

Accessories

For Types MS116, MS132, MS45x, MS49x

4



HKF1-11



HK4-11



HK1-11

HKS4-20

Auxiliary contacts

| For use with MS... | | | | Mounting position / max. quantity | Pilot duty rating | | Auxiliary contacts | | | | Catalog number | | |
|--------------------|-----|-----|-----|-----------------------------------|-------------------|------|--------------------|----|-------------------|----|----------------|---|---------|
| 116 | 132 | 45x | 49x | | ac | dc | Instantaneous | | Lagging / leading | | | | |
| | | | | | | | NO | NC | NO | NC | | | |
| • | • | | | Right / 2 | B600 | Q600 | 1 | 1 | - | - | HK1-11 | | |
| • | • | | | | | | 2 | - | - | - | - | - | HK1-20 |
| • | • | | | | | | - | 2 | - | - | - | - | HK1-02 |
| • | • | | | Front / 1 | B300 | Q300 | 1 | 1 | - | - | HKF1-11 | | |
| • | • | | | | | | 2 | - | - | - | - | - | HKF1-20 |
| | | • | • | Left / 1 | A600 | Q300 | 1 | 1 | - | - | HKS4-11 | | |
| | | • | • | | | | 2 | - | - | - | - | - | HKS4-20 |
| | | • | • | | | | - | 2 | - | - | - | - | HKS4-02 |
| | | • | • | Front / 1 | C300 | R300 | 1 | 1 | - | - | HK4-11 | | |
| | | • | • | | | | - | 1 | - | 1 | - | - | HK4-W |



SK1-11

CK1-11

SK4-11

Signalling contacts

| For use with MS... | | | | Description | Mounting position / max. quantity | Pilot duty rating | | Contacts | | Catalog number | | |
|--------------------|-----|-----|-----|--------------------------|-----------------------------------|-------------------|------|----------|------|----------------|---|--------|
| 116 | 132 | 45x | 49x | | | ac | dc | NO | NC | | | |
| • | • | | | Trip (bell) alarm | Right / 1 | B600 | Q600 | 1 | 1 | SK1-11 | | |
| • | • | | | | | | | 2 | - | - | 2 | SK1-20 |
| • | • | • | • | | | | | Left / 1 | A600 | Q300 | 2 | 2 |
| | • | | | Short-circuit trip alarm | Right / 1 | B600 | Q600 | 1 | 1 | CK1-11 | | |
| | • | | | | | | | 2 | - | - | 2 | CK1-20 |
| | • | | | | | | | - | - | - | 2 | CK1-02 |

Note(s):

CK1-xx contacts must mount flush on the right side of the MS132; these devices are supplementary and not required for use in UL 508 Type E & F applications

SK4-11 contacts are required for UL 508 Type E applications using types MS4xx; included when purchasing types MS4xx-xxE



AA1-24



UA1-24



AA4-24

Trip units

| For use with MS... | | | | Description | Mounting position / max. quantity | Voltage rating; continuous | | Brief voltage rating; 5 seconds max. | | Catalog number |
|--------------------|-----|-----|-----|----------------------|-----------------------------------|----------------------------|-------|--------------------------------------|----|----------------|
| 116 | 132 | 45x | 49x | | | 50 Hz | 60 Hz | 50/60 | dc | |
| • | • | | | Shunt trip | Left / 1 | 24 v | | 20...70 v | | AA1-24 |
| • | • | | | | | 110 v | | 70...190 v | | AA1-110 |
| • | • | | | | | 200...240 v | | 190...330 v | | AA1-230 |
| | | • | • | | | 350...415 v | | 330...500 v | | AA1-400 |
| | | • | • | | | 20...24 v | | 20...70 v | | AA4-24 |
| | | • | • | | | 30...110 v | | 70...190 v | | AA4-110 |
| | | • | • | Undervoltage release | Right / 1 | 210...240 v | | 190...330 v | | AA4-240 |
| | | • | • | | | 350...415 v | | 330...500 v | | AA4-400 |
| • | • | | | | | - | 24 v | - | - | UA1-24 |
| • | • | | | | | 110 v | 120 v | - | - | UA1-120 |
| • | • | | | | | - | 208 v | - | - | UA1-208 |
| • | • | | | | | 230 v | 240 v | - | - | UA1-230 |
| • | • | | | 415 v | 480 v | - | - | UA1-415 | | |
| • | • | | | - | 575 v | - | - | UA1-575 | | |
| | | • | • | Undervoltage release | Right / 1 | 24 v | | - | | UA4-24 |
| | | • | • | | | 110...120 v | | - | | UA4-120 |
| | | • | • | | | 230...240 v | | - | | UA4-240 |
| | | • | • | | | 400 v | - | - | - | UA4-400 |

