	AC coil	SCF-9	SCF-12	SCF-18	SCF-22	SCF-32	SCF-40	SCF-50	SCF-65	SCF-75	SCF-85
		3 poles	DC coil	SDM-9	SDM-12	SDM-18	SDM-22	SDM-32	SDM-40				
Rated operational current for AC-3 (Ue : 400 V)		A		9	12	18	22	32	40	50	65	75	85
Rated thermal current (at 40°C)	Ith	A		20	25	40	40	50	60	80	100	110	110
Rated operational current for AC-1 (Ue: 400 V) (≤ 40°C)		A		20	25	40	40	50	60	80	100	110	110
Rated insulation voltage	Ui	V		1.000						1.000			
Rated impulse voltage	Uimp	kV		8						8			
Max. Rating of slipring or squirrel-cage motors	AC-3	kW	400 V	4	5.5	7.5	11	15	18.5	22	30	37	45
			230 V	2.5	3.5	4.5	5.5	7.5	11	15	18.5	22	25
Switching discharge lamps (mercury vapour lamps)	AC-5a	A		14	16	25	30	40	45	80	85	105	120
Electrical life (No. operation) (x1000)	AC-3	A		2.000					1.500	1.500		1.000	
Mechanical life (No. operation) (x1000)				20.000						15000			
Auxiliary contact technical specifications													
Number of auxiliary contacts (standard)				1NO+1NC									
Number of auxiliary contact options				1NO+1NC, 2NO+2NC, 4NO, 4NC, 3NO+1NC, 1NO+3NC									
Rated thermal current	Ith	A		16									
Control for non-inductive loads	AC-1	A	220V AC	16									
Control for ohmic and static loads	AC-12	A	220V AC	8									
Max. Operating temperature				-25 to +55									
Max. Storage temperature				-40 to +65									
Relative humidity				90%									

Type		3 poles	AC coil	SCG 115	SCG 150	SCG 185	SCG 225	SCG 265	SCG 330	SCG 400	SCG 500	SCG 630	SCG 800
		4 poles	AC coil	SCF-115	SCF-150	SCF-185	SCF-225	SCF-265	SCF-330	SCF-400	SCF-500	SCF-630	SCF-800
Rated operational current for AC-3 (Ue : 400 V)		A		115	150	185	225	265	330	400	500	630	800
Rated thermal current (at 40°C)	Ith	A		200	200	275	315	350	400	500	700	1000	1200
Rated operational current for AC-1 (Ue: 400 V) (≤ 40°C)		A		200	200	275	315	350	400	500	700	1000	1200
Rated insulation voltage	Ui	V		1000									
Rated impulse voltage	Uimp	kV		8									
Max. Rating of slipring or squirrel-cage motors	AC-3	kW	400 V	60	75	90	110	132	160	200	250	335	400
			230 V	30	40	55	63	75	100	110	147	200	250
Switching discharge lamps (mercury vapour lamps)	AC-5a	A		140	180	220	260	300	350	470	560	730	880
Electrical life (No. operation) (x1000)	AC-3	A		500					300				
Mechanical life (No. operation) (x1000)				10.000		5.000			3.000				
Auxiliary contact technical specifications													
Number of auxiliary contacts (standard)				2NO+2NC									
Number of auxiliary contact options				2NO+2NC									4NO+4NC
Rated thermal current	Ith	A		16									
Control for non-inductive loads	AC-1	A	220V AC	16									
Control for ohmic and static loads	AC-12	A	220V AC	8									
Max. Operating temperature				-25 to +55									
Max. Storage temperature				-40 to +65									
Relative humidity				90%									

Request information for **DC coil** voltage.

3 Poles Power Contactors - Coil Voltage: 100-240V AC / 100-220V DC (Common Coil)

Type		3 poles		SCM 100	SCM 125	SCM 150	SCM 180
Rated operational current for AC-3 (Ue : 400 V)		A		100	125	150	180
Rated thermal current (at 40°C)	Ith	A		160	160	200	230
Rated operational current for AC-1 (Ue: 400 V) (≤ 40°C)		A		160	160	200	230
Rated insulation voltage	Ui	V		1.000			
Rated impulse voltage	Uimp	kV		8			
Max. Rating of slipring or squirrel-cage motors	AC-3	kW	400 V	55	60	75	90
			230 V	30	37	45	55
Switching discharge lamps (mercury vapour lamps)	AC-5a	A		70	90	100	150
Electrical life (No. operation) (x1000)	AC-3	A		500			
Mechanical life (No. operation) (x1000)				10.000			5.000
Auxiliary contact technical specifications							
Number of auxiliary contacts (standard)				2NO+2NC			
Rated thermal current	Ith	A		16			
Control for non-inductive loads	AC-1	A	220V AC	16			
Control for ohmic and static loads	AC-12	A	220V AC	8			
Max. Operating temperature				-25 to +55			
Max. Storage temperature				-40 to +65			
Relative humidity				90%			

3 Poles Power Contactor with Double Coil Connection - Coil Voltage: 230V AC

Type Code	Rated Power at 400 V (kW)	Rated Current AC-3 (A)	Rated Current AC-1 (A)	Auxiliary Contact on Body	Min. Order Quantity	Pcs in a Box	Order Code
SCG-9	4	9	20	1NO+1NC	1	42	SCG009230
SCG-12	5,5	12	25	1NO+1NC	1	42	SCG012230
SCG-18	7,5	18	40	1NO+1NC	1	42	SCG018230
SCG-25	11	25	40	1NO+1NC	1	42	SCG025230
SCG-32	15	32	50	1NO+1NC	1	24	SCG032230
SCG-40	18,5	40	60	1NO+1NC	1	24	SCG040230
SCG-50	22	50	80	1NO+1NC	1	10	SCG050230
SCG-65	30	65	100	1NO+1NC	1	10	SCG065230
SCG-80	37	80	110	1NO+1NC	1	10	SCG080230
SCG-95	45	95	135	1NO+1NC	1	10	SCG095230
SCG-100	55	100	135	1NO+1NC	1	10	SCG100230

3 Poles Power Contactor - Coil Voltage: 230V AC

Type Code	Rated Power at 400 V (kW)	Rated Current AC-3 (A)	Rated Current AC-1 (A)	Auxiliary Contact on Body	Min. Order Quantity	Pcs in a Box	Order Code
SCG 115	60	115	200	2NO+2NC	1	10	SCG115230
SCG 150	75	150	200	2NO+2NC	1	3	SCG150230
SCG 185	90	185	275	2NO+2NC	1	1	SCG185230
SCG 225	110	225	315	2NO+2NC	1	1	SCG225230
SCG 265	132	265	350	2NO+2NC	1	1	SCG265230
SCG 330	160	330	400	2NO+2NC	1	1	SCG330230
SCG 400	200	400	500	2NO+2NC	1	1	SCG400230
SCG 500	250	500	700	2NO+2NC	1	1	SCG500230
SCG 630	335	630	1000	2NO+2NC	1	1	SCG630230
SCG 800	400	800	1200	2NO+2NC	1	1	SCG800230

3 Poles Power Contactors - Coil Voltage: 100-240V AC / 100-220V DC (Common Coil)

Type Code	Rated Power at 400 V (kW)	Rated Current AC-3 (A)	Rated Current AC-1 (A)	Auxiliary Contact on Body	Min. Order Quantity	Pcs in a Box	Order Code
SCM-100	55	100	160	2NO+2NC	1	4	SCM100ADC
SCM-125	60	125	160	2NO+2NC	1	4	SCM125ADC
SCM-150	75	150	200	2NO+2NC	1	3	SCM150ADC
SCM-180	90	180	230	2NO+2NC	1	1	SCM180ADC

3 Poles Power Contactors - Coil Voltage: 24V DC

Type Code	Rated Power at 400 V (kW)	Rated Current AC-3 (A)	Rated Current AC-1 (A)	Auxiliary Contact on Body	Min. Order Quantity	Pcs in a Box	Order Code
SDM-9	4	9	20	1NO+1NC	1	32	SDM009024
SDM-12	5,5	12	25	1NO+1NC	1	32	SDM012024
SDM-18	7,5	18	40	1NO+1NC	1	32	SDM018024
SDM-22	11	22	40	1NO+1NC	1	32	SDM022024
SDM-32	15	32	50	1NO+1NC	1	16	SDM032024
SDM-40	18,5	40	60	1NO+1NC	1	16	SDM040024

3 Poles Power Contactors - Coil Voltage: 48V DC

Type Code	Rated Power at 400 V (kW)	Rated Current AC-3 (A)	Rated Current AC-1 (A)	Auxiliary Contact on Body	Min. Order Quantity	Pcs in a Box	Order Code
SDM-9	4	9	20	1NO+1NC	1	32	SDM009048
SDM-12	5,5	12	25	1NO+1NC	1	32	SDM012048
SDM-18	7,5	18	40	1NO+1NC	1	32	SDM018048
SDM-22	11	22	40	1NO+1NC	1	32	SDM022048
SDM-32	15	32	50	1NO+1NC	1	16	SDM032048
SDM-40	18,5	40	60	1NO+1NC	1	16	SDM040048

3 Poles Power Contactors - Coil Voltage: 110V DC

NEW PRODUCT

Type Code	Rated Power at 400 V (kW)	Rated Current AC-3 (A)	Rated Current AC-1 (A)	Auxiliary Contact on Body	Min. Order Quantity	Pcs in a Box	Order Code
SDM-115	60	115	200	2NO+2NC	1	1	SDM115110
SDM-150	75	150	200	2NO+2NC	1	1	SDM150110
SDM-185	90	185	275	2NO+2NC	1	1	SDM185110
SDM-225	110	225	315	2NO+2NC	1	1	SDM225110
SDM-265	132	265	350	2NO+2NC	1	1	SDM265110
SDM-330	160	330	400	2NO+2NC	1	1	SDM330110
SDM-400	200	400	500	2NO+2NC	1	1	SDM400110
SDM-500	250	500	700	2NO+2NC	1	1	SDM500110
SDM-630	335	630	1000	2NO+2NC	1	1	SDM630110
SDM-800	400	800	1200	2NO+2NC	1	1	SDM800110

Note: The last 3 digits of the order code indicate the coil voltage.
Note: In SDM type contactors; Coil options with 24V DC, 48V DC, 60V DC, 110V DC operating voltage are available.

4 Poles (4NO) Power Contactors - Coil Voltage: 230V AC

Type Code	Rated Power at 400 V (kW)	Rated Current AC-3 (A)	Rated Current AC-1 (A)	Auxiliary Contact on Body	Min. Order Quantity	Pcs in a Box	Order Code
SCF 9	4	9	20	1NO+1NC	1	33	SCF009230
SCF 12	5,5	12	25	1NO+1NC	1	33	SCF012230
SCF 18	7,5	18	40	1NO+1NC	1	33	SCF018230
SCF 22	11	22	40	1NO+1NC	1	33	SCF022230
SCF 32	15	32	50	1NO+1NC	1	24	SCF032230
SCF 40	18,5	40	60	1NO+1NC	1	24	SCF040230
SCF 50	22	50	80	1NO+1NC	1	8	SCF050230
SCF 65	30	65	100	1NO+1NC	1	8	SCF065230
SCF 75	37	75	110	1NO+1NC	1	8	SCF075230
SCF 85	45	85	110	1NO+1NC	1	8	SCF085230
SCF 115	55	115	200	2NO+2NC	1	1	SCF115230
SCF 150	75	150	200	2NO+2NC	1	1	SCF150230
SCF 185	90	180	275	2NO+2NC	1	1	SCF185230
SCF 225	110	225	315	2NO+2NC	1	1	SCF225230
SCF 265	132	265	350	2NO+2NC	1	1	SCF265230
SCF 330	160	330	400	2NO+2NC	1	2	SCF330230
SCF 400	200	400	500	2NO+2NC	1	2	SCF400230
SCF 500	250	500	700	2NO+2NC	1	2	SCF500230
SCF 630	335	630	1000	2NO+2NC	1	2	SCF630230
SCF 800	400	800	1200	2NO+2NC	1	2	SCF800230

Note: Pls kindly ask delivery time for SCF-330 and above

SCM Series, 3 Poles Power Contactors - Coil Voltage: 230V AC

NEW PRODUCT

Type Code	Rated Power at 400 V (kW)	Rated Current AC-3 (A)	Rated Current AC-1 (A)	Auxiliary Contact on Body	Min. Order Quantity	Pcs in a Box	Order Code
SCM 9	4	9	20	1NO+1NC	1	42	SCM009230
SCM 12	5,5	12	25	1NO+1NC	1	42	SCM012230
SCM 18	7,5	18	32	1NO+1NC	1	42	SCM018230
SCM 25	11	25	40	1NO+1NC	1	42	SCM025230
SCM 32	15	32	50	1NO+1NC	1	42	SCM032230
SCM 40	18,5	40	50	1NO+1NC	1	42	SCM040230

Mechanical interlock for SCM Series

NEW PRODUCT

Type Code	Compatible with	Order Code
SCMMK	SCM09-SCM25	SCMMK-01

Time Relay for SCM Series

NEW PRODUCT

Type Code	Properties	Auxiliary Contact	Compatible with	Order Code
SCMT-1S11	0-30 sec. delayed on pickup	1NO+1NC	SCM09-SCM25	SCMT-1S11

Auxiliary Contact Blocks for SCM Series

NEW PRODUCT

Type Code	Auxiliary Contact	Type of Assembly	Compatible with	Order Code
SAM-2	1NO+1NC	top	SCM09-SCM25	SAM-2S11
	2NO	top		SAM-2S20
SAM-4	2NO+2NC	top	SCM09-SCM25	SAM-4S22
	4NO	top		SAM-4S40
	4NC	top		SAM-4S04

3 Poles Reversing Contactors - Coil Voltage: 230V AC

Type Code	Rated Power at 400 V (kW)	Rated Current AC-3 (A)	Rated Current AC-1 (A)	Min. Order Quantity	Pcs in a Box	Order Code
SCR-9	4	9	20	1	10	SCR009230
SCR-12	5,5	12	25	1	10	SCR012230
SCR-18	7,5	18	40	1	10	SCR018230
SCR-25	11	25	40	1	10	SCR022230
SCR-32	15	32	50	1	10	SCR032230
SCR-40	18,5	40	60	1	10	SCR040230
SCR-50	22	50	80	1	4	SCR050230
SCR-65	30	65	100	1	4	SCR065230
SCR-80	37	80	110	1	4	SCR075230
SCR-95	45	95	135	1	4	SCR085230
SCR-100	55	100	135	1	1	SCR100230

4 Poles Reversing Contactors - Coil Voltage: 230V AC

Type Code	Rated Power at 400 V (kW)	Rated Current AC-3 (A)	Rated Current AC-1 (A)	Min. Order Quantity	Pcs in a Box	Order Code
SCT-9	4	9	20	1	10	SCT009230
SCT-12	5,5	12	25	1	10	SCT012230
SCT-18	7,5	18	40	1	10	SCT018230
SCT-22	11	22	40	1	10	SCT022230
SCT-32	15	32	50	1	10	SCT032230
SCT-40	18,5	40	60	1	10	SCT040230
SCT-50	22	50	80	1	4	SCT050230
SCT-65	30	65	100	1	4	SCT065230
SCT-75	37	75	110	1	4	SCT075230
SCT-85	45	85	110	1	4	SCT085230

Mechanical interlock

Type Code	Applicable Contactors	Order Code
SCGMK	SCG115 - SCG150 / SCF115 - SCF150	SCGMK-001
	SCG185 - SCG225 / SCF185 - SCF225	SCGMK-002
	SCG265 - SCG330 - SCG400 - SCG500 / SCF265 - SCF330 - SCF400 - SCF500	SCGMK-003
	SCG630 - SCG800 / SCF630 - SCF800	SCGMK-004

Auxiliary Contact Blocks

Type Code	Compatible with	Auxiliary Contact on Body	Type of Assembly	Order Code
SAC-1	SCG-9....SCG-100	1NO+1NC	left Side	SAC-1G11
SAC-100	SCM-100...SCM-250	1NO+1NC	left Side	SAC-1B11
SAC-2	SCG-9....SCG-100	1NO+1NC	Top	SAC-2S11
	SCG-9....SCG-100	2NO	Top	SAC-2S20
SAC-4	SCG-9....SCG-100	2NO+2NC	Top	SAC-4S22
	SCG-9....SCG-100	3NO+1NC	Top	SAC-4S31
	SCG-9....SCG-100	1NO+3NC	Top	SAC-4S13
	SCG-9....SCG-100	4NO	Top	SAC-4S40
	SCG-9....SCG-100	4NC	Top	SAC-4S04
SAC-5	SCG-115 ... SCG-630	2NO+2NC	Top	SAC-5S22

3 Poles Mini Contactors - Coil Voltage: 230V AC

Type Code	Rated Power at (kW)	Rated Current AC-3 (A)	Rated Current AC-1 (A)	Auxiliary Contact on Body	Min. Order Quantity	Pcs in a Box	Order Code
SCM-6M	2.2	6	20	1NO	1	80	SCM0610230
	2.2	6	20	1NC	1	80	SCM0601230
SCM-9M	4	9	20	1NO	1	80	SCM0910230
	4	9	20	1NC	1	80	SCM0901230
SCM-12M	5.5	12	20	1NO	1	80	SCM1210230
	5.5	12	20	1NC	1	80	SCM1201230
SCM-16M	7.5	16	20	1NO	1	80	SCM1610230
	7.5	16	20	1NC	1	80	SCM1601230

3 Poles Mini Contactors - Coil Voltage: 24V DC

Type Code	Rated Power at (kW)	Rated Current AC-3 (A)	Rated Current AC-1 (A)	Auxiliary Contact on Body	Min. Order Quantity	Pcs in a Box	Order Code
SDM-6M	2.2	6	20	1NO	1	80	SDM0610024
	2.2	6	20	1NC	1	80	SDM0601024
SDM-9M	4	6	20	1NO	1	80	SDM0910024
	4	9	20	1NC	1	80	SDM0901024
SDM-12M	5.5	12	20	1NO	1	80	SDM1210024
	5.5	12	20	1NC	1	80	SDM1201024
SDM-16M	7.5	16	20	1NO	1	80	SDM1610024
	7.5	16	20	1NC	1	80	SDM1601024

Auxiliary Contact Blocks for Mini Contactors

Type Code	Auxiliary Contact on Body	Type of Assembly	Order Code
SAC-4M	2NO+2NC	Top	SAC-4M22
	3NO+1NC	Top	SAC-4M31
	4NO	Top	SAC-4M40
	4NC	Top	SAC-4M04

Modular Contactors - 230V AC

Type Code	Rated Current (A)	Number of poles	Contact Structure	Coil Voltage	Order Code
SMC-2025	25	2	1NO+1NC	230V AC	SMC-2025-1NO+1NC
	25	2	2 NO	230V AC	SMC-2025-2NO
SMC-2063	63	2	2 NO	230V AC	SMC-2063-2NO
SMC-4025	25	4	2NO+2NC	230V AC	SMC-4025-2NO+2NC
	25	4	4 NO	230V AC	SMC-4025-4NO
SMC-4040	40	4	2NO+2NC	230V AC	SMC-4040-2NO+2NC
SMC-4063	63	4	2NO+2NC	230V AC	SMC-4063-2NO+2NC
	63	4	4 NO	230V AC	SMC-4063-4NO
SMC-4100	100	4	4 NO	230V AC	SMC-4100-4NO

Modular Contactors - 230V AC/DC Common Coil

Type Code	Rated Current (A)	Number of poles	Contact Structure	Coil Voltage	Order Code
SMC-2025	25	2	2 NO	230V AC/DC	SMC-2025-2NO/ACDC230
SMC-2063	63	2	2 NO	230V AC/DC	SMC-2063-2NO/ACDC230
SMC-4025	25	4	4 NO	230V AC/DC	SMC-4025-4NO/ACDC230
SMC-4063	63	4	4 NO	230V AC/DC	SMC-4063-4NO/ACDC230

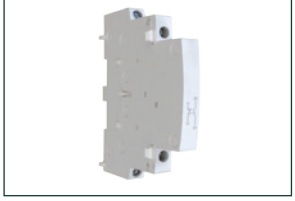
Note: Please contact our sales department for modular contactors with different coil supply and contact structure.

Modular Contactors - 24V AC/DC Common Coil

Type Code	Rated Current (A)	Number of poles	Contact Structure	Coil Voltage	Order Code
SMC-2025	25	2	2 NO	24V AC/DC	SMC-2025-2NO/ACDC24
SMC-2063	63	2	2 NO	24V AC/DC	SMC-2063-2NO/ACDC24
SMC-4025	25	4	4 NO	24V AC/DC	SMC-4025-4NO/ACDC24
SMC-4063	63	4	4 NO	24V AC/DC	SMC-4063-4NO/ACDC24

Note: Please contact our sales department for modular contactors with different coil supply and contact structure.

Auxiliary Contact for Modular Contactor



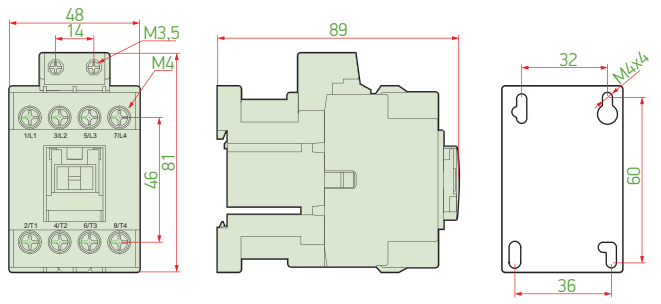
Type Code	Contact Structure	Order Code
SMC-YK	1 NO +1 NC	SMCYK

Spare Coils

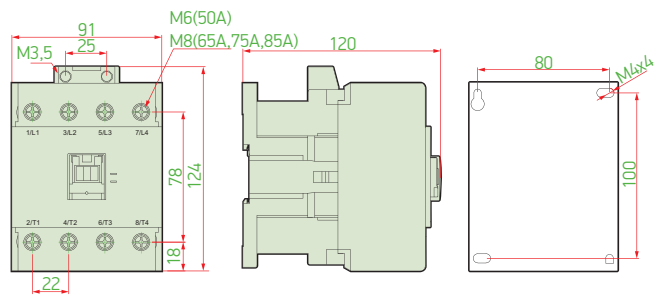
Type Code	Compatible with	Coil Voltage	Order Code
SGB-1	SCG-9....SCG-40	24V AC 50/60 Hz.	SGB1-024AC
	SCG-9....SCG-40	42V AC 50/60 Hz.	SGB1-042AC
	SCG-9....SCG-40	48V AC 50/60 Hz.	SGB1-048AC
	SCG-9....SCG-40	110V AC 50/60 Hz.	SGB1-110AC
	SCG-9....SCG-40	230V AC 50/60 Hz.	SGB1-230AC
	SCG-9....SCG-40	400V AC 50/60 Hz.	SGB1-400AC
	SCG-9....SCG-40	415V AC 50/60 Hz.	SGB1-415AC
SGB-2	SCG-50....SCG-100	24V AC 50/60 Hz.	SGB2-024AC
	SCG-50....SCG-100	42V AC 50/60 Hz.	SGB2-042AC
	SCG-50....SCG-100	48V AC 50/60 Hz.	SGB2-048AC
	SCG-50....SCG-100	110V AC 50/60 Hz.	SGB2-110AC
	SCG-50....SCG-100	230V AC 50/60 Hz.	SGB2-230AC
	SCG-50....SCG-100	400V AC 50/60 Hz.	SGB2-400AC
	SCG-50....SCG-100	415V AC 50/60 Hz.	SGB2-415AC
SGB-3	SCG 115 ... SCG 150	230V AC 50/60 Hz.	SGB3-230AC
	SCG 115 ... SCG 150	400V AC 50/60 Hz.	SGB3-400AC
	SCG 115 ... SCG 150	110V DC	SGB3-110DC
SGB-4	SCG 185 ... SCG 225	230V AC 50/60 Hz.	SGB4-230AC
	SCG 185 ... SCG 225	400V AC 50/60 Hz.	SGB4-400AC
	SCG 185 ... SCG 225	110V DC	SGB4-110DC
SGB-5	SCG 265 ... SCG 330	230V AC 50/60 Hz.	SGB5-230AC
	SCG 265 ... SCG 330	400V AC 50/60 Hz.	SGB5-400AC
	SCG 265 ... SCG 330	110V DC	SGB5-110DC
SGB-6	SCG400	230V AC 50/60 Hz.	SGB6-230AC
	SCG400	400V AC 50/60 Hz.	SGB6-400AC
	SCG400	110V DC	SGB6-110DC
SGB-7	SCG500	230V AC 50/60 Hz.	SGB7-230AC
	SCG500	400V AC 50/60 Hz.	SGB7-400AC
	SCG500	110V DC	SGB7-110DC
SGB-8	SCG 630 ... SCG 800	230V AC 50/60 Hz.	SGB8-230AC
	SCG 630 ... SCG 800	400V AC 50/60 Hz.	SGB8-400AC
	SCG 630 ... SCG 800	110V DC	SGB8-110DC
SYB-3 (full set coil)	SCM 100 ... SCM 150	100-240V AC / 100-220V DC	SYB3-0ACDC
SYB-4 (full set coil)	SCM 180 ... SCM 250	100-240V AC / 100-220V DC	SYB4-0ACDC
SYD-1	SDM-9...SDM-40	24V DC	SYD1-024DC
	SDM-9...SDM-40	48V DC	SYD1-048DC
	SDM-9...SDM-40	60V DC	SYD1-060DC
	SDM-9...SDM-40	110V DC	SYD1-110DC
SYM-1	SCM 6M ... SCM 16M	24V AC 50/60 Hz.	SYM1-024AC
	SCM 6M ... SCM 16M	42V AC 50/60 Hz.	SYM1-042AC
	SCM 6M ... SCM 16M	48V AC 50/60 Hz.	SYM1-048AC
	SCM 6M ... SCM 16M	110V AC 50/60 Hz.	SYM1-110AC
	SCM 6M ... SCM 16M	230V AC 50/60 Hz.	SYM1-230AC
SMD-1	SDM 6M ... SDM 16M	24V DC	SMD1-024DC
	SDM 6M ... SDM 16M	48V DC	SMD1-048DC
	SDM 6M ... SDM 16M	110V DC	SMD1-110DC

