

Type MS450 – MS497



MS450



MS497

Manual motor starters

| | FLA adjustment range | Horsepower ratings | | | | | Weight (lbs) | Availability code | Catalog number | List price | |
|-----------------------------------|----------------------|---------------------------|------|-------------|------|------|--------------|-------------------|----------------|------------|--------|
| | | Single-phase ^① | | Three-phase | | | | | | | |
| | | 115V | 230V | 200V – 208V | 230V | 460V | | | | | 575V |
| Overload tripping class 10 | MS450 | | | | | | | | | | |
| | 11 – 16 | 1 | 3 | 5 | 5 | 10 | 15 | 2.12 | A | MS450-16 | \$ 450 |
| | 14 – 20 | 1.5 | 3 | 5 | 7.5 | 15 | 20 | 2.12 | A | MS450-20 | 450 |
| | 18 – 25 | 2 | 5 | 7.5 | 10 | 20 | 25 | 2.12 | A | MS450-25 | 450 |
| | 22 – 32 | 3 | 5 | 10 | 10 | 25 | 30 | 2.12 | A | MS450-32 | 450 |
| | 28 – 40 | 3 | 7.5 | 15 | 15 | 30 | 40 | 2.12 | A | MS450-40 | 510 |
| | 36 – 45 | 5 | 7.5 | 15 | 15 | 30 | 40 | 2.12 | A | MS450-45 | 510 |
| | 40 – 50 | 5 | 10 | 15 | 20 | 40 | 50 | 2.12 | A | MS450-50 | 510 |
| | MS495 | | | | | | | | | | |
| | 28 – 40 | 3 | 7.5 | 15 | 15 | 30 | 40 | 4.63 | A | MS495-40 | 562.50 |
| 36 – 50 | 5 | 10 | 15 | 20 | 40 | 50 | 4.63 | A | MS495-50 | 562.50 | |
| 45 – 63 | 5 | 15 | 20 | 25 | 50 | 60 | 4.63 | A | MS495-63 | 562.50 | |
| 57 – 75 | 7.5 | 15 | 25 | 25 | 60 | 75 | 4.63 | A | MS495-75 | 600 | |
| 70 – 90 | 10 | 20 | 30 | 30 | 75 | 100 | 4.63 | A | MS495-90 | 615 | |
| 80 – 100 | 10 | 25 | 40 | 40 | 75 | 100 | 4.63 | A | MS495-100 | 690 | |
| Overload tripping class 20 | MS497 | | | | | | | | | | |
| | 11 – 16 | 1 | 3 | 5 | 5 | 10 | 15 | 2.12 | B | MS497-16 | 450 |
| | 14 – 20 | 1.5 | 3 | 5 | 7.5 | 15 | 20 | 2.12 | B | MS497-20 | 450 |
| | 18 – 25 | 2 | 5 | 7.5 | 10 | 20 | 25 | 2.12 | B | MS497-25 | 450 |
| | 22 – 32 | 3 | 5 | 10 | 10 | 25 | 30 | 2.12 | B | MS497-32 | 450 |
| | 28 – 40 | 3 | 7.5 | 15 | 15 | 30 | 40 | 4.63 | B | MS497-40 | 562.50 |
| | 36 – 50 | 5 | 10 | 15 | 20 | 40 | 50 | 4.63 | B | MS497-50 | 562.50 |
| | 45 – 63 | 5 | — | 20 | 25 | 50 | 60 | 4.63 | B | MS497-63 | 562.50 |
| | 57 – 75 | 7.5 | — | 25 | 25 | 60 | 75 | 4.63 | B | MS497-75 | 600 |
| | 70 – 90 | 10 | — | 30 | 30 | 75 | 100 | 4.63 | B | MS497-90 | 615 |
| 80 – 100 | 10 | — | 30 | 40 | 75 | 100 | 4.63 | B | MS497-100 | 690 | |
| Overload tripping class 20 | MS451 | | | | | | | | | | |
| | 11 – 16 | 1 | 3 | 5 | 5 | 10 | 15 | 2.12 | B | MS451-16 | 450 |
| | 14 – 20 | 1.5 | 3 | 5 | 7.5 | 15 | 20 | 2.12 | B | MS451-20 | 450 |
| | 18 – 25 | 2 | 5 | 7.5 | 10 | 20 | 25 | 2.12 | B | MS451-25 | 450 |
| | 22 – 32 | 3 | 5 | 10 | 10 | 25 | 30 | 2.12 | B | MS451-32 | 450 |
| | 28 – 40 | 3 | 7.5 | 15 | 15 | 30 | 40 | 2.12 | B | MS451-40 | 510 |
| | 36 – 45 | 5 | 7.5 | 15 | 15 | 30 | 40 | 2.12 | B | MS451-45 | 510 |
| | 40 – 50 | 5 | 10 | 15 | 20 | 40 | 50 | 2.12 | B | MS451-50 | 510 |
| | MS496 | | | | | | | | | | |
| | 28 – 40 | 3 | 7.5 | 15 | 15 | 30 | 40 | 4.63 | B | MS496-40 | 562.50 |
| 36 – 50 | 5 | 10 | 15 | 20 | 40 | 50 | 4.63 | B | MS496-50 | 562.50 | |
| 45 – 63 | 5 | 15 | 20 | 25 | 50 | 60 | 4.63 | B | MS496-63 | 562.50 | |
| 57 – 75 | 7.5 | 15 | 25 | 25 | 60 | 75 | 4.63 | B | MS496-75 | 600 | |
| 70 – 90 | 10 | 20 | 30 | 30 | 75 | 100 | 4.63 | B | MS496-90 | 615 | |
| 80 – 100 ^② | 10 | 25 | 40 | 40 | 75 | 100 | 4.63 | B | MS496-100 | 690 | |