Actuation tables

For Types MS116, MS132, MS45x, MS49x

MS Series
Manual motor
protectors

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Auxiliary and signaling contact actuation tables

| Catalog number | Description | Condition / state | | | | | | Terminal numbers | For use with MS... | | | |
|----------------|------------------------|-------------------|----|-----------------------|--------------------|--------------------|------------|------------------|--------------------|-----|-----|-----|
| | | Off | On | Thermal overload trip | Short-circuit trip | Under-voltage trip | Shunt trip | | 116 | 132 | 45x | 49x |
| HK1-11 | 1 NO | O | X | O | O | O | O | 33...34 | • | • | | |
| | 1 NC | X | O | X | X | X | X | 41...42 | | | | |
| HK1-20 | 2 NO | O | X | O | O | O | O | 33...34, 43...44 | • | • | | |
| HK1-02 | 2 NC | X | O | X | X | X | X | 31...32, 41...42 | • | • | | |
| HK1-20L | 2 NO leading contacts | O | X | O | O | O | O | 33...34, 43...44 | • | • | | |
| HKF1-11 | 1 NO | O | X | O | O | O | O | 13...14 | • | • | | |
| | 1 NC | X | O | X | X | X | X | 21...22 | | | | |
| HKF1-20 | 2 NO | O | X | O | O | O | O | 13...14, 23...24 | • | • | | |
| HKS4-11 | 1 NO | O | X | O | O | O | O | 33...34 | | | • | • |
| | 1 NC | X | O | X | X | X | X | 41...42 | | | | |
| HKS4-20 | 2 NO | O | X | O | O | O | O | 33...34, 43...44 | | | • | • |
| HKS4-02 | 2 NC | X | O | X | X | X | X | 31...32, 41...42 | | | • | • |
| HK4-11 | 1 NO | O | X | O | O | O | O | 13...14 | | | • | • |
| | 1 NC | X | O | X | X | X | X | 21...22 | | | | |
| HK4-W | 1 NO, leading (form C) | O | X | O | O | O | O | 11...14 | | | • | • |
| | 1 NC (form C) | X | O | X | X | X | X | 11...12 | | | | |
| SK1-11 | 1 NO | O | O | X | X | X | X | 57...58 | • | • | | |
| | 1 NC | X | X | O | O | O | O | 65...66 | | | | |
| SK1-20 | 2 NO | O | O | X | X | X | X | 57...58, 67...68 | • | • | | |
| SK1-02 | 2 NC | X | X | O | O | O | O | 55...56, 65...66 | • | • | | |
| SK4-11 | 1 NO | O | O | X | X | X | X | 57...58 | | | | |
| | 1 NC | X | X | O | O | O | O | 65...66 | | | • | • |
| | 1 NO | O | O | O | X | O | O | 77...78 | | | | |
| | 1 NC | X | X | X | O | X | X | 85...86 | | | | |
| CK1-11 | 1 NO | O | O | O | X | O | O | 77...78 | | • | | |
| | 1 NC | X | X | X | O | X | X | 85...86 | | | | |
| CK1-20 | 2 NO | O | O | O | X | O | O | 77...78, 87...88 | | • | | |
| CK1-02 | 2 NC | X | X | X | O | X | X | 75...76, 85...86 | | • | | |

Note:

X = Indicates closed state

O = Indicates open state

For connection diagrams, see page 4.17.