Dimensions

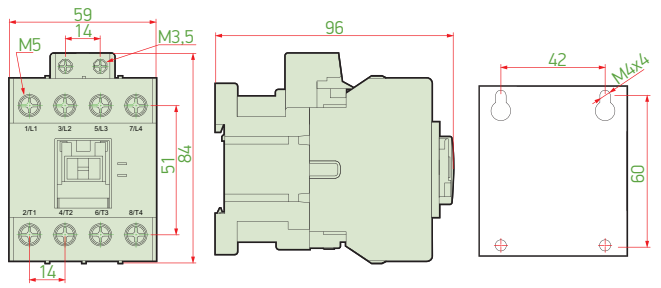
SCF 9-22



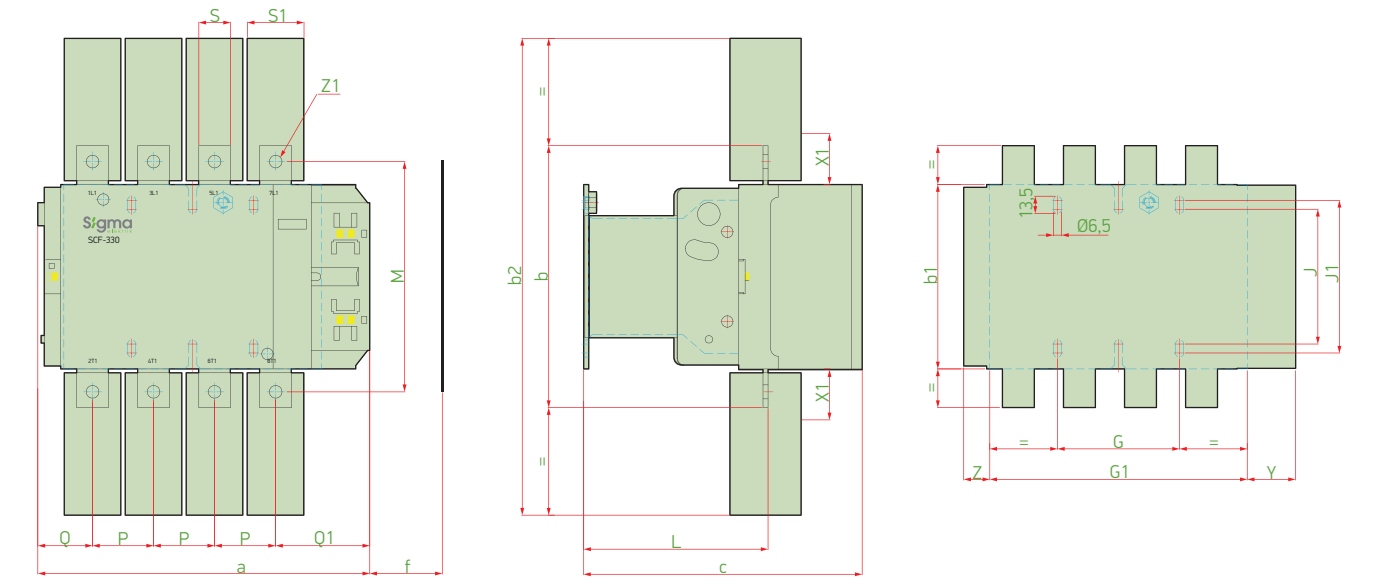
SCF 50-85



SCF 32-40

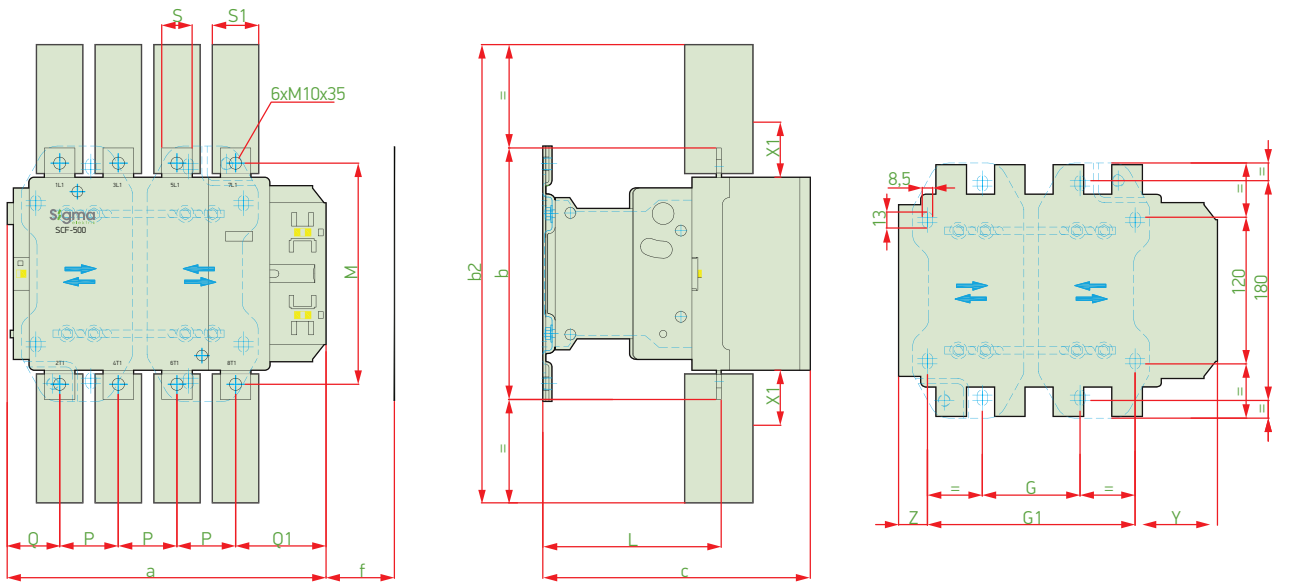


SCF 115-150-185-225-265-330



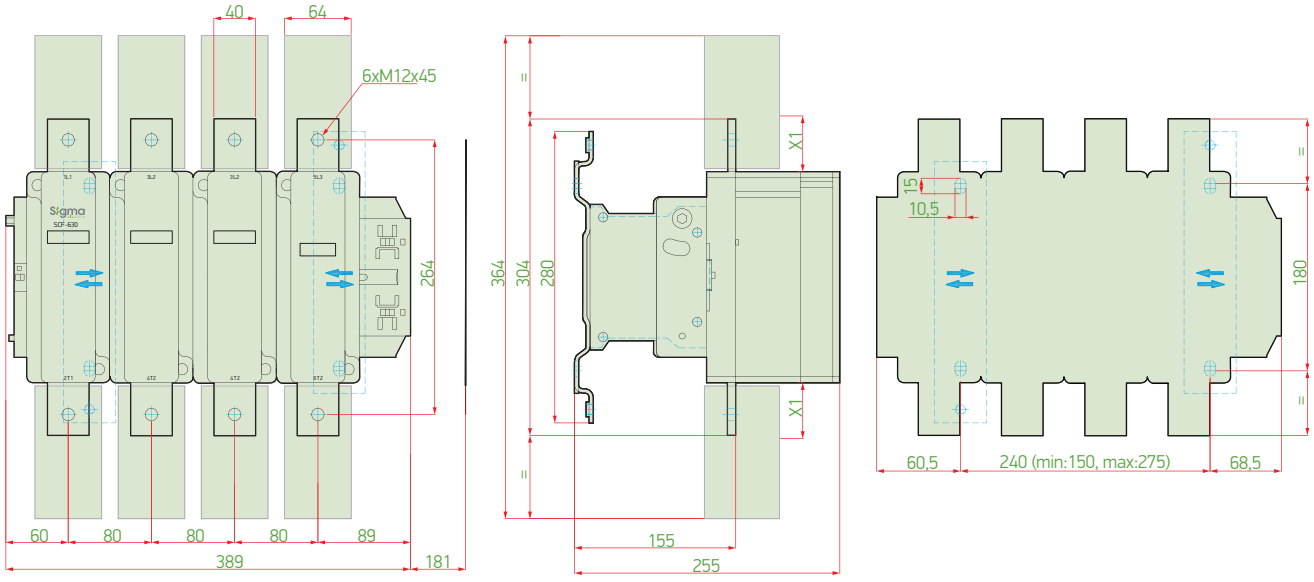
SCF	a	b	b1	b2	c	f	G	G1	J	J1	L	M	P	Q	Q1	S	S1	Y	Z	Z1
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
115 A	200,5	162	137	265	171	131	80	143	106	120	107	147	37	29,5	60	20	26	44	13,5	M6x25
150 A	200,5	170	137	301	171	131	80	143	106	120	107	150	40	26	55,5	20	34	44	13,5	M8x25
185 A	208,5	174	137	305	181	130	80	151	106	120	113,5	154	40	29	59,5	20	34	44	13,5	M8x25
225 A	208,5	197	137	364	181	130	80	151	106	120	113,5	172	48	17	47,5	25	44,,5	44	13,5	M10x25
265 A	244,5	203	145	375	213	147	96	190	106	120	141	178	48	34	66,5	25	44,5	38	21,5	M10x25
330 A	261	206	145	375	219	147	96	202,5	106	120	145	181	48	43	74	25	44,5	38	20,5	M10x25

SCF 400 - SCF 500

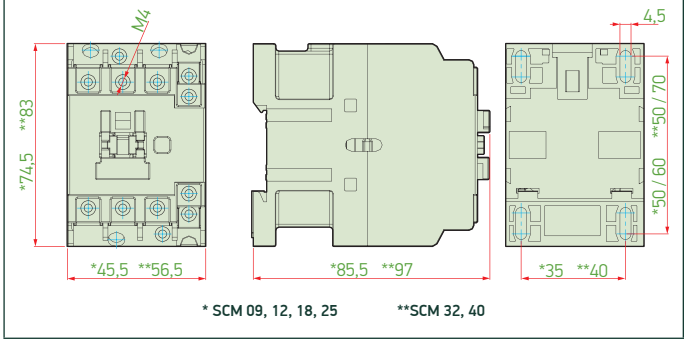


SCF	a	b	b2	c	f	G	Gmin	Gmax	G1	G1min	G1max	L	M	P	Q	Q1	S	S1	Y	Z
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
400 A	261	206	375	219	119	80	66	150	170	156	240	145	181	48	43	74	25	44,5	67,5	23,5
500 A	288	238	400	232	141	140	66	175	230	156	265	146	208	55	46	77	30	44,5	34,5	23,5

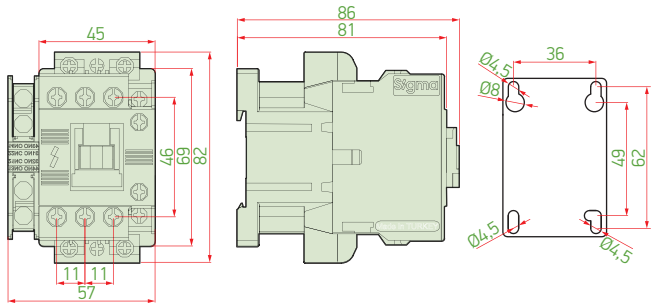
SCF 630 - SCF 800



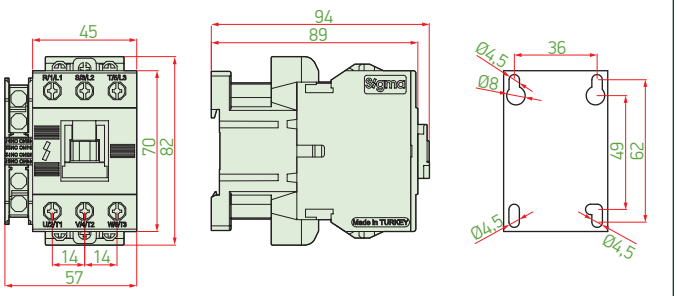
SCM 9-40



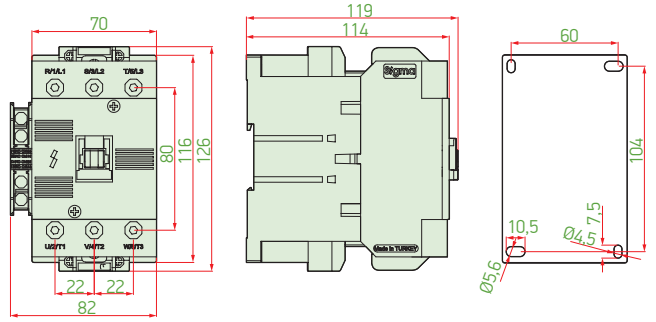
SCG 9-25



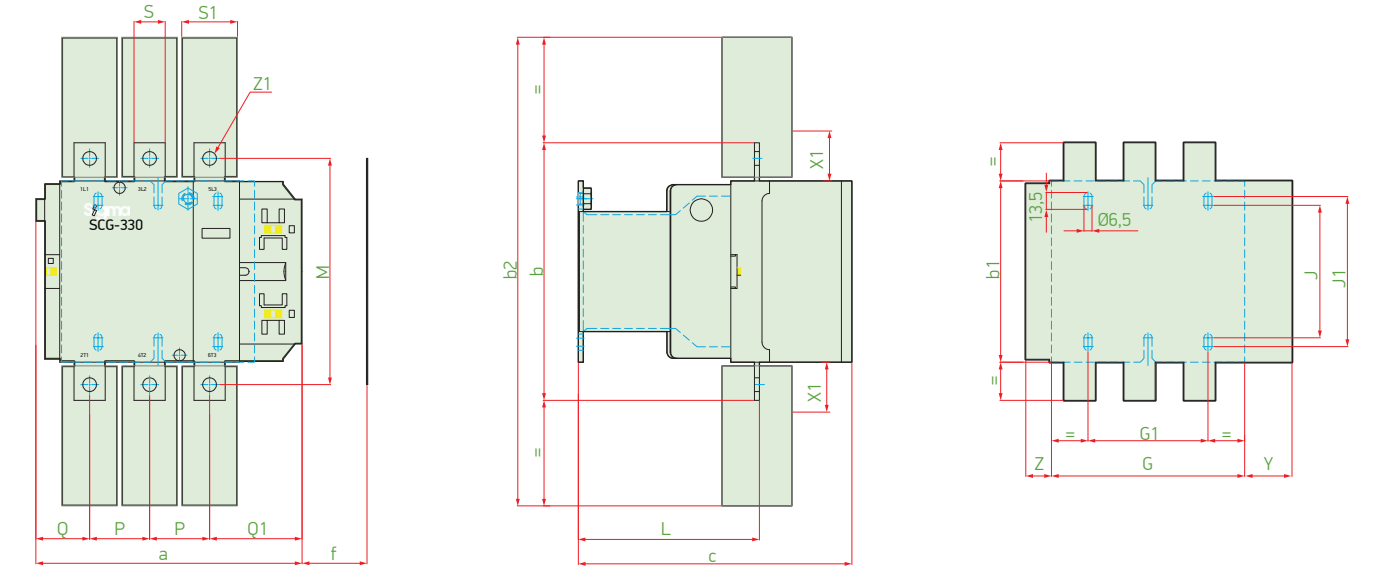
SCG 32-40



SCG 50-100

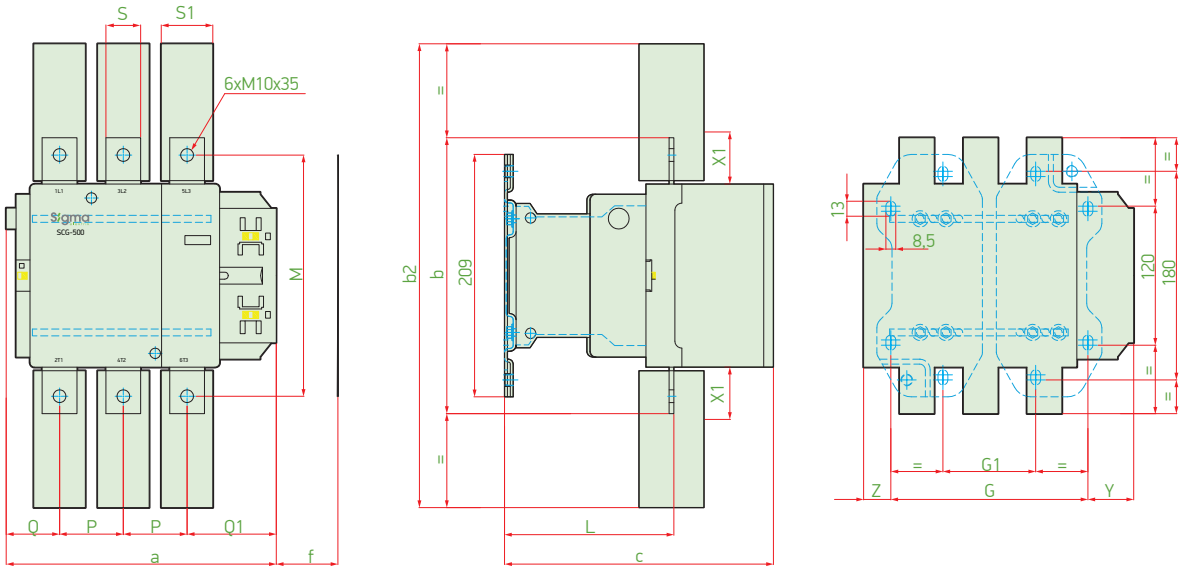


SCG 115-330



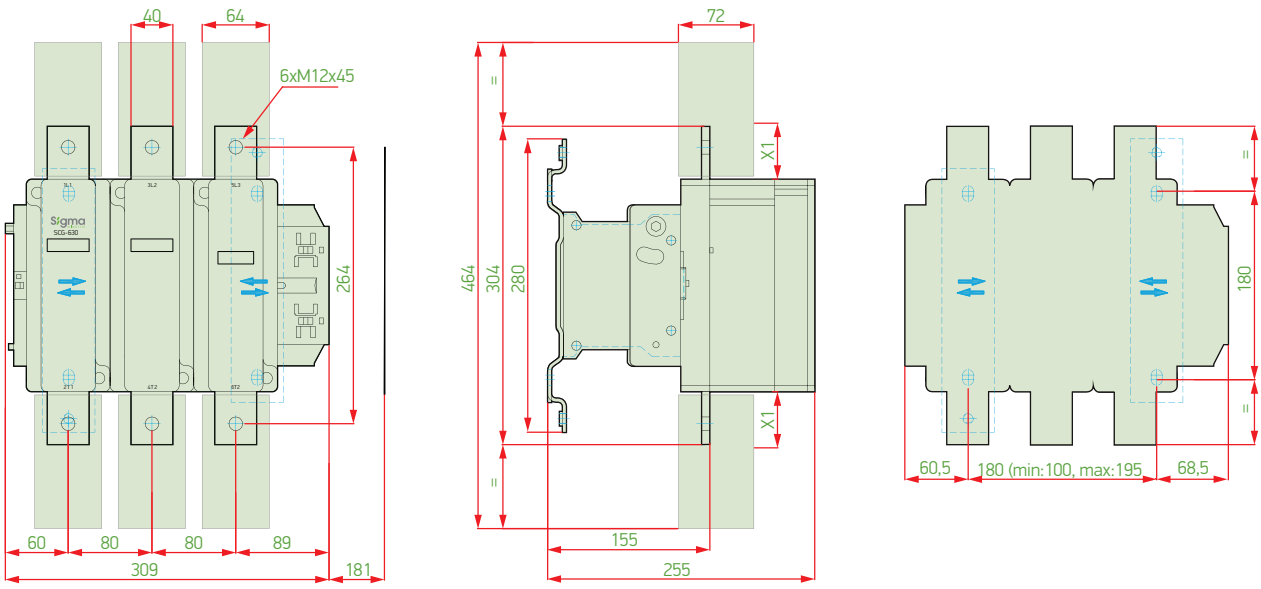
SCG	a	b	b1	b2	c	f	G	G1	j	j1	L	M	P	Q	Q1	S	S1	Y	Z	Z1
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
115A	163,5	162	137	265	171	131	106	80	106	120	107	147	37	29,5	60	20	26	44	13,5	M6x25
150A	163,5	170	137	301	171	131	106	80	106	120	107	150	40	26	57,5	20	34	44	13,5	M8x25
185A	168,5	174	137	305	181	130	111	80	106	120	113,5	154	40	29	59,5	20	34	44	13,5	M8x25
225A	168,5	197	137	364	181	130	111	80	106	120	113,5	172	48	21	51,5	25	44,5	44	13,5	M10x35
265A	201,5	203	145	375	213	147	142	96	106	120	141	178	48	39	66,5	25	44,5	38	21,5	M10x35
330A	213	206	145	375	219	147	154,5	96	106	120	145	181	48	43	74	25	44,5	38	20,5	M10x35

SCG 400-500

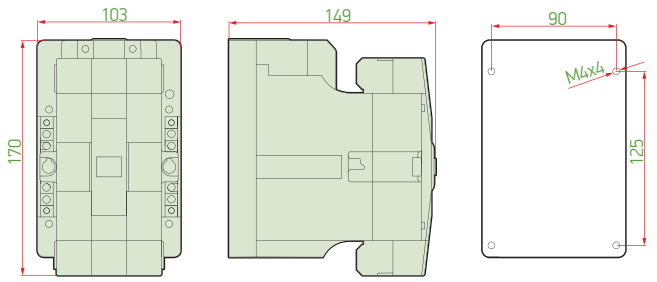


SCG	a	b	b2	c	f	G	Gmin.	Gmax.	G1	G1 min.	G1 max.	L	M	P	Q	Q1	S	S1	Y	Z
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
400A	213	206	375	219	119	170	156	192	80	66	102	145	181	48	43	74	25	44,5	19,5	23,5
500A	233	238	400	232	141	170	156	210	80	66	120	146	208	55	46	77	30	44,5	39,5	23,5

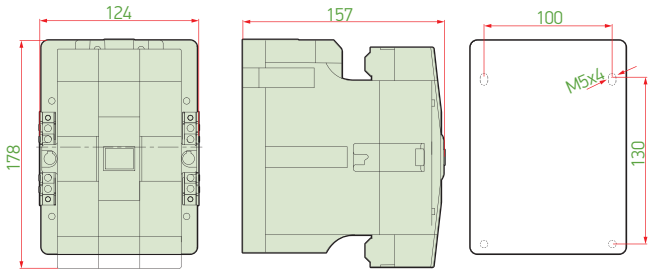
SCG 630-800



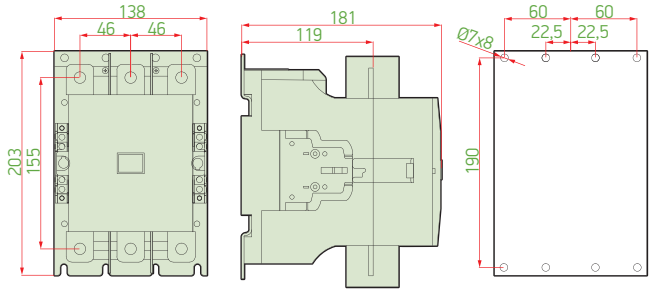
SCM 100-125



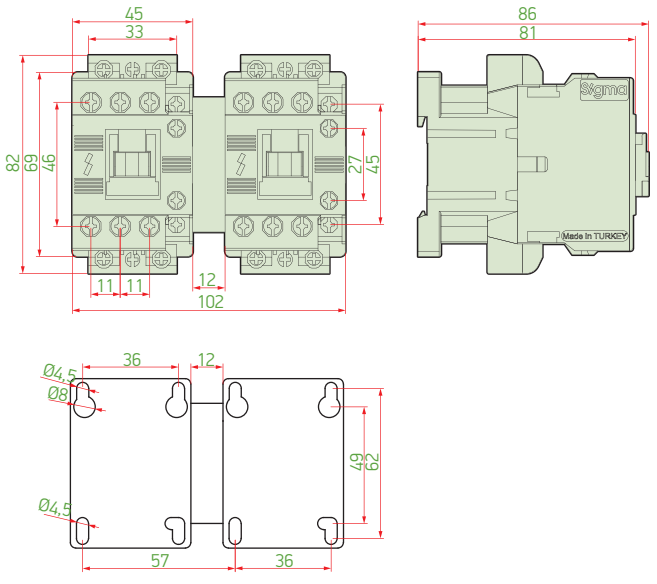
SCM 150



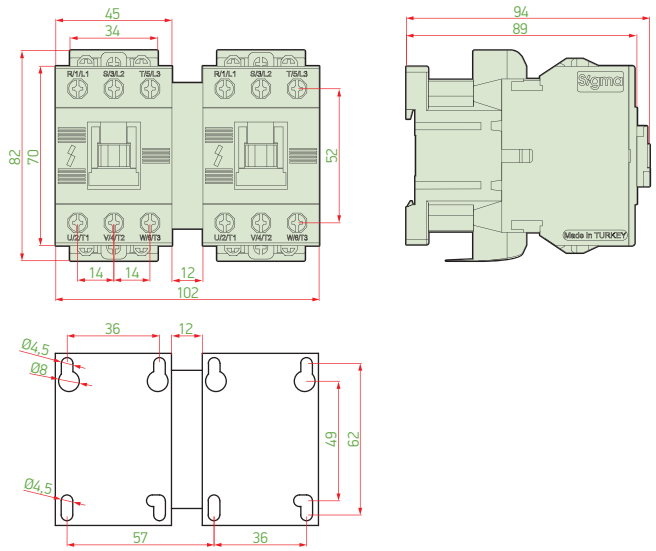
SCM 180-250



SCR 9-25



SCR 32-40



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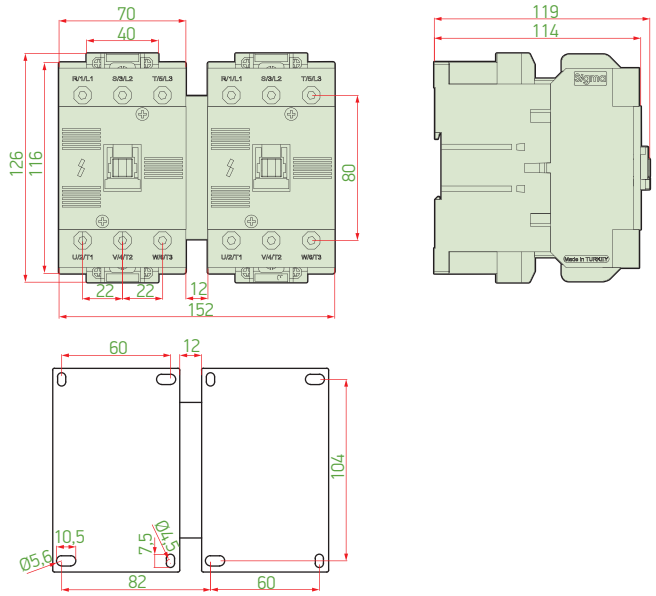
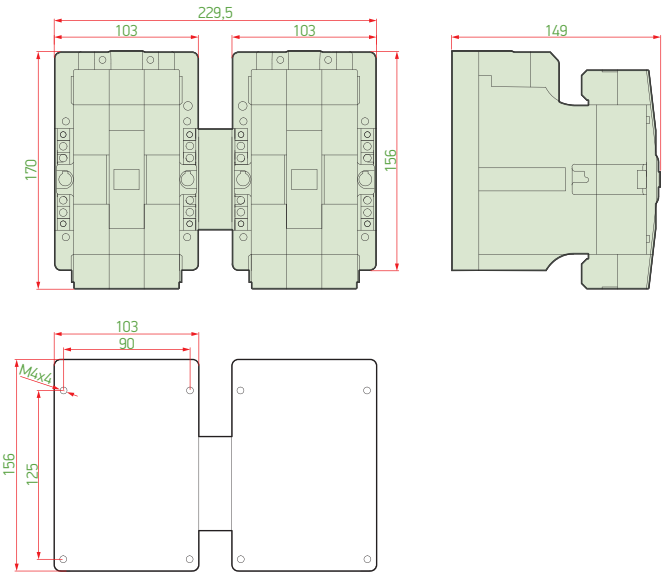
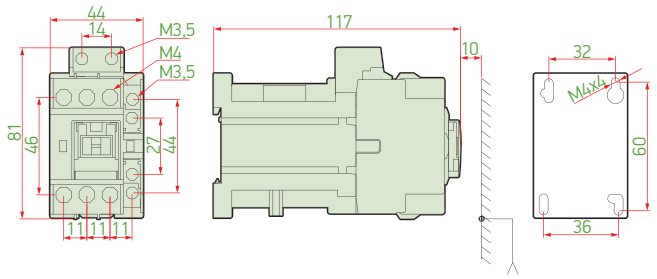


