

Moulded Case Circuit Breakers Ex9M SU20S



- LCD display version
- SU20S Standard type smart unit controller
- Frame sizes M2-M5
- Rated operating current up to 800 A
- 3 and 4-pole versions
- Rated ultimate short circuit breaking capacity $I_{cu}=I_{cs}$ up to 150 kA,
- Rated voltage 415 / 690 V AC
- High tripping accuracy, reliable operation, less sensibility to ambient temperature

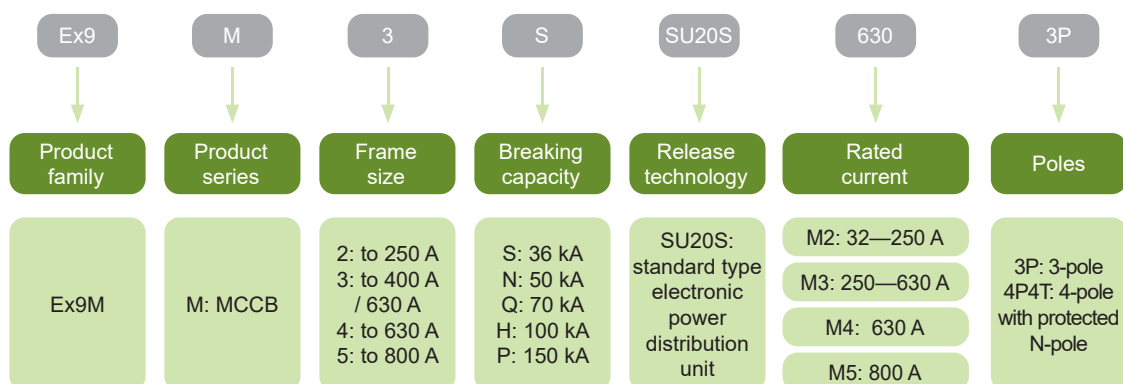
Moulded Case Circuit Breakers Ex9M with SU20S type of smart unit are intended for applications in power distribution mainly. Testing according to IEC / EN 60947-2 standards ensures the functionality and reliability for wide variety of applications including isolation.

The electronic controller with LCD display allows a detailed and accurate commission of the device for the installation requirements. Electronic technology improves the stability of the device on applications with significant mechanical stress.

These breakers are offered with breaking capacities from 36 kA up to extreme 150 kA. Rated impulse withstand voltage U_{imp} up to 12 kV makes it possible to use them even in system with occurrences of transient overvoltage waves of high intensity, e.g. in heavy industry.

Utilization category A and B circuit breakers.

Type Key

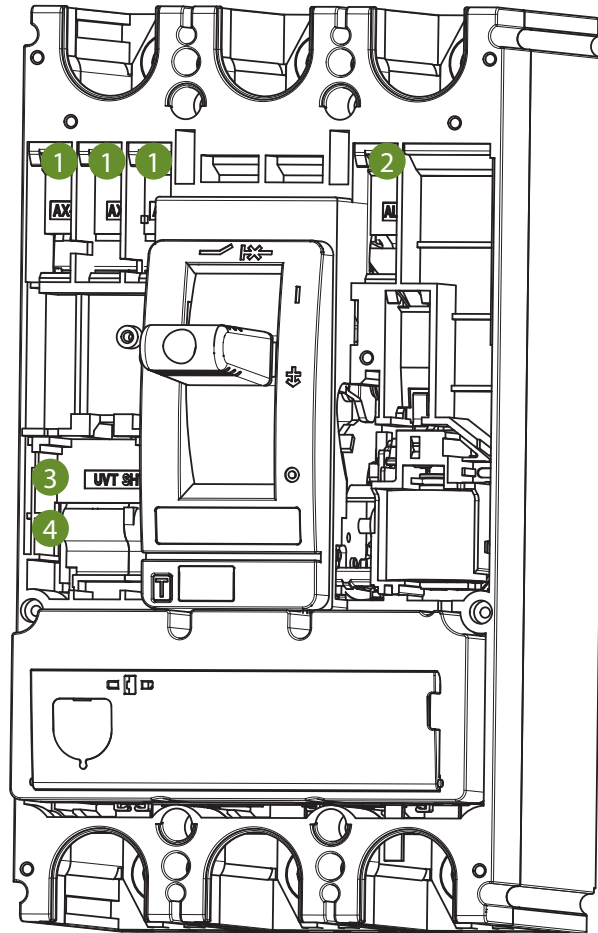


Certification marks



Moulded Case Circuit Breakers Ex9M SU20S

Internal accessories



1

Auxiliary contact
AX21M

2

Signal contact
AL21M

3

Shunt trip release
SHT2i
1 unit or UVT2i

4

Undervoltage release
UVT2i
1 unit or SHT2i

Auxiliary contact AX21M

Signal contact AL21M

Shunt trip releases SHT2i

Undervoltage releases UVT2i

All internal accessories for the frame sizes M2+M3 and M4+M5 are identical.

Moulded Case Circuit Breakers Ex9M SU20S

External accessories Ex9M2-M5 SU20S



Phase barriers
PHS2i



Terminal cover, short
TCV2i



Terminal cover, long
TCE2i



Remote operator
MOD2i



Direct rotary handle
RHD2i



Extended rotary handle
ERH2i

Phase barriers PHS2i

Terminal cover, short TCV2i

Remote operators MOD2i

Extended rotary handles ERH2i

Terminal cover, long TCE2i

Direct rotary handles RHD2i

Moulded Case Circuit Breakers Ex9M SU20S

External accessories Ex9M2-M5 SU20S



Tunnel terminals
MC2i W



Mounting depth spacers
WG i



Screw type terminals
MC2i



Screw terminals
MCS2i



Din rail adapter
DRA2i



Plug-in base
PIA2i



Withdrawable base
DOB2i

Tunnel terminals **MC2i W**

Mounting depth spacers **WG i**

Screw type terminals **MC2i**

Screw terminals **MCS2i**

Din rail **DRA2i**

Plug-in base **PIA2i**

Withdrawable base **DOB2i**

Moulded Case Circuit Breakers Ex9M SU20S

Version Ex9M2S up to 250 A, $I_{cu} = 36$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 36$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	32A	13-32 A	48-384 A	111277	Ex9M2S SU20S 32 3P	1/8
3	63A	25-63 A	95-756 A	111278	Ex9M2S SU20S 63 3P	1/8
3	100A	40-100 A	150-1200 A	111279	Ex9M2S SU20S 100 3P	1/8
3	160A	64-160 A	240-1920 A	111280	Ex9M2S SU20S 160 3P	1/8
3	250A	100-250 A	375-3000 A	111281	Ex9M2S SU20S 250 3P	1/8
4	32A	13-32 A	48-384 A	111282	Ex9M2S SU20S 32 4P4T	1/8
4	63A	25-63 A	95-756 A	111283	Ex9M2S SU20S 63 4P4T	1/8
4	100A	40-100 A	150-1200 A	111284	Ex9M2S SU20S 100 4P4T	1/8
4	160A	64-160 A	240-1920 A	111285	Ex9M2S SU20S 160 4P4T	1/8
4	250A	100-250 A	375-3000 A	111286	Ex9M2S SU20S 250 4P4T	1/8

Version Ex9M2N up to 250 A, $I_{cu} = 50$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 50$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	32A	13-32 A	48-384 A	111287	Ex9M2N SU20S 32 3P	1/8
3	63A	25-63 A	95-756 A	111288	Ex9M2N SU20S 63 3P	1/8
3	100A	40-100 A	150-1200 A	111289	Ex9M2N SU20S 100 3P	1/8
3	160A	64-160 A	240-1920 A	111290	Ex9M2N SU20S 160 3P	1/8
3	250A	100-250 A	375-3000 A	111291	Ex9M2N SU20S 250 3P	1/8
4	32A	13-32 A	48-384 A	111292	Ex9M2N SU20S 32 4P4T	1/8
4	63A	25-63 A	95-756 A	111293	Ex9M2N SU20S 63 4P4T	1/8
4	100A	40-100 A	150-1200 A	111294	Ex9M2N SU20S 100 4P4T	1/8
4	160A	64-160 A	240-1920 A	111295	Ex9M2N SU20S 160 4P4T	1/8
4	250A	100-250 A	375-3000 A	111296	Ex9M2N SU20S 250 4P4T	1/8