Availability code

- A – Standard item, stock to two weeks lead time
- B – Stock to four weeks lead time
- C – 4 to 6 weeks lead time

UL File # E167205

① Single phase motor ratings are based upon wiring all three poles in series.
 ② Maximum motor current 95A.

Type MS450 – MS497 for UL 508 Type E Applications



MS450-16E



MS497-16E

Manual motor starters

| | FLA adjustment range | Horsepower ratings | | | | | Weight (lbs) | Availability code | Catalog ^③ number | List price |
|-----------------------------------|----------------------------|---------------------------|------|-------------|------|------|-----------------|----------------------|--------------------------------|----------------------------|
| | | Single-phase ^① | | Three-phase | | | | | | |
| | | 115V | 230V | 200V – 208V | 230V | 460V | | | | |
| Overload tripping class 10 | MS450 | | | | | | | | | |
| | 11 – 16 | 1 | 3 | 5 | 5 | 10 | 15 | 2.12 | A | MS450-16E \$ 525 |
| | 14 – 20 | 1.5 | 3 | 5 | 7.5 | 15 | 20 | 2.12 | A | MS450-20E 525 |
| | 18 – 25 | 2 | 5 | 7.5 | 10 | 20 | 25 | 2.12 | A | MS450-25E 525 |
| | 22 – 32 | 3 | 5 | 10 | 10 | 25 | 30 | 2.12 | A | MS450-32E 525 |
| | 28 – 40 | 3 | 7.5 | 15 | 15 | 30 | 40 | 2.12 | A | MS450-40E 585 |
| | 36 – 45 | 5 | 7.5 | 15 | 15 | 30 | 40 | 2.12 | A | MS450-45E 585 |
| | 40 – 50 | 5 | 10 | 15 | 20 | 40 | 50 | 2.12 | A | MS450-50E 585 |
| | MS495 | | | | | | | | | |
| | 28 – 40 | 3 | 7.5 | 15 | 15 | 30 | 40 | 4.63 | A | MS495-40E 622.50 |
| | 36 – 50 | 5 | 10 | 15 | 20 | 40 | 50 | 4.63 | A | MS495-50E 622.50 |
| | 45 – 63 | 5 | 15 | 20 | 25 | 50 | 60 | 4.63 | A | MS495-63E 622.50 |
| | 57 – 75 | 7.5 | 15 | 25 | 25 | 60 | 75 | 4.63 | A | MS495-75E 720 |
| | 70 – 90 | 10 | 20 | 30 | 30 | 75 | 100 | 4.63 | A | MS495-90E 735 |
| | 80 – 100 | 10 | 25 | 40 | 40 | 75 | 100 | 4.63 | A | MS495-100E 810 |
| | MS497 | | | | | | | | | |
| | 11 – 16 | 1 | 3 | 5 | 5 | 10 | 15 | 2.12 | B | MS497-16E 570 |
| | 14 – 20 | 1.5 | 3 | 5 | 7.5 | 15 | 20 | 2.12 | B | MS497-20E 570 |
| 18 – 25 | 2 | 5 | 7.5 | 10 | 20 | 25 | 2.12 | B | MS497-25E 570 | |
| 22 – 32 | 3 | 5 | 10 | 10 | 25 | 30 | 2.12 | B | MS497-32E 570 | |
| 28 – 40 | 3 | 7.5 | 15 | 15 | 30 | 40 | 4.63 | B | MS497-40E 622.50 | |
| 36 – 50 | 5 | 10 | 15 | 20 | 40 | 50 | 4.63 | B | MS497-50E 622.50 | |
| 45 – 63 | 5 | — | 20 | 25 | 50 | 60 | 4.63 | B | MS497-63E 622.50 | |