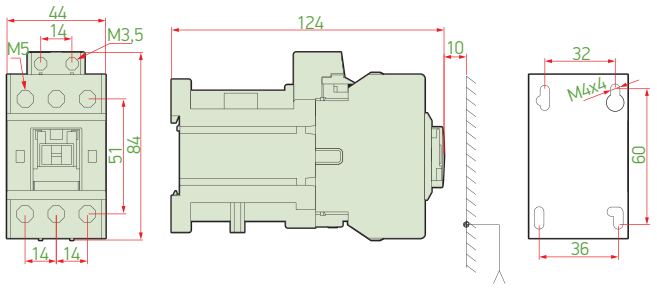
SCR 100



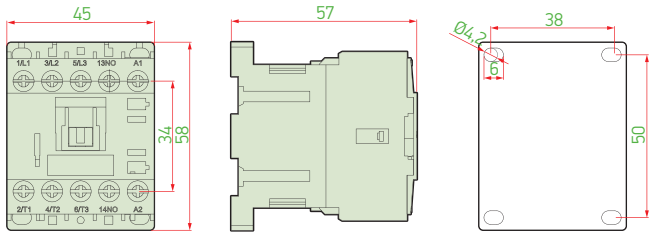
SDM 9-22



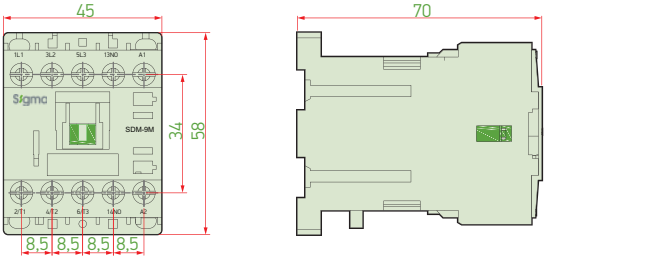
SDM 32-40



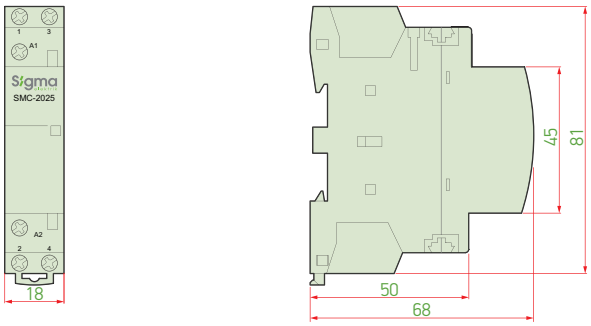
SCM 16M



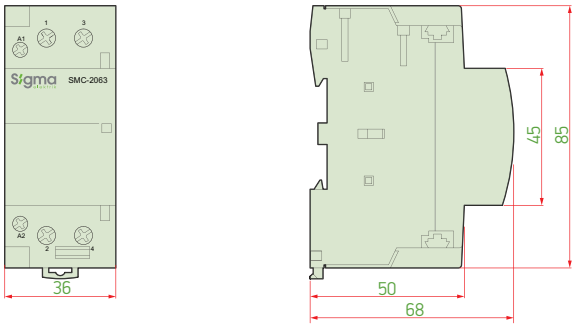
SDM 16M



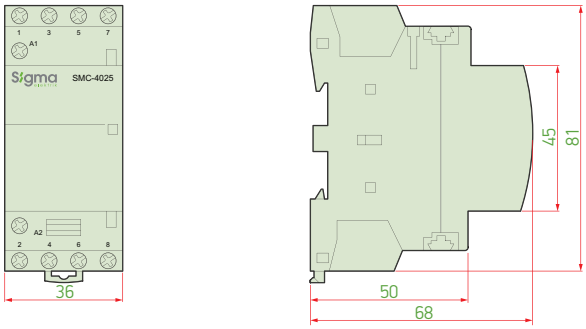
SMC-2025



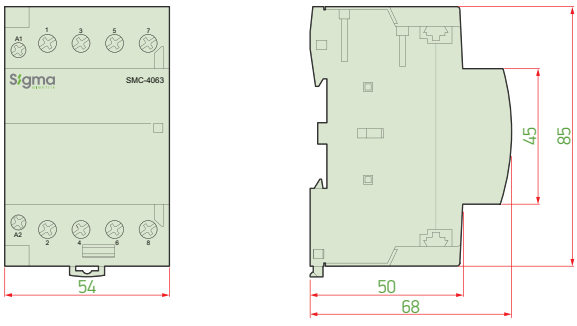
SMC-2063



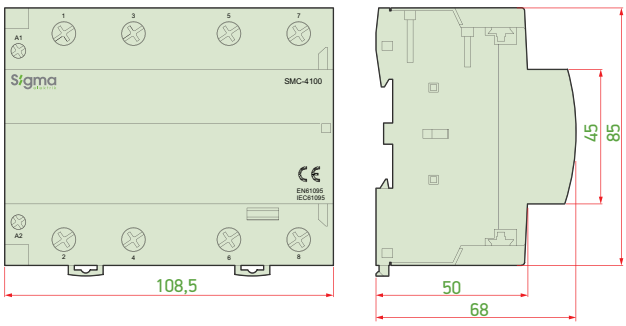
SMC-4025



SMC-4063



SMC-4100



Thermal Overload Relays

NEW PRODUCT

NEW PRODUCT

NEW PRODUCT

Type Code	Rated Current In (A)	Rated Current Range (A)	Type of Contactors	Min. Order Quantity	Pcs in a Box	Order Code
STRP-22	0.16	0.1-0.16	SCG 9 ... SCG 25	1	54	STRP22-016
	0.25	0.16-0.25	SCG 9 ... SCG 25	1	54	STRP22-025
	0.40	0.25-0.40	SCG 9 ... SCG 25	1	54	STRP22-040
	0.63	0.40-0.63	SCG 9 ... SCG 25	1	54	STRP22-063
	1	0.63-1	SCG 9 ... SCG 25	1	54	STRP22-1
	1.6	1-1.6	SCG 9 ... SCG 25	1	54	STRP22-1.6
	2.5	1.6-2.5	SCG 9 ... SCG 25	1	54	STRP22-2.5
	4	2.5-4	SCG 9 ... SCG 25	1	54	STRP22-4
	6	4-6	SCG 9 ... SCG 25	1	54	STRP22-6
	8	5-8	SCG 9 ... SCG 25	1	54	STRP22-8
	10	7-10	SCG 12 ... SCG 25	1	54	STRP22-10
	13	9-13	SCG 18 ... SCG 25	1	54	STRP22-13
	18	12-18	SCG 18 ... SCG 25	1	54	STRP22-18
	22	16-22	SCG 25	1	54	STRP22-22
STRP-40	26	18-26	SCG 32 ... SCG 40	1	36	STRP40-26
	36	24-36	SCG 40	1	36	STRP40-36
	40	28-40	SCG 40	1	36	STRP40-40
STRP-85	50	34-50	SCG 50 ... SCG 100	1	24	STRP85-50
	65	45-65	SCG 65 ... SCG 100	1	24	STRP85-65
	75	54-75	SCG 80 ... SCG 100	1	24	STRP85-75
	85	63-85	SCG 95 ... SCG 100	1	24	STRP85-85
STRP-100	100	65-100	SCM 100 ... SCM 125	1	1	STRP100-100
	125	85-125	SCM 100 ... SCM 125	1	1	STRP100-125
STRP-150	150	100-150	SCM 150	1	1	STRP150-150
STRP-220	180	120-180	SCM 250	1	2	STRP220-180
	240	160-240	SCM 250	1	2	STRP220-240
STRP-150G	150	90-150	SCG 115-SCG 150	1		STRP150-150G
STRP-220G	220	132-220	SCG 185-SCG 225	1		STRP225-220G
STRP-330G	330	200-330	SCG 265-SCG 330	1		STRP330-330G
STRP-500G	500	300-500	SCG 400-SCG 500	1		STRP500-500G
STRP-630G	630	380-630	SCG 630	1		STRP630-630G
STRK-25	0.16	0.1-0.16	SCM 09 - SCM 25	1	54	STRK25-016
	0,25	0.16-0.25	SCM 09 - SCM 25	1	54	STRK25-025
	0,4	0.25-0.40	SCM 09 - SCM 25	1	54	STRK25-040
	0,63	0.4-0.63	SCM 09 - SCM 25	1	54	STRK25-063
	1	0.63-1	SCM 09 - SCM 25	1	54	STRK25-1
	1.6	1-1.6	SCM 09 - SCM 25	1	54	STRK25-1.6
	2.5	1.6-2.5	SCM 09 - SCM 25	1	54	STRK25-2.5
	4	2.5-4	SCM 09 - SCM 25	1	54	STRK25-4
	6	4-6	SCM 09 - SCM 25	1	54	STRK25-6
	8	5-8	SCM 09 - SCM 25	1	54	STRK25-8
	10	7-10	SCM 09 - SCM 25	1	54	STRK25-10
	13	9-13	SCM 09 - SCM 25	1	54	STRK25-13
	18	12-18	SCM 09 - SCM 25	1	54	STRK25-18
	25	17-25	SCM 09 - SCM 25	1	54	STRK25-25
STRK-40	32	23-32	SCM 32 - SCM 40	1	36	STRK40-32
	40	30-40	SCM 32 - SCM 40	1	36	STRK40-40

Electronic Thermal Relay with Delay Adjustable

NEW PRODUCT

Type Code	Rated Current Range (A)	Tripping Time Range	Type of Contactors	Order Code
SERP-25	3-25A	0,2-10 s	SCG 9 ... SCG 25	SERP-25
SERP-40	5-40A	0,2-10 s	SCG 32 ... SCG 40	SERP-40

DIN RAIL Mounting Part for Thermal Overload Relays

Type Code	Compatible with	Order Code
SDR-22	STRP-22	SDR-22
SDR-40	STRP-40	SDR-40
SDR-85	STRP-85	SDR-85

Thermal Overload Relays for Mini Contactors

Type Code	Rated Current In (A)	Rated Current Range (A)	Min. Order Quantity	Pcs in a Box	Order Code
STRM-16	0.16	0.1-0.16	1	80	STRM16-0.16
	0.25	0.16-0.25	1	80	STRM16-0.25
	0.40	0.25-0.40	1	80	STRM16-0.40
	0.63	0.40-0.63	1	80	STRM16-0.63
	1	0.63-1	1	80	STRM16-1
	1.6	1-1.6	1	80	STRM16-1.6
	2.5	1.6-2.5	1	80	STRM16-2.5
	4	2.5-4	1	80	STRM16-4
	6	4-6	1	80	STRM16-6
	9	6-9	1	80	STRM16-9
	13	9-13	1	80	STRM16-13
	16	12-16	1	80	STRM16-16

DIN RAIL Mounting Part for Mini-Thermal Overload Relay

Type Code	Compatible with	Order Code
SDR-16	STRM-16	SDR-16

Utilization Categories According to IEC/EN 60947-4-1

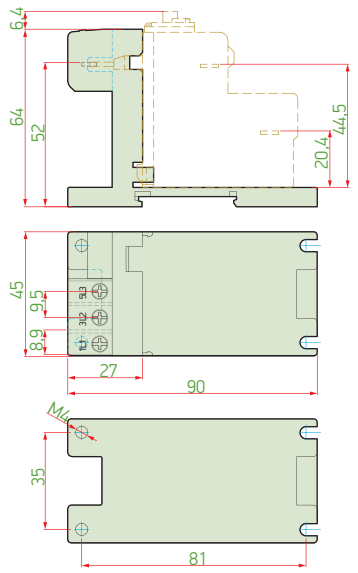
Utilization Category	Typical Use
AC-1	Non-Inductive or Slighly Inductive loads (heating systems, resistance furnace e.g..)
AC-2	Driving and/or stopping slip-ring motors. (Lifting and metallurgy applications, wire drawing machines e.g..)
AC-3	Driving Squirrel Cage asynchronous motors, motor stop in operation (Compressors, pomps, fans, valves, elevators, conveyors, air conditioner. e.g..)
AC-4	Stepping Drive Squirrel Cage asynchronous motors, reversing operation, (Printing press machines, wire drawing machines, stepping operation looms)
AC-5a	Switching of electrical discharge lamps (high or lower pressure sodium vapor lamps, mercury discharge lamps)
AC-5b	Switching of Incandescent lamps
AC-6a	Switching of Transformatores
AC-6b	Switching of Capacitor groups
AC-8a	Controlling of Hermetic type compressor's motors which equipped with Manuel-reset thermal overload relays.
AC-8b	Controlling of Hermetic type compressor's motors which equipped with Auto-reset thermal overload relays.
DC-1	Non-Inductive or lower Inductive loads
DC-3	Driving of Shunt Motors, Stepping, reversing, motor stop in operation, dynamic breaking of DC motors
DC-5	Driving of Serial Motors, Stepping, reversing, motor stop in operation, dynamic breaking of DC motors

Utilization Categories of Contactors

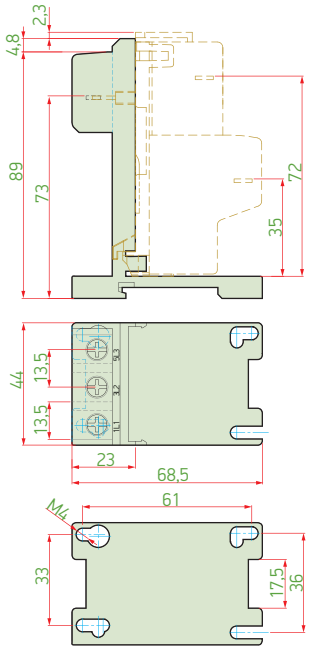
Utilization Category	Load Characteristic	Power Factor	Application Examples	Making Current (I)	Breaking Current (Ic)
AC-1	Non-Inductive loads	Cosθ=0.8	The most common example is heating system (When 3P contactors are used to control of 1P heating systems, contactor's pole should be serially connected. In case which 2 poles are serially connected, Rated Current (In) should be considered at 1,6 times of nominal current (Ie) and if 3 poles are serially connected, 2,25 times of nominal current (Ie).	Ie	Ie
AC-2	Driving Slip-Ring Motors, reversing, stepping operation	Cosθ=0.65	Lifting and metallurgy applications, wire drawing machines	2.5xIe	8xIe
AC-3	Driving Squirrel Cage asynchronous motors, motor stop in operation	Cosθ=0.45 for Ie<100 A Cosθ=0.35 for Ie>100 A	Compressors, pomps, fans, valves, elevators, conveyors, air conditioner.	6xIe	8xIe
AC-4	Driving Squirrel Cage asynchronous motors, reversing operation	Cosθ=0.45 for Ie<100 A Cosθ=0.35 for Ie>100 A	Printing press machines, wire drawing machines, stepping operation looms	6xIe	8xIe

Dimensions

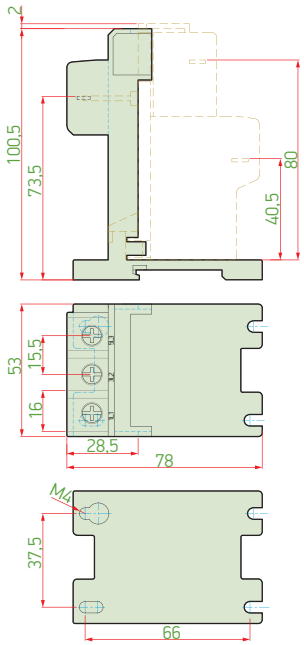
SDR-16



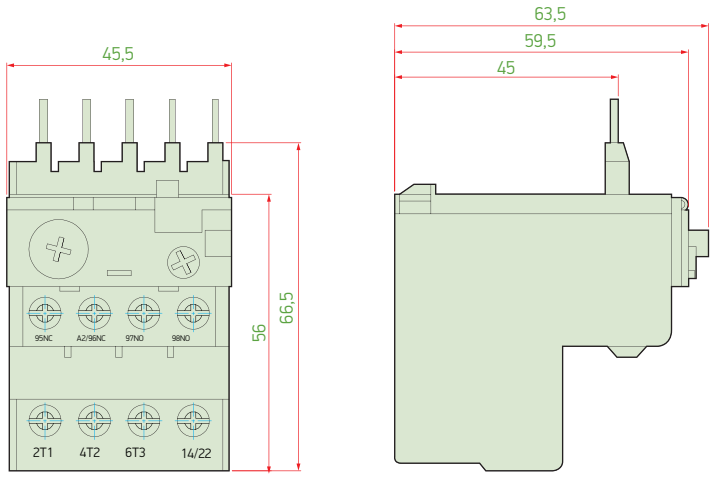
SDR-22



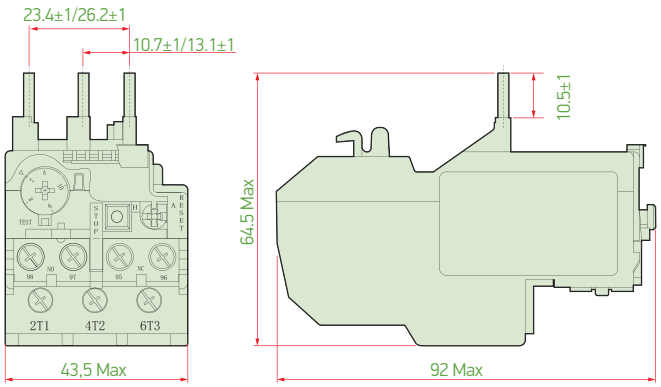
SDR-40



STRM-16



STRK-25



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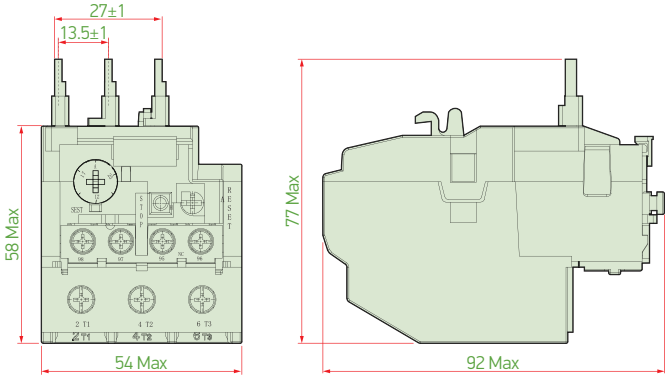
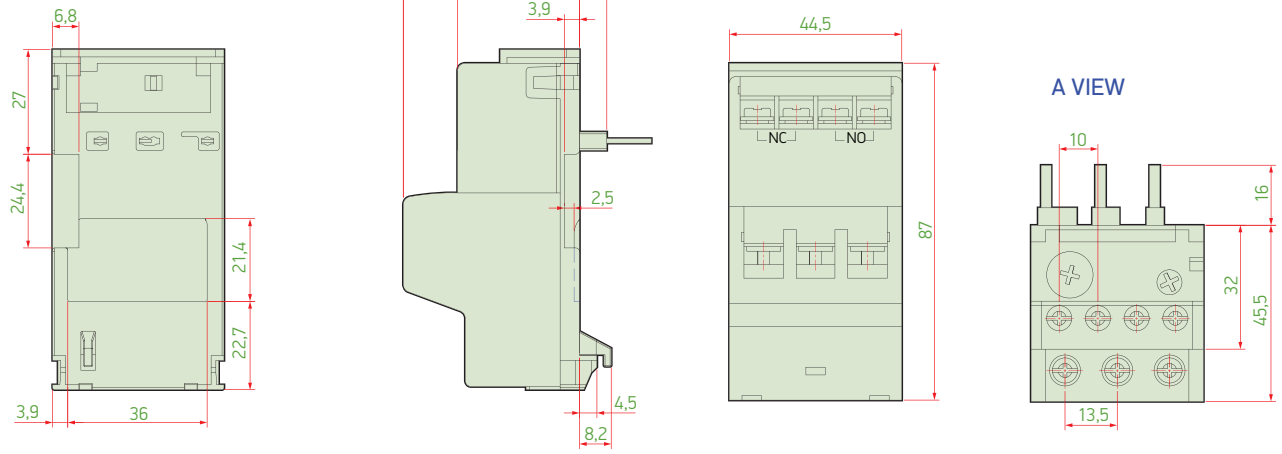
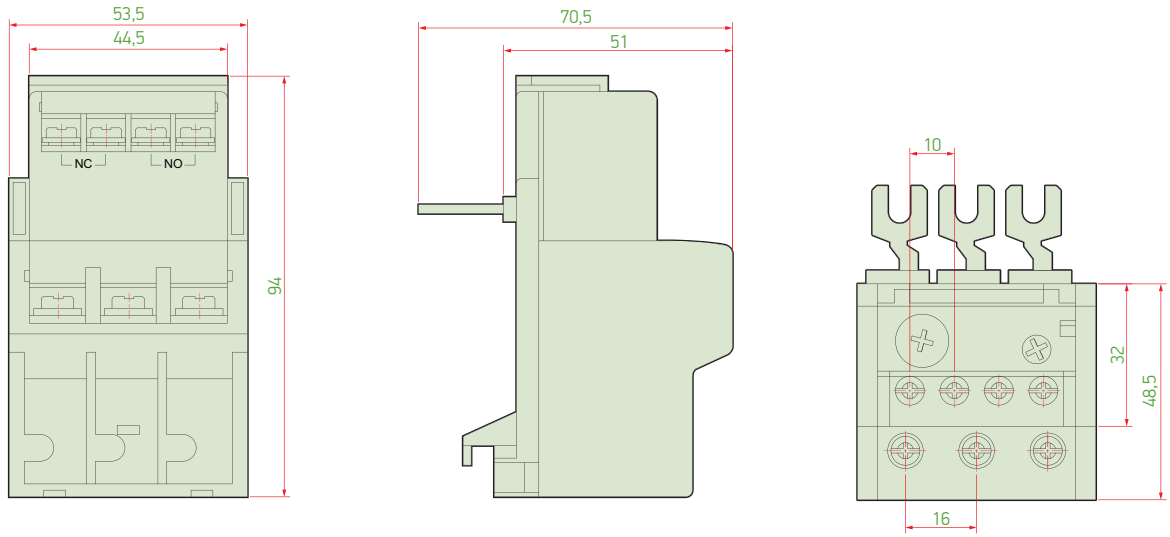