Moulded Case Circuit Breakers Ex9M SU20S

Version Ex9M2Q up to 250 A, $I_{cu} = 70$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 70$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	32A	13-32 A	48-384 A	111297	Ex9M2Q SU20S 32 3P	1/8
3	63A	25-63 A	95-756 A	111298	Ex9M2Q SU20S 63 3P	1/8
3	100A	40-100 A	150-1200 A	111299	Ex9M2Q SU20S 100 3P	1/8
3	160A	64-160 A	240-1920 A	111300	Ex9M2Q SU20S 160 3P	1/8
3	250A	100-250 A	375-3000 A	111301	Ex9M2Q SU20S 250 3P	1/8
4	32A	13-32 A	48-384 A	111302	Ex9M2Q SU20S 32 4P4T	1/8
4	63A	25-63 A	95-756 A	111303	Ex9M2Q SU20S 63 4P4T	1/8
4	100A	40-100 A	150-1200 A	111304	Ex9M2Q SU20S 100 4P4T	1/8
4	160A	64-160 A	240-1920 A	111305	Ex9M2Q SU20S 160 4P4T	1/8
4	250A	100-250 A	375-3000 A	111306	Ex9M2Q SU20S 250 4P4T	1/8

Version Ex9M2H up to 250 A, $I_{cu} = 100$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 100$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	32A	13-32 A	48-384 A	111307	Ex9M2H SU20S 32 3P	1/8
3	63A	25-63 A	95-756 A	111308	Ex9M2H SU20S 63 3P	1/8
3	100A	40-100 A	150-1200 A	111309	Ex9M2H SU20S 100 3P	1/8
3	160A	64-160 A	240-1920 A	111310	Ex9M2H SU20S 160 3P	1/8
3	250A	100-250 A	375-3000 A	111311	Ex9M2H SU20S 250 3P	1/8
4	32A	13-32 A	48-384 A	111312	Ex9M2H SU20S 32 4P4T	1/8
4	63A	25-63 A	95-756 A	111313	Ex9M2H SU20S 63 4P4T	1/8
4	100A	40-100 A	150-1200 A	111314	Ex9M2H SU20S 100 4P4T	1/8
4	160A	64-160 A	240-1920 A	111315	Ex9M2H SU20S 160 4P4T	1/8
4	250A	100-250 A	375-3000 A	111316	Ex9M2H SU20S 250 4P4T	1/8

Moulded Case Circuit Breakers Ex9M SU20S

Version Ex9M2P up to 250 A, $I_{cu} = 150$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 150$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	32A	13-32 A	48-384 A	111317	Ex9M2P SU20S 32 3P	1/8
3	63A	25-63 A	95-756 A	111318	Ex9M2P SU20S 63 3P	1/8
3	100A	40-100 A	150-1200 A	111319	Ex9M2P SU20S 100 3P	1/8
3	160A	64-160 A	240-1920 A	111320	Ex9M2P SU20S 160 3P	1/8
3	250A	100-250 A	375-3000 A	111321	Ex9M2P SU20S 250 3P	1/8
4	32A	13-32 A	48-384 A	111322	Ex9M2P SU20S 32 4P4T	1/8
4	63A	25-63 A	95-756 A	111323	Ex9M2P SU20S 63 4P4T	1/8
4	100A	40-100 A	150-1200 A	111324	Ex9M2P SU20S 100 4P4T	1/8
4	160A	64-160 A	240-1920 A	111325	Ex9M2P SU20S 160 4P4T	1/8
4	250A	100-250 A	375-3000 A	111326	Ex9M2P SU20S 250 4P4T	1/8

Moulded Case Circuit Breakers Ex9M SU20S

Version Ex9M3S up to 630 A, $I_{cu} = 36$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 36$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	250 A	100-250 A	375-3000 A	111327	Ex9M3S SU20S 250 3P	1/2
3	400 A	160-400 A	600-4800 A	111328	Ex9M3S SU20S 400 3P	1/2
3	630 A	252-630 A	945-7560 A	111329	Ex9M3S SU20S 630 3P	1/2
4	250 A	100-250 A	375-3000 A	111330	Ex9M3S SU20S 250 4P4T	1/2
4	400 A	160-400 A	600-4800 A	111331	Ex9M3S SU20S 400 4P4T	1/2
4	630 A	252-630 A	945-7560 A	111332	Ex9M3S SU20S 630 4P4T	1/2

Version Ex9M3N up to 630 A, $I_{cu} = 50$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 50$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	250 A	100-250 A	375-3000 A	111333	Ex9M3N SU20S 250 3P	1/2
3	400 A	160-400 A	600-4800 A	111334	Ex9M3N SU20S 400 3P	1/2
3	630 A	252-630 A	630-7560 A	111335	Ex9M3N SU20S 630 3P	1/2
4	250 A	100-250 A	375-3000 A	111336	Ex9M3N SU20S 250 4P4T	1/2
4	400 A	160-400 A	600-4800 A	111337	Ex9M3N SU20S 400 4P4T	1/2
4	630 A	252-630 A	630-7560 A	111338	Ex9M3N SU20S 630 4P4T	1/2

Version Ex9M3Q up to 630 A, $I_{cu} = 70$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 70$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	250 A	100-250 A	375-3000 A	111339	Ex9M3Q SU20S 250 3P	1/2
3	400 A	160-400 A	600-4800 A	111340	Ex9M3Q SU20S 400 3P	1/2
3	630 A	252-630 A	945-7560 A	111341	Ex9M3Q SU20S 630 3P	1/2
4	250 A	100-250 A	375-3000 A	111342	Ex9M3Q SU20S 250 4P4T	1/2
4	400 A	160-400 A	600-4800 A	111343	Ex9M3Q SU20S 400 4P4T	1/2
4	630 A	252-630 A	945-7560 A	111344	Ex9M3Q SU20S 630 4P4T	1/2

Moulded Case Circuit Breakers Ex9M SU20S

Version Ex9M3H up to 630 A, $I_{cu} = 100$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 100$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	250 A	100-250 A	375-3000 A	111345	Ex9M3H SU20S 250 3P	1/2
3	400 A	160-400 A	600-4800 A	111346	Ex9M3H SU20S 400 3P	1/2
3	630 A	252-630 A	945-7560 A	111347	Ex9M3H SU20S 630 3P	1/2
4	250 A	100-250 A	375-3000 A	111348	Ex9M3H SU20S 250 4P4T	1/2
4	400 A	160-400 A	600-4800 A	111349	Ex9M3H SU20S 400 4P4T	1/2
4	630 A	252-630 A	945-7560 A	111350	Ex9M3H SU20S 630 4P4T	1/2

Version Ex9M3P up to 630 A, $I_{cu} = 150$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 150$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	250 A	100-250 A	375-3000 A	111351	Ex9M3P SU20S 250 3P	1/2
3	400 A	160-400 A	600-4800 A	111352	Ex9M3P SU20S 400 3P	1/2
3	630 A	252-630 A	945-7560 A	111353	Ex9M3P SU20S 630 3P	1/2
4	250 A	100-250 A	375-3000 A	111354	Ex9M3P SU20S 250 4P4T	1/2
4	400 A	160-400 A	600-4800 A	111355	Ex9M3P SU20S 400 4P4T	1/2
4	630 A	252-630 A	945-7560 A	111356	Ex9M3P SU20S 630 4P4T	1/2

Moulded Case Circuit Breakers Ex9M SU20S

Version Ex9M4S 630 A, $I_{cu} = 36$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 36$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	630 A	252-630 A	945-7560 A	111357	Ex9M4S SU20S 630 3P	1/1
4	630 A	252-630 A	945-7560 A	111358	Ex9M4S SU20S 630 4P4T	1/1

Version Ex9M4N 630 A, $I_{cu} = 50$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 50$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	630 A	252-630 A	945-7560 A	111359	Ex9M4N SU20S 630 3P	1/1
4	630 A	252-630 A	945-7560 A	111360	Ex9M4N SU20S 630 4P4T	1/1

Version Ex9M4Q 630 A, $I_{cu} = 70$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 70$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	630 A	252-630 A	945-7560 A	111361	Ex9M4Q SU20S 630 3P	1/1
4	630 A	252-630 A	945-7560 A	111362	Ex9M4Q SU20S 630 4P4T	1/1

Moulded Case Circuit Breakers Ex9M SU20S

Version Ex9M4H 630 A, $I_{cu} = 100$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 100$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	630 A	252-630 A	945-7560 A	111363	Ex9M4H SU20S 630 3P	1/1
4	630 A	252-630 A	945-7560 A	111364	Ex9M4H SU20S 630 4P4T	1/1

Version Ex9M4P 630 A, $I_{cu} = 150$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 150$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	630 A	252-630 A	945-7560 A	111365	Ex9M4P SU20S 630 3P	1/1
4	630 A	252-630 A	945-7560 A	111366	Ex9M4P SU20S 630 4P4T	1/1

Moulded Case Circuit Breakers Ex9M SU20S

Version Ex9M5S 800 A, $I_{cu} = 36$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 36$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	800A	320-800A	1200-9600A	111367	Ex9M5S SU20S 800 3P	1/1
4	800A	320-800A	1200-9600A	111368	Ex9M5S SU20S 800 4P4T	1/1

Version Ex9M5N 800 A, $I_{cu} = 50$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 50$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	800A	320-800A	1200-9600A	111369	Ex9M5N SU20S 800 3P	1/1
4	800A	320-800A	1200-9600A	111370	Ex9M5N SU20S 800 4P4T	1/1