| 57 – 75 | 7.5 | — | 25 | 25 | 60 | 75 | 4.63 | B | MS497-75E 720 | |
| 70 – 90 | 10 | — | 30 | 30 | 75 | 100 | 4.63 | B | MS497-90E 735 | |
| 80 – 100 | 10 | — | 30 | 40 | 75 | 100 | 4.63 | B | MS497-100E 810 | |
| Overload tripping class 20 | MS451 | | | | | | | | | |
| | 11 – 16 | 1 | 3 | 5 | 5 | 10 | 15 | 2.12 | B | MS451-16E 525 |
| | 14 – 20 | 1.5 | 3 | 5 | 7.5 | 15 | 20 | 2.12 | B | MS451-20E 525 |
| | 18 – 25 | 2 | 5 | 7.5 | 10 | 20 | 25 | 2.12 | B | MS451-25E 525 |
| | 22 – 32 | 3 | 5 | 10 | 10 | 25 | 30 | 2.12 | B | MS451-32E 525 |
| | 28 – 40 | 3 | 7.5 | 15 | 15 | 30 | 40 | 2.12 | B | MS451-40E 585 |
| | 36 – 45 | 5 | 7.5 | 15 | 15 | 30 | 40 | 2.12 | B | MS451-45E 585 |
| | 40 – 50 | 5 | 10 | 15 | 20 | 40 | 50 | 2.12 | B | MS451-50E 585 |
| | MS496 | | | | | | | | | |
| | 28 – 40 | 3 | 7.5 | 15 | 15 | 30 | 40 | 4.63 | B | MS496-40E 622.50 |
| | 36 – 50 | 5 | 10 | 15 | 20 | 40 | 50 | 4.63 | B | MS496-50E 622.50 |
| | 45 – 63 | 5 | 15 | 20 | 25 | 50 | 60 | 4.63 | B | MS496-63E 622.50 |
| | 57 – 75 | 7.5 | 15 | 25 | 25 | 60 | 75 | 4.63 | B | MS496-75E 720 |
| | 70 – 90 | 10 | 20 | 30 | 30 | 75 | 100 | 4.63 | B | MS496-90E 735 |
| | 80 – 100 ^② | 10 | 25 | 40 | 40 | 75 | 100 | 4.63 | B | MS496-100E 810 |

Availability code

- A – Standard item, stock to two weeks lead time
- B – Stock to four weeks lead time
- C – 4 to 6 weeks lead time

① Single phase motor ratings are based upon wiring all three poles in series.

② Maximum motor current 95A.

③ Catalog number includes all parts required for UL508/E applications.

Type MS450 – MS497 Accessories

5



HK4-11



HKS4-02



UA4-HK-220



AA4-24

Auxiliary contacts – top mount

| Item description | Weight (lbs) | Packaged in quantity of | Availability code | Catalog number | List price |
|------------------|--------------|-------------------------|-------------------|----------------|--------------|
| 1 N.O. + 1 N.C. | .044 | 10 | A | HK4-11 | \$ 36 |
| 1 changeover | .044 | 10 | B | HK-W | |

Auxiliary contacts – mounts on left side, max. 1

| Item description | Weight (lbs) | Packaged in quantity of | Availability code | Catalog number | List price |
|------------------|--------------|-------------------------|-------------------|----------------|--------------|
| 1 N.O. + 1 N.C. | .066 | 2 | A | HKS4-11 | \$ 36 |
| 2 N.O. | .066 | 2 | B | HKS4-20 | |
| 2 N.C. | .066 | 2 | B | HKS4-02 | |