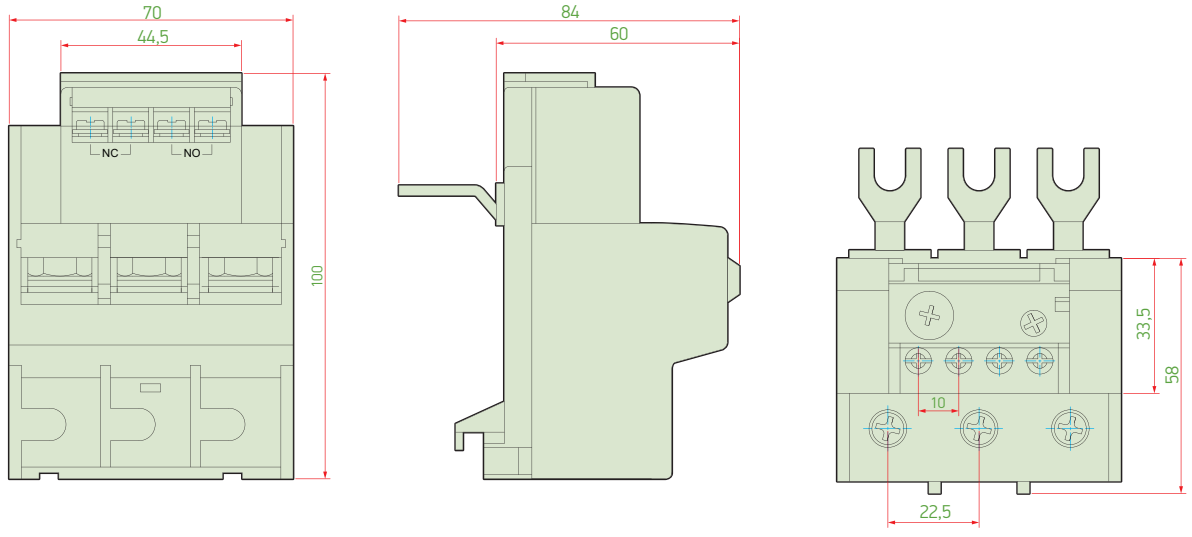
STRP 22

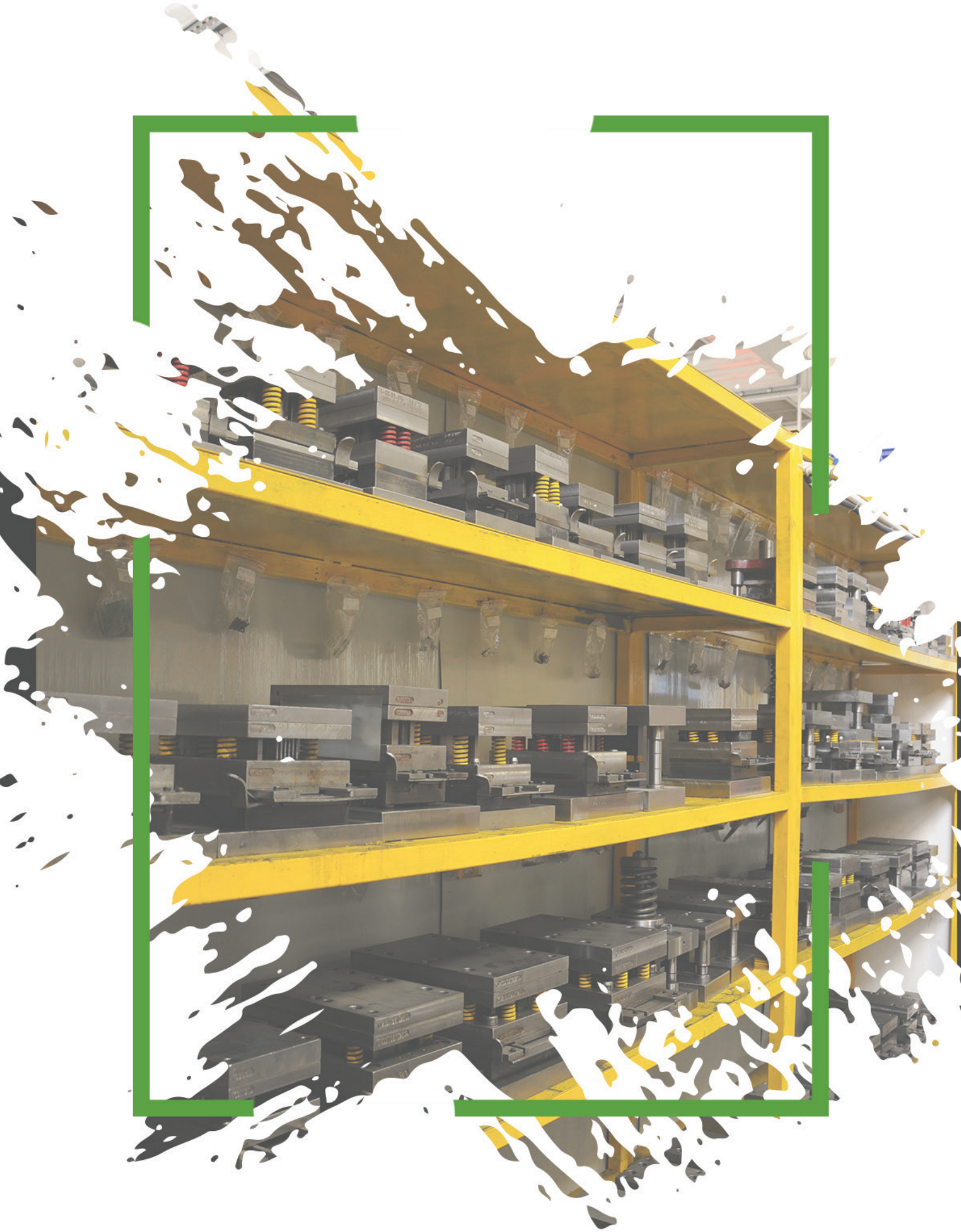


STRP 40



STRP 85





Sigma elektrik

ROTARY CAM **SWITCHES**

Package switches are mechanical switching elements that work with the effect of rotation.

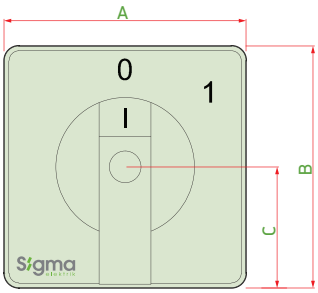
- 1 and 3 pole product options
- Continuous operating currents from 10A to 63A
- Transmitting the electrical energy needed by the motor in star-delta and direct starting circuits
- Sending current to the engine during the operation of engine control circuits
- Acting as a measurement switch in measurement circuits
- Controlling double-speed engines
- Determining the direction of energy in control circuits

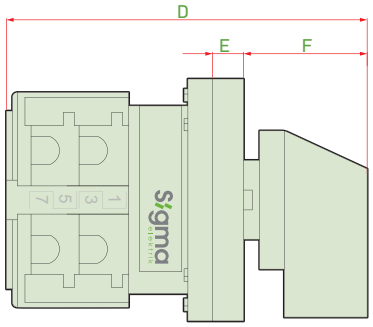
0 -1 On - Off Cam Switches

Type Code	Number of poles	Continuous Operating Current (Ith) A	Order Code
SPA1	1	10	SPA1-10
	1	16	SPA1-16
	1	20	SPA1-20
	1	25	SPA1-25
	1	32	SPA1-32
	1	63	SPA1-63
SPA3	3	10	SPA3-10
	3	16	SPA3-16
	3	20	SPA3-20
	3	25	SPA3-25
	3	32	SPA3-32
	3	63	SPA3-63

Change Over Switches (1 - 0 - 2)

Type Code	Number of poles	Continuous Operating Current (Ith) A	Order Code
SPN1	1	16	SPN1-16
	1	25	SPN1-25
	1	32	SPN1-32
	1	63	SPN1-63
SPN3	3	16	SPN3-16
	3	25	SPN3-25
	3	32	SPN3-32
	3	63	SPN3-63





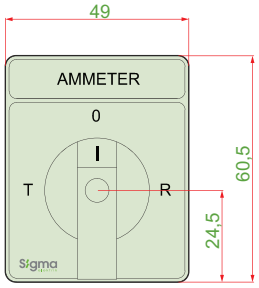
	A	B	C	D	E	F
SPA1-10 / 16 / 20	49	49	24,5	63	6,3	25
SPA1-25	49	49	24,5	66	6,3	25
SPA1-32	65	65	32,5	81	8	30
SPA1-63	65	65	32,5	90	8	30
SPN1-16	49	49	24,5	63	6,3	25
SPN1-25	49	49	24,5	66	6,3	25
SPN1-32	65	65	32,5	81	8	30
SPN1-63	65	65	32,5	90	8	30

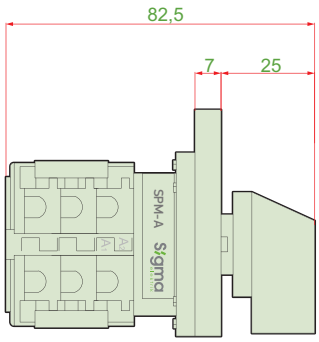
	A	B	C	D	E	F
SPA3-10 / 16 / 20	49	49	24,5	73	6,3	25
SPA3-25	49	49	24,5	80	6,3	25
SPA3-32	65	65	32,5	93,5	8	30
SPA3-63	65	65	32,5	112	8	30
SPN3-16	49	49	24,5	83	6,3	25
SPN3-25	49	49	24,5	93	6,3	25
SPN3-32	65	65	32,5	107	8	30
SPN3-63	65	65	32,5	107	8	30

Instrument Selector Switches

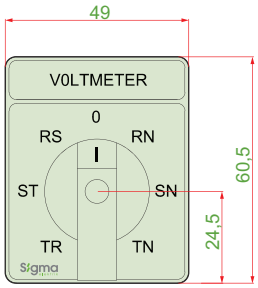
Type Code	Stages	Continuous Operating Current (Ith) A	Order Code
SPM-A	4 Stages	20	SPM-A
SPM-V	7 Stages	20	SPM-V

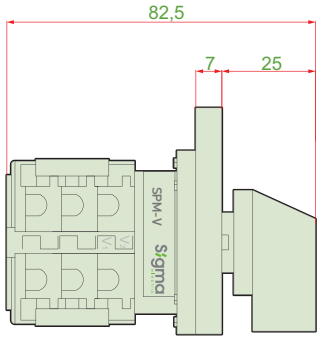
AMMETER





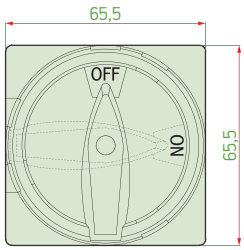
VOLTMETER

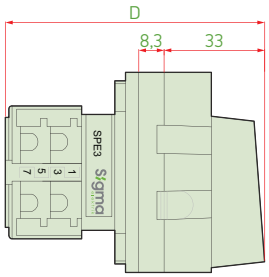




Locking Safety Switches (Red - Yellow)

Type Code	Number of poles	Continuous Operating Current (Ith) A	Pcs in a Box	Order Code
SPE3	3	20	20	SPE3-20
	3	32	20	SPE3-32
	3	63	20	SPE3-63





Order Code	D
SPE3-16	85
SPE3-20	85
SPE3-25	93
SPE3-32	98
SPE3-63	115


Sigma
ST-110
Sigma
M160
Sigma
160 A
Sigma
0
I
STOP
START

Sigma elektrik

MOTOR PROTECTION
SWITCHES

Motor protection switches are electrical control, command and protection elements designed to protect electric motors against overload current (thermal current), short circuit currents and to manually activate and deactivate the electric motor.

- 10kA, 15kA and 100kA short circuit breaking capacity
- Rated current from 0.16A to 85A
- Possibility to use padlock to fix in OFF position
- Terminals protected against finger contact
- Design compatible with accessories (auxiliary contact, low voltage coil, trip coil)

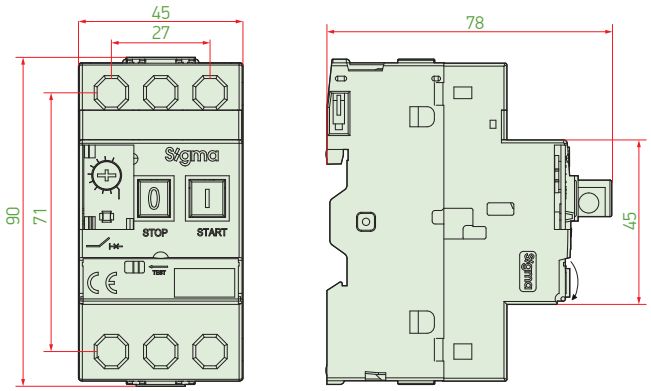
Motor Protection Switches

Type		SMK-25	SMK-80
Number of poles		3	3
Rated insulation voltage	Ui (V)	690	690
Rated impuls withstand voltage	Uimp (kV)	6	6
Electrical life (No. operation)	Op.	100.000	80.000
Mechanical life (No. operation)	Op.	100.000	100.000
Compatibility		AC-3	AC-3
Rated operating voltage	Ue (V)	690	690
Rated operating frequency	Hz	50/60	50/60
Utilization category		A	A
Contamination degree		3	3
Vibration strength		5 g (from 5 to 150 Hz)	5 g (from 5 to 150 Hz)
Maximum ambient operating temperature	°C	From -4 to +140°F (from -20 to + 60°C)	From -4 to +140°F (from -20 to + 60°C)
Maximum ambient storage temperature	°C	From -40 to +176°F (from -40 to + 80°C)	From -40 to +176°F (from -40 to + 80°C)
Relative Humidity	%	90	90
Flame resistance	°C	1760°F (960°C)	1760°F (960°C)
Tightening torque	Nm	1,2	2
Auxiliary contact		Yes	Yes
Under voltage release		Yes	Yes
Remote tripping coil		Yes	Yes
Container		Yes	Yes
Contactor combination block		Yes	Yes
Standards		TS EN 60947-4-1, 60947-2	TS EN 60947-4-1, 60947-2

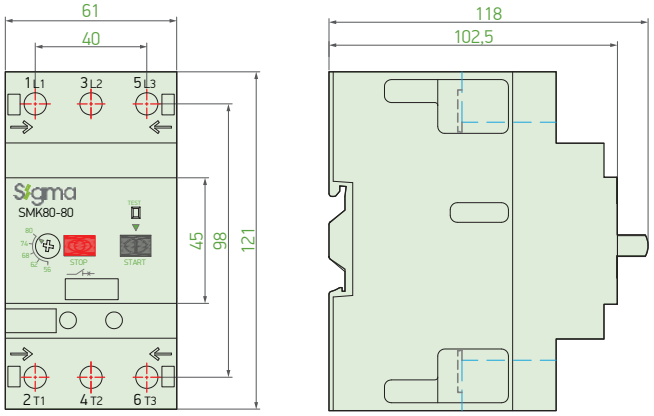
Type Code	Rated Power at 400V AC3 (kW)	Rated Current Range (A)	Rated Short Circuit Breaking Capacity at 400V Icu (kA)	Min. Order Quantity	Pcs in a Box	Order Code
SMK-25	0,02	0.1-0.16	100	1	48	SMK25-0.16
	0,06	0.16-0.25	100	1	48	SMK25-0.25
	0,09	0.25-0.4	100	1	48	SMK25-0.4
	0,12	0.4-0.63	100	1	48	SMK25-0.63
	0,25	0.63-1	100	1	48	SMK25-1
	0,37	1-1,6	100	1	48	SMK25-1.6
	0,75	1.6-2.5	100	1	48	SMK25-2.5
	1,5	2,5-4	100	1	48	SMK25-4
	2,2	4-6,3	100	1	48	SMK25-6.3
	4	6-10	100	1	48	SMK25-10
	5,5	9-14	15	1	48	SMK25-14
	7,5	13-18	15	1	48	SMK25-18
	9	17-23	15	1	48	SMK25-23
	11	20-25	15	1	48	SMK25-25
	15	24-32	10	1	48	SMK25-32
SMK-80	18,5	25-40	15	1	24	SMK80-40
	22	37-50	15	1	24	SMK80-50
	30	40-63	15	1	24	SMK80-63
	40	56-80	15	1	24	SMK80-80

Dimensions

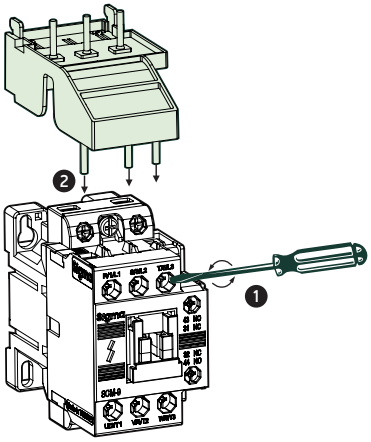
SMK-25



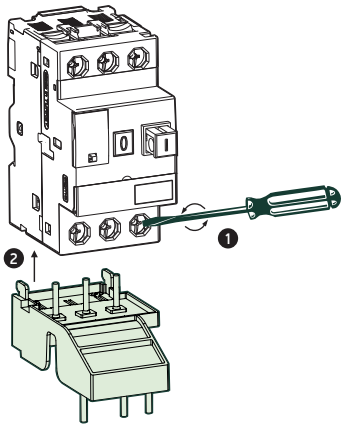
SMK-80



SMK25-A - Mounting

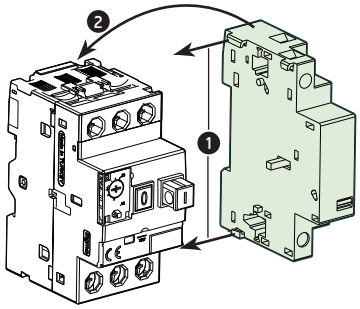


1. *Loosen the main contactor contact's screws*
2. *Mount the joint adapter to the contactor*



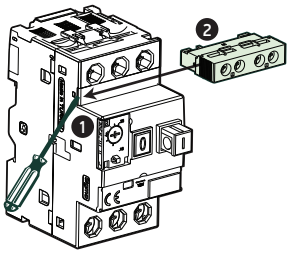
1. *Loosen motor protection switch main contact's screws*
2. *Install and mount SMK25-A's accessory combiner tab into the motor protection switch's housing, as indicated by the arrow*

SMK25-DG, SMK25-AB - Mounting



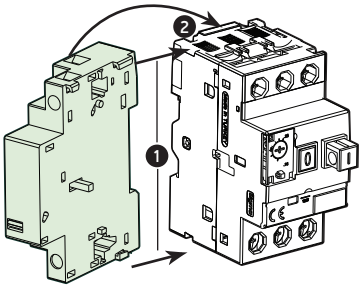
1. *Install the both SMK 25-DG and SMK25-AB auxiliary contacts tabs in the slot on the product right side as indicated by the arrow*
2. *Slide the blue locking tab into the slot and lock it, which is under the auxiliary contacts.*

SMK25-F11, SMK25-F20 - Mounting



1. *Gently push the locking tab and remove the accessory cover by pulling it upwards. As indicated by the arrow*
2. *Insert the auxiliary contact into its housing and push it into its space.*

SMK25-L11, SMK25-L20 - Mounting

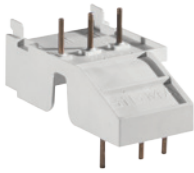


1. *At the first step: insert the securing tab into the slot on the left side of the SMK25-L11 and SMK25-L20 as indicated by the arrow.*
2. *Insert the blue locking tab into its housing and lock it*

Accessories for Motor Protection Switches

Type Code	Accessories	Order Code
SMK25-F11	Auxiliary Contact 1NO+1NC (Front Mounting)	SMK25-F11
SMK25-F20	Auxiliary Contact 2NO (Front Mounting)	SMK25-F20
SMK25-L11	Auxiliary Contact 1NO+1NC (Side Mounting)	SMK25-L11
SMK25-L20	Auxiliary Contact 2NO (Side Mounting)	SMK25-L20
SMK80-L11	Auxiliary Contact 1NO+1NC (Side Mounting)	SMK80-L11
SMK80-L20	Auxiliary Contact 2NO (Side Mounting)	SMK80-L20

Type Code	Accessories	Order Code
SMK25-DG	Under Voltage Release 380 V	SMK25-DG
SMK25-AB	Shunt Trip Release 230 V	SMK25-AB



Type Code	Accessories	Order Code
SMK25-A	Combination Block for Contactor (SCM9-40)	SMK25-A

Type Code	Accessories	Order Code
SMK25-K	Widthclosure for Motor Protection Switch	SMK25-K

Motor Starters with Widthclosure (DOL)

Type Code	Rated Motor Power (kW) 380 V	Setting Range (A)	Coil Voltage (V) AC	Pcs in a Box	Order Code
SMS009230	0.37	1-1.6	230	8	SMS090037
	0.75	1.6-2.5	230	8	SMS090075
	1.5	2.5-4	230	8	SMS090115
	2.2	4-6	230	8	SMS090220
	3	5-8	230	8	SMS090300
	4	7-10	230	8	SMS090400
SMS012230	5.5	9-13	230	8	SMS0120550
SMS018230	7.5	12-18	230	8	SMS0180750
SMS025230	11	16-22	230	8	SMS0251110
SMS032230	15	24-36	230	4	SMS0321150
SMS040230	18.5	28-40	230	4	SMS0401185
SMS050230	22	34-50	230	1	SMS0501220
SMS065230	30	45-65	230	1	SMS0651300
SMS080230	37	54-75	230	1	SMS0801370
SMS095230	45	63-85	230	1	SMS0951450

Sigma elektrik

LV CURRENT
TRANSFORMERS

Current transformers are measurement transformers used to measure the current passing through the circuit when high currents cannot be measured directly by measuring instruments.

Sigma current transformers convert primary currents from 20A to 5000A into secondary current (5A value) with a high accuracy class, while offering both space-saving and economic solutions with their very compact dimensions.

- Primary currents between 20A - 5000A
- Class 0.2 - 0.2S - 0.5S - 0.5 - 1 - 3 measurement accuracy
- High reliability thanks to the test report of each product
- Product variety including split core, mini, micro, with and without busbar, round and narrow types
- Sealable models
- Special production possibility in accordance with project demands

General Technic Specifications

Standard	IEC 60044-1/ 61869-2
Rated operational voltage (Un)	720V
Rated frequency	50/60Hz (on demand 400 Hz)
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Operating humidity	up to 95% relative humidity
Rated thermal continuous current	1.2xIn
Rated short time thermal current (Ith)	60xIn / 1 sec. - 100xIn / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power-frequency withstand voltage	3kV eff. (50 Hz) /1 min.
Thermal class of insulation	E (120 deg.C max.)
Casing	Non-flammable, self extinguishing, glass reinforced PA6
Degree of protection	IP20
Instrument security factor (Fs)	5
Secondary terminals	Brass plated nickel M5 screws
Recommended tightening torque	2 Nm (for secondary terminals)
Accuracy class	Metering; 0.2, 0.2s, 0.5, 0.5s, 1, 3 ; Protection 5P, 10P
Burden	from 1 to 30VA
Rated primary current	up to 5000A
Rated secondary current	1 or 5 A

Main Dimensions

Type	Cable Diameter (mm)	Window (mm)	Busbar (mm)	Cable Section (mm^2)	Outer Dimensions (mm) wxhxd
S25BN	—	—	—	2,5.....50	80x100x40
S30	24	31x11	30x10	35.....300	80x100x(40-60)
S30M	24	31x11	30x10	50.....300	62x80x(30-45)
S40	31	41x11	40x10	185.....400	80x100x(40-60)
S50	38	51x11	50x10	—	80x100x(40-60)
S60	46	61x21	60x20	—	107x132x45
S60D	30	61x31	60x30	—	82x134x60
S60A	30	61x31	60x30	—	102x145x40
S80	67	81x31	80x30	—	145x165x55
S100	62	101x11	100x10	—	145x165x55
S100D	70	101x73	4x(100x10)	—	128x193x61
S125	126	131x11	3x(125x10) 130x10	—	190x220x55

Round Type Current Transformers

Type Code	Primary Current (A)	Rated Power (VA)	Class (cl)	Bus Bar Dimensions (mm)	Min. Order Quantity	Pcs in a Box	Order Code
SMT30	50	1,5	3	30	3	51	SMT0300050301
	60	2,5	3	30	3	51	SMT0300060302
	75	2,5	3	30	3	51	SMT0300075302
	100	2,5	3	30	3	51	SMT0300100302
	125	2,5	3	30	3	51	SMT0300125302
	150	2,5	3	30	3	51	SMT0300150302
	200	2,5	3	30	3	51	SMT0300200302
	250	2,5	0,5	30	3	51	SMT0300250505
	300	5	0,5	30	3	51	SMT0300300505
SMT40	100	2,5	3	40	3	42	SMT0400100302
	150	2,5	3	40	3	42	SMT0400150302
	200	2,5	3	40	3	42	SMT0400200102
	400	5	0,5	40	3	42	SMT0400400505
	500	5	0,5	40	3	42	SMT0400500505
	600	5	0,5	40	3	42	SMT0400600505
SMT70	800	5	0,5	70	3	42	SMT0700800505
	1000	10	0,5	70	3	42	SMT0701000510
	1200	10	0,5	70	3	42	SMT0701200510
	1250	10	0,5	70	3	42	SMT0701250510
	1500	10	0,5	70	3	42	SMT0701500510
SMT100	800	5	0,5	100	3	42	SMT1000800505
	1000	5	0,5	100	3	42	SMT1001000505
	1250	10	0,5	100	3	42	SMT1001250510
	1600	15	0,5	100	3	42	SMT1001600515
	2000	15	0,5	100	3	42	SMT1002000515
	2500	15	0,5	100	3	42	SMT1002500515
SMT125	2000	15	0,5	125	3	42	SMT1252000515
	2500	15	0,5	125	3	42	SMT1252500515
	3000	15	0,5	125	3	42	SMT1253000515
	4000	15	0,5	125	3	42	SMT1254000515
	5000	30	0,5	125	3	42	SMT1255000530