Version Ex9M5Q 800 A, $I_{cu} = 70$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 70$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	800A	320-800A	1200-9600A	111371	Ex9M5Q SU20S 800 3P	1/1
4	800A	320-800A	1200-9600A	111372	Ex9M5Q SU20S 800 4P4T	1/1

Moulded Case Circuit Breakers Ex9M SU20S

Version Ex9M5H 800 A, $I_{cu} = 100$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 100$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	800A	320-800A	1200-9600A	111373	Ex9M5H SU20S 800 3P	1/1
4	800A	320-800A	1200-9600A	111374	Ex9M5H SU20S 800 4P4T	1/1

Version Ex9M5P 800 A, $I_{cu} = 150$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 150$ kA at 415 V AC
- I_r can be set in range $(0.4 - 1.0) \times I_n$
- I_i can be set in range $(1.5 - 12) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current I_n	Overcurrent release I_r	instant. release I_i	Article No.	Type	Packing
3	800A	320-800A	1200-9600A	111375	Ex9M5P SU20S 800 3P	1/1
4	800A	320-800A	1200-9600A	111376	Ex9M5P SU20S 800 4P4T	1/1

Technical Data Ex9M2 SU20S

SU20S Moulded Case Circuit Breakers up to 250 A

General parameters

Suitable for commercial as well as industrial applications

I_r can be set in range $(0.4 — 1.0) \times I_n$

I_i can be set in range $(1.5 — 12) \times I_n$

Internal accessories

Auxiliary contact unit	AX21M	112071
Alarm contact unit	AL21M	112072
Shunt trip releases	SHT22	101416 — 101424
Undervoltage releases	UVT22	101425 — 101426
Max. number of installed internal accessories is 2 pcs of AX21M, 1 pc of AL21M and 1 pc of a release (SHT22 or UVT22)		

External accessories

Direct rotary handle	RHD22	101429
Extended rotary handle	ERH22	101428
Remote motor operators	MOD22	101430 — 101434
Terminal cover, short	TCV22 3P, 4P	101442, 102374
Terminal cover, long	TCE22 3P, 4P	101443, 102375
Phase barrier	PHS22	112111
Connection terminals	MC22	103709, 103869, 103711, 103713
DIN-rail adapter	DRA22	106320
Plug-in base	PIA 22 SU20	112093 — 112094

Mounting screws, box terminals as well as phase barriers in the scope of delivery

Derating coefficient of Tripping Characteristics on accessories combination

Combined accessory	I_n (T) [A]				
	32 A	63 A	100 A	160 A	250 A
Ex9ML	1	1	1	1	0.95
PIA 22 SU20	1	1	1	1	0.95

Technical Data Ex9M2 SU20S

SU20S Moulded Case Circuit Breakers up to 250 A

Electrical parameters

	Ex9M2S	Ex9M2N	Ex9M2Q	Ex9M2H	Ex9M2P
Tested according to	IEC/EN 60947-2				
Rated op. voltage U_e	380 / 400 / 415, 440, 500, 660 / 690 V AC				
Rated insulation voltage U_i	1 000 V				
Rated impulse withstand voltage U_{imp}	8 kV				
Rated frequency	50/60 Hz				
Rated ultimate short-circuit breaking capacity I_{cu}	36 kA / 415 V 6 kA / 690 V	50 kA / 415 V 8 kA / 690 V	70 kA / 415 V 8 kA / 690 V	100 kA / 415 V 10 kA / 690 V	150 kA / 415 V 10 kA / 690 V
Rated service short-circuit breaking capacity I_{cs}	36 kA / 415 V 6 kA / 690 V	50 kA / 415 V 8 kA / 690 V	70 kA / 415 V 8 kA / 690 V	100 kA / 415 V 10 kA / 690 V	150 kA / 415 V 10 kA / 690 V
Rated current	32 / 63 / 100 / 160 / 250 A				
Utilization category	A				
Rated short-time withstanding current I_{cw} 1s	1 kA (32 — 63 A) 2 kA (80 — 160 A) 3 kA (180 — 250 A)				
Mechanical service life	15 000 operation cycles				
Electrical service life	5 000 operation cycles / 415 V AC 2 000 operation cycles / 690 V AC				
Total disconnection time at short circuit	< 2 ms				
Line voltage connection	arbitrary above or below				

Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	I_n (T) [A]				
	32 A	63 A	100 A	160 A	250 A
-35	32	63	100	160	250
-25	32	63	100	160	250
-15	32	63	100	160	250
-5	32	63	100	160	250
0	32	63	100	160	250
10	32	63	100	160	250
20	32	63	100	160	250
30	32	63	100	160	250
40	32	63	100	160	250
50	32	63	100	160	240
60	32	63	100	160	225
70	32	63	100	160	213

Power dissipation characteristics

I_n	32 A	63 A	100 A	160 A	250 A
Pole resistance	0.8 mΩ	0.4 mΩ	0.4 mΩ	0.4 mΩ	0.4 mΩ
Pole power dissipation	0.8 W	1.6 W	4.0 W	10.2 W	25 W

Technical Data Ex9M2 SU20S

SU20S Moulded Case Circuit Breakers up to 250 A

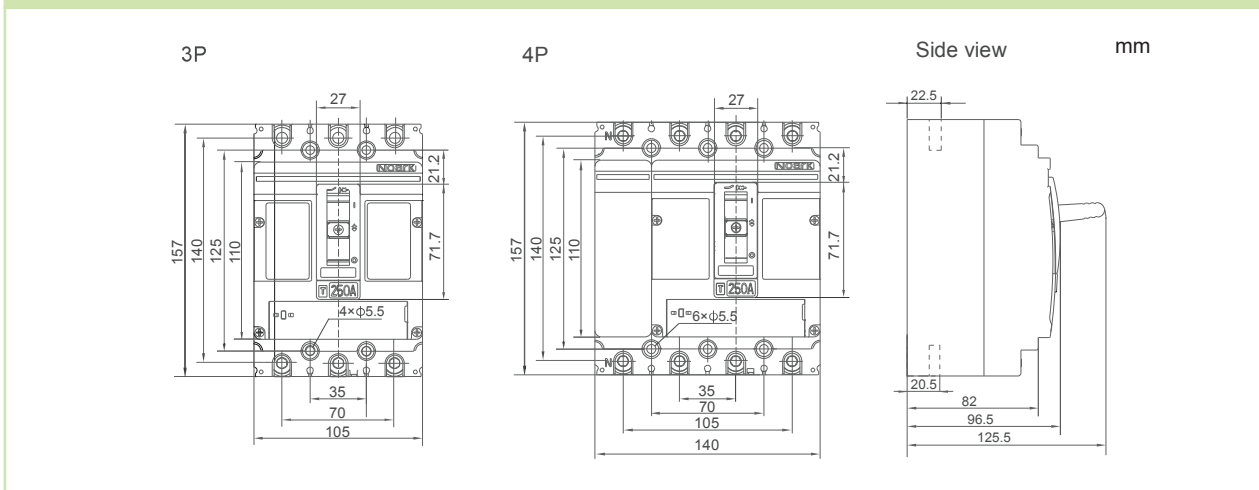
Mechanical parameters

Device width 3P / 4P	105 mm / 140 mm
Device height	157 mm
Device depth	96.5 mm
Mounting	onto panel
Degree of protection	IP40, IP20 terminals
Terminals	box
Terminal capacity	10 — 120 mm ²
Fastening torque of terminals	25 Nm
Ambient temperature	-35 — +70 °C
Relative humidity	≤ 50 % at 40 °C, ≤ 90 % monthly average
Pollution degree	3
Weight 3P / 4P	2 kg / 2.65 kg
Mounting position	vertical, can be rotated by 90° in each axis

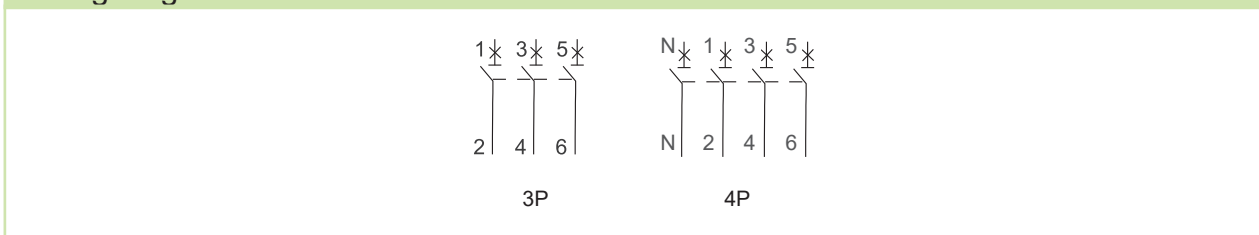
Derating coefficient of technical parameters based on altitude