Auxiliary release

- Only one auxiliary release per manual motor protector
- Mounts on right side of manual motor protector

| Item description | Rating | Weight (lbs) | Pkg. qty. | Avail. code | Catalog number | List price | |
|--|------------------------------|------------------------------|-----------|-------------|----------------|--------------|---------|
| Undervoltage release | 110–120V, 50–60Hz | .264 | 1 | A | UA4-120 | \$ 93 | |
| | 208V, 60Hz | .264 | 1 | A | UA4-208 | | |
| | 230–240V, 50–60Hz | .264 | 1 | A | UA4-240 | | |
| | 400V, 50Hz | .264 | 1 | B | UA4-400 | | |
| | 480V, 60Hz | .264 | 1 | A | UA4-480 | | |
| Undervoltage release with early make contacts 2 N.O. | 230V, 50Hz | .286 | 1 | B | UA4-HK-230 | 117 | |
| | 400V, 50Hz | .286 | 1 | B | UA4-HK-400 | | |
| | 480V, 60Hz | .286 | 1 | A | UA4-HK-480 | | |
| Shunt trip | Voltage continuous 50 – 60Hz | | | | | 93 | |
| | 20 – 24 | Voltage 5 sec. max. 20 – 70V | .242 | 1 | B | | AA4-24 |
| | 30 – 110 | 70 – 190V | .242 | 1 | A | | AA4-110 |
| | 210 – 240 | 190 – 330V | .242 | 1 | B | | AA4-240 |
| | 350 – 415 | 330 – 500V | .242 | 1 | B | | AA4-415 |

Power feed terminal blocks – for MS45X

| Item description | Catalog number | List price |
|--|----------------|--------------|
| For feeding power to multiple MS45Xs when using busbar Accepts 10 - 1/0 AWG, 108A | S4-M1 | \$ 81 |

Busbars – for MS45X

| Item description | Catalog number | List price |
|--|----------------|--------------|
| Without side mounted auxiliary devices | PS4-2-0 | \$ 51 |
| | PS4-3-0 | 60 |
| | PS4-4-0 | 76.50 |
| With one side mounted auxiliary device | PS4-2-2 | 58.50 |
| | PS4-3-2 | 60 |
| | PS4-4-2 | 84 |

Close coupling adapters

| Item description | Catalog number | List price |
|-----------------------|----------------|--------------|
| MS45X + A30, A40 | BEA40/450 | \$ 54 |
| MS45X + A50 | BEA50/450 | 63 |
| MS49X + A50, A63, A75 | BEA75/495 | 120 |
| MS495 + A95, A110 | BEA110/495 | 180 |

① Mounting sequence: motor protection switch, pilot switch, auxiliary switch.

Type MS450 – MS497 Accessories



KA450



SA450



DX495



SK4-11

Terminal shrouds

| Item description | Weight (lbs) | Packaged in quantity of | Availability code | Catalog number | List price |
|------------------|--------------|-------------------------|-------------------|----------------|------------|
| for MS45x | .022 | 1 | A | KA450 ① | \$ 15 |
| for MX49x | .022 | 1 | A | KA495 ① | 18 |
| for MS49x | .066 | 1 | A | KA495C ② | 21 |

FLA adjustment cover

| Item description | Weight (lbs) | Packaged in quantity of | Availability code | Catalog number | List price |
|------------------|--------------|-------------------------|-------------------|----------------|------------|
| for MS45x | .015 | 10 | A | SA450 ③ | \$ 30 |

Type E Terminal — Required for UL 508 Type E Applications

| Item description | Weight (lbs) | Packaged in quantity of | Availability code | Catalog number | List price |
|------------------|--------------|-------------------------|-------------------|----------------|------------|
| for MS49x | .550 | 1 | B | DX495 | \$ 45 |

Signalling contact — indication of short-circuit trip (required for UL508 Type E applications)

| Item description | Weight (lbs) | Packaged in quantity of | Availability code | Catalog number | List price |
|---------------------------------------|--------------|-------------------------|-------------------|----------------|------------|
| Short circuit trip 1 N.O. + 1 N.C. | .154 | 1 | A | SK4-11 | \$ 60 |