Current Transformers cl: 0.5

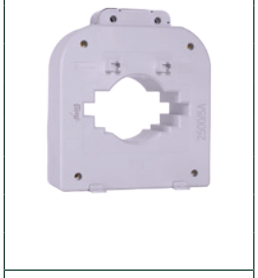
Type Code	Primary Current (A)	Rated Power (VA)	Class (cl)	Bus Bar Dimensions (mm)	Min. Order Quantity	Pcs in a Box	Order Code for Sealed Type	Order Code
S20M	40	1	1	20x10	3	51		SM2000401001
	50	1	3	20x10	3	51		SM2000501003
	50	1	1	20x10	3	51		SM2000501001
	60	1,5	1	20x10	3	51		SM2000601015
	75	1	0,5	20x10	3	51		SM2000751005
	80	2,5	1	20x10	3	51		SM2000801002
	80	1,5	0,5	20x10	3	51		SM2000800515
	100	2,5	1	20x10	3	51		SM2001001002
	100	2,5	0,5	20x10	3	51		SM2001000502
	125	2,5	1	20x10	3	51		SM2001251002
	125	2,5	0,5	20x10	3	51		SM2001250502
	150	5	1	20x10	3	51		SM2001501005
	150	2,5	0,5	20x10	3	51		SM2001500502
	150	5	0,5	20x10	3	51		SM2000150505
	200	2,5	0,5	20x10	3	51		SM2002000502
	200	5	0,5	20x10	3	51		SM2002000505
	200	10	1	20x10	3	51		SM2002001001
S20ML	40	1,5	3	20x10	3	51		SM2000401003
	40	1,5	1	20x10	3	51		SM2000401005
	50	1,5	1	20x10	3	51		SM2000501005
	60	2,5	1	20x10	3	51		SM2000601025
	75	2,5	1	20x10	3	51		SM2000751002
	100	5	1	20x10	3	51		SM2001001005
	125	5	1	20x10	3	51		SM2001251005
	150	2,5	1	20x10	3	51		SM2001501002
	200	10	0,5	20x10	3	51		SM2002005001
	250	10	0,5	20x10	3	51		SM2002505001
S30M	50	1	3	30x10	3	51		SM3000501003
	50	1	1	30x10	3	51		SM3000501001
	60	1	1	30x10	3	51		SM3000601001
	75	1,5	1	30x10	3	51		SM3000751002
	80	1,5	1	30x10	3	51		SM3000801005
	80	2,5	1	30x10	3	51		SM3000801002
	100	1,5	0,5	30x10	3	51		SM3001001505
	125	2,5	1	30x10	3	51		SM3001251002
	125	2,5	0,5	30x10	3	51		SM3001250502
	150	2,5	1	30x10	3	51		SM3001501002
	200	2,5	0,5	30x10	3	51		SM3002000502
	250	5	0,5	30x10	3	51		SM3002500505

Type Code	Primary Current (A)	Rated Power (VA)	Class (cl)	Bus Bar Dimensions (mm)	Min. Order Quantity	Pcs in a Box	Order Code for Sealed Type	Order Code
S30ML	50	1,5	1	30x10	3	51		SM3000501005
	60	1,5	1	30x10	3	51		SM3000601005
	100	2,5	1	30x10	3	51		SM3001001002
	100	2,5	0,5	30x10	3	51		SM3001005002
	150	2,5	0,5	30x10	3	51		SM3001500502
	150	5	0,5	30x10	3	51		SM3001500505
	200	5	0,5	30x10	3	51		SM3002000505
	250	10	0,5	30x10	3	51	MM3002500510	SM3002500510
	300	10	0,5	30x10	3	51	MM3003000510	SM3003000510
	400	10	0,5	30x10	3	51	MM3004000510	SM3004000510
	500	10	0,5	30x10	3	51	MM3005000510	SM3005000510
	600	10	0,5	30x10	3	51		SM3006000510

Type Code	Primary Current (A)	Rated Power (VA)	Class (cl)	Bus Bar Dimensions (mm)	Min. Order Quantity	Pcs in a Box	Order Code for Sealed Type	Order Code
S25B	20	10	0,5	with bus bar	3	30	MS2500200510	SS2500200510
	25	10	0,5	with bus bar	3	30	MS2500250510	SS2500250510
	30	10	0,5	with bus bar	3	30	MS2500300510	SS2500300510
	40	10	0,5	with bus bar	3	30	MS2500400510	SS2500400510
	50	10	0,5	with bus bar	3	30	MS2500500510	SS2500500510
	60	10	0,5	with bus bar	3	30	MS2500600510	SS2500600510
	75	10	0,5	with bus bar	3	30	MS2500750510	SS2500750510
	100	10	0,5	with bus bar	3	30	MS2501000510	SS2501000510
	125	10	0,5	with bus bar	3	30	MS2501250510	SS2501250510
	150	10	0,5	with bus bar	3	30	MS2501500510	SS2501500510
	160	10	0,5	with bus bar	3	30		SS2501600510
	200	10	0,5	with bus bar	3	30		SS2502000510

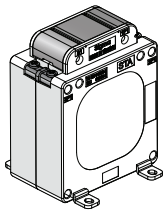
Type Code	Primary Current (A)	Rated Power (VA)	Class (cl)	Bus Bar Dimensions (mm)	Min. Order Quantity	Pcs in a Box	Order Code for Sealed Type	Order Code
S30	50	1	1	30x10	3	42		SS3000500101
	50	1,5	1	30x10	3	42		SS3000500115
	60	1,5	1	30x10	3	42		SS3000601005
	75	2,5	1	30x10	3	42		SS3000750125
	100	5	1	30x10	3	42		SS3001001005
	100	2,5	0,5	30x10	3	42		SS3001000502
	150	5	1	30x10	3	42		SS3001501005
	150	5	0,5	30x10	3	42	MS3001500505	SS3001500505
	200	5	0,5	30x10	3	42		SS3002000505
	200	10	0,5	30x10	3	42	MS3002000510	SS3002000510
	250	5	0,5	30x10	3	42		SS3002500505
	250	10	0,5	30x10	3	42		SS3002500510
	300	5	0,5	30x10	3	42		SS3003000505
	300	10	0,5	30x10	3	42		SS3003000510
	400	5	0,5	30x10	3	42		SS3004000505
	400	10	0,5	30x10	3	42		SS3004000510
	400	15	0,5	30x10	3	42		SS3004000515
	500	5	0,5	30x10	3	42		SS3005000505
	500	10	0,5	30x10	3	42		SS3005000510
	500	15	0,5	30x10	3	42		SS3005000515
	600	5	0,5	30x10	3	42		SS3006000505
	600	10	0,5	30x10	3	42		SS3006000510
	600	15	0,5	30x10	3	42		SS3006000515

Type Code	Primary Current (A)	Rated Power (VA)	Class (cl)	Bus Bar Dimensions (mm)	Min. Order Quantity	Pcs in a Box	Order Code for Sealed Type	Order Code
S30L	50	2,5	1	30x10	3	30		SS3000501002
	60	2,5	1	30x10	3	30		SS3000600125
	100	5	0,5	30x10	3	30		SS3001000505
	125	5	0,5	30x10	3	30		SS3001250505
	150	10	0,5	30x10	3	30	MS3001500510	SS3001500510
	200	15	0,5	30x10	3	30		SS3002000515
	300	15	0,5	30x10	3	30		SS3003000515
S40	200	5	0,5	40x10	3	42		SS4002000505
	250	5	0,5	40x10	3	42		SS4002500505
	250	10	0,5	40x10	3	42		SS4002500510
	300	5	0,5	40x10	3	42		SS4003000505
	300	10	0,5	40x10	3	42	MS4003000510	SS4003000510
	400	5	0,5	40x10	3	42		SS4004000505
	400	10	0,5	40 X 10	3	42	MS4004000510	SS4004000510
	500	5	0,5	40 X 10	3	42		SS4005000505
	500	10	0,5	40 X 10	3	42	MS4005000510	SS4005000510
	600	5	0,5	40x10	3	42		SS4006000505
	600	10	0,5	40 X 10	3	42	MS4006000510	SS4006000510
	750	10	0,5	40x10	3	42		SS4007500510
	750	15	0,5	40x10	3	42		SS4007500515
	800	10	0,5	40 X 10	3	42		SS4008000510
	800	15	0,5	40 X 10	3	42		SS4008000515
S40L	150	5	0,5	40x10	3	30		SS4001500505
	200	10	0,5	40x10	3	30		SS4002000510
	250	15	0,5	40x10	3	30		SS4002500515
	300	15	0,5	40x10	3	30		SS4003000515
S50	500	10	0,5	50 X 10	3	42		SS5005000510
	600	10	0,5	50 X 10	3	42		SS5006000510
	750	10	0,5	50 X 10	3	42		SS5007500510
	800	15	0,5	50 X 10	3	42		SS5008000515
	1000	15	0,5	50 X 10	3	42		SS5001000515
S60	750	15	0,5	60 X 20	3	36	MS6007500515	SS6007500515
	800	15	0,5	60 X 20	3	36	MS6008000515	SS6008000515
	1000	15	0,5	60 X 20	3	36	MS6001000515	SS6001000515
S60D (dar tip)	600	5	0,5	60x30	3	18		SD6006000505
	750	10	0,5	60x30	3	18		SD6007500510
	800	10	0,5	60x30	3	18		SD6008000510
	800	15	0,5	60x30	3	18		SD6008000515
	1000	10	0,5	60x30	3	18		SD6010000510
	1000	15	0,5	60x30	3	18		SD6010000515
	1200	15	0,5	60x30	3	18		SD6012000515
	1250	15	0,5	60x30	3	18		SD6012500515
	1500	15	0,5	60x30	3	18		SD6015000515
	1600	15	0,5	60x30	3	18		SD6016000515
	2000	15	0,5	60x30	3	18		SD6020000515
	2500	15	0,5	60x30	3	18		SD6025000515



Type Code	Primary Current (A)	Rated Power (VA)	Class (cl)	Bus Bar Dimensions (mm)	Min. Order Quantity	Pcs in a Box	Order Code for Sealed Type	Order Code
S80	750	10	0,5	80 X 30	3	18		SS8007500510
	800	10	0,5	80 X 30	3	18		SS8008000510
	1000	15	0,5	80 X 30	3	18		SS8010000515
	1200	15	0,5	80 X 30	3	18		SS8012000515
	1250	15	0,5	80 X 30	3	18		SS8012500515
	1500	15	0,5	80 X 30	3	18		SS8015000515
S100	1200	15	0,5	100x10	3	18	MS1001200515	SS1001200515
	1250	15	0,5	100x10	3	18	MS1001250515	SS1001250515
	1500	15	0,5	100x10	3	18	MS1001500515	SS1001500515
	1600	15	0,5	100x10	3	18	MS1001600515	SS1001600515
	2000	15	0,5	100x10	3	18		SS1002000515
	2000	30	0,5	100x10	3	18		SS1002000530
	2500	15	0,5	100x10	3	18		SS1002500515
	2500	30	0,5	100x10	3	18		SS1002500530
	3000	30	0,5	100x10	3	18		SS1003000530
S100D (dar tip)	800	10	0,5	4x(100x10)	3	12		SD1000800510
	1000	10	0,5	4x(100x10)	3	12		SD1001000510
	1200	15	0,5	4x(100x10)	3	12		SD1001200515
	1250	15	0,5	4x(100x10)	3	12		SD1001250515
	1600	15	0,5	4x(100x10)	3	12		SD1001600515
	2000	15	0,5	4x(100x10)	3	12		SD1002000515
	2500	15	0,5	4x(100x10)	3	12		SD1002500515
	2500	30	0,5	4x(100x10)	3	12		SD1002500530
	3000	15	0,5	4x(100x10)	3	12		SD1003000515
	3000	30	0,5	4x(100x10)	3	12		SD1003000530
	3200	15	0,5	4x(100x10)	3	12		SD1003200515
	3200	30	0,5	4x(100x10)	3	12		SD1003200530
	4000	15	0,5	4x(100x10)	3	12		SD1004000515
	4000	30	0,5	4x(100x10)	3	12		SD1004000530
S125	2000	15	0,5	3x(125x10) 130x10	3	12	MS1252000515	SS1252000515
	2500	15	0,5	3x(125x10) 130x10	3	12	MS1252500515	SS1252500515
	3000	30	0,5	3x(125x10) 130x10	3	12	MS1253000530	SS1253000530
	4000	30	0,5	3x(125x10) 130x10	3	12	MS1254000530	SS1254000530
	5000	30	0,5	3x(125x10) 130x10	3	12	MS1255000530	SS1255000530

NEW PRODUCT



Type Code	Primary Current (A)	Rated Power (VA)	Class (cl)	Bus Bar Dimensions (mm)	Min. Order Quantity	Pcs in a Box	Order Code for Sealed Type	Order Code
STA-2	5+5	10	0,5	SUMMATION	3	36		STA20510
STA-2	5+5	15	0,5	SUMMATION	3	36		STA20515
STA-3	5+5+5	10	0,5	SUMMATION	3	36		STA30510
STA-3	5+5+5	15	0,5	SUMMATION	3	36		STA30515

Split-Core Type Current Transformers

Type Code	Primary Current (A)	Rated Power (VA)	Class (cl)	Bus Bar Dimensions (mm)	Min. Order Quantity	Pcs in a Box	Order Code
S30A	200	1.5	1	2x(30x10)	3	18	SA3002001001
	250	2.5	1	2x(30x10)	3	18	SA3002501002
	300	2.5	1	2x(30x10)	3	18	SA3003001002
	400	3.75	1	2x(30x10)	3	18	SA3004001003
S60A	400	3,75	1	3x(60x10)	3	18	SA6004001003
	500	5	1	3x(60x10)	3	18	SA6005000505
	600	5	0,5	3x(60x10)	3	18	SA6006000505
	800	7,5	0,5	3x(60x10)	3	18	SA6008000507
	1000	10	0,5	3x(60x10)	3	18	SA6010000510
S120A	1200	10	0.5	4x(120x10)	3	18	SA12012000510
	1600	10	0.5	4x(120x10)	3	18	SA12016000510
	2000	15	0.5	4x(120x10)	3	18	SA12020000515
	2500	15	0.5	4x(120x10)	3	18	SA12025000515
	3000	15	0.5	4x(120x10)	3	18	SA12030000515
	4000	15	0.5	4x(120x10)	3	18	SA12040000515

Micro Type Current Transformers

Type Code	Primary Current (A)	Rated Power (VA)	Class (cl)	Bus Bar Dimensions (mm)	Min. Order Quantity	Pcs in a Box	Order Code
S20MC	60	1	1	20x10	3	51	S20MC00601000
	75	1	1	20x10	3	51	S20MC00751000
	80	1	1	20x10	3	51	S20MC00801000
	100	1.5	1	20x10	3	51	S20MC01001001
	125	1.5	1	20x10	3	51	S20MC01251001
	150	1.5	1	20x10	3	51	S20MC01501001
	200	2.5	1	20x10	3	51	S20MC02001002
	250	2.5	1	20x10	3	51	S20MC02501002
	300	3.75	1	20x10	3	51	S20MC03001003

Current Transformers for Vertical Type Fuse Switch Disconnectors

Type Code	Primary Current (A)	Rated Power (VA)	Class (cl)	Sekonder Current	Min. Order Quantity	Pcs in a Box	Order Code
SDY20	160A	2,5VA	0,5cl	1A	3	51	SDY201600502
	250A	2,5VA	0,5cl	1A	3	51	SDY202500502
	400A	2,5VA	0,5cl	1A	3	51	SDY204000502
	630A	2,5VA	0,5cl	1A	3	51	SDY206300502

Main Dimensions

Type Code	Cable Diameter (mm)	Window (mm)	Bus Bar Dimensions (mm)	Cable Section (mm²)	Primer Current (A)	Rated Power (VA)	Outer Dimensions WxHxD (mm)
S25B	____	____	____	____	20...150	2.5...30	80x100x40
S30	24	31x11	30x10	4...150	100...600	1.....30	80x100x(40-50-60)
S30M	24	31x11	30x10	4...150	150...600	1.....15	62x80x(30-45)
S40	31	41x11	40x10	4...240	300...600	2.5.....30	80x100x(40-50-60)
S50	38	51x11	50x10	4...300	500...1000	2.5.....30	80x100x(40-50-60)
S60	46	61x21	2x(60x10)	4...300	500...1000	5.....30	107x132x45
S60D	____	61x31	3x(60x10)		600...1600	5.....15	82x134x60
S80	67	81x31	3x (80x10)	4...300	500...1500	5.....30	145x165x55
S100	____	102x11	100x10		500...2500	5.....30	145x165x55
S100D	____	101x72	4x (100x10)		600...5000	10.....30	128x193x61
S125	126	131x10	4x (125x10)	4...300	2000...5000	15.....60	190x220x55

Determination of Current Transformer's Power

The below formula can be used to determine current transformer's power. The most important matter is; determined power of current transformer should not exceed from maximum load of transformer power and not less than 1/4 of rated power. Otherwise, It may cause fault measuring or create fault protection signals.

$P_S = P_A + P_K + P_T$

P_S : Total Secondary Power (VA)

P_A : Secondary rated Power (VA)

P_K : Dielectric Cable Loss (VA)

P_T : Contact Loss (considered 0.5 VA)

P_K= (Isn2x2L) / S x 56

Isn = Secondary Rated Current (A)

L = Length of the cable on secondary side (m)

S = Section of copper cable (mm²)

56 = Conductivity of Copper Cable (m/ohm x mm²)

Distance Between Current Transformer and Load (meter)	Cable Loss (P_K) According to Secondary Cable Section (VA)			
	2.5 mm²	4 mm²	6 mm²	10 mm²
1m	0.36	0.22	0.15	0.09
2m	0.71	0.45	0.3	0.18
3m	1.07	0.67	0.45	0.27
4m	1.43	0.89	0.6	0.36
5m	1.78	1.12	0.74	0.44
6m	2.14	1.34	0.89	0.54
7m	2.5	1.56	1.04	0.63
8m	2.86	1.79	1.19	0.71
9m	3.21	2.01	1.34	0.8
10m	3.57	2.24	1.49	0.89

**You can use this formula to calculate cable loss which apart from above mentioned cable length.

Power of devices connected to current transformers (PA)

Device	Power (VA)
Ammeter	0,7 1,5
Wattmeter	0,2 5,0
CosØmeter	2,0 6,0
Counters (active and reactives)	0,4 1,0
Reactive power control relays	0,5 1,0
Over current relays	0,2 6,0
Reverse current relays	1,0 2,0
Secondary Thermal Relays	7,2 9,0

Current error and Phase shifting limits (According to IEC 60044-1, IEC 385 class 0.1-0.2-0.5-1)

Accuracy Class	Current (proportion) error ± percentage for the rated currents given below				± Phase shifting for rated current percentages given below							
					Minutes				Centi-radians			
	%5	%20	%100	%120	%5	%20	%100	%120	%5	%20	%100	%120
0,1	0,4	0,2	0,1	0,1	15	5	5	5	0,45	0,24	0,15	0,15
0,2	0,75	0,35	0,2	0,2	30	10	10	10	0,9	0,45	0,3	0,3
0,5	1,5	0,75	0,5	0,5	90	30	30	30	2,7	1,35	0,9	0,9
1,0	3,0	1,5	1,0	1,0	180	90	60	60	5,4	2,7	1,8	1,8

When current fault and phase shift at rated frequency varies between 1/1 and 1/4 of the secondary load, rated load, the values in the table should not be exceeded.

S25B Series Bar Type Current Transformer

Product Identification

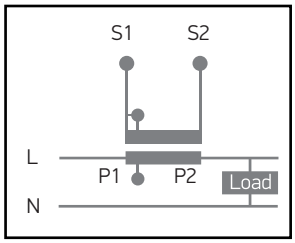
Compact type current transformers are suitable for primary current from 20A to 150A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Application Diagram



Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	60xIn / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	3,75 - 20 VA
Rated primary current	From 20 A to 150 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

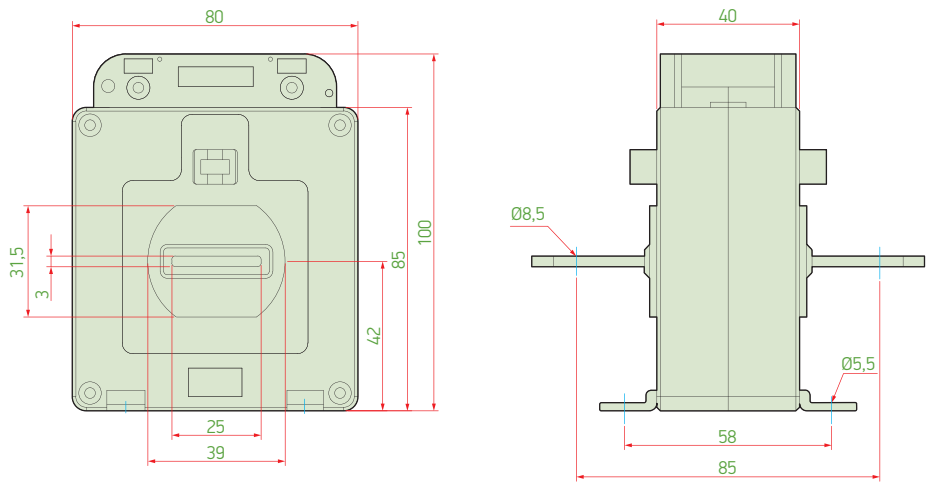
Approvals

Feasibility Table

S25B	Max. burden against class index (at 5A)				
Bus Bar (mm)	-				
Cable Ø (mm)	-				
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
20	3,75	3,75	10	15	15
25	3,75	3,75	10	15	15
30	3,75	3,75	10	15	15
40	3,75	3,75	10	15	15
50	3,75	3,75	10	15	20
60	3,75	3,75	10	15	20
75	3,75	3,75	10	15	20
100	3,75	3,75	10	15	20
125	3,75	3,75	10	15	20
160	3,75	3,75	10	15	20
150	3,75	3,75	10	15	20
200	3,75	3,75	10	15	20

Dimensions

S25B



S30-S30L Series Current Transformer

Product Identification

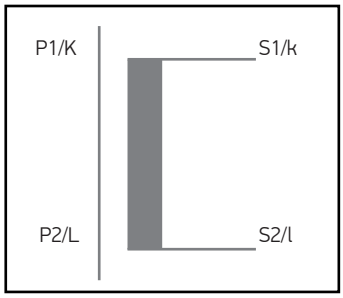
Compact type current transformers are suitable for primary current from 50A to 600A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Application Diagram



Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	100xIn / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	1.5 - 20 VA
Rated primary current	From 50 A to 600 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

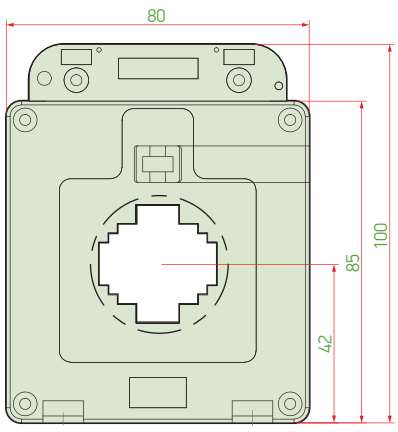
Approvals

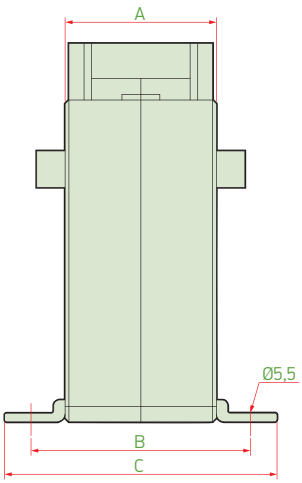
Feasibility Table

S30-S30L	Max. burden against class index (at 5A)				
Bus Bar (mm)	20x10/30x10				
Cable Ø (mm)	24				
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
50	---	---	---	2,5	2,5
60	---	---	---	2,5	2,5
75	---	---	2,5	7,5	7,5
100	---	---	5	7,5	10
125	---	---	5	10	10
150	---	---	10	10	15
200	2,5	2,5	10	10	15
250	3,75	3,75	10	10	15
300	5	5	10	10	15
400	5	5	10	10	15
500	7,5	7,5	10	10	20
600	10	10	10	10	20

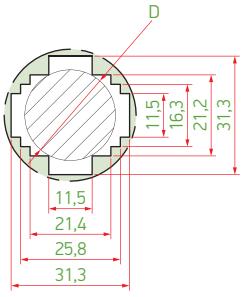
Dimensions

S30-S30L





	A	B	C	D
S30	40	60	72	Ø26,5
S30L	60	80	92	Ø24



S30M-S30ML Series Current Transformer

Product Identification

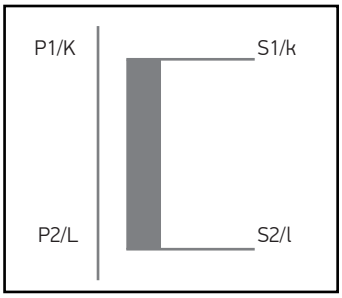
Compact type current transformers are suitable for primary current from 60A to 600A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Application Diagram



Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	100xIn / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	1,25 - 15 VA
Rated primary current	From 60 A to 600 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