Operator positions

| Type | Operator position | | | | | | Key |
|-----------|-------------------|----|-----------------------|--------------------|-------------------|------------|-----|
| | Off | On | Thermal overload trip | Short-circuit trip | Undervoltage trip | Shunt trip | |
| MS116-... | ← | ↑ | ← | ← | ← | ← | |
| MS132-... | ← | ↑ | ↘ | ↘ [⊕] | ↘ | ↘ | |
| MS45x-... | ← | ↑ | ↘ | ↘ | ↘ | ↘ | |
| MS49x-... | ← | ↑ | ↘ | ↘ | ↘ | ↘ | |

⊕ + I>> indicator window = red.

Accessories

For Types MS116, MS132, MS45x, MS49x



PS1-2-0-65



PS1-3-1-100

4

Three phase busbar

| For use with MS... | | | | Description | Rated current (A) | Max. quantity of MMP's | Max. quantity of auxiliary and signaling contacts per MMP | | Max. quantity of shunt trips or U.V. releases per MMP | Catalog number | |
|--------------------|-----|-----|-----|-----------------------------|-------------------|------------------------|-----------------------------------------------------------|----|-------------------------------------------------------|----------------|-------------|
| 116 | 132 | 45x | 49x | | 600 v ac | | | | | | |
| • | • | | | 2-position busbar | 65 | 2 | - | - | PS1-2-0-65 | | |
| • | • | | | | | 2 | 1 | - | PS1-2-1-65 | | |
| • | • | | | | 108 | 2 | 2 | or | 1 | PS1-2-2-65 | |
| | | • | • | | | 2 | - | - | - | PS4-2-0 | |
| | | | | | | 2 | 1 | or | 1 | PS4-2-2 | |
| • | • | | | 3-position busbar | 65 | 3 | - | - | - | PS1-3-0-65 | |
| • | • | | | | | 3 | 1 | - | - | - | PS1-3-1-65 |
| • | • | | | | 92 | 3 | 2 | or | 1 | PS1-3-2-65 | |
| • | • | | | | | 3 | - | - | - | - | PS1-3-0-100 |
| • | • | | | | 108 | 3 | 1 | - | - | - | PS1-3-1-100 |
| | | • | • | | | 3 | 2 | or | 1 | - | PS1-3-2-100 |
| | | | | | | 3 | - | - | - | PS4-3-0 | |
| | | • | • | | | 3 | 1 | or | 1 | PS4-3-2 | |
| • | • | | | 4-position busbar | 65 | 4 | - | - | - | PS1-4-0-65 | |
| • | • | | | | | 4 | 1 | - | - | - | PS1-4-1-65 |
| • | • | | | | 92 | 4 | 2 | or | 1 | PS1-4-2-65 | |
| • | • | | | | | 4 | - | - | - | - | PS1-4-0-100 |
| • | • | | | | 108 | 4 | 1 | - | - | - | PS1-4-1-100 |
| | | • | • | | | 4 | - | - | - | - | PS4-4-0 |
| | | | | | | 4 | 1 | or | 1 | PS4-4-2 | |
| • | • | | | 5-position busbar | 65 | 5 | - | - | - | PS1-5-0-65 | |
| • | • | | | | | 5 | 1 | - | - | - | PS1-5-1-65 |
| • | • | | | | 92 | 5 | 2 | or | 1 | PS1-5-2-65 | |
| • | • | | | | | 5 | - | - | - | - | PS1-5-0-100 |
| • | • | | | | 5 | 1 | - | - | - | PS1-5-1-100 | |
| • | • | | | Empty position busbar cover | | | | | BS1-3 | | |
| | | • | | Empty position busbar cover | | | | | BS4-3 | | |

Note: Use of PS1 or PS4 busbar in group motor or self-protected Type E or F applications does not inhibit or alter the short-circuit current ratings for the devices utilized.