Selector handles — for thru the door operation for Types MS450 & MS451^④

| Item description | Catalog number | List price |
|---|----------------|------------|
| Shaft coupler | MSMN | \$ 15 |
| NEMA 1, 3R, 12 black selector handle | OHB2AJ | 30 |
| NEMA 1, 3R, 12 red/yellow selector handle | OHY2AJ | 30 |
| 4.1" length shaft | OXS5X105 | 4 |
| 7.1" length shaft | OXS5X180 | 6 |

① Plug onto box terminals in each case.
 ② Plug onto housing after removing box terminals, if using cable lugs or buses.
 ③ Supplied only as a set of 10 scale covers.
 ④ Must have shaft coupler, handle and shaft for through-the-door operation.

Manual Motor Starters MS4xx

Ordering details



MS45x

SST02198



MS49x

SST01988



MS495 with A95
connected via BEA 110/495

ST14-02



MS495 with auxiliary switch
HKS4-02 and open-circuit shunt
release AA4 in addition to termi-
nal shroud KA495C

SST 09498

| Type | Setting range | Order code | Weight / piece kg | Packing unit piece | Price |
|------|---------------|------------|-------------------------|--------------------------|-------|
| | A . . . A | | | | |

MS450 with thermal and electromagnetic trips, tripping class 10, short-circuit-proof up to 50 kA ①

| | | | | | |
|------------|-----------|--------------------|------|---|--|
| MS450 – 16 | 11 ... 16 | 1SAM 450 000 R1001 | 0.96 | 1 | |
| MS450 – 20 | 14 ... 20 | 1SAM 450 000 R1002 | 0.96 | 1 | |
| MS450 – 25 | 18 ... 25 | 1SAM 450 000 R1003 | 0.96 | 1 | |
| MS450 – 32 | 22 ... 32 | 1SAM 450 000 R1004 | 0.96 | 1 | |
| MS450 – 40 | 28 ... 40 | 1SAM 450 000 R1005 | 0.96 | 1 | |
| MS450 – 45 | 36 ... 45 | 1SAM 450 000 R1006 | 0.96 | 1 | |
| MS450 – 50 | 40 ... 50 | 1SAM 450 000 R1007 | 0.96 | 1 | |

MS495 with thermal and electromagnetic trips, tripping class 10, short-circuit-proof up to 50 kA ①

| | | | | | |
|-------------|--------------|--------------------|-----|---|--|
| MS495 – 40 | 28 ... 40 | 1SAM 550 000 R1005 | 2.1 | 1 | |
| MS495 – 50 | 36 ... 50 | 1SAM 550 000 R1006 | 2.1 | 1 | |
| MS495 – 63 | 45 ... 63 | 1SAM 550 000 R1007 | 2.1 | 1 | |
| MS495 – 75 | 57 ... 75 | 1SAM 550 000 R1008 | 2.1 | 1 | |
| MS495 – 90 | 70 ... 90 | 1SAM 550 000 R1009 | 2.1 | 1 | |
| MS495 – 100 | 80 ... 100 ② | 1SAM 550 000 R1010 | 2.1 | 1 | |

MS497 with thermal and electromagnetic trips, tripping class 10, short-circuit-proof up to 100 kA ①

| | | | | | |
|-------------|--------------|--------------------|-----|---|--|
| MS497 – 16 | 11 ... 16 | 1SAM 580 000 R1001 | 2.1 | 1 | |
| MS497 – 20 | 14 ... 20 | 1SAM 580 000 R1002 | 2.1 | 1 | |
| MS497 – 25 | 18 ... 25 | 1SAM 580 000 R1003 | 2.1 | 1 | |
| MS497 – 32 | 22 ... 32 | 1SAM 580 000 R1004 | 2.1 | 1 | |
| MS497 – 40 | 28 ... 40 | 1SAM 580 000 R1005 | 2.1 | 1 | |
| MS497 – 50 | 36 ... 50 | 1SAM 580 000 R1006 | 2.1 | 1 | |
| MS497 – 63 | 45 ... 63 | 1SAM 580 000 R1007 | 2.1 | 1 | |
| MS497 – 75 | 57 ... 75 | 1SAM 580 000 R1008 | 2.1 | 1 | |
| MS497 – 90 | 70 ... 90 | 1SAM 580 000 R1009 | 2.1 | 1 | |
| MS497 – 100 | 80 ... 100 ② | 1SAM 580 000 R1010 | 2.1 | 1 | |