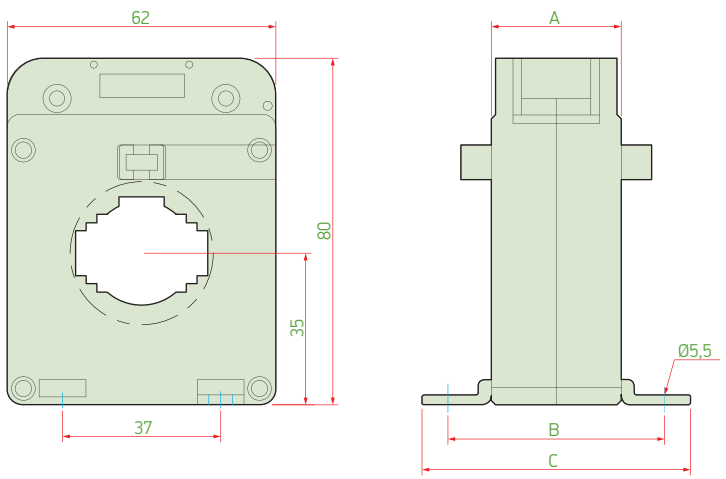
Approvals

Feasibility Table

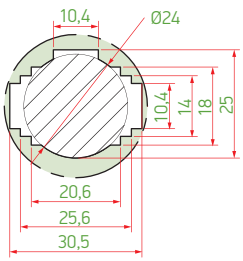
S30M-S30ML	Max. burden against class index (at 5A)				
Bus Bar (mm)	20x10/30x10				
Cable Ø (mm)	24				
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
50	---	---	---	1,5	1,25
60	---	---	---	1,5	2,5
75	---	---	---	2,5	2,5
100	---	---	2,5	2,5	3,75
125	---	---	2,5	2,5	7,5
150	---	---	5	5	7,5
200	---	---	5	5	10
250	---	---	10	10	10
300	---	---	10	10	10
400	---	---	10	10	10
500	---	---	10	10	10
600	---	---	10	10	10

Dimensions

S30M-S30ML



	A	B	C
S30M	30	50	62
S30ML	45	65	77



S40 Series Current Transformer

Product Identification

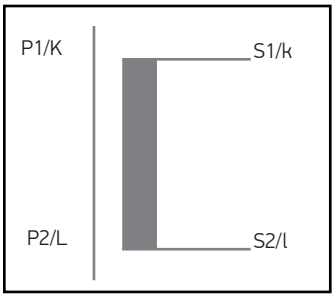
Compact type current transformers are suitable for primary current from 150A to 600A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Application Diagram



Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	100xIn / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	2.5 - 30 VA
Rated primary current	From 150 A to 600 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

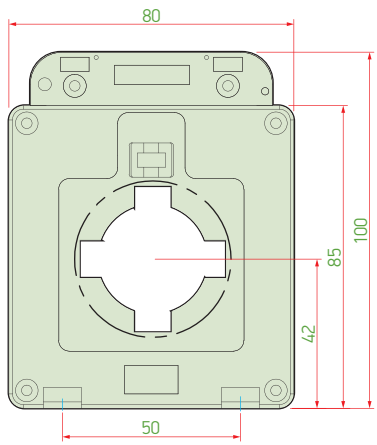
Approvals

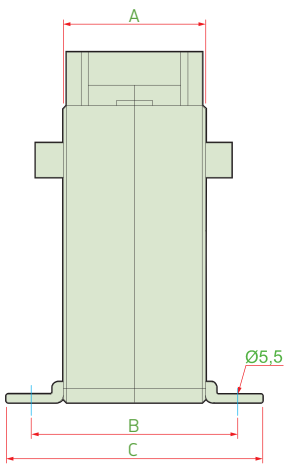
Feasibility Table

S40	Max. burden against class index (at 5A)				
Bus Bar (mm)	40x10				
Cable Ø (mm)	31				
Accuracy (cl)	0,2s	0,2	0,5	1	3
Ip(A)	VA				
150	---	---	5	5	5
200	---	---	10	10	7,5
250	---	---	15	15	15
300	2,5	2,5	15	15	15
400	3,75	3,75	15	15	20
500	5	5	15	15	20
600	7,5	7,5	15	15	30
800	7,5	7,5	15	15	30

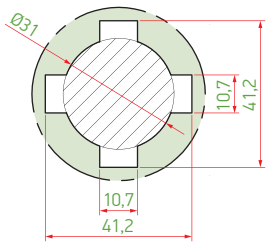
Dimensions

S40 - S40L





	A	B	C
S40	40	60	72
S40L	60	80	92



S50 Series Current Transformer

Product Identification

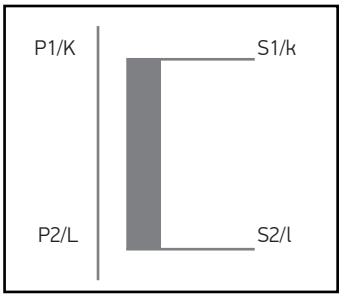
A range of compact low cost moulded case current transformers suitable for primary currents from 250A to 1000A with built in sealable terminal covers.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Application Diagram



Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	100xIn / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	2,5 - 30 VA
Rated primary current	From 250 A to 1000 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

Approvals

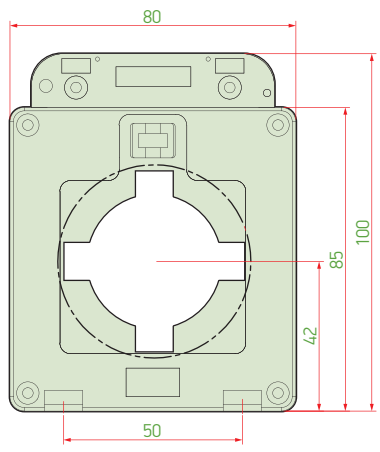
CE ISO 9001 ISO 45001 ISO 14001 RoHS 2002/95/EC

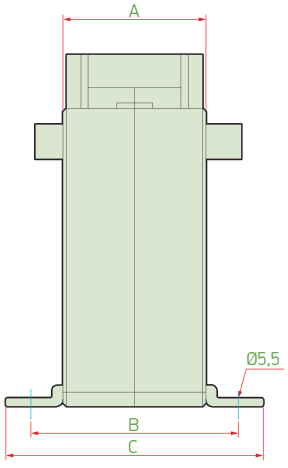
Feasibility Table

S50	Max. burden against class index (at 5A)				
Bus Bar (mm)	50x10				
Cable Ø (mm)	38				
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
250	---	---	---	3,75	5
300	---	---	2,5	5	7,5
400	---	---	5	7,5	15
500	---	---	10	10	15
600	3,75	5	10	15	20
800	5	7,5	15	15	20
1000	10	10	15	15	20

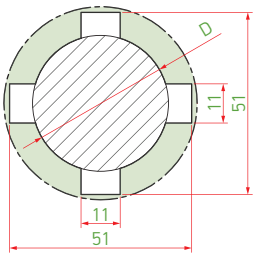
Dimensions

S50 - S50L





	A	B	C	D
S50	40	60	72	Ø42
S50L	60	80	92	Ø38



S60 Series Current Transformer

Product Identification

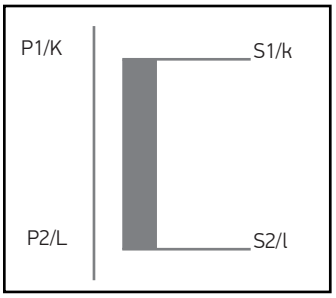
Compact type current transformers are suitable for primary current from 300A to 1600 A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Application Diagram



Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	60xIn / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	3,75 - 30 VA
Rated primary current	From 300A to 1600A
Rated secondary current	5 A

Note: Additional information is provided upon request.

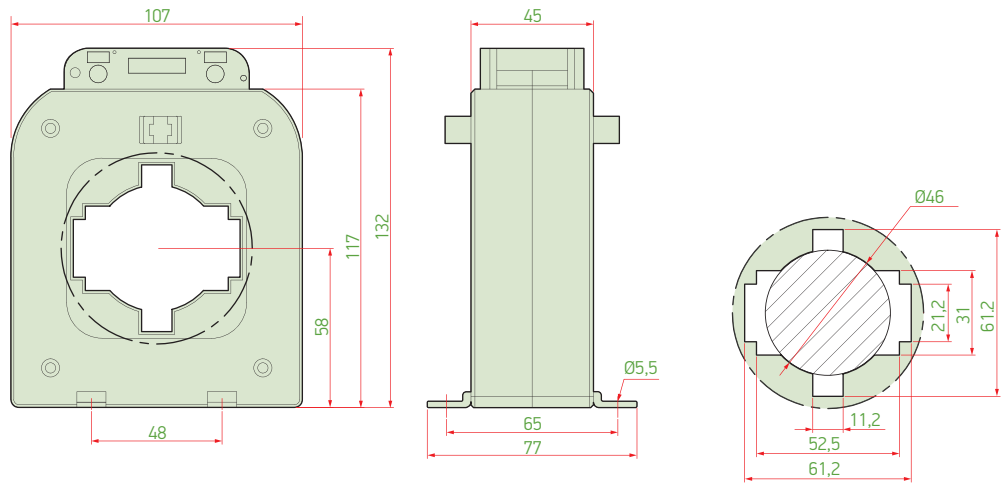
Approvals

Feasibility Table

S60	Max. burden against class index (at 5A)				
Bus Bar (mm)	60x10				
Cable Ø (mm)	46				
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
300	---	---	3,75	5	12,5
400	---	---	5	7,5	15
500	5	5	7,5	10	15
600	3,75	3,75	10	15	20
750	5	5	15	15	20
800	5	5	15	15	30
1000	7,5	7,5	15	15	30
1200	7,5	7,5	15	15	30
1250	7,5	7,5	15	15	30
1500	10	10	15	15	30
1600	15	15	15	15	30

Dimensions

S60



S30A Series Current Transformer (Split-Core Type Current Transformers)

Product Identification

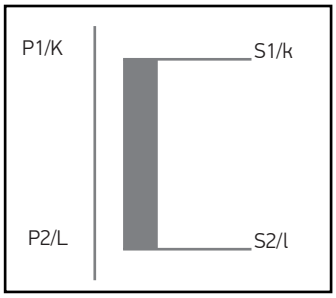
Compact type current transformers are suitable for primary current from 200A to 400A and they have sealable terminal cover

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Application Diagram



Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	60xIn / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	1
Burden	1.5 - 3.75 VA
Rated primary current	From 200 A to 400 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

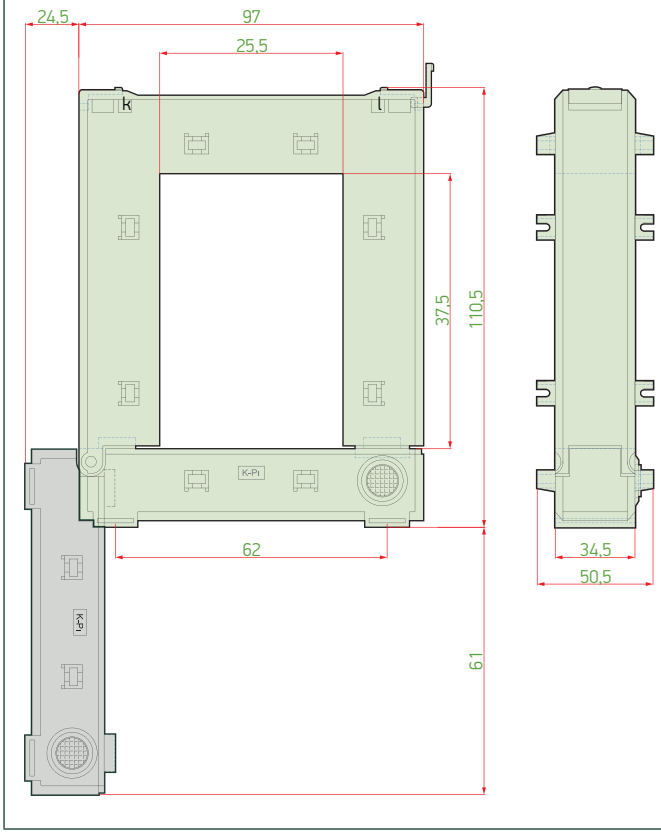
Approvals

Feasibility Table

S30A	Max. burden against class index (at 5A)				
Bus Bar (mm)	30x10				
Cable Ø (mm)					
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
200	---	---	---	1,5	---
250	---	---	---	2,5	---
300	---	---	---	2,5	---
400	---	---	---	3,75	---

Dimensions

S30A



S60D Series Current Transformer

Product Identification

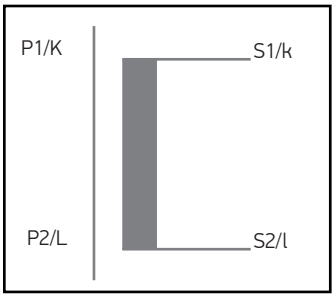
Compact type current transformers are suitable for primary current from 600A to 1600A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Application Diagram



Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	60xIn / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	5 - 30 VA
Rated primary current	From 600 A to 1600 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

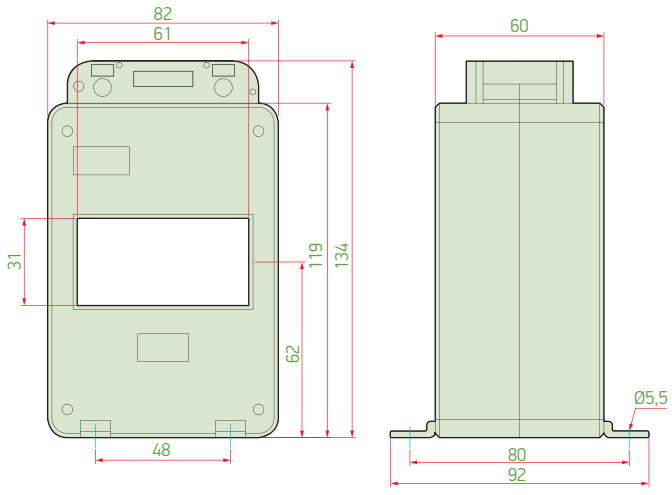
Approvals

Feasibility Table

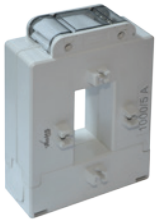
S60D	Max. burden against class index (at 5A)				
Bus Bar (mm)	60x10				
Cable Ø (mm)	31				
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
600	---	---	5	5	10
750	---	---	10	10	15
800	---	---	15	15	15
1000	---	---	15	15	15
1200	---	---	15	15	15
1250	---	---	15	15	30
1500	---	---	15	15	30
1600	---	---	15	15	30
2000	---	---	15	15	30
2500	---	---	15	15	30

Dimensions

S60D



S60A Series Current Transformer (Split-Core Type Current Transformers)



Product Identification

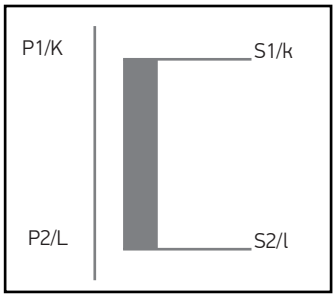
Compact type current transformers are suitable for primary current from 400A to 1000A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

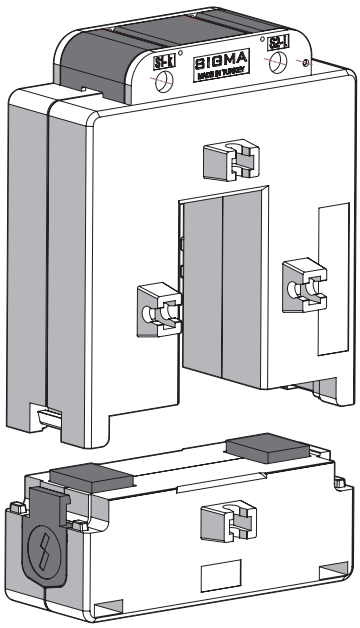
Application Diagram



Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	60xIn / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 10
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	3.75 - 15 VA
Rated primary current	From 400 A to 1000 A
Rated secondary current	5 A

Note: Additional information is provided upon request.



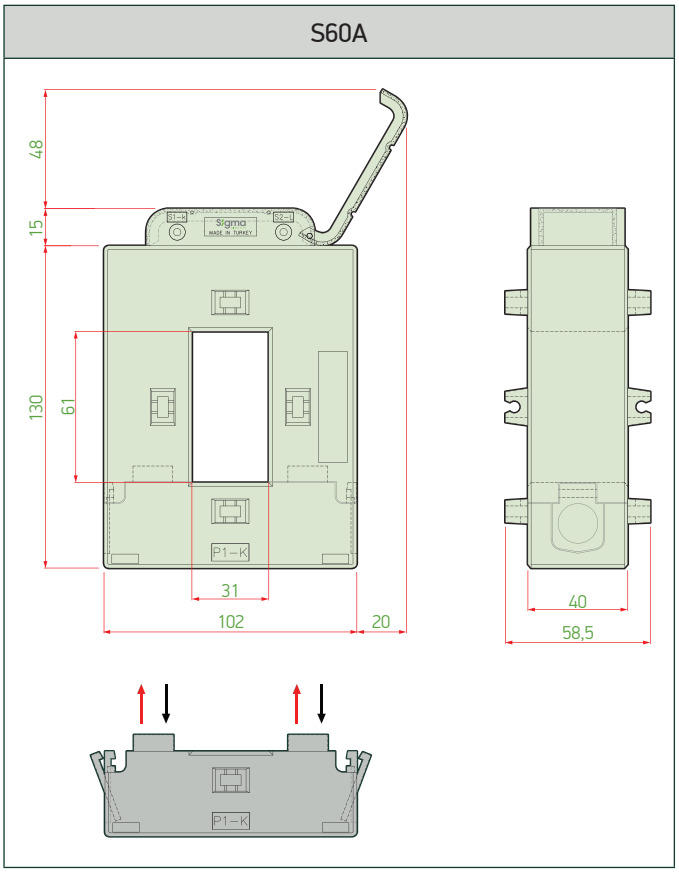
Approvals

Feasibility Table

S60A	Max. burden against class index (at 5A)				
Bus Bar (mm)	60x10				
Cable Ø (mm)	31				
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
400	---	---	---	3,75	5
500	---	---	---	5	7,5
600	---	---	5	7,5	10
800	---	---	7,5	10	12,5
1000	---	---	10	15	15

Dimensions

S60A



S120A Series Current Transformer (Split-Core Type Current Transformers)

Product Identification

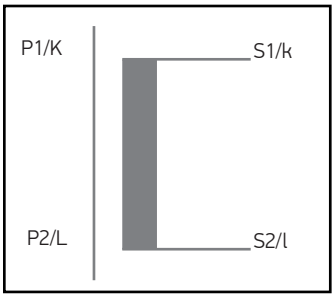
Compact type current transformers are suitable for primary current from 1200A to 4000A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Application Diagram



Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	60 kA 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	1
Burden	10 - 15 VA
Rated primary current	From 1200 A to 4000 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

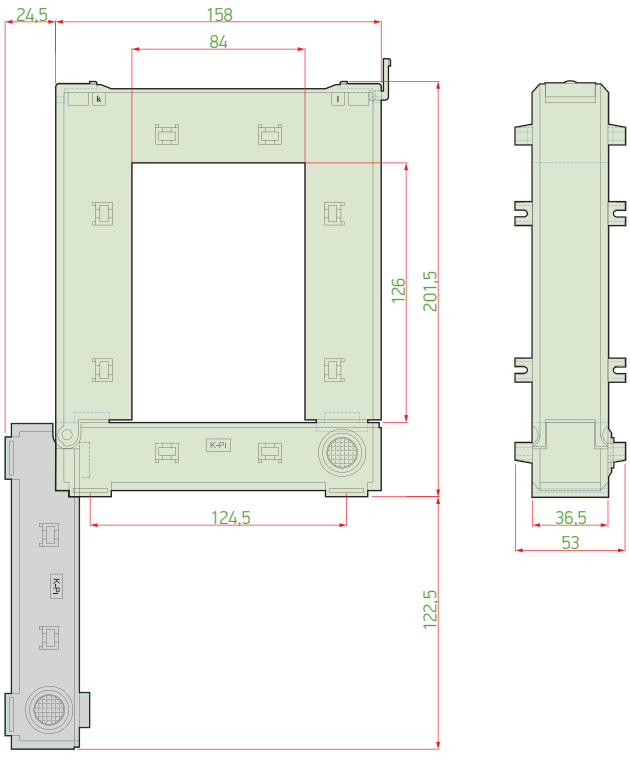
Approvals

Feasibility Table

S120A	Max. burden against class index (at 5A)				
Bus Bar (mm)	160x80				
Cable Ø (mm)					
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
1200	---	---	10	---	---
1600	---	---	10	---	---
2000	---	---	15	---	---
2500	---	---	15	---	---
3000	---	---	15	---	---
4000	---	---	15	---	---

Dimensions

S120A



S80 Series Current Transformer

Product Identification

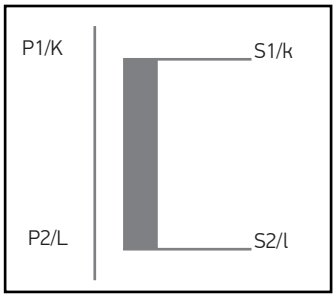
Compact type current transformers are suitable for primary current from 750A to 2000A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Application Diagram



Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	100kA 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	2,5 - 30 VA
Rated primary current	From 750 A to 2000 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

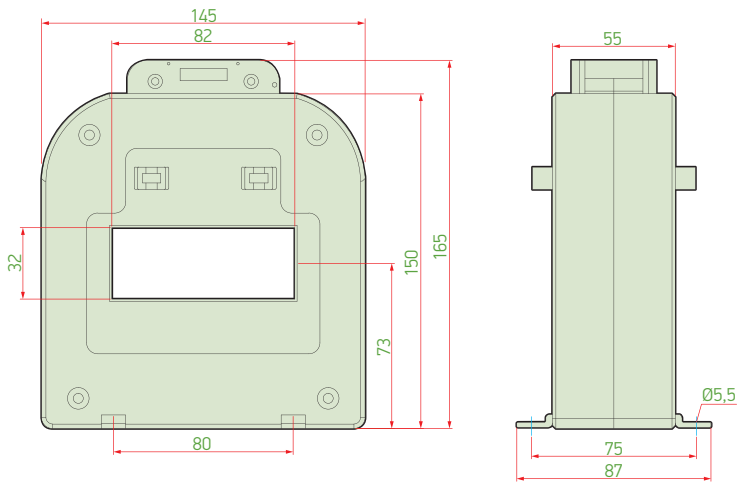
Approvals

Feasibility Table

S80	Max. burden against class index (at 5A)				
Bus Bar (mm)	2(80x10)				
Cable Ø (mm)	31				
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
750	2,5	2,5	10	10	15
800	3,75	3,75	10	10	15
1000	5	5	15	15	15
1200	5	5	15	15	15
1250	5	5	15	15	15
1500	7,5	7,5	15	15	15
1600	10	10	15	15	15
2000	15	15	15	15	30

Dimensions

S80



S100 Series Current Transformer

Product Identification

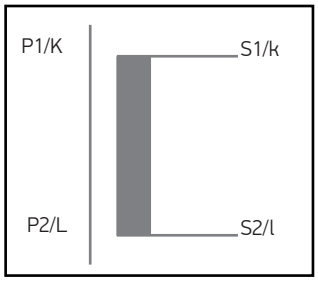
Compact type current transformers are applicable for primary current from 750A to 3000A and sealable terminal cover is available.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Application Diagram



Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	100kA 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	2,5 - 30 VA
Rated primary current	From 750 A to 3000 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

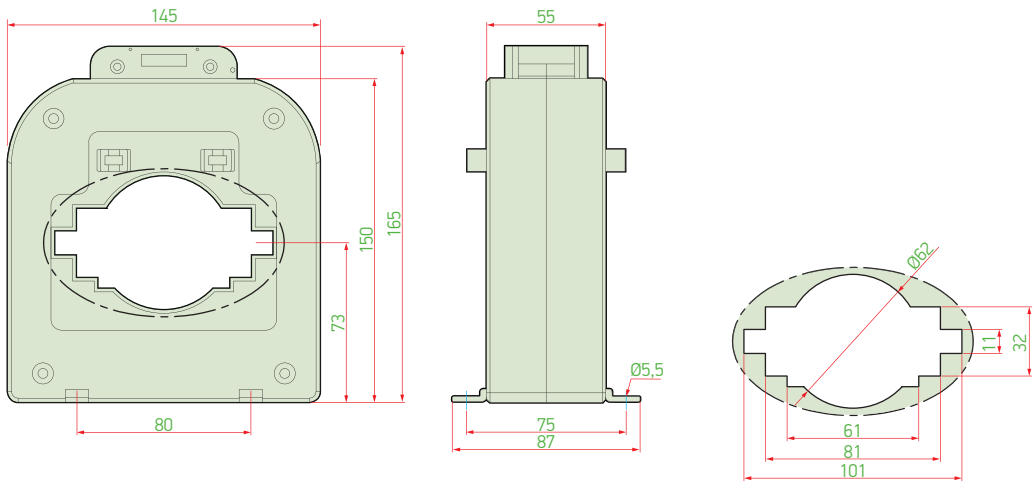
Approvals

Feasibility Table

S100	Max. burden against class index (at 5A)				
Bus Bar (mm)	100x10				
Cable Ø (mm)	62				
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
750	2,5	2,5	10	10	10
800	3,75	3,75	10	15	15
1000	5	5	15	15	15
1200	5	5	15	15	15
1250	5	5	15	15	15
1500	7,5	7,5	15	15	15
1600	10	10	15	15	30
2000	15	15	30	15	30
2500	15	15	30	15	30
3000	15	15	30	30	30