S1-M3-25



DX495

Three phase feeder terminals

| For use with MS... | | | | Description | Rated current (A) | Connecting capacity (AWG) | Required for UL 508 Types E or F applications | Catalog number |
|--------------------|-----|-----|-----|------------------------------|-------------------|---------------------------|-----------------------------------------------|----------------|
| 116 | 132 | 45x | 49x | | 600 v ac | | | |
| • | • | | | Feeder terminal | 65 | 10...4 | | S1-M1-25 |
| • | • | | | | 65 | 10...4 | | S1-M2-25 |
| • | • | | | | 65 | 10...4 | • | S1-M3-25 |
| • | • | | | | 92 | 8...2 | • | S1-M3-35 |
| | | • | | | 108 | 10...1/0 | | S4-M1 |
| | | | • | Type E terminal ins. barrier | 140 | 10...1/0 | • | DX495 |

Note(s): Only the S1-M3-xx terminals are acceptable for UL 508 Type E or F applications using type MS132. The DX495 terminal is included when purchasing type MS49x-xxE devices.

Terminal shrouds

| For use with MS... | | | | Description | Catalog number |
|--------------------|-----|-----|-----|------------------------|----------------|
| 116 | 132 | 45x | 49x | | |
| | | • | | Terminal shroud, short | KA450 |
| | | | • | | KA495 |
| | | | • | Terminal shroud, long | KA495C |



KA450

Accessories

For Types MS116, MS132

ABB Manual motor protectors can also be connected to the SMISLINE power distribution bus system, which provides a versatile and flexible means of distributing power to a wide variety of electrical devices. For complete system information, see Section 24.

SMISLINE busbar adaptors for types MS116 / MS132

| For use with MS... | | | | Description | Catalog number |
|--------------------|-----|-----|-----|-------------------------------|----------------|
| 116 | 132 | 45x | 49x | | |
| • | • | | | Adaptor, L1,L2,L3 bottom feed | ZMS930 |
| • | • | | | Adaptor, L1,L2,L3 top feed | ZMS932 |
| • | • | | | Adaptor, without feed wires | ZMS139 |
| | | | | 9 mm wide additional housing | ZMS935 |

Note(s):

The 9 mm wide additional housing is needed when an odd number of combi modules are plugged on the socket; required to fill space into a full module (18 mm).

The 9 mm wide additional housing must also be used when a side-mount auxiliary contact is used.

SMISLINE busbar combi modules for types MS116 / MS132 + AF Contactors

| For use with MS... | | | | Description | Catalog number |
|--------------------|-----|-----|-----|----------------------------------------------------------------|----------------|
| 116 | 132 | 45x | 49x | | |
| • | • | | | Combi module, L1,L2,L3 top feed | ZMS930 |
| • | • | | | Combi module, without feed wires | ZMS137 |
| | | | | Connection pin set for mounting two combi modules side-by-side | E210-SPV |

Accessories

For Types MS116, MS132, MS45x, MS49x

4



SA1

SA2

Locking accessories

For use with MS...

| 116 | 132 | 45x | 49x | Description | Catalog number |
|-----|-----|-----|-----|---------------------------------|----------------|
| • | | | | Lock adapter | SA1 |
| • | • | • | • | Padlock + 2 keys | SA2 |
| • | | | | Lock adapter + padlock + 2 keys | SA3 |

Note: Types MS132 and MS4xx have integral locking mechanisms



DMS132-G

Door mount kits - Type 12 & IP 65

For use with MS...