Altitude	≤ 2 000 m	3 000 m	4 000 m	5 000 m
Derating op. current I _n coefficient	1	0.96	0.93	0.9
Maximum rated op. voltage U _e	690 V AC	550 V AC	480 V AC	420 V AC
Rated insulation voltage U _i	1000 V AC	930 V AC	870 V AC	800 V AC
Rated impulse withstand voltage U _{imp}	8 kV	8 kV	8 kV	8 kV
Dielectric properties (U _{imp} =8 kV)	2200 V AC	2050 V AC	1900 V AC	1770 V AC

Dimensions



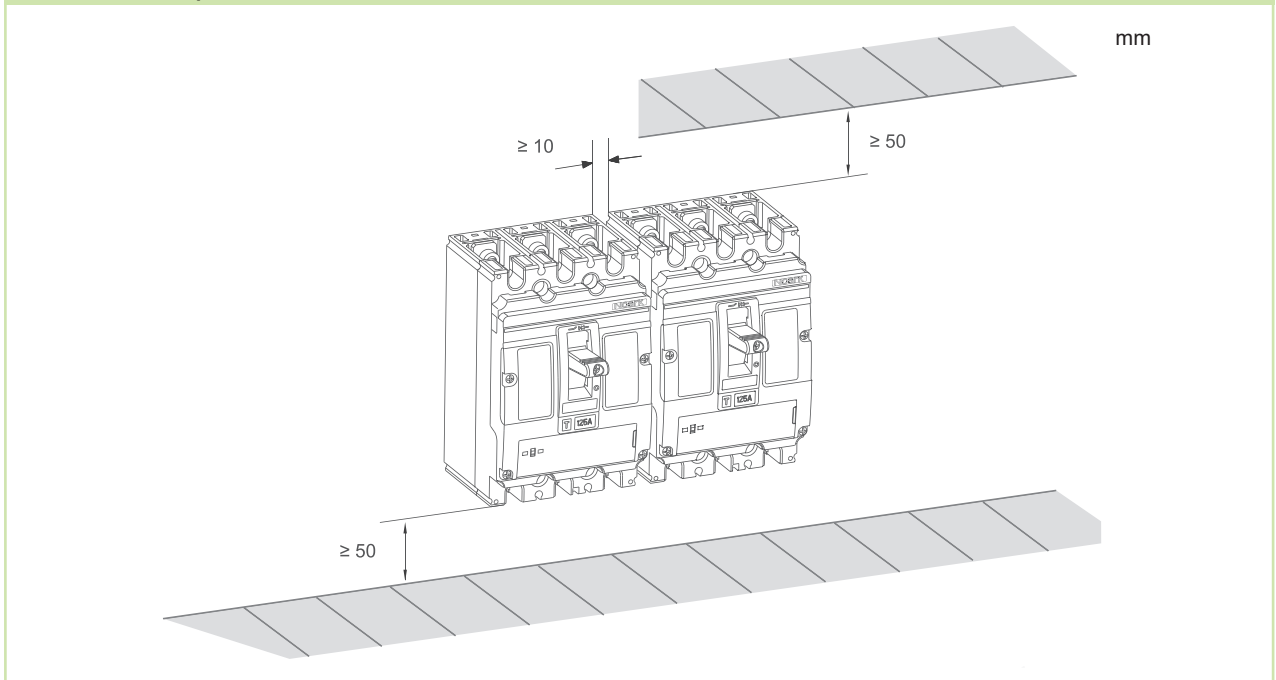
Wiring diagram



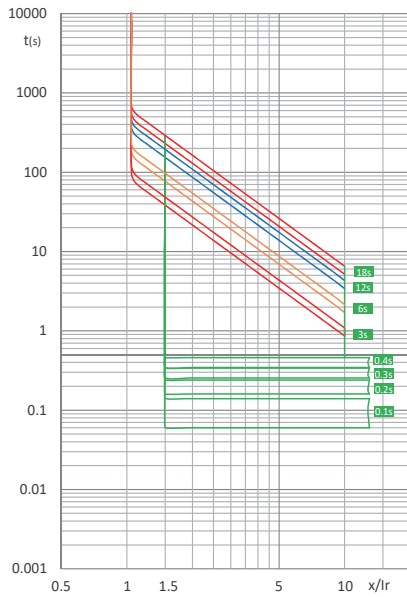
Technical Data Ex9M2 SU20S

SU20S Moulded Case Circuit Breakers up to 250 A

installation space

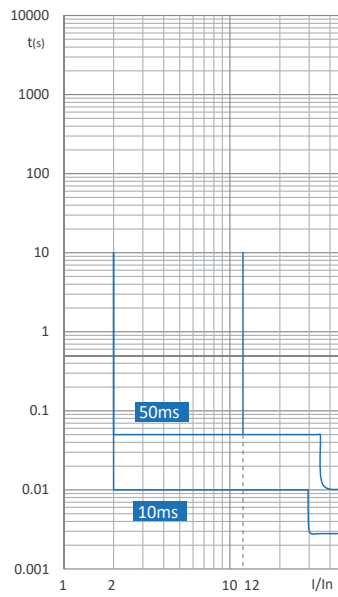


Tripping characteristics

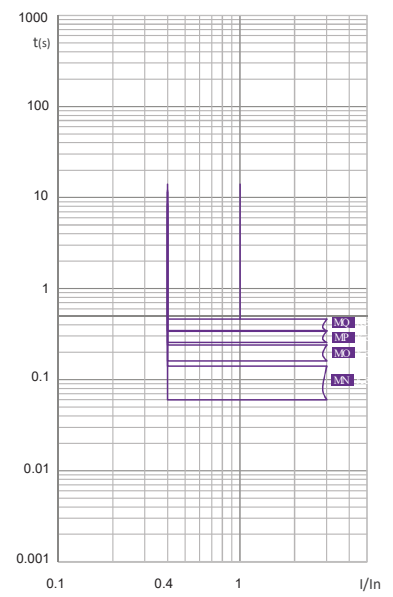


Long time delay:
 $I_r =$
 (0.4/0.5/0.6/0.7/
 0.8/0.9/0.95/1) I_n
 $T_r =$
 (3/6/12/18)s

Short time delay:
 $I_{sd} =$
 (OFF/1.5/2/
 3/4/6/8/10) I_r
 $T_{sd} =$
 (0.1/0.2/0.3/0.4)s



Instantaneous:
 $I_i =$
 (OFF/2/3/4/6/8/10/12)



Grounding protection:
 $I_g =$
 (0.4 ~ 1) I_n
 $T_g =$
 (0.1 ~ 0.4)s

Technical Data Ex9M3 SU20S

SU20S Moulded Case Circuit Breakers up to 630 A

General parameters

Suitable for commercial as well as industrial applications

I_r can be set in range $(0.4 - 1.0) \times I_n$

I_i can be set in range $(1.5 - 12) \times I_n$

Internal accessories

Auxiliary contact unit	AX21M	112071
Alarm contact unit	AL21M	112072
Shunt trip releases	SHT22	101416 — 101424
Undervoltage releases	UVT22	101425 — 101426
Max. number of installed internal accessories is 2 pcs of AX21M, 1 pc of AL21M and 1 pc of a release (SHT22 or UVT22)		

External accessories

Direct rotary handle	RHD23	101483
Extended rotary handle	ERH23	101482
Remote motor operators	MOD23	101484 — 101488
Terminal cover, short	TCV23 3P, 4P	101489, 102376
Terminal cover, long	TCE23 3P, 4P	101490, 102377
Phase barrier	PHS23	112112
Connection terminals	MC23	103715 — 103722
Plug-in base	PIA 23 SU20	112095 — 112100
Withdrawable base	DOB 23 SU20	112101 — 112108

Mounting screws, screw type terminals as well as phase barriers in the scope of delivery

Derating coefficient of Tripping Characteristics on accessories combination

Combined accessory	I_n (T) [A]		
	250 A	400 A	630 A
Ex9ML	1	1	0.9
PIA 23 SU20	1	1	0.9 ($\leq 570A$)
DOB 23 SU20	1	1	0.9 ($\leq 570A$)

Technical Data Ex9M3 SU20S

SU20S Moulded Case Circuit Breakers up to 630 A

Electrical parameters

	Ex9M3S	Ex9M3N	Ex9M3Q	Ex9M3H	Ex9M3P
Tested according to	IEC/EN 60947-2				
Rated op. voltage U_e	380 / 400 / 415, 440, 500, 660 / 690 V AC				
Rated insulation voltage U_i	1 000 V				
Rated impulse withstand voltage U_{imp}	12 kV				
Rated frequency	50/60 Hz				
Rated ultimate short-circuit breaking capacity I_{cu}	36 kA / 415 V 10 kA / 690 V	50 kA / 415 V 12 kA / 690 V	70 kA / 415 V 12 kA / 690 V	100 kA / 415 V 15 kA / 690 V	150 kA / 415 V 15 kA / 690 V
Rated service short-circuit breaking capacity I_{cs}	36 kA / 415 V 10 kA / 690 V	50 kA / 415 V 12 kA / 690 V	70 kA / 415 V 12 kA / 690 V	100 kA / 415 V 15 kA / 690 V	150 kA / 415 V 15 kA / 690 V
Rated current	250 / 400 / 630 A				
Utilization category	B				
Rated short-time withstanding current I_{cw} 1s	5 kA (250 — 400 A) 8 kA (500 — 630 A)				
Mechanical service life	15 000 operation cycles				
Electrical service life	4 000 operation cycles / 415 V AC 1 500 operation cycles / 690 V AC				
Total disconnection time at short circuit	< 2 ms				
Line voltage connection	arbitrary above or below				

Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	I_n (T) [A]		
	250 A	400 A	630 A
-35	250	400	630
-25	250	400	630
-15	250	400	630
-5	250	400	630
0	250	400	630
10	250	400	630
20	250	400	630
30	250	400	630
40	250	400	630
50	250	380	600
60	250	360	570
70	250	340	540

Power dissipation characteristics

I_n	250 A	400 A	630 A
Pole resistance	0.15 mΩ	0.15 mΩ	0.12 mΩ
Pole power dissipation	9.4 W	24.0 W	47.6 W

Technical Data Ex9M3 SU20S

SU20S Moulded Case Circuit Breakers up to 630 A

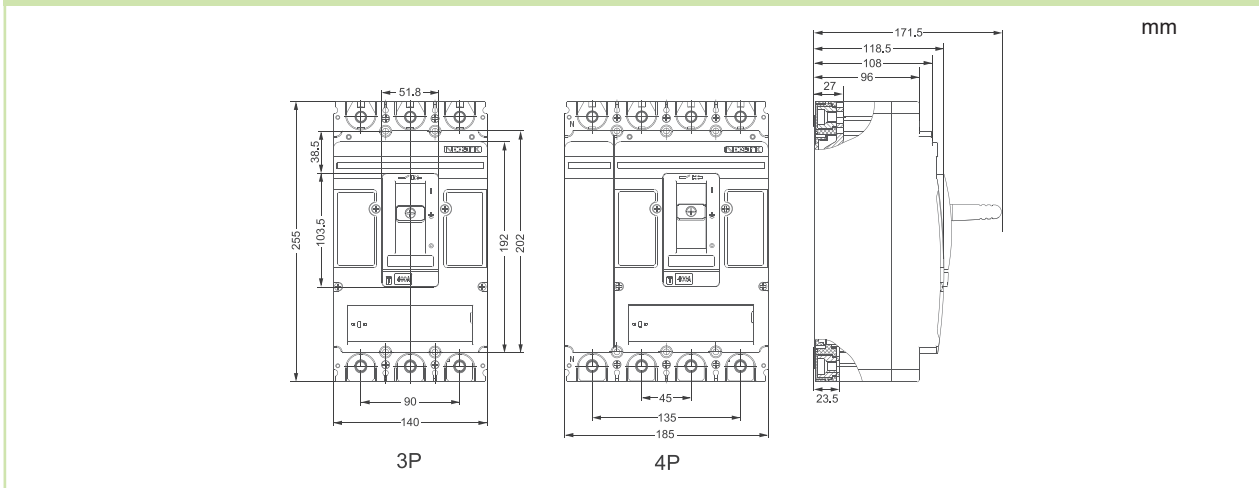
Mechanical parameters

Device width 3P / 4P	140 mm / 185 mm
Device height	255 mm
Device depth	118.5 mm
Mounting	onto panel
Degree of protection	IP40, IP20 terminals
Terminals	M10 screws
Busbar thickness	≤ 8 mm
Busbar width	≤ 30 mm
Cable lug width	≤ 30 mm
Fastening torque of terminals	25 Nm
Ambient temperature	-35 — +70 °C
Relative humidity	≤ 50 % at 40 °C, ≤ 90 % monthly average
Pollution degree	3
Weight 3P / 4P	5.8 kg / 7.8 kg
Mounting position	vertical, can be rotated by 90° in each axis

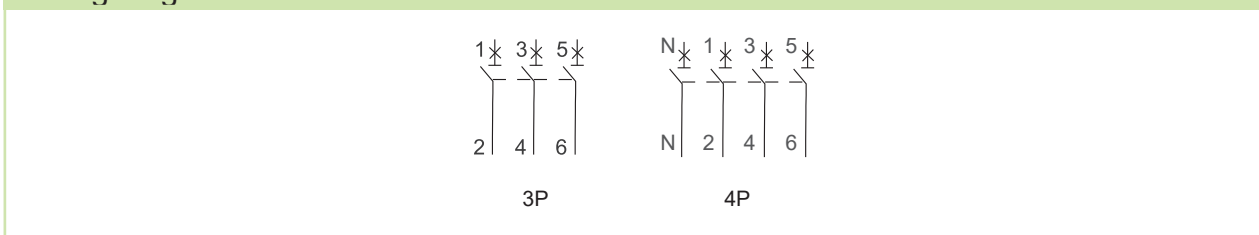
Derating coefficient of technical parameters based on altitude

Altitude	≤ 2 000 m	3 000 m	4 000 m	5 000 m
Derating op. current I_n coefficient	1	0.96	0.93	0.9
Maximum rated op. voltage U_e	690 V AC	550 V AC	480 V AC	420 V AC
Rated insulation voltage U_i	1000 V AC	930 V AC	870 V AC	800 V AC
Rated impulse withstand voltage U_{imp}	12 kV	10 kV	8 kV	8 kV
Dielectric properties ($U_{imp}=12$ kV)	2550 V AC	2370 V AC	2200 V AC	2050 V AC