MS451 with thermal and electromagnetic trips, tripping class 20, for heavy start short-circuit-proof up to 50 kA ①

| | | | | | |
|------------|-----------|--------------------|------|---|--|
| MS451 – 16 | 11 ... 16 | 1SAM 470 000 R1001 | 0.96 | 1 | |
| MS451 – 20 | 14 ... 20 | 1SAM 470 000 R1002 | 0.96 | 1 | |
| MS451 – 25 | 18 ... 25 | 1SAM 470 000 R1003 | 0.96 | 1 | |
| MS451 – 32 | 22 ... 32 | 1SAM 470 000 R1004 | 0.96 | 1 | |
| MS451 – 40 | 28 ... 40 | 1SAM 470 000 R1005 | 0.96 | 1 | |
| MS451 – 45 | 36 ... 45 | 1SAM 470 000 R1006 | 0.96 | 1 | |
| MS451 – 50 | 40 ... 50 | 1SAM 470 000 R1007 | 0.96 | 1 | |

MS496 with thermal and electromagnetic trips, tripping class 20, for heavy start short-circuit-proof up to 100 kA ①

| | | | | | |
|-------------|--------------|--------------------|-----|---|--|
| MS496 – 40 | 28 ... 40 | 1SAM 570 000 R1005 | 2.1 | 1 | |
| MS496 – 50 | 36 ... 50 | 1SAM 570 000 R1006 | 2.1 | 1 | |
| MS496 – 63 | 45 ... 63 | 1SAM 570 000 R1007 | 2.1 | 1 | |
| MS496 – 75 | 57 ... 75 | 1SAM 570 000 R1008 | 2.1 | 1 | |
| MS496 – 90 | 70 ... 90 | 1SAM 570 000 R1009 | 2.1 | 1 | |
| MS496 – 100 | 80 ... 100 ② | 1SAM 570 000 R1010 | 2.1 | 1 | |

Direct adapter for wiring MS450 - MS497 to contactors

| Type | Order code | Weight / piece kg | Packing unit piece | Price |
|--|--------------------|-------------------------|--------------------------|-------|
| BEA40/450, direct adapter MS450 to A30/A40 | 1SBN 083 206 R1000 | 0.061 | 1 | |
| BEA50/450, direct adapter MS450 to A50 plate | 1SBN 083 506 R1000 | 0.062 | 1 | |
| BEA75/495, direct adapter MS495-497 to A50/63/75 | 1SBN 084 106 R1000 | 0.120 | 1 | |
| BEA110/495, direct adapter MS495-497 to A95/A110 | 1SBN 084 506 R1000 | 0.124 | 1 | |

① See table on Page 24, ② Max. motor current 95 A

Manual Motor Starters MS4xx

Accessories

Ordering details



Auxiliary switch HK4-11



Auxiliary switch HKS4-02



Pilot switch SK4-11



Open-circuit shunt release AA4



Undervoltage release UA4-HK

Retrofittable accessories

These parts may be procured in addition to the MS4xx. They must be mounted by the user.