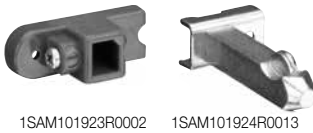
| 116 | 132 | 45x | 49x | Description | Rotary positions | Catalog number |
|-----|-----|-----|-----|----------------------------------|------------------|----------------|
| • | • | | | Door mount w/ handle, black/gray | On / Trip / Off | DMS132-G |
| • | • | | | Door mount w/ handle, red/yellow | On / Trip / Off | DMS132-Y |

Note(s): Type MS116 devices trip to the "Off" position
Max. 3 padlocks with bail diameter Ø 4...6.5 mm



MSHD-LY

MSHD-LTY



1SAM101923R0002

1SAM101924R0013



1SAM201920R1000

Through-door hardware - Types 1, 3R, 12 and IP 64

For use with MS...

| 116 | 132 | 45x | 49x | Description | Rotary positions | Catalog number |
|-----|-----|-----|-----|---------------------------------------------------------------------|------------------|-----------------|
| • | • | • | • | Selector handle, black, defeatable, padlockable | On / Off | MSHD-LB |
| • | • | • | • | Selector handle, black, defeatable, padlockable | On / Trip / Off | MSHD-LTB |
| • | • | • | • | Selector handle, red/yellow, defeatable, padlockable | On / Off | MSHD-LY |
| • | • | • | • | Selector handle, red/yellow, defeatable, padlockable | On / Trip / Off | MSHD-LTY |
| • | • | • | • | Shaft coupler, coded, 6 mm, MSMN | - | 1SAM101923R0002 |
| • | • | • | • | Shaft coupler, un-coded, 6 mm, MSMNO | - | 1SAM101923R0012 |
| • | • | • | • | Drive spindle, 6 x 30 mm, for horizontal mounting, MSOX-30 | - | 1SAM101924R0013 |
| • | • | • | • | Drive spindle, 6 x 32 mm, for vertical (standard) mounting, MSOX-32 | - | 1SAM101924R0003 |
| • | • | • | • | Shaft, 6 x 85 mm | - | OXS6X85 |
| • | • | • | • | Shaft, 6 x 105 mm | - | OXS6X105 |
| • | • | • | • | Shaft, 6 x 130 mm | - | OXS6X130 |
| • | • | • | • | Shaft, 6 x 180 mm | - | OXS6X180 |
| • | • | • | • | Shaft alignment ring, MSH-AR | - | 1SAM201920R1000 |

Note(s): Through-door selector handles are rated Type 1, 3R and 12; IP 64 degree of protection
Max. 3 padlocks with bail diameter Ø 5...8 mm
For coded shaft couplers, the "On" position is dependent on the mounting orientation of the MMP
Must have handle, shaft coupler and shaft for through-door operation. Drive spindles can replace both shaft coupler and shaft.

Enclosures - Type 12 & IP 65

For use with MS...

| 116 | 132 | 45x | 49x | Description | Rotary positions | Catalog number |
|-----|-----|-----|-----|--------------------------------------|------------------|----------------|
| • | • | | | Molded plastic enclosure, black/gray | On / Trip / Off | IB132-G |
| • | • | | | Molded plastic enclosure, red/yellow | On / Trip / Off | IB132-Y |
| • | • | | | Adaptor, PG16 to 1/2 NPT | - | PG16-1/2NPT |

Note(s): Type E rating for MS132 derated when using IB132 enclosures. Please contact technical support.
Type MS116 devices trip to the "Off" position
Max. 3 padlocks with bail diameter Ø 4...6.5 mm
For UL enclosure type ratings, contact technical support.



