

Type MS325

5



MS325-1.0

Manual motor protectors — Type MS325

Thermal setting range (Amps)	Single-phase horsepower ratings ①		3-phase horsepower ratings			Catalog number	List price
	120V	240V	240V	480V	600V		
0.10 – 0.16	—	—	—	—	—	MS325-0.16 MS325-0.25 MS325-0.40 MS325-0.63	\$ 144
0.16 – 0.25	—	—	—	—	—		
0.25 – 0.40	—	—	—	—	—		
0.40 – 0.63	—	—	—	—	—		
0.63 – 1.0	—	—	—	1/2	1/2	MS325-1.0 MS325-1.6 MS325-2.5 MS325-4.0 MS325-6.3	165
1.0 – 1.6	—	1/10	—	3/4	3/4		
1.6 – 2.5	—	1/6	1/2	1	1.5		
2.5 – 4.0	1/8	1/3	1	2	3		
4.0 – 6.3	1/4	1/2	1.5	3	5		
6.3 – 9.0	1/3	1	2.5	5	7.5	MS325-9.0 MS325-12.5 MS325-16	192
9.0 – 12.5	1/2	2	3	7.5	10		
12.5 – 16	1	2.5	5	10	10		
16 – 20	1.5	3	5	10	15	MS325-20	211.50
20 – 25	2	3	7.5	15	20	MS325-25	223.50

MS325 UL File #E137861
Accessories UL File #E90353

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

Type MS325 UL 508E

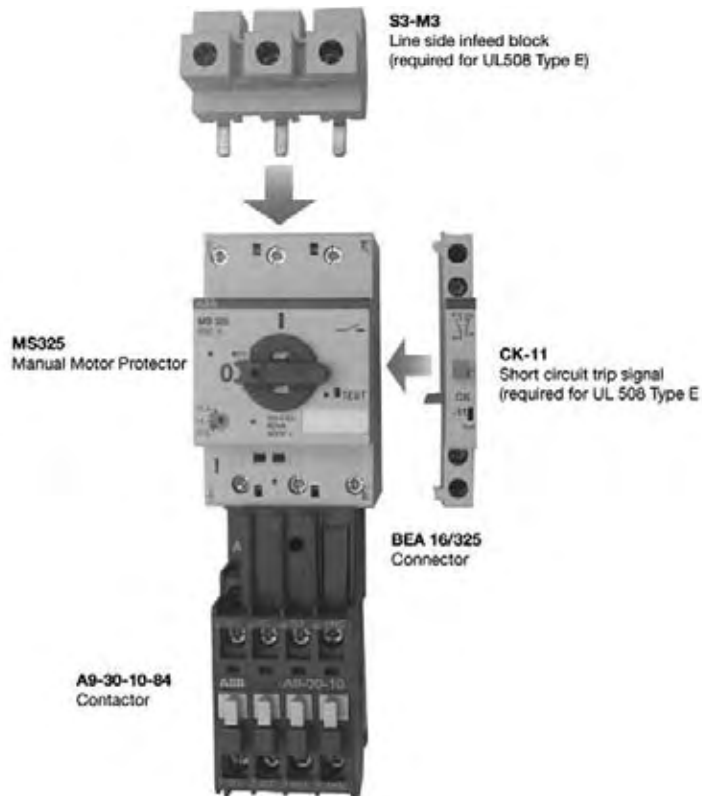


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Manual motor protectors — Type MS325

Thermal setting range (Amps)	Single-phase horsepower ratings ①		3-phase horsepower ratings			Catalog number ②	List price
	120V	240V	240V	480V	600V		
0.10 – 0.16	—	—	—	—	—	MS325-0.16E MS325-0.25E MS325-0.40E MS325-0.63E	\$ 223
0.16 – 0.25	—	—	—	—	—		
0.25 – 0.40	—	—	—	—	—		
0.40 – 0.63	—	—	—	—	—		
0.63 – 1.0	—	—	—	1/2	1/2	MS325-1.0E MS325-1.6E MS325-2.5E MS325-4.0E MS325-6.3E	244
1.0 – 1.6	—	1/10	—	3/4	3/4		
1.6 – 2.5	—	1/6	1/2	1	1.5		
2.5 – 4.0	1/8	1/3	1	2	3		
4.0 – 6.3	1/4	1/2	1.5	3	5		
6.3 – 9.0	1/3	1	2.5	5	7.5	MS325-9.0E MS325-12.5E MS325-16E	271
9.0 – 12.5	1/2	2	3	7.5	10		
12.5 – 16	1	2.5	5	10	10		
16 – 20	1.5	3	5	10	15	MS325-20E	290
20 – 25	2	3	7.5	15	20		
						MS325-25E	302

MS325 UL File #E137861
Accessories UL File #E90353
Class 10 overload
Short circuit rating of 18kA



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

② Part includes MMP, barrier and trip signal.