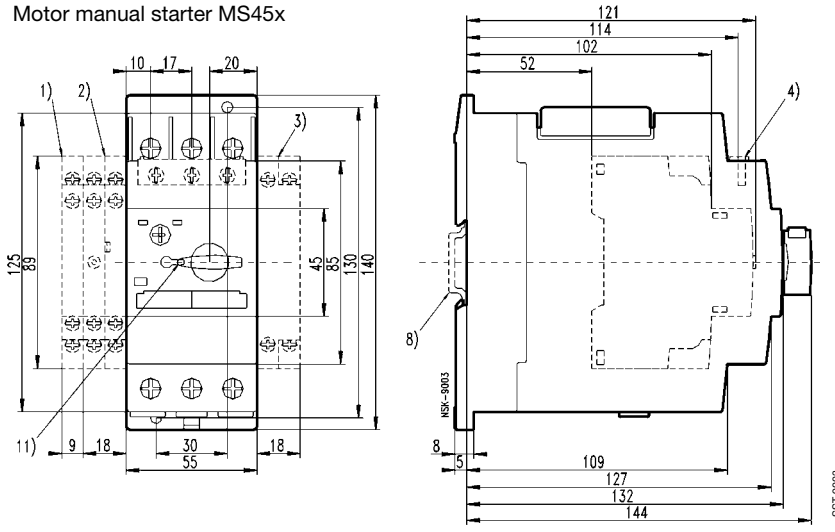
| Type | | Order code | Weight/ piece kg | Packing unit piece | Price |
|---|--|---------------------|------------------------|--------------------------|-------|
| Auxiliary switches, for front mounting | | | | | |
| HK4-11, | 1 NO + 1 NC | 1SAM 401 901 R1001 | 0.02 | 10 | |
| HK4-W, | 1 Changeover | 1SAM 401 901 R1002 | 0.02 | 10 | |
| Auxiliary switches, for lateral attachment at left, max. 1 mountable | | | | | |
| HKS4-11, | 1 NO + 1 NC | 1SAM 401 902 R1001 | 0.03 | 2 | |
| HKS4-20, | 2 NO | 1SAM 401 902 R1002 | 0.03 | 2 | |
| HKS4-02, | 2 NC | 1SAM 401 902 R1003 | 0.03 | 2 | |
| Signal switch for separate signalling acc. UL508 type E, lateral attachment at left 1NO + 1NC for short circuit signalling, 1NO + 1NC for general tripping | | | | | |
| SK4-11 | 2x: 1NO + 1NC | 1SAM 401 904 R 1001 | 0.07 | 1 | |
| Undervoltage release, for lateral attachment at right | | | | | |
| UA4, | 24 V 50 Hz | 1SAM 401 905 R1004 | 0.12 | 1 | |
| UA4, | 110 V 50 Hz | 1SAM 401 905 R1001 | 0.12 | 1 | |
| UA4, | 230 V 50 Hz / 240 V 60 H | 1SAM 401 905 R1002 | 0.12 | 1 | |
| UA4, | 400 V 50 Hz | 1SAM 401 905 R1003 | 0.12 | 1 | |
| Undervoltage release with pre-mating auxiliary switch 2 NO, for lateral attachment at right | | | | | |
| UA4-HK, | U _e 230 V 50 Hz / 240 V 60 Hz | 1SAM 401 906 R1001 | 0.13 | 1 | |
| UA4-HK, | 400 V 50 Hz | 1SAM 401 906 R1002 | 0.13 | 1 | |
| Shunt release, lateral mounting at the left side ⑤ | | | | | |
| AA4, | 20-70 V, 50/60 Hz | 1SAM 401 907 R1001 | 0.11 | 1 | |
| AA4, | 70-190 V, 50/60 Hz | 1SAM 401 907 R1002 | 0.11 | 1 | |
| AA4, | 190-330 V, 50/60 Hz | 1SAM 401 907 R1003 | 0.11 | 1 | |
| AA4, | 330-500 V, 50/60 Hz | 1SAM 401 907 R1004 | 0.11 | 1 | |
| Terminal shroud, for additional shock-hazard protection | | | | | |
| KA450, | for MS45x ① | 1SAM 401 908 R1001 | 0.01 | 1 | |
| KA495, | for MS49x ① | 1SAM 501 901 R1001 | 0.01 | 1 | |
| KA495C, | for MS49x ② | 1SAM 501 902 R1001 | 0.03 | 1 | |
| Terminal insulation barrier, | | | | | |
| DX495 | necessary for UL 508E, MS49x-Starter | 1SAM 401 912 R1001 | | | |
| Scale cover, lead-sealable | | | | | |
| SA450, | for MS45x ③ | 1SAM 401 909 R1001 | 0.007 | 1 set | |
| Disconnecter module, for producing a visible gap, lockable | | | | | |
| TB450, | for MS45x | 1SAM 401 910 R1001 | 0.30 | 1 | |
| Phase busses MS45x, 108 A, 690 V | | | | | |
| PS4-2 | without HK, for 2 devices | 1SAM 401 911 R1001 | | | |
| PS4-3 | without HK, for 3 devices | 1SAM 401 911 R1002 | | | |
| PS4-4 | without HK, for 4 devices | 1SAM 401 911 R1003 | | | |
| PS4-2 | with HK, for 2 devices | 1SAM 401 911 R1004 | | | |
| PS4-3 | with HK, for 3 devices | 1SAM 401 911 R1005 | | | |
| PS4-4 | with HK, for 4 devices | 1SAM 401 911 R1006 | | | |
| Infeed block, 108 A, 690 V, Stranded 50 mm², finely stranded 35 mm² | | | | | |
| S4-M1, | flat | 1SAM 401 911 R1007 | 10 | | |
| Cover for phase bus poles | | | | | |
| BS4-3 | | 1SAM 401 911 R1008 | | | |
| Switch cubicle mounting kit IP65, with axial extension, lockable in Off position, locked in On position ④ | | | | | |
| OHB2AJM, | Twist knob black | 1SCA 022 384 R6940 | | | |
| OHY2AJM, | Twist knob red/yellow | 1SCA 022 384 R7080 | | | |
| OXS5X 85, | axis 85 mm | 1SCA 022 347 R3570 | | | |
| OXS5X105, | axis 105 mm | 1SCA 022 347 R3650 | | | |
| OXS5X130, | axis 130 mm | 1SCA 022 353 R4540 | | | |
| OXS5X180, | axis 180 mm | 1SCA 022 353 R4620 | | | |
| MSMN, | driver ⑦ | 1SAM 101 923 R0001 | | | |