IB132-G

Accessories

For Types MS116, MS132, MS45x, MS49x

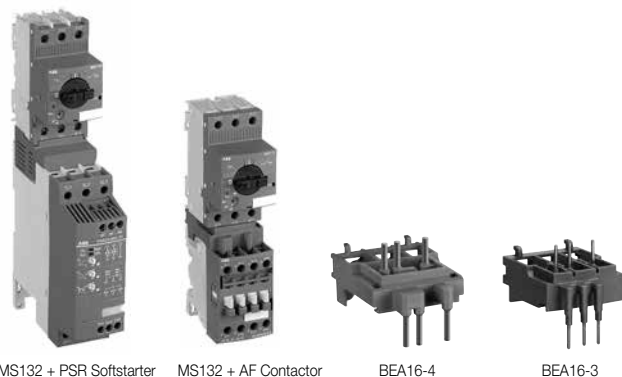
MS Series
Manual motor
protectors

4

Close couplers for contactors

| | Miniature contactors | | AF contactors | | | | | | AS contactors | | A / AE Contactors | | Catalog number |
|------------------------|----------------------|-----------|---------------|---------------|-------------|---------------|-------------|--------------|---------------|---------------|------------------------|------------|-------------------------------------------|
| | B6...B7 | BC6...BC7 | AF09...AF16 | AF09Z...AF16Z | AF26...AF38 | AF26Z...AF38Z | AF50...AF75 | AF95...AF110 | AS09...AS16 | ASL09...ASL16 | A50...A75, AE50...AE75 | A95...A110 | |
| Manual motor protector | | | | | | | | | | | | | |
| MS116-0.16...16 | • | • | • | • | • | • | | | • | • | | | BEA7/132 BEA16-4 BEA26-4 BEA16-3 |
| MS116-20...25 | | | • | • | • | • | | | | | | | BEA16-4 BEA38-4 |
| MS116-32 | | | | | • | • | | | | | | | BEA38-4 |
| MS132-0.16...10 | • | • | • | • | • | • | | | • | • | | | BEA7/132 BEA16-4 BEA26-4 BEA16-3 |
| MS132-12...16 | • | • | • | • | • | • | | | • | • | | | BEA7/132 BEA16-4 BEA38-4 BEA16-3 |
| MS132-20...25 | | | • | • | • | • | | | | | | | BEA16-4 BEA38-4 |
| MS132-32 | | | | | • | • | | | | | | | BEA38-4 |
| MS45x-40...50 | | | | | | | | • | | | • | | BEA50/450 |
| MS49x-40...100 | | | | | | | | • | | | • | | BEA75/495 |
| MS495-40...100 | | | | | | | | | • | | | • | BEA110/495 |

Note: For spring terminated AS/ASL, use part number BEA16-3U with integral wire leads for spring terminals.



Close couplers for softstarters

| Manual motor protector | PSR Softstarters | | | | Catalog number |
|------------------------|------------------|---------------|---------------|----------------|----------------|
| | PSR3...PSR16 | PSR25...PSR30 | PSR37...PSR45 | PSR60...PSR105 | |
| MS116-0.16...16 | • | | | | PSR16-MS116 |
| MS116-20...32 | | • | | | PSR30-MS132 |
| MS132-0.16...10 | • | | | | PSR16-MS116 |
| MS132-12...32 | | • | | | PSR30-MS132 |
| MS45x-40...50 | | | • | | PSR45-MS450 |
| MS49x-40...100 | | | | • | PSR105-MS495 |

Accessories For Type MS132

Rated for use with the type MS132, the S803W current limiters can provide selective coordination for individual downstream SCPDs, and can be utilized in combination for short-circuit protection up to 65 kA at 600 v ac. For more information, see Section 17 - S800 Series.

4



S803W-SCL32-SR

Current limiters

For use with MS...