Type MS325 Accessories

5



MS325-HK11



MS325-HKF11



MS325-UA24



MS325-AS



MS325-SA1



MS325-SA3

Auxiliary contact blocks for Type MS325 (side mount)

Item description	Catalog number	List price
1 NO & 1 NC 2 NO 2 NC	MS325-HK11 MS325-HK20 MS325-HK02	\$ 33

Auxiliary contact blocks for Type MS325 (front mount)

Item description	Catalog number	List price
1 NO & 1 NC 2 NO	MS325-HKF11 MS325-HKF20	\$ 33

Bell alarm contact blocks for Type MS325

Item description	Catalog number	List price
1 NO 1 NC	MS325-SK10 MS325-SK01	\$ 33

Shunt trips for Type MS325

Item description	Catalog number	List price
110 – 240 VAC/VDC, 60 Hz 24 – 60 VAC/DC, 60 Hz	MS325-ST110 MS325-ST24	\$ 82.50

Undervoltage trip for Type MS325

Item description	Catalog number	List price
24V 48V 60V 110V 230V 400V 415V 480V	MS325-UA24 MS325-UA48 MS325-UA60 MS325-UA110 MS325-UA230 MS325-UA400 MS325-UA415 MS325-UA480	\$ 82.50

Remote control unit

Item description	Catalog number	List price
Electrically operated remote control unit for MS325. For use up to MS325-16 and below. Not for use with MS325-20 & MS325-25. Provided with 1 NO & 1 NC auxiliary contacts and 1NO trip signal contacts	24V AC/DC 48V AC/DC 60V AC/DC 110V AC/DC 230V AC/DC RC325-24V RC325-48V RC325-60V RC325-110V RC325-230V	\$ 165

NOTE: May not be used with HFK, SK, ST or UV accessories

Supporting terminal for Type MS325

Item description	Catalog number	List price
for UA or as N/LS clamp	MS325-AS	\$ 15

Padlocking devices for Type MS325

Item description	Catalog number	List price
Adapter for padlock type SA1	MS325-SA1	\$ 15.00
Complete padlock kit (includes adaptor, padlock & 3 keys)	MS325-SA3	37.50

Type MS325 Accessories



Switch cubicle mounting kit



MS325-BB1



MS325-SM1



PS3-2-0



PS3-4-0



MS325 coupled to mini-contactor

Molded plastic enclosures for Type MS325

Item description	Protection level	Catalog number	List price
Light gray enclosure with black handle	IP64	OTPA325B2P1	\$ 75
Light gray enclosure with red/yellow handle	IP64	OTPA325A2P1	75
Gray enclosure w/clear lid, 4 module	IP55	12644	84
Gray enclosure w/clear lid, 6 module	IP55	12646	98
Gray enclosure with black handle	IP65	IB325-G	75
Yellow enclosure with red handle	IP65	IB325-Y	75

NOTE: Use Discount schedule MA for IP64 & IP65 enclosures; use Discount schedule CB8 for IP55 enclosures.

Plastic adaptors for enclosures for Type MS325

Item description	Catalog number	List price
PG16 TO 1/2 NPT	PG16-1/2 NPT	\$ 10

Selector handles for through-the-door operation for Type MS325 ①

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

NOTE: Use Discount schedule MA for shaft coupler; use Discount schedule H6 for handles and shafts.