Dimensions

S100



S100D Series Current Transformer

Product Identification

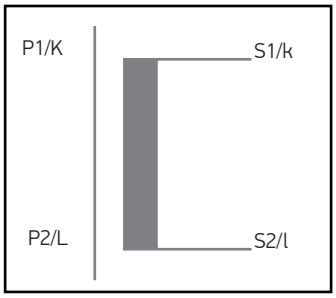
Compact type current transformers are suitable for primary current from 800A to 4000A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Application Diagram



Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	100kA 1 sn
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	7.5 - 30 VA
Rated primary current	From 800 A to 4000 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

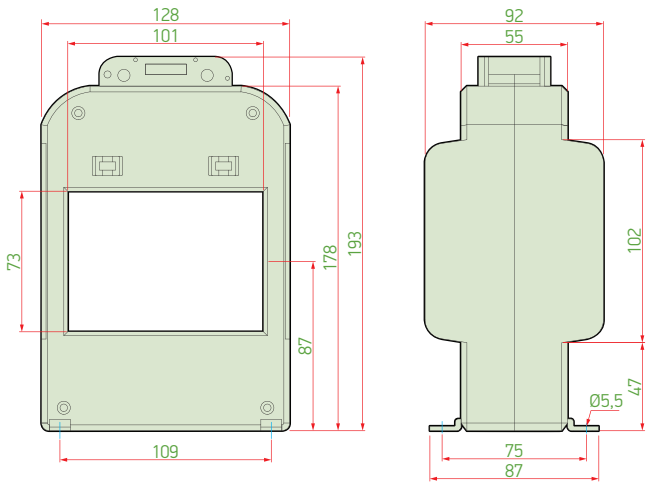
Approvals

Feasibility Table

S100D	Max. burden against class index (at 5A)				
Bus Bar (mm)	4 (100x10)				
Cable Ø (mm)	70				
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
800	---	---	10	10	20
1000	---	---	10	15	20
1200	---	---	15	15	30
1250	---	---	15	15	30
1500	---	---	15	15	30
1600	---	---	15	15	30
2000	---	---	15	15	30
2500	---	---	30	30	30
3000	---	---	30	30	30
3200	---	---	30	30	30
4000	---	---	30	30	30

Dimensions

S100D



S125 Series Current Transformer

Product Identification

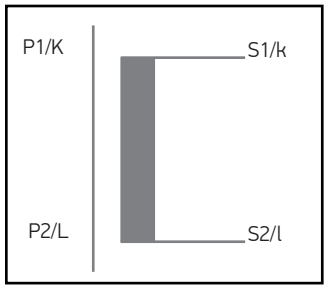
Compact type current transformers are suitable for primary current from 1250A to 5000A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Application Diagram



Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	100kA 1 sn
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	3,75 - 30 VA
Rated primary current	From 1250 A to 5000 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

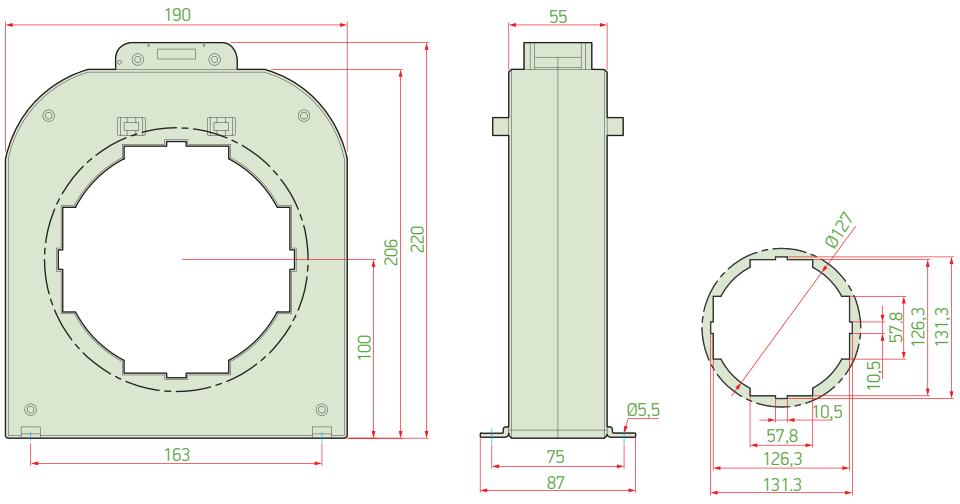
Approvals

Feasibility Table

S125	Max. burden against class index (at 5A)				
Bus Bar (mm)	3 (125x10)				
Cable Ø (mm)	126				
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
1250	---	---	15	15	15
1500	---	---	15	15	15
1600	3,75	3,75	15	15	15
2000	5	5	15	15	30
2500	5	5	15	15	30
3000	10	10	30	30	30
3200	15	15	30	30	30
4000	15	15	30	30	30
5000	15	15	30	30	30

Dimensions

S125



SMT30 Round Type Current Transformer

Product Identification

Compact type current transformers are suitable for primary current from 50A to 300A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	60xIn / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	1.5 - 5 VA
Rated primary current	From 50 A to 300 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

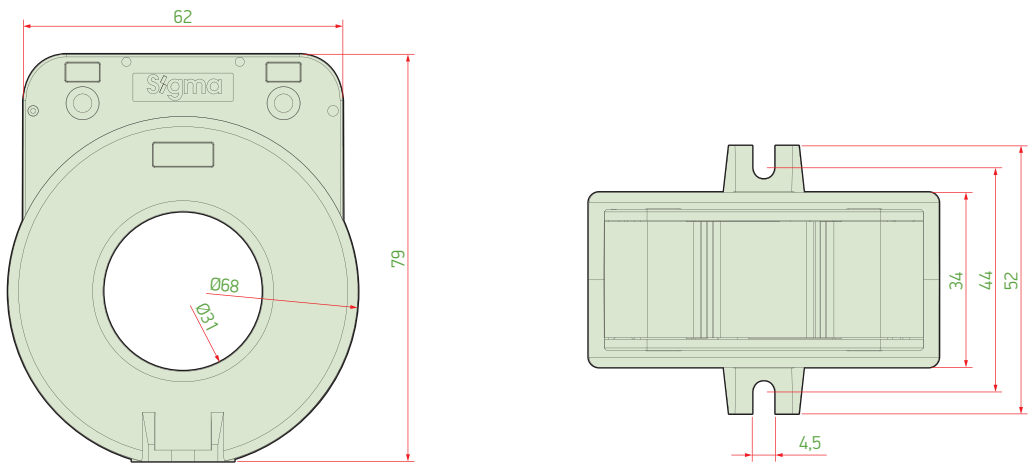
Approvals

Feasibility Table

SMT30	Max. burden against class index (at 5A)				
Bus Bar (mm)	30				
Cable Ø (mm)					
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
50	---	---	---	---	1,5
60	---	---	---	---	2,5
75	---	---	---	---	2,5
100	---	---	---	---	2,5
125	---	---	---	---	2,5
150	---	---	---	---	2,5
200	---	---	---	---	2,5
250	---	---	---	2,5	---
300	---	---	5	---	---

Dimensions

SMT30



SMT40 Round Type Current Transformer

Product Identification

Compact type current transformers are suitable for primary current from 100A to 600A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	60xIn / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	2.5 - 5 VA
Rated primary current	From 100 A to 600 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

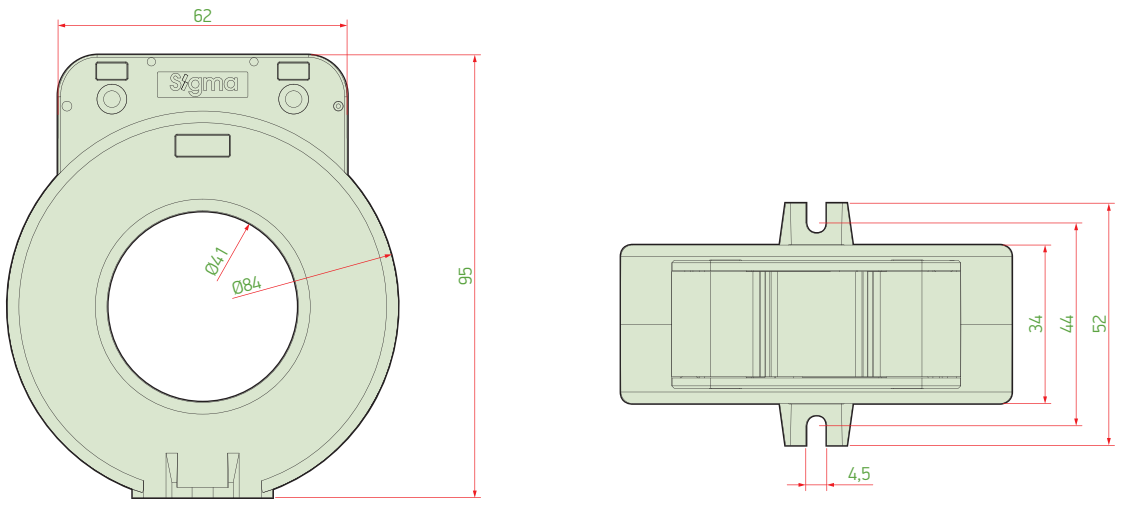
Approvals

Feasibility Table

SMT40	Max. burden against class index (at 5A)				
Bus Bar (mm)	40				
Cable Ø (mm)	70				
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
100	---	---	---	---	2,5
150	---	---	---	---	2,5
200	---	---	---	---	2,5
300	---	---	---	2,5	---
400	---	---	5	---	---
500	---	---	5	---	---
600	---	---	5	---	---

Dimensions

SMT40



SMT70 Round Type Current Transformer

Product Identification

Compact type current transformers are suitable for primary current from 800A to 1500A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	40 kA / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	5 - 10 VA
Rated primary current	From 800 A to 1500 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

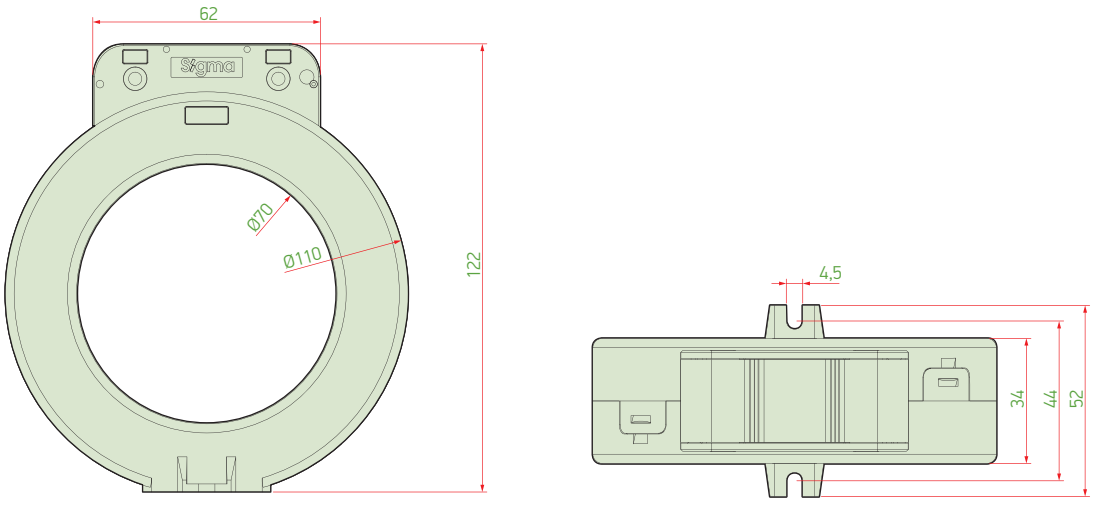
Approvals

Feasibility Table

SMT70	Max. burden against class index (at 5A)				
Bus Bar (mm)	70				
Cable Ø (mm)					
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
800	---	---	5	---	---
1000	---	---	10	---	---
1200	---	---	10	---	---
1250	---	---	10	---	---
1500	---	---	10	---	---

Dimensions

SMT70



SMT100 Round Type Current Transformer

Product Identification

Compact type current transformers are suitable for primary current from 800A to 2500A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	40 kA / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	5 - 15 VA
Rated primary current	From 800 A to 2500 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

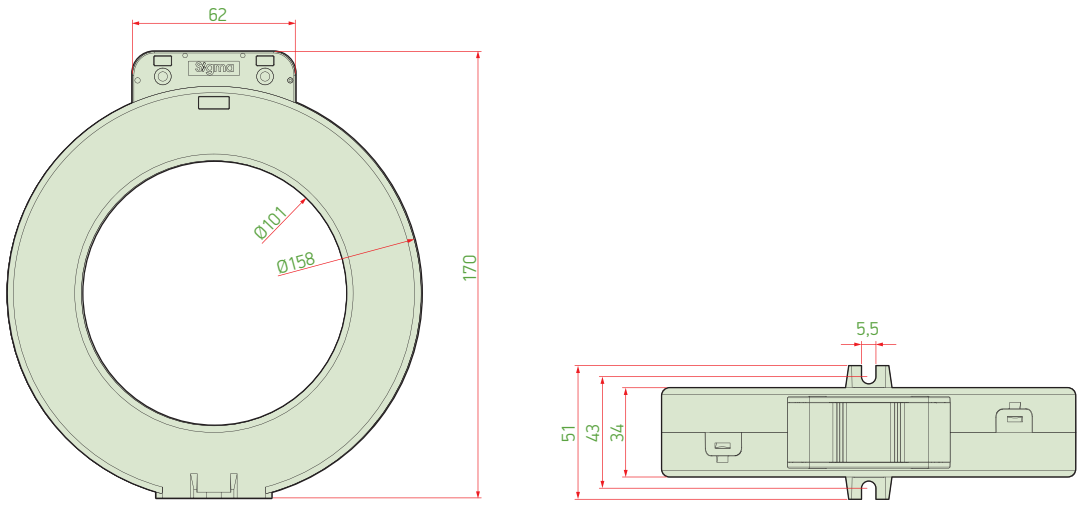
Approvals

Feasibility Table

SMT100	Max. burden against class index (at 5A)				
Bus Bar (mm)	100				
Cable Ø (mm)					
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
800	---	---	5	---	---
1000	---	---	5	---	---
1250	---	---	10	---	---
1600	---	---	15	---	---
2000	---	---	15	---	---
2500	---	---	15	---	---

Dimensions

SMT100



SMT125 Round Type Current Transformer

Product Identification

Compact type current transformers are suitable for primary current from 2000A to 5000A and they have sealable terminal cover.

Application

Fit for measurement applications in AC power systems.

For measurement and application in low voltage panels.

Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	40 kA / 1 sec.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5
Burden	10 - 30 VA
Rated primary current	From 2000 A to 5000 A
Rated secondary current	5 A

Note: Additional information is provided upon request.

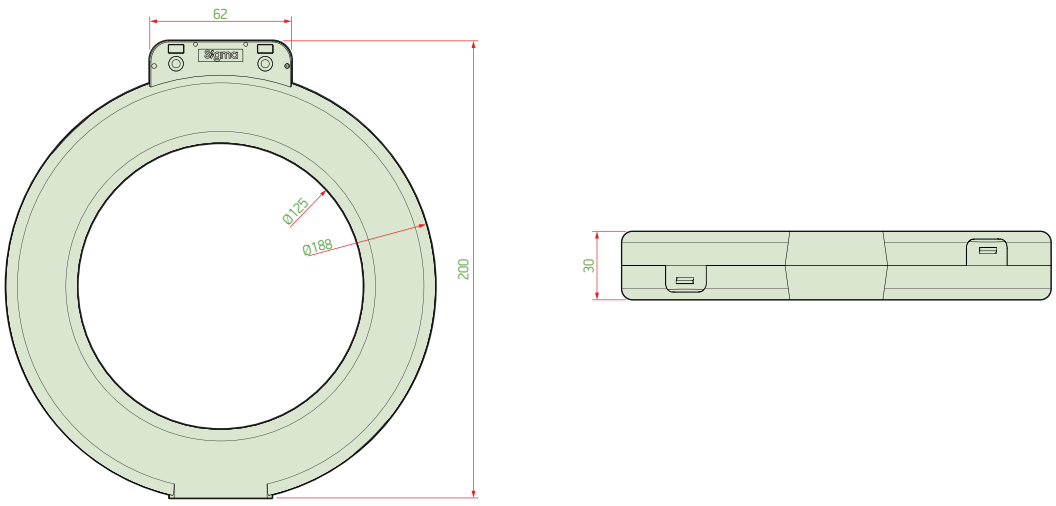
Approvals

Feasibility Table

SMT125	Max. burden against class index (at 5A)				
Bus Bar (mm)	125				
Cable Ø (mm)					
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
2000	---	---	10-15	---	---
2500	---	---	10-15	---	---
3000	---	---	15-30	---	---
4000	---	---	15-30	---	---
5000	---	---	15-30	---	---

Dimensions

SMT125



S20MCS - S20MD Series Current Transformer

Product Identification

S20MCS type current transformers is available 160A, S20MD type current transformers are available 250, 400, 630A primary current rates.They can be sealed if required. Nickel coated brass is used for secondary transformer outputs.

Application

It is used for energy measurement with Sigma Vertical Type fuse switch disconnectors. It is suitable for measurement purposes in low voltage panels.

Technical Specifications

Standard	IEC 61869-2
Rated operating voltage (Un)	720V
Rated frequency	50/60Hz
Operating ambient temperature	-20/75°C
Storage temperature	-50/80°C
Maximum relative humidity	Up to 95%
Rated thermal continuous current	1.2xIn
Rated short-time thermal current (Ith)	100xIn / 1 sn.
Rated dynamic current (Idyn)	2.5 x Ith / 1 period
Rated power frequency withstand voltage	3kV (50 Hz) /1 min.
Thermal class of insulation	E (120°C max.)
Degree of protection	IP20
Instrument security factor	< 5
Secondary terminals	Nickel plated brass material
Recommended tightening torque	For 2 Nm secondary terminal screws
Accuracy class	0.5-1-3
Burden	2,5 VA
Rated primary current	160A-250A-400A-630A
Rated secondary current	1 A

Note: Additional information is provided upon request.

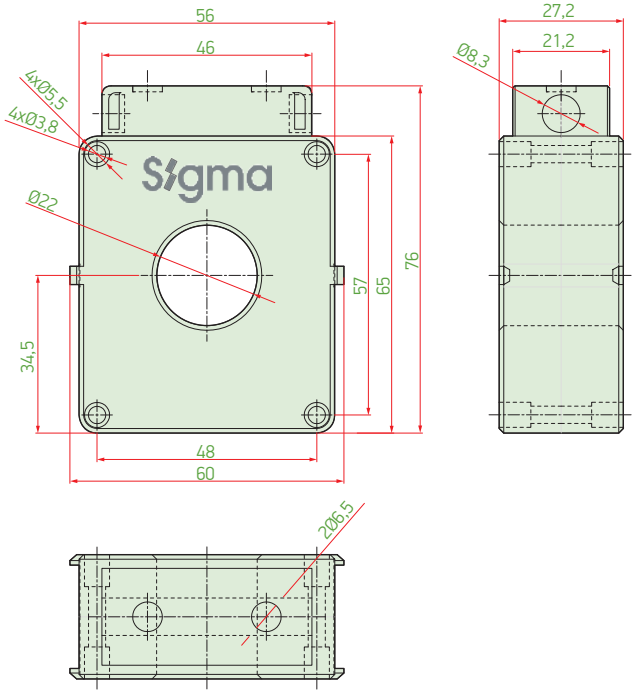
Approvals

Feasibility Table

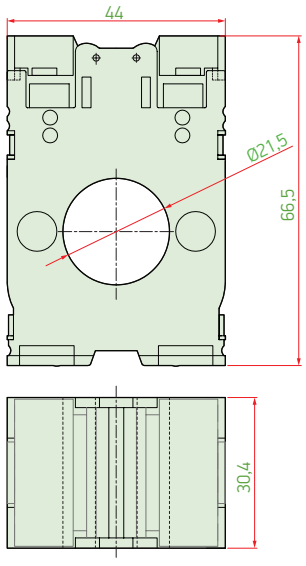
	Max. burden against class index (at 5A)				
Bus Bar (mm)	-				
Cable Ø (mm)	-				
Accuracy (cl)	0.2s	0,2	0,5	1	3
Ip(A)	VA				
160	-	-	2,5	-	-
250	-	-	2,5	-	-
400	-	-	2,5	-	-
630	-	-	2,5	-	-

Dimensions

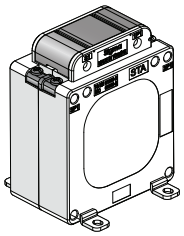
S20MD



S20MCS



STA Type Summation Current Transformer



When the currents in different feeders need to be metered with single meter or instrument, a summation transformer can be used. Summation current transformers are designed for summation of several synchronous A.C. currents in same phase belt.

The secondary circuits of the main C.Ts are to be connected to the corresponding marked primary terminals of the summation C.T. If the ratios of the main CTs are not equal, in order to obtain a correct vectorial sum, it is necessary to specify the ratio values of the individual main CTs.

In consumer installation, where there are more than one feeder, it is more economical to use summation metering and for this purpose, summation CT is required. 2 to 12 different currents of different feeders in the same phase can be summed. The standard primary & secondary currents are 5 or 1 amp.

TYPE	Primary (A)	Rated power (VA) max	
		Class 0,5	Class 1
STA-2	5+5/5	10	15
STA-3	5+5+5/5	10	15

Example:

Main C.T. : $\frac{300\ A}{5}$, $\frac{100\ A}{1}$, $\frac{100A}{5}$

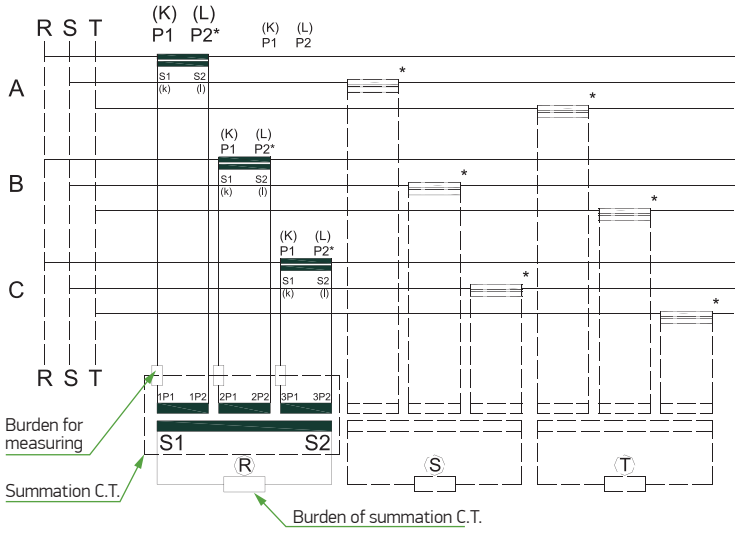
Summation C.T. : $\frac{5+1+5}{5}$ A

Result C.T. : $\frac{300+100+100}{5}$: 100 “Ratio”

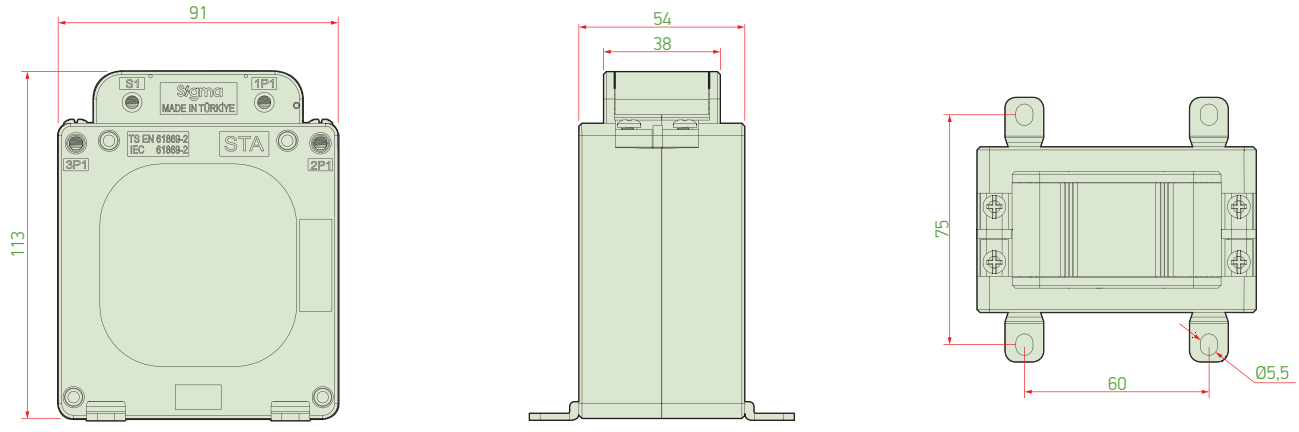
Connection diagram of summation current transformer:

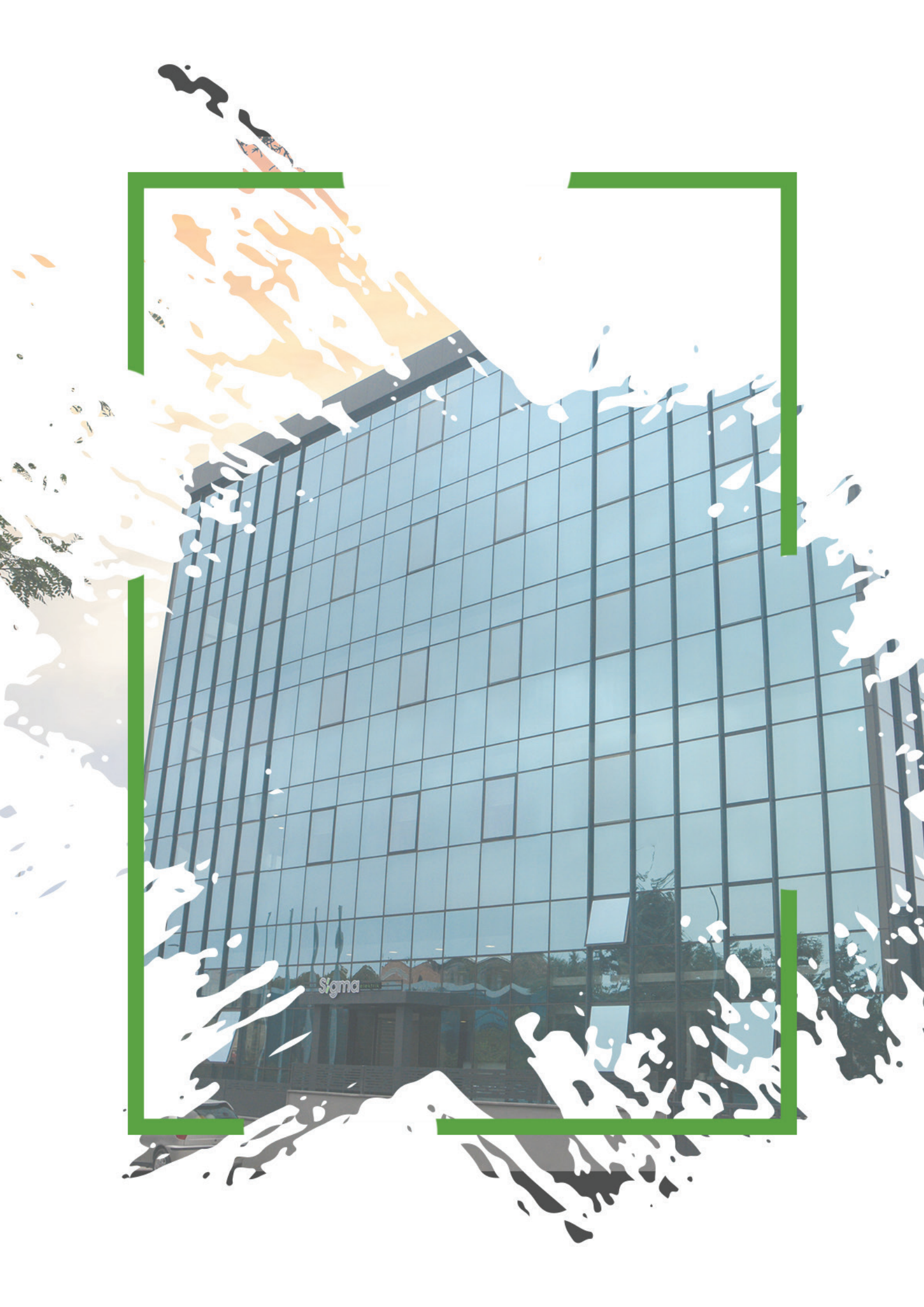
(Type STA-3) One phase (R) of the three-phase A, B, C groups are shown in the picture

* Main current transformer



STA2 -STA3




Sigma

Sigma elektrik

DIGITAL MEASUREMENT **DEVICES**

Digital measuring instruments measure the electrical parameters in your facility with high precision and reliability.