- ① Is plugged onto the box terminals in each case
 ② Is plugged onto the housing after removing the box terminals, if using cable lugs or buses
 ③ Supplied only as a set as 10 scale covers
 ④ Mounting sequence: Motor protection switch, pilot switch, auxiliary switch
 ⑤ Max. ON time: 5 seconds, see also Page 22
 ⑥ See also MS325 Page 10
 ⑦ Is screwed directly onto the manual motor starter

Manual Motor Starters MS45x / MS49x

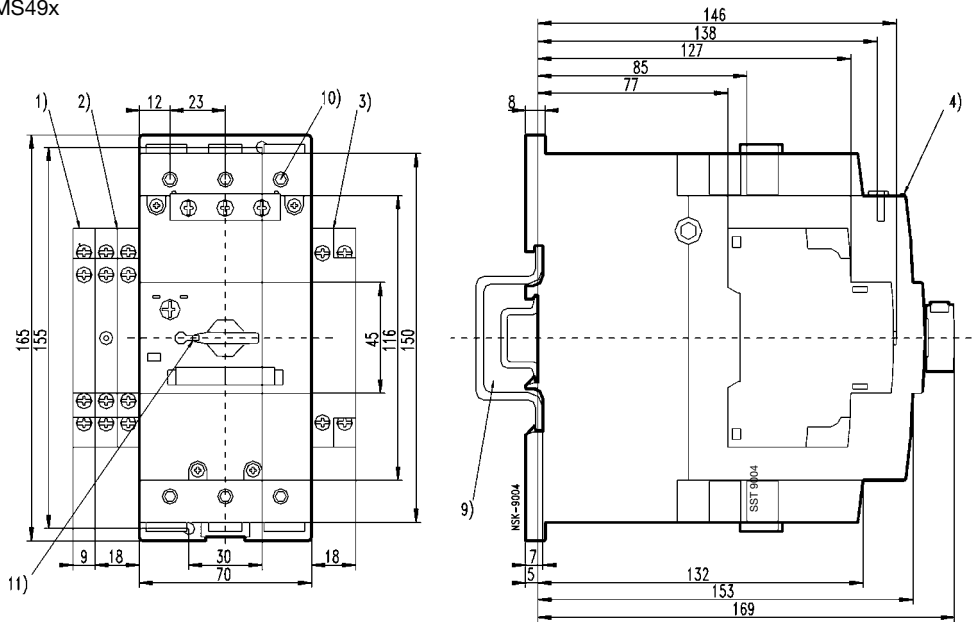
Dimension diagrams

Motor manual starter MS45x



- Auxiliary switch block HKS4
- ▼ Pilot switch SK4
- Open-circuit shunt release/undervoltage release AA4, UA4, UA4-HK
- Auxiliary switch HK4
- Top-hat rail 35 mm to DIN EN 50022
- ◻ Top-hat rail 35 mm, 15 mm high to DIN EN 50022
- or Top-hat rail 75 mm to DIN EN 50023
- Switch knob lockable in zero position with bracket diameter 5 mm

Motor manual starter MS49x



MS45x with disconnecter module TB450