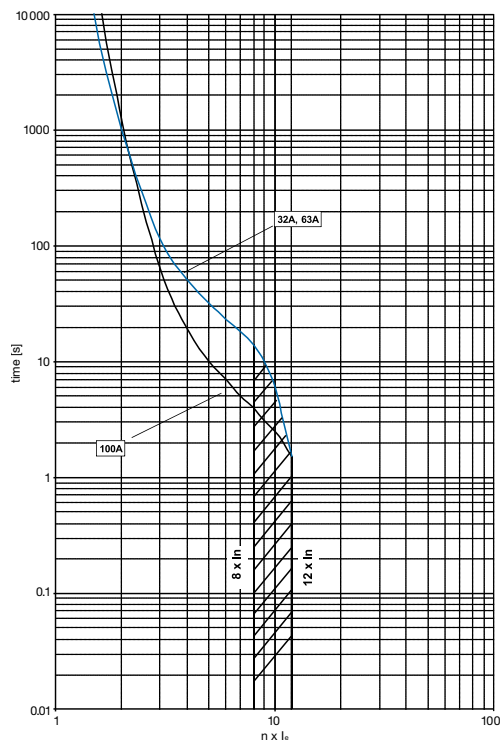
| 116 | 132 | 45x | 49x | Description | Rated current (A) 600 v ac | Connecting capacity (AWG) | Catalog number |
|-----|-----|-----|-----|-------------------------|-------------------------------|---------------------------|-----------------|
| | • | | | Current limiter, 3-pole | 32 | 14...1 | S803W-SCL32-SR |
| | • | | | | 63 | 14...1 | S803W-SCL63-SR |
| | • | | | | 100 | 14...1 | S803W-SCL100-SR |

Note(s): The sum of the rated currents of all downstream motor protectors shall not exceed the rated current of the S803W.
The sum of all load currents including inrush currents shall not exceed the maximum permissible load of the S803W.

MS132 Short circuit current ratings using S803W current limiters (kA)

| Catalog number | UL 508 - Motor controllers, manual (NLRV) | | | UL 508 - Combination motor controllers (NKJH) | | | | |
|----------------|-------------------------------------------|----------------------------|------|-----------------------------------------------|---------------|-------------------------|---------------|----------------------|
| | Circuit breaker | Group motor installation ① | | Self-protected Type E ② | | Self-protected Type F ② | | |
| | | 240V 480V | 600V | 480Y/ 277V | 600Y/ 347V | 480Y/ 277V | 600Y/ 347V | Type F contactors |
| MS132-0.16 | MCCB, 400A max. ③ | 65 | 65 | 65 | 47 | 65 | 47 | AF26...AF38 |
| MS132-0.25 | | 65 | 65 | 65 | 47 | 65 | 47 | AF26...AF38 |
| MS132-0.4 | | 65 | 65 | 65 | 47 | 65 | 47 | AF26...AF38 |
| MS132-0.63 | | 65 | 65 | 65 | 47 | 65 | 47 | AF26...AF38 |
| MS132-1.0 | | 65 | 65 | 65 | 47 | 65 | 47 | AF26...AF38 |
| MS132-1.6 | | 65 | 65 | 65 | 47 | 65 | 47 | AF26...AF38 |
| MS132-2.5 | | 65 | 65 | 65 | 47 | 65 | 47 | AF26...AF38 |
| MS132-4.0 | | 65 | 65 | 65 | 47 | 65 | 47 | AF26...AF38 |
| MS132-6.3 | | 65 | 65 | 65 | 18 | 65 | 47 | AF26...AF38 |
| MS132-10 | | 65 | 65 | 65 | 18 | 65 | 47 | AF26...AF38 |
| MS132-12 | | 65 | 65 | 65 | - | 65 | - | AF26...AF38 |
| MS132-16 | | 65 | 65 | 65 | - | 65 | - | AF26...AF38 |
| MS132-20 | | 65 | 65 | 65 | - | 65 | - | AF26...AF38 |
| MS132-25 | | 65 | 65 | 65 | - | 65 | - | AF26...AF38 |
| MS132-32 | | 65 | 65 | 65 | - | 65 | - | AF26...AF38 |

Maximum load



① Also suitable for Tap Conductor protection.
② Requires the use of a line-side feeder terminal S1-M3-xx; see accessories section.
③ MCCB interrupting rating must be equal to or greater than the rating of the device.