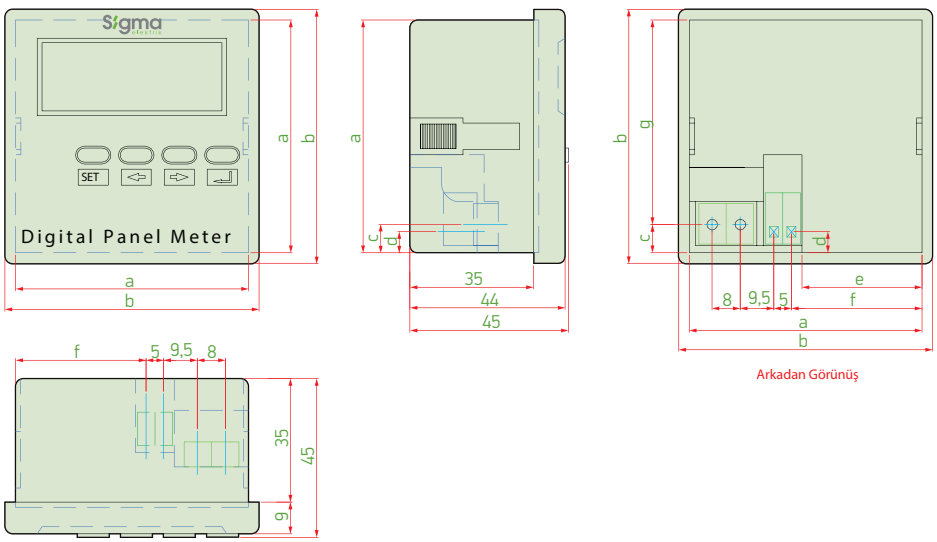
- Class 0.5 measurement accuracy
- Compact type design
- Variety of sizes (72x72mm, 96x96mm)
- CATIII degree of protection (model based)
- Communication via RS485 (model based)

Digital Measurement Devices

	Ammeters	Voltmeters
Operating Voltage (Un)	220V AC	220V AC
Operating Voltage Range	(0.9-1.1) x Un	(0.9-1.1) x Un
Frequency	50/60 Hz.	50/60 Hz.
Measuring range	0-5000 A~	0-600V~
Mounting class	CAT III	CAT III
Accuracy	Class 0.5	Class 0.5
Ambient Air Temperature	-5°C..:+50°C	-5°C..:+50°C

Type Code	Description	Diameter (mm)	Accuracy Class	Min. Order Quantity	Pcs in a Box	Order Code
SD 72A	Ammeter with Current Transformer 1-5000/5A	72x72	Cl 0.5	1	72	SD72A-5000
SD 96A	Ammeter with Current Transformer 1-5000/5A	96x96	Cl 0.5	1	72	SD96A-5000
SD 72V	Voltmeter 0-600V AC	72x72	Cl 0.5	1	72	SD72V-0600
SD 96V	Voltmeter 0-600V AC	96x96	Cl 0.5	1	72	SD96V-0600
SD 96M	I-V-Hz Multimeter	96x96	Cl 0.5	1	27	SD96M
SD 96MP	Multifunctional Powermeter (with RS485)	96x96	Cl 0.5	1	27	SD96MP
SD 96MAC	Multifunctional Network Analyser (with harmonic measurement)	96x96	Cl 0.5	1	27	SD96MAC
SD8MAC	DIN Rail Type Multifunctional Network Analyser (with harmonic measurement)	DIN type	Cl 0.5	1	27	SD8MAC

Dimensions



	a	b	c	d	e	f	g
SD 72A	66	72	8	6	34	37	58
SD 96A	90	96	20	28	45	48	70
SD 72V	66	72	8	6	34	37	58
SD 96V	90	96	20	28	45	48	70

RELAYS

Relay is a switch model that can control the circuit electrically. The main reason why relays working with an electromechanical system are used in electrical and electronic circuits is that they can control high currents with low currents. Relays are generally used in control circuits.

- Level Control Relay: In monitoring environments such as tanks, water tanks and wells containing conductive liquids
- 3-Phase Voltage Relay: In protecting devices and motors from overvoltage and undervoltage
- Asymmetrical Cycle Time Relay: General room ventilation, periodic dehumidification, lighting control, circulation pumps, signage, etc. in areas
- Star-Delta Delayed Time Relay: Providing the required time interval during the transition from star connection to delta connection
- Single Function Time Relay: It is used in applications where function and time requirements are known.

Relays

Type	Description	Explanation	Supply Voltage	Order Code
SRV8-01	Voltage Relay	Over/High Voltage	230V AC	SRV801230
SRV8-03	Voltage Relay	Phase sequence and phase failure protection	220-460 V	SRV803460
SRV8-05	Voltage Relay	Over voltage Under voltage Asymmetry time delay Phase sequence Phase failure	220-460 vV	SRV805460
SRT8-A30S	Single - Function Time Relay	0.1-30 Second delay ON	230V AC	SRT8A30S
SRT8-A60S	Single - Function Time Relay	0.1-60 Second delay ON	230V AC	SRT8A60S
SRT8-A10D	Multi-Function Time Relay	0.1 s - 10 days, ON-OFF	230V AC	SRT8A10D
SRT8-M1	Multi-Function Time Relay	1xSPDT	AC/DC 12V~240V	SRT8-M1
SRT8-M2	Multi-Function Time Relay	2xSPDT	AC/DC 12V~240V	SRT8-M2
SRT8-STD	Delay On Star/Delta Relay	Range of time delay t1:0.1s -10min, Switch time t2:0.1s-1s	AC/DC 12V~240V	SRT8ST240
SRT8-STA	Delay On Star/Delta Relay	Range of time delay t1:0.1s -10min, Switch time t2:0.1s-1s	230V AC	SRT8STA
SRT8-S1	Asymmetric Cycler Relay	0.1 s - 100 days	AC/DC 12V~240V	SRTSS1240
SRL8-01	Level Control Relay	2 Level control mode	AC/DC 12V~240V	SRL801240


SRV8-05


SRT8-A30S


SRT8-A60S


SRT8-A10D


SRT8-M2


SRT8-STD


SRT8-STA


SRL8-LS

Analogue Time Switch

Type	Description	Explanation	Supply Voltage	Pcs in a Box	Order Code
STS8-01	Analogue Time Switch	100 hours reserve time (with supercapacitor)	230V AC	80	STS8-01
STS8-01C	Analogue Time Switch	100 hours reserve time (wit battery)	230V AC	80	STS8-01C

Sigma elektrik

COMPENSATION **PRODUCTS**

Reactive penalty is a type of penalty system applied when the reactive power generated in electricity consumption exceeds a certain limit. Compensation is a method used to balance reactive power consumption and correct the power factor.

Thanks to compensation products, businesses can;

- Prevent from penalty payments by minimizing the reactive energy drawn from the network
- Reduce in electrical losses and voltage drops
- Make energy systems work more efficiently
- Ensure energy efficiency by reducing energy losses

Power Factor Controllers

Type Code	Min. current limit (mA)	Steps	Shunt reactor	Mobile remote monitoring	Remote parameter adjustment	Up to 63th harmonic	Up to 31st harmonic	Automatic setup	Password protection	Internal temperature measurement	RS485	Display type	Real time clock	Protection of steps lifetime	Automatic correction of connection faults	SVC / TCR output	Thristor switch controller	Enerji Sayaçları	Pcs in a Box	Order Code
SR 15K	20	15	+	-	-	-	+	+	+	-	-	LCD	-	+	+	-	-	+	6	SR15K
SR 15SVC	5	12	+	-	-	+	-	+	+	+	-	LCD	+	+	+	+	-	+	6	SR15SVC
SR 27SVC/H	5	24	+	+	+	+	-	+	+	+	+	LCD	+	+	+	+	-	+	6	SR27SVC-H

Not: Please contact our related sales manager for power factor controllers which makes measurement through medium voltage.

Inductive Load Drivers

Type Code	Power (KVar)	Driving capability of shunt reactor	Operating Voltage (V)	Nominal current of MCB (A)	Thermal protection	Switching Voltage	Response time	Dimensions	Order Code
SSE 5	3x1,66 kVAr	3- Single Phase	230 V	16	☒	5V DC	20 ms	120x90x120	SSE5
SSE 10	3x3,66 kVAr	3- Single Phase	230 V	25	☒	5V DC	20 ms	75x125x125	SSE10
SSE 20	3x6,66 kVAr	3- Single Phase	230 V	63	☒	5V DC	20 ms	130x190x135	SSE20
SSE 50	3x16,66 kVAr	3- Single Phase	230 V	100	☒	5V DC	20 ms	189x198x129	SSE50

Single Phase Shunt Reactors

Type Code	Power (KVar)	Voltage (V)	I rms (A)	Dimensions (mm)	Pcs in a Box	Order Code
SESRM	1,66	230	7,22	150x130x125		SESRM-1,66
	3,33	230	14,48	192x160x144		SESRM-3,33
	6,66	230	28,96	195x290x160		SESRM-6,66
	16,66	Ask for information				SESRM-16,66

Single Phase Shunt Reactors

Type Code	Power (KVar)	Voltage (V)	I rms (A)	Dimensions (mm)	Order Code
SESRM	0,25	230	1,09	120x100x95	SESRM-0,25
	0,5	230	2,17	120x100x95	SESRM-0,5
	1	230	4,35	150x130x125	SESRM-1
	1,5	230	6,52	150x130x125	SESRM-1,5
	1,66	230	7,22	150x130x125	SESRM-1,66
	2,5	230	10,87	192x160x144	SESRM-2,5
	3	230	13,04	192x160x144	SESRM-3
	3,33	230	14,48	192x160x144	SESRM-3,33
	5	230	21,74	195x300x155	SESRM-5
	6,66	230	28,96	195x290x160	SESRM-6,66
	7,5	230	32,61	195x365x155	SESRM-7,5
	10	230	43,48	235x365x185	SESRM-10

Three Phase Shunt Reactors

Type Code	Power (KVar)	Voltage (V)	I rms (A)	Dimensions (mm)	Order Code
SESRT	0,25	400	0,36	200x180x85	SESRT-0,25
	0,5	400	0,72	200x180x85	SESRT-0,5
	1	400	1,44	200x180x120	SESRT-1
	1,5	400	2,17	200x180x120	SESRT-1,5
	2,5	400	3,62	240x270x140	SESRT-2,5
	5	400	7,24	290x320x150	SESRT-5
	7,5	400	10,86	190x320x160	SESRT-7,5
	10	400	14,49	360x375x160	SESRT-10
	15	400	21,73	360x375x170	SESRT-15
	20	400	28,98	415x400x175	SESRT-20
	25	400	36,23	415x400x220	SESRT-25
	30	400	43,47	415x400x220	SESRT-30
	40	400	57,97	520x480x280	SESRT-40
	50	400	72,46	570x530x300	SESRT-50

230V Single Phase Cylindrical Type Capacitor

Type Code	kVAr@ 230 V, 50 Hz	Diameter Dxh (mm)	Min. Order Quantity	Pcs in a Box	Order Code
1SK230	0,25	Ø35*55	3	10	1SK230-0.25
	0,5	Ø45*65	3	10	1SK230-0.5
	1	Ø50*75	3	7	1SK230-1
	1,5	Ø50*100	3	10	1SK230-1.5
	2,5	Ø60*100	3	10	1SK230-2.5
	5	Ø76*145	3	7	1SK230-5

400V Three Phase Cylindrical Type Capacitor

Type Code	kVAr@ 400 V, 50 Hz	kVAr@ 415 V, 50 Hz	kVAr@ 440 V, 50 Hz	Diameter Dxh (mm)	Min. Order Quantity	Pcs in a Box	Order Code
3SK400	0,5	0,54	0,61	Ø76*90	3	8	3SK400-0.5
	1	1,08	1,21	Ø76*90	3	8	3SK400-1
	1,5	1,61	1,81	Ø76*90	3	8	3SK400-1.5
	2,5	2,69	3,03	Ø76*110	3	6	3SK400-2.5
	5	5,38	6,05	Ø76*205	3	6	3SK400-5
	7,5	8,07	9,08	Ø76*205	3	6	3SK400-7.5
	10	10,76	12,10	Ø76*235	3	6	3SK400-10
	12,5	13,46	15,13	Ø76*280	3	6	3SK400-12.5
	15	16,15	18,15	Ø76*280	3	6	3SK400-15
	20	21,53	24,20	Ø86*280	3	6	3SK400-20
	25	26,91	30,25	Ø96*280	3	4	3SK400-25
	30	32,29	36,30	Ø106*280	3	3	3SK400-30
	40	43,06	48,40	Ø126*280	3	2	3SK400-40
	50	53,80	60,50	Ø136*280	3	2	3SK400-50

440V Three Phase Cylindrical Type Capacitor

NEW PRODUCT

Type Code	kVAr@ 440 V, 50 Hz	kVAr@ 415 V, 50 Hz	kVAr@ 400 V, 50 Hz	Diameter Dxh (mm)	Min. Order Quantity	Pcs in a Box	Order Code
3SK440	0,5	0,44	0,41	Ø76*90	3	10	3SK440-0.5
	1	0,89	0,83	Ø76*90	3	10	3SK440-1
	1,5	1,33	1,24	Ø76*90	3	10	3SK440-1.5
	2,5	2,22	2,07	Ø76*110	3	10	3SK440-2.5
	5	4,45	4,13	Ø76*205	3	10	3SK440-5
	7,5	6,67	6,20	Ø76*205	3	10	3SK440-7.5
	10	8,90	8,26	Ø76*235	3	7	3SK440-10
	12,5	11,12	10,33	Ø76*235	3	7	3SK440-12.5
	15	13,34	12,40	Ø76*280	3	5	3SK440-15
	20	17,79	16,53	Ø86*280	3	4	3SK440-20
	25	22,24	20,66	Ø96*280	3	4	3SK440-25
	30	26,69	24,79	Ø106*280	3	3	3SK440-30
	40	35,58	33,06	Ø116*280	3	2	3SK440-40
	50	44,48	41,32	Ø126*280	3	2	3SK440-50

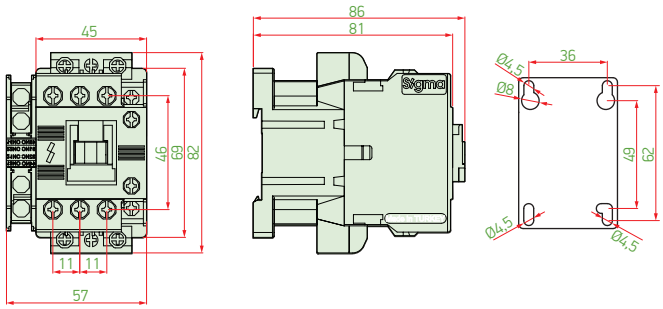
525V Heavy Duty Capacitor

Type Code	kVAr@ 525 V, 50 Hz	kVAr@ 480 V, 50 Hz	kVAr@ 400 V, 50 Hz	Diameter Dxh (mm)	Min. Order Quantity	Pcs in a Box	Order Code
NEW PRODUCT	5	4,18	2,90	Ø63,5*150	3	7	3SK525-5
NEW PRODUCT	7,5	6,27	4,35	Ø76*175	3	7	3SK525-7.5
	10	8,4	5,80	Ø76*205	3	7	3SK525-10
NEW PRODUCT	12,5	10,45	7,26	Ø76*235	3	7	3SK525-12.5
3SK525	15	12,6	8,70	Ø76*280	3	4	3SK525-15
	20	16,8	11,60	Ø86*280	3	3	3SK525-20
	25	21	14,50	Ø96*280	3	3	3SK525-25
	30	25,1	17,40	Ø106*280	3	3	3SK525-30

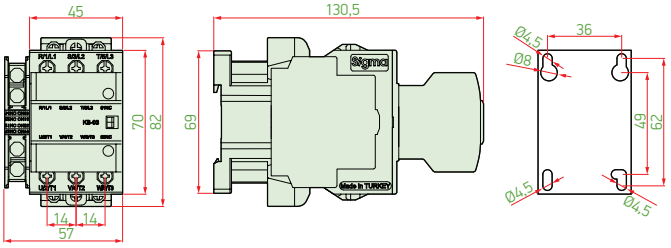
Contactors for Capacitor Bank - Coil Voltage: 230V AC

Type Code	Rated Capacitor Power at 220/240V (kVAr) Θ≤55°C	Rated Capacitor Power at 380/440V (kVAr) Θ≤55°C	Oparation / hour	Electrical Life (Cycle)	Auxiliary Contact	Min. Order Quantity	Pcs in a Box	Order Code
SCK-2,5	1,5	2,5	240 op/h	200.000	1NO	1	20	SCK2.5
SCK-5	3	5	240 op/h	200.000	1NO	1	20	SCK5
SCK-10	6	10	240 op/h	200.000	1NO	1	20	SCK10
SCK-15	8	15	240 op/h	200.000	1NO	1	14	SCK15
SCK-20	12	20	240 op/h	200.000	1NO	1	14	SCK20
SCK-25	15	25	240 op/h	200.000	1NO	1	8	SCK25
SCK-33	20	33,3	100 op/h	100.000	1NO	1	8	SCK33
SCK-40	22	40	100 op/h	100.000	1NO	1	8	SCK40
SCK-50	33,3	50	100 op/h	100.000	1NO	1	8	SCK50
SCK-60	45	60	100 op/h	100.000	1NO	1	8	SCK60

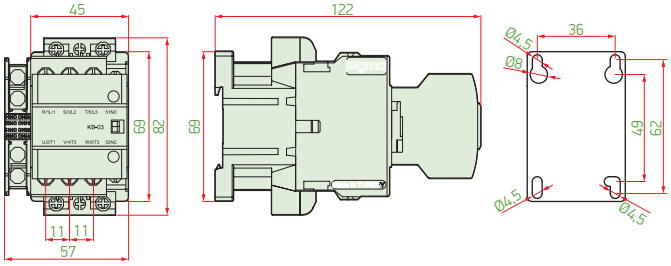
SCK 2.5-5



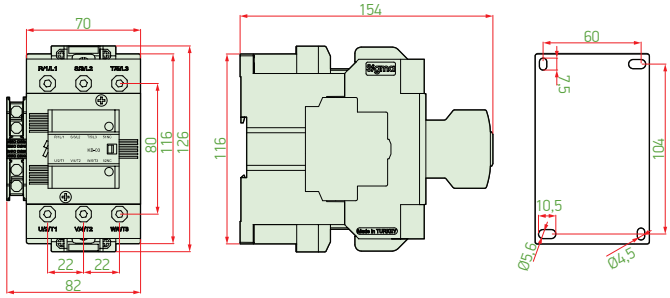
SCK 20-25



SCK 10-15



SCK 33-60



	COMPENSATION PRODUCTS SELECTION GUIDE					
	POWER CAPACITOR		CONTACTOR FOR CAPACITOR BANK		HORIZANTAL TYPE FUSE SWITCH DISCONNECTOR	
	I Power Capacitor	Sigma Order Code	x1,3 = I Contactor For Capacitor Bank	Sigma Order Code	x1,35 = I NH Fuse	Sigma Order Code
2,5 kVAr	3,6 A	3SK400-2,5	4,68 A = 5 A	SCK2,5	6,32 A = 6 A	3 x SNH00I0006 + SFH160
5 kVAr	7,2 A	3SK400-5	9,36 A = 10 A	SCK5	12,46 A = 13 A	3 x SNH00I0016 + SFH160
7,5 kVAr	10,8 A	3SK400-7,5	14,04 A = 15 A	SCK10	18,95 A = 19 A	3 x SNH00I0020 + SFH160
10 kVAr	14,4 A	3SK400-10	18,72 A = 19 A	SCK10	25,27 A = 25 A	3 x SNH00I0025 + SFH160
12,5 kVAr	18 A	3SK400-12,5	23,4 A = 24 A	SCK15	31,59 A = 32 A	3 x SNH00I0032 + SFH160
15 kVAr	21,6 A	3SK400-15	28,08 A = 28 A	SCK15	37,91 A = 38 A	3 x SNH00I0040 + SFH160
20 kVAr	28,8 A	3SK400-20	37,44 A = 38 A	SCK20	50,54 A = 50 A	3 x SNH00I0050 + SFH160
25 kVAr	36 A	3SK400-25	46,8 A = 47 A	SCK25	63,18 A = 63 A	3 x SNH00I0063 + SFH160
30 kVAr	43,2 A	3SK400-30	56,16 A = 57 A	SCK33	75,81 A = 76 A	3 x SNH00I0080 + SFH160
40 kVAr	57,6 A	3SK400-40	74,88 = 75 A	SCK40	101,09 = 101 A	3 x SNH00I0100 + SFH160
50 kVAr	72 A	3SK400-50	93,6 A = 94 A	SCK50	126,36 = 126 A	3 x SNH00I0125 + SFH160
60 kVAr	86,5 A	2 x 3SK400-30	112,45 A = 113 A	SCK60	151,80 = 152 A	3 x SNH00I0160 + SFH160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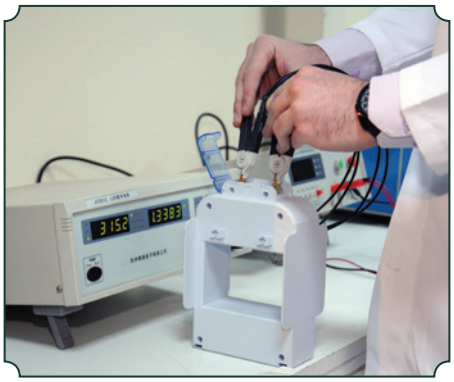
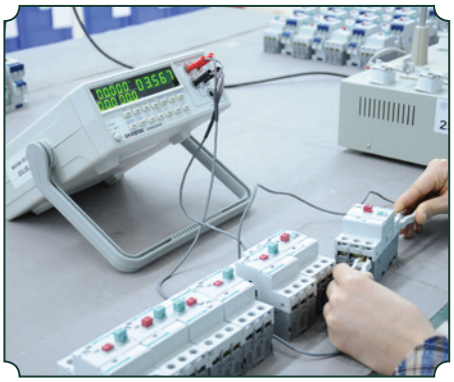





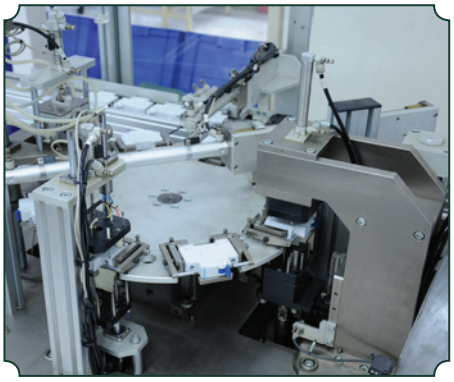




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