Dimensions



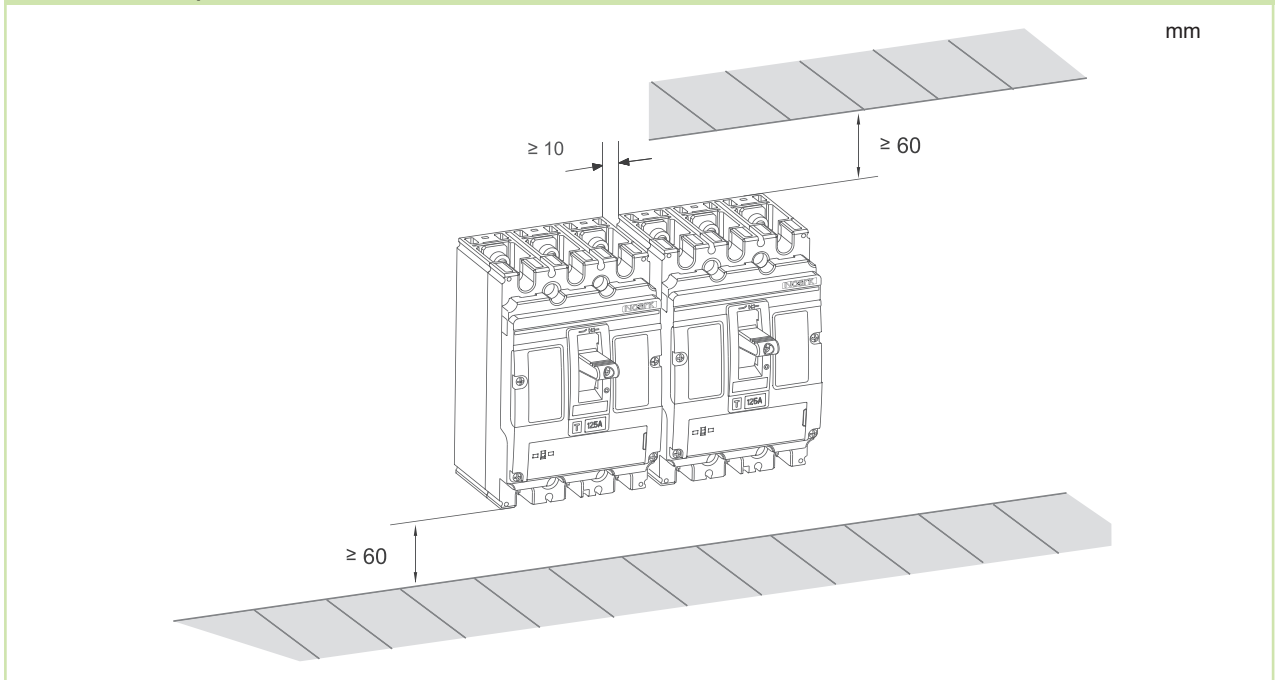
Wiring diagram



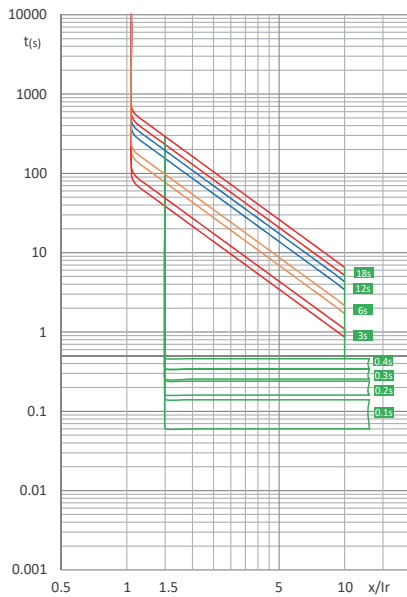
Technical Data Ex9M3 SU20S

SU20S Moulded Case Circuit Breakers up to 630 A

installation space

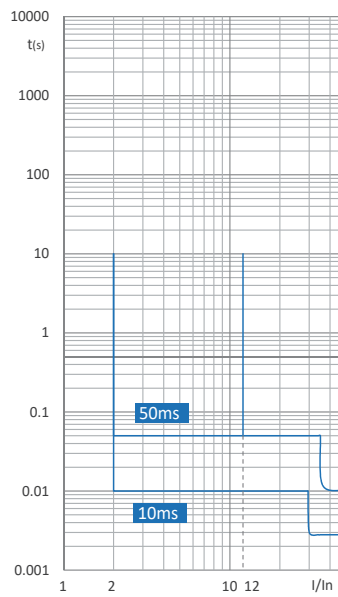


Tripping characteristics

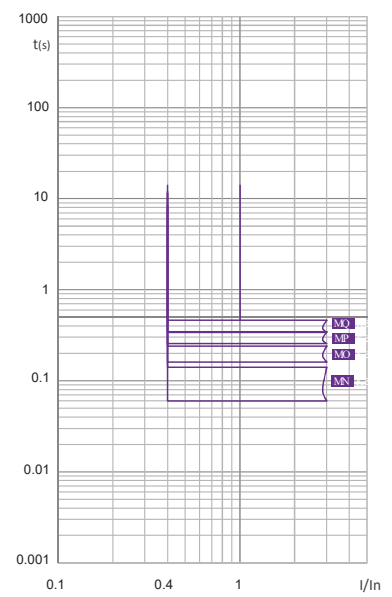


Long time delay:
 $I_r =$
 (0.4/0.5/0.6/0.7/
 0.8/0.9/0.95/1) I_n
 $T_r =$
 (3/6/12/18)s

Short time delay:
 $I_{sd} =$
 (OFF/1.5/2/
 3/4/6/8/10) I_r
 $T_{sd} =$
 (0.1/0.2/0.3/0.4)s



Instantaneous:
 $I_i =$
 (OFF/2/3/4/6/8/10/12)



Grounding protection:
 $I_g =$
 (0.4 ~ 1) I_n
 $T_g =$
 (0.1 ~ 0.4)s

Technical Data Ex9M4 SU20S

SU20S Moulded Case Circuit Breakers up to 630 A

General parameters

Suitable for commercial as well as industrial applications

I_r can be set in range $(0.4 - 1.0) \times I_n$

I_i can be set in range $(1.5 - 12) \times I_n$

Internal accessories

Auxiliary contact unit	AX21M	112071
Alarm contact unit	AL21M	112072
Shunt trip releases	SHT24	103723 — 103730
Undervoltage releases	UVT24	103722 — 103740
Max. number of installed internal accessories is 2 pcs of AX21M, 1 pc of AL21M and 1 pc of a release (SHT24 or UVT24)		

External accessories

Direct rotary handle	RHD24	103742
Extended rotary handle	ERH24	103741
Remote motor operators	MOD24	103743 — 103747
Terminal cover, short	TCV24 3P, 4P	103748, 103750
Terminal cover, long	TCE24 3P, 4P	103749, 104855
Phase barrier	PHS24	112113
Connection terminals	MC24 W2	106314
Withdrawable base	DOB24 SU20	108891, 108903, 108897, 108909

Mounting screws, screw type terminals as well as phase barriers in the scope of delivery

Derating coefficient of Tripping Characteristics on accessories combination

Combined accessory	I_n (T) [A]
	630 A
DOB 24 SU20	0.95

Technical Data Ex9M4 SU20S

SU20S Moulded Case Circuit Breakers up to 630 A

Electrical parameters

	Ex9M4S	Ex9M4N	Ex9M4Q	Ex9M4H	Ex9M4P
Tested according to	IEC/EN 60947-2				
Rated op. voltage U_e	380 / 400 / 415, 440, 500, 660 / 690 V AC				
Rated insulation voltage U_i	1 000 V				
Rated impulse withstand voltage U_{imp}	12 kV				
Rated frequency	50/60 Hz				
Rated ultimate short-circuit breaking capacity I_{cu}	36 kA / 415 V 12 kA / 690 V	50 kA / 415 V 15 kA / 690 V	70 kA / 415 V 15 kA / 690 V	100 kA / 415 V 20 kA / 690 V	150 kA / 415 V 30 kA / 690 V
Rated service short-circuit breaking capacity I_{cs}	36 kA / 415 V 12 kA / 690 V	50 kA / 415 V 15 kA / 690 V	70 kA / 415 V 15 kA / 690 V	100 kA / 415 V 15 kA / 690 V	150 kA / 415 V 15 kA / 690 V
Rated current	630 A				
Utilization category	B				
Rated short-time withstanding current I_{cw} 1s	10 kA				
Mechanical service life	10 000 operation cycles				
Electrical service life	3 000 operation cycles / 415 V AC 1 000 operation cycles / 690 V AC				
Total disconnection time at short circuit	< 2 ms				
Line voltage connection	arbitrary above or below				

Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	I_n (T) [A]
	630 A
-35	630
-25	630
-15	630
-5	630
0	630
10	630
20	630
30	630
40	630
50	600
60	570
70	540

Power dissipation characteristics

I_n	630 A
Pole resistance	0.12 mΩ
Pole power dissipation	47.6 W

Technical Data Ex9M4 SU20S

SU20S Moulded Case Circuit Breakers up to 630 A

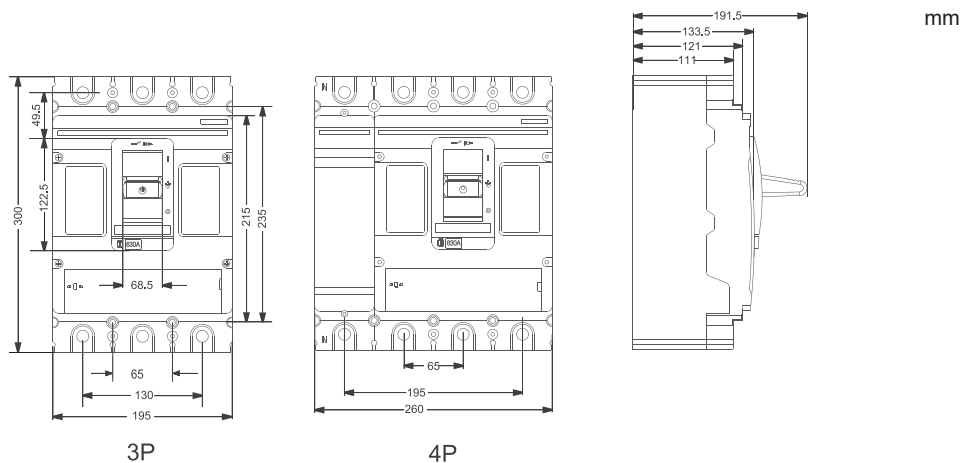
Mechanical parameters

Device width 3P / 4P	195 mm / 260 mm
Device height	300 mm
Device depth	142 mm
Mounting	onto panel
Degree of protection	IP40, IP20 terminals
Terminals	M12 screws
Busbar thickness	≤ 10 mm
Busbar width	≤ 50 mm
Cable lug width	≤ 50 mm
Fastening torque of terminals	30 Nm
Ambient temperature	-35 — +70 °C
Relative humidity	≤ 50 % at 40 °C, ≤ 90 % monthly average
Pollution degree	3
Weight 3P / 4P	10.5 kg / 13.5 kg
Mounting position	vertical, can be rotated by 90° in each axis

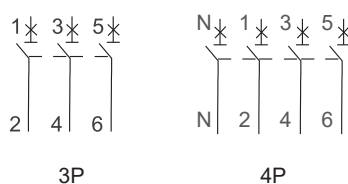
Derating coefficient of technical parameters based on altitude

Altitude	≤ 2 000 m	3 000 m	4 000 m	5 000 m
Derating op. current I_n coefficient	1	0.96	0.93	0.9
Maximum rated op. voltage U_e	690 V AC	550 V AC	480 V AC	420 V AC
Rated insulation voltage U_i	1000 V AC	930 V AC	870 V AC	800 V AC
Rated impulse withstand voltage U_{imp}	12 kV	10 kV	8 kV	8 kV
Dielectric properties ($U_{imp}=12$ kV)	2550 V AC	2370 V AC	2200 V AC	2050 V AC

