



Addendum to
ACS150 User's Manual Rev D (3AFE68576032)
ACS310 User's Manual Rev D (3AUA0000044201)
ACS320 User's Manual Rev F (3AUA0000062599)
ACS355 User's Manual Rev D (3AUA0000066143)

Technical Data / Power Cable Sizes and Fuses / Alternate Short Circuit Protection

ABB UL file E211945 Volume 1, Section 4 lists the ABB Type E manual motor protectors MS132 & S1-M3-25, MS165-65, or MS495 as an alternate to UL classified fuses as a means of branch circuit protection. This is in accordance with the National Electrical Code (NEC). When the correct ABB Type E manual motor protector is selected from the table and used for branch circuit protection the drive is suitable for use in a circuit capable of delivering not more than 65 kA RMS symmetrical amperes at the drive maximum rated voltage. See the following combined micro drive table for the appropriate ratings.

Drives with and without NEMA 1 enclosure kits are included in the UL file. The MMP selections in the table are also valid for drives having a NEMA 1 enclosure kit installed.

Type Code	Frame	Input Amps	MMP Type E ^{1,2}	Min. Encl. Vol. (cu in) ⁵