Power feed terminal blocks for Type MS325

Item description	Catalog number	List price
Standard, accepts 4 AWG wire	MS325-SM1	\$ 24
Low profile, accepts 4 AWG wire	MS325-BB1	25.50

Busbars for Type MS325 ②

Item description	Catalog number	List price
for 2 devices; without auxiliary switch	PS3-2-0	\$ 24
for 3 devices; without auxiliary switch	PS3-3-0	30
for 4 devices; without auxiliary switch	PS3-4-0	33
for 5 devices; without auxiliary switch	PS3-5-0	39
for 2 devices; with 1 auxiliary switch	PS3-2-1	30
for 3 devices; with 1 auxiliary switch	PS3-3-1	34.50
for 4 devices; with 1 auxiliary switch	PS3-4-1	37.50
for 5 devices; with 1 auxiliary switch	PS3-5-1	42
for 2 devices; with 2 auxiliary switches	PS3-2-2	30
for 4 devices; with 2 auxiliary switches	PS3-4-2	37.50

Busbars can be daisy chained to connect additional MS325s.

Close coupling adapters

Device	Catalog number	List price
MS325 + B6/B7 contactor	BEA7/325	\$ 12.00
MS325 + VB6/VB7 reversing contactor	MS325-VB7	
MS325 + A9, A12, A16 contactor	BEA16/325	13.50
MS325 + A26 contactor	BEA26/325	15.00
AL9 - AL16	BEA16/325AL	14.50
AL26	BEA26/325AL	16.00

UL 508 Type E Accessories – Required

Device	Catalog number	List price
Line side infeed block	S3-M3	\$ 30
Short circuit trip signal	CK-11	49

① Must have shaft coupler, handle and shaft for through-the-door operation.

② UL file # E167205; CSA file# LR98427M7-11

Technical data

Type MS325

Short circuit ratings

Short circuit ratings – MS325

Range	Short Circuit rating kA, 600VAC	Maximum Fuse size A
0.1 - 0.16	5	15
0.16 - 0.25	5	15
0.25 - 0.40	5	15
0.40 - 0.63	5	15
0.63 - 1.0	5	15
1.0 - 1.6	5	15
1.6 - 2.5	5	15
2.5 - 4.0	5	15
4.0 - 6.3	5	25
6.3 - 9.0	5	35
9.0 - 12.5	5	50
12.5 - 16	5	60
16 - 20	5	80
20 - 25	5	100

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Group installation short circuit ratings

MS325 Current range	5 kA		30 kA		50 kA		85kA
	Fuse A	MCCB	Fuse A	MCCB	Fuse A	MCCB	Fuse A
0.1 - 0.16	1600	S7H1200	1600	S7H1200	1600	S7H1200	1600
0.25 - 0.40	1600	S7H1200	1600	S7H1200	1600	S7H1200	1600
0.40 - 0.63	1600	S7H1200	1600	S7H1200	1600	S7H1200	1600
0.63 - 1.0	1600	S7H1200	1600	S7H1200	1600	S7H1200	1600
1.0 - 1.6	1600	S7H1200	1600	S7H1200	1600	S7H1200	1600
1.6 - 2.5	1600	S7H1200	1600	S7H1200	1600	S7H1200	1600
2.5 - 4.0	1600	S7H1200	1600	S7H1200	1600	S7H1200	1600
4.0 - 6.3	1600	S7H1200	1600	S7H1200	600	S7H1200	—
6.3 - 9.0	1600	S7H1200	1600	S7H1200	600	S7H1200	—
9.0 - 12.5	1600	S7H1200	1600	S7H1200	400	S4H250	—
12.5 - 16	1600	S7H1200	1600	S7H1200	400	S4H250	—
16 - 20	1600	S7H1200	1600	S7H1200	400	S4H250	—
20 - 25	1600	S7H1200	1600	S7H1200	400	S4H250	—

0.1 - 0.16	1200	S7H1200	1200	S7H1200	1200	S7H1200	—
0.25 - 0.40	1200	S7H1200	1200	S7H1200	1200	S7H1200	—
0.40 - 0.63	1200	S7H1200	1200	S7H1200	1200	S7H1200	—
0.63 - 1.0	1200	S7H1200	1200	S7H1200	1200	S7H1200	—
1.0 - 1.6	1200	S7H1200	1200	S7H1200	1200	S7H1200	—
1.6 - 2.5	1200	S7H1200	1200	S7H1200	1200	S7H1200	—
2.5 - 4.0	1200	S7H1200	1200	S7H1200	1200	S7H1200	—
4.0 - 6.3	1200	S7H1200	1200	S7H1200	1200	S7H1200	—
6.3 - 9.0	1200	S7H1200	1200	S7H1200	250	S4H250	—
9.0 - 12.5	1200	S7H1200	1200	S7H1200	—	—	—
12.5 - 16	1200	S7H1200	1200	S7H1200	—	—	—
16 - 20	1200	S7H1200	250	S4H250	—	—	—
20 - 25	1200	S7H1200	250	S4H250	—	—	—

① Fuse: Rated 1600A, Listed Class L. All others, listed RK5. Both time delay fuses.

② Fuse: Rated 1600A, Listed Class L. All others, listed K5. Both time delay fuses.

Technical data

Type MS325

Short circuit protection

Short-circuit protection MS325 — Setting ranges, short-circuit strength and max. back-up fuses

from	to	Maximum rated current of the short-circuit fuses if $I_{cc} > I_{cs}$																																																																																																																																																																																																																																																									
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A	A	I_{cs} kA	gL, aM A	I_{cs} kA	gL, aM A	I_{cs} kA	gL, aM A	I_{cs} kA	gL, aM A	I_{cs} kA	gL, aM A																																																																																																																																																																																																																																																
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Setting ranges	0.1 ... 0.16 to 1.0 ... 1.6 1.6 ... 2.5 2.5 ... 4.0 4.0 ... 6.3 6.3 ... 9.0 9.0 ... 12.5 12.5 ... 16.0 16.0 ... 20.0 20.0 ... 25.0	<p style="text-align: center;">Short-circuit proof No back-up fuse required up to $I_{cc} = 100$ kA</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>40</td> <td>25</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>10</td> <td>40</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>60</td> <td>35 / 40</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>40</td> <td>50</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>30</td> <td>80</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>70</td> <td>50</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>50</td> <td>80</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>45</td> <td>80</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>40</td> <td>100</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>27</td> <td>80</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>25</td> <td>100</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>22</td> <td>100</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>20</td> <td>125</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>75</td> <td>80</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>60</td> <td>100</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>55</td> <td>100</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>35</td> <td>100</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>30</td> <td>125</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>50</td> <td>125</td> <td></td> </tr> </table>																																40	25											10	40										60	35 / 40											40	50											30	80											70	50											50	80											45	80											40	100											27	80											25	100											22	100											20	125											75	80											60	100											55	100											35	100											30	125											50	125	
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Short-circuit protection MS325 — Setting ranges, short-circuit strength and max. back-up fuses

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A	A	I_{cs} kA	gL, aM A	I_{cs} kA	gL, aM A	I_{cs} kA	gL, aM A	I_{cs} kA	gL, aM A	I_{cs} kA	gL, aM A																																																																																																																																																																																																
Fuse types: Diazed, I.v.h.b.c., utilisation categories: gL, aM (VDE), gL/gG (IEC)																																																																																																																																																																																																											
Setting ranges	0.1 ... 0.16 to 1.0 ... 1.6 1.6 ... 2.5 2.5 ... 4.0 4.0 ... 6.3 6.3 ... 9.0 9.0 ... 12.5 12.5 ... 16.0 16.0 ... 20.0 20.0 ... 25.0	<p style="text-align: center;">Short-circuit proof No back-up fuse required up to $I_{cc} = 50$ kA</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>40</td> <td>25</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>10</td> <td>40</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>7</td> <td>40</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>5</td> <td>50</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>60</td> <td>35 / 40</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>40</td> <td>50</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>30</td> <td>80</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>45</td> <td>80</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>27</td> <td>80</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>25</td> <td>100</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>22</td> <td>100</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>20</td> <td>125</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>40</td> <td>100</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>35</td> <td>100</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>30</td> <td>125</td> <td></td> </tr> </table>																																40	25											10	40											7	40											5	50										60	35 / 40											40	50											30	80											45	80											27	80											25	100											22	100											20	125											40	100											35	100											30	125	
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I_{cs} = Rated service short-circuit breaking capacity, I_{cu} = Rated ultimate short-circuit capacity, I_{cc} = Prospective short-circuit current at installation location.
 $I_{cs} = I_{cu}$ in the case of MS 325 and MS 116!