Dimensions



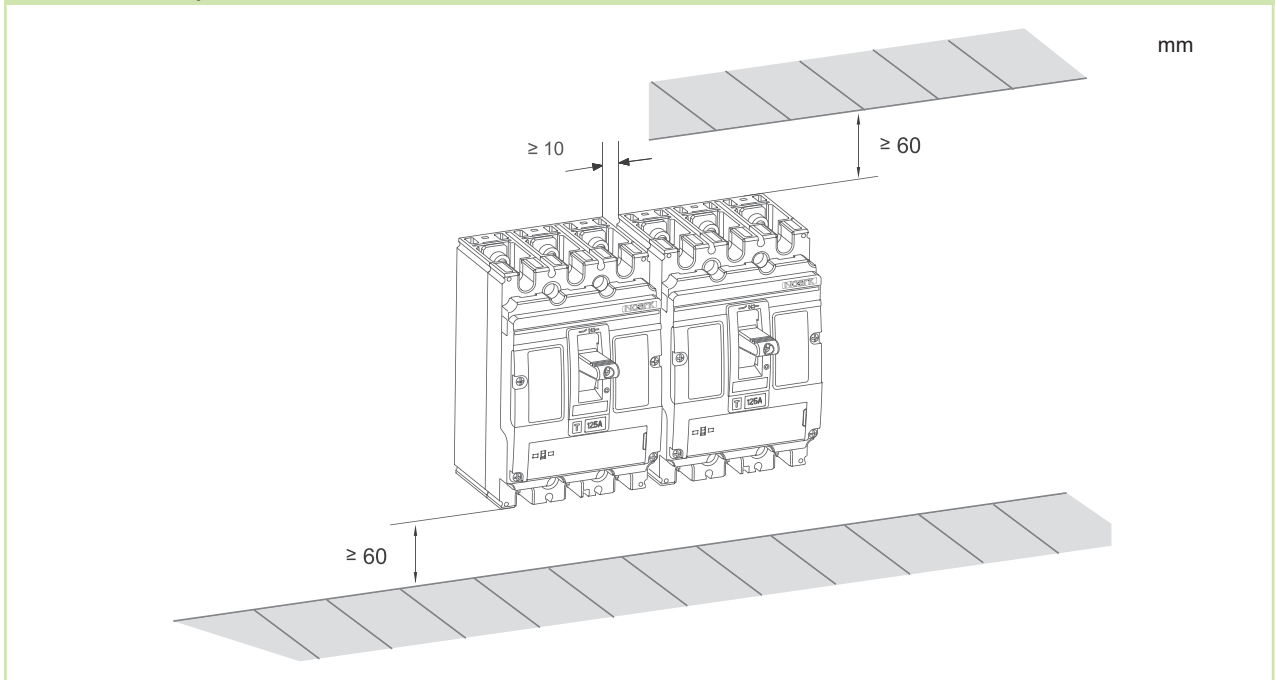
Wiring diagram



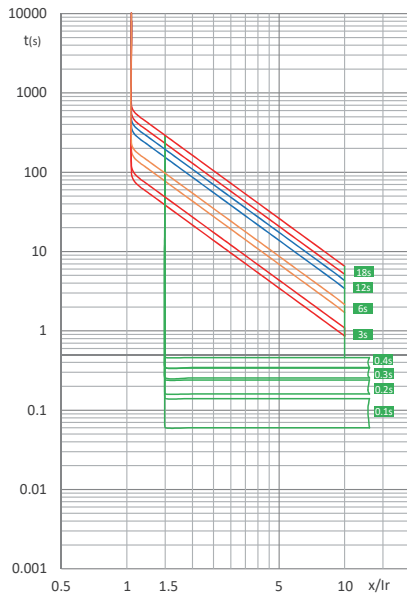
Technical Data Ex9M4 SU20S

SU20S Moulded Case Circuit Breakers up to 630 A

installation space

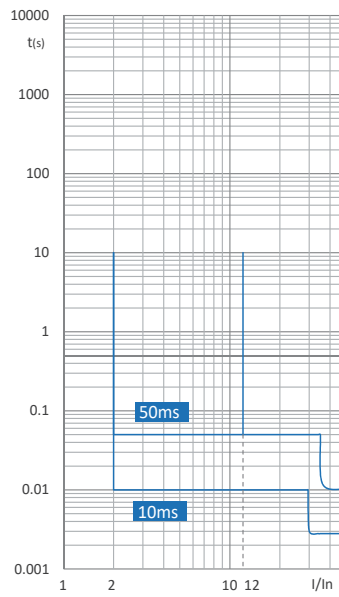


Tripping characteristics

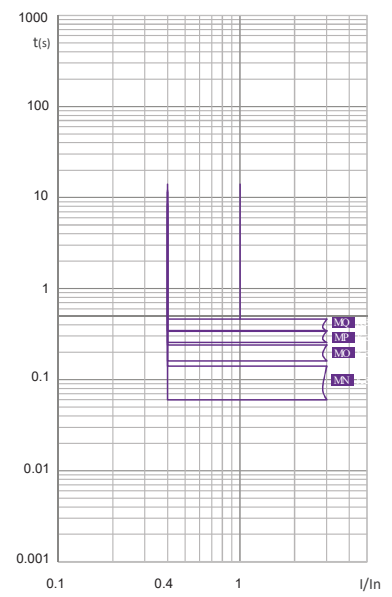


Long time delay:
 $I_r =$
 (0.4/0.5/0.6/0.7/
 0.8/0.9/0.95/1) I_n
 $T_r =$
 (3/6/12/18) s

Short time delay:
 $I_{sd} =$
 (OFF/1.5/2/
 3/4/6/8/10) I_r
 $T_{sd} =$
 (0.1/0.2/0.3/0.4) s



Instantaneous:
 $I_i =$
 (OFF/2/3/4/6/8/10/12)



Grounding protection:
 $I_g =$
 (0.4 ~ 1) I_n
 $T_g =$
 (0.1 ~ 0.4) s

Technical Data Ex9M5 SU20S

SU20S Moulded Case Circuit Breakers up to 800 A

General parameters

Suitable for commercial as well as industrial applications

I_r can be set in range $(0.4 - 1.0) \times I_n$

I_i can be set in range $(1.5 - 12) \times I_n$

Internal accessories

Auxiliary contact unit	AX21M	112071
Alarm contact unit	AL21M	112072
Shunt trip releases	SHT24	103723 — 103730
Undervoltage releases	UVT24	103722 — 103740
Max. number of installed internal accessories is 2 pcs of AX21M, 1 pc of AL21M and 1 pc of a release (SHT24 or UVT24)		

External accessories

Direct rotary handle	RHD24	103742
Extended rotary handle	ERH24	103741
Remote motor operators	MOD24	103743 — 103747
Terminal cover, short	TCV24 3P, 4P	103748, 103750
Terminal cover, long	TCE24 3P, 4P	103749, 104855
Phase barrier	PHS24	112113
Connection terminals	MC24 W2	106314
Withdrawable base	DOB24 SU20	108891, 108903, 108897, 108909

Mounting screws, screw type terminals as well as phase barriers in the scope of delivery

Derating coefficient of Tripping Characteristics on accessories combination

Combined accessory	I_n (T) [A]
	800 A
DOB 24 SU20	0.9

Technical Data Ex9M5 SU20S

SU20S Moulded Case Circuit Breakers up to 800 A

Electrical parameters

	Ex9M5S	Ex9M5N	Ex9M5Q	Ex9M5H	Ex9M5P
Tested according to	IEC/EN 60947-2				
Rated op. voltage U_e	380 / 400 / 415, 440, 500, 660 / 690 V AC				
Rated insulation voltage U_i	1 000 V				
Rated impulse withstand voltage U_{imp}	12 kV				
Rated frequency	50/60 Hz				
Rated ultimate short-circuit breaking capacity I_{cu}	36 kA / 415 V 12 kA / 690 V	50 kA / 415 V 15 kA / 690 V	70 kA / 415 V 15 kA / 690 V	100 kA / 415 V 20 kA / 690 V	150 kA / 415 V 30 kA / 690 V
Rated service short-circuit breaking capacity I_{cs}	36 kA / 415 V 12 kA / 690 V	50 kA / 415 V 15 kA / 690 V	70 kA / 415 V 15 kA / 690 V	100 kA / 415 V 15 kA / 690 V	150 kA / 415 V 15 kA / 690 V
Rated current	800 A				
Utilization category	B				
Rated short-time withstanding current I_{cw} 1s	10 kA				
Mechanical service life	10 000 operation cycles				
Electrical service life	3 000 operation cycles / 415 V AC 1 000 operation cycles / 690 V AC				
Total disconnection time at short circuit	< 2 ms				
Line voltage connection	arbitrary above or below				

Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	I_n (T) [A]
	800 A
-35	800
-25	800
-15	800
-5	800
0	800
10	800
20	800
30	800
40	800
50	760
60	720
70	680

Power dissipation characteristics

I_n	800 A
Pole resistance	0.08 mΩ
Pole power dissipation	51.2 W

Technical Data Ex9M5 SU20S

Moulded Case Circuit Breakers up to 800 A

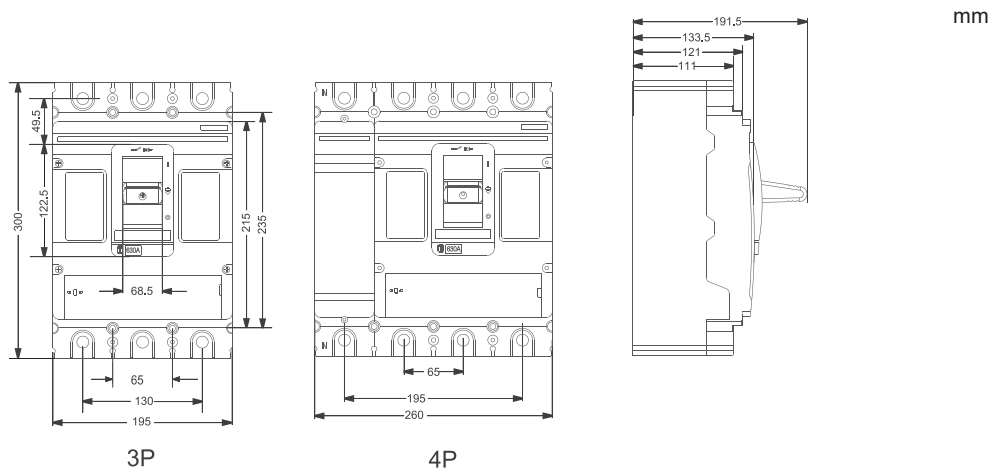
Mechanical parameters

Device width 3P / 4P	195 mm / 260 mm
Device height	300 mm
Device depth	142 mm
Mounting	onto panel
Degree of protection	IP40, IP20 terminals
Terminals	M12 screws
Busbar thickness	≤ 10 mm
Busbar width	≤ 50 mm
Cable lug width	≤ 50 mm
Fastening torque of terminals	30 Nm
Ambient temperature	-35 — +70 °C
Relative humidity	≤ 50 % at 40 °C, ≤ 90 % monthly average
Pollution degree	3
Weight 3P / 4P	10.5 kg / 13.5 kg
Mounting position	vertical, can be rotated by 90° in each axis

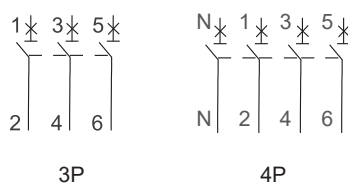
Derating coefficient of technical parameters based on altitude

Altitude	≤ 2 000 m	3 000 m	4 000 m	5 000 m
Derating op. current I_n coefficient	1	0.96	0.93	0.9
Maximum rated op. voltage U_e	690 V AC	550 V AC	480 V AC	420 V AC
Rated insulation voltage U_i	1000 V AC	930 V AC	870 V AC	800 V AC
Rated impulse withstand voltage U_{imp}	12 kV	10 kV	8 kV	8 kV
Dielectric properties ($U_{imp}=12$ kV)	2550 V AC	2370 V AC	2200 V AC	2050 V AC

Dimensions



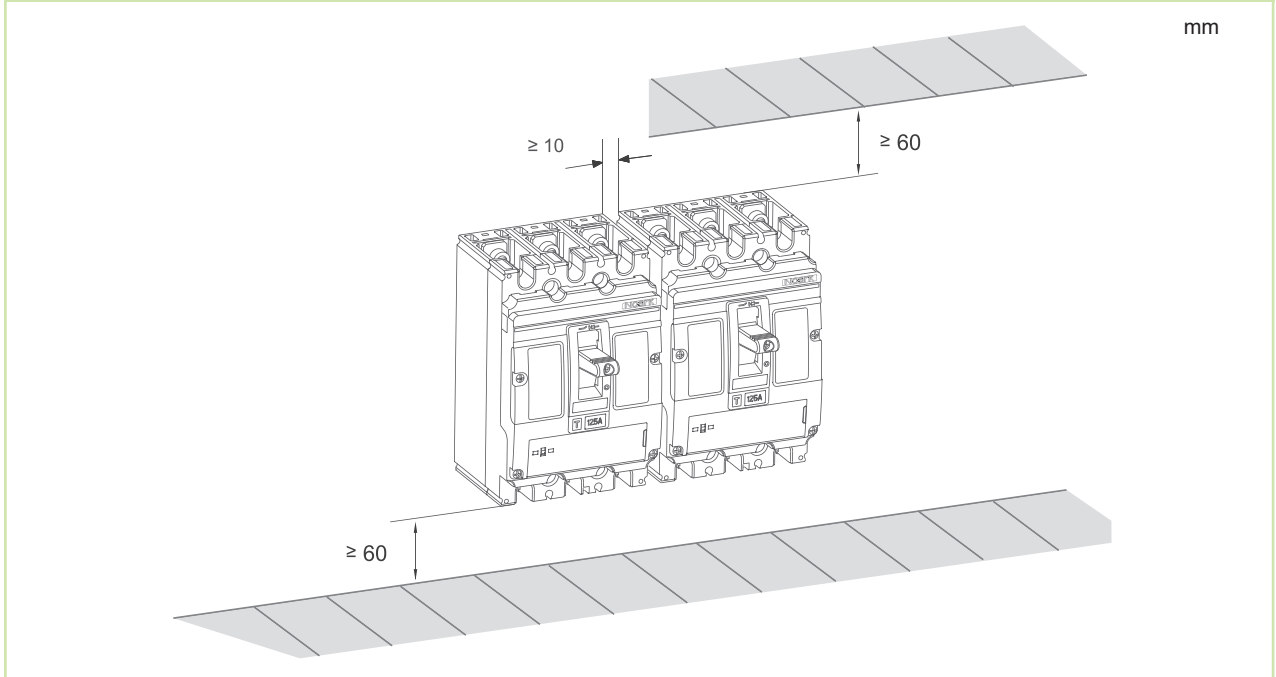
Wiring diagram



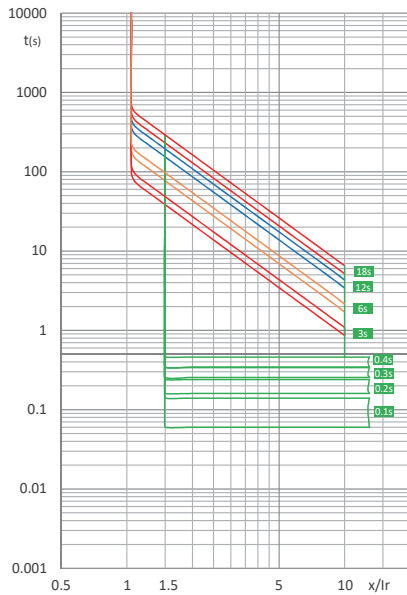
Technical Data Ex9M5 SU20S

Moulded Case Circuit Breakers up to 630 A

installation space

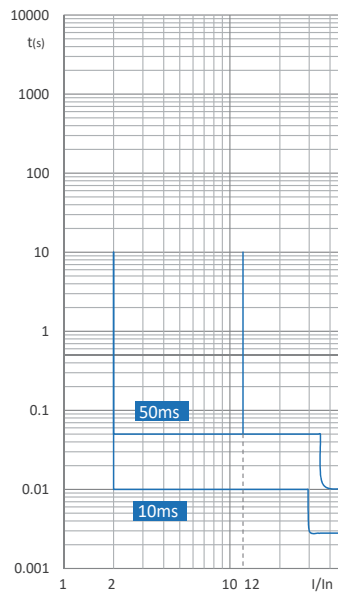


Tripping characteristics

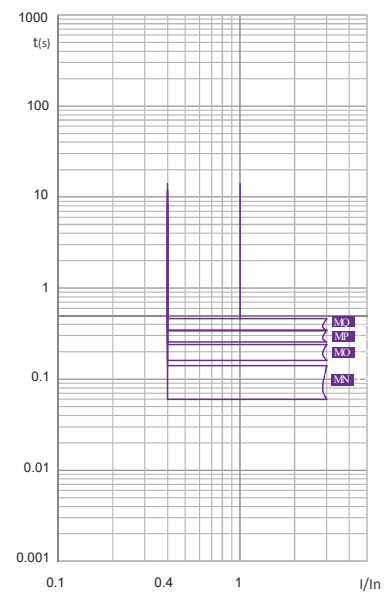


Long time delay:
I_r=
(0.4/0.5/0.6/0.7/
0.8/0.9/0.95/1)I_n
T_r=
(3/6/12/18)s

Short time delay:
I_{sd}=
(OFF/1.5/2/
3/4/6/8/10)I_r
T_{sd}=
(0.1/0.2/0.3/0.4)s



Instantaneous:
I_i=
(OFF/2/3/4/6/8/10/12)



Grounding protection:
I_g=
(0.4 ~ 1)I_n
T_g=
(0.1 ~ 0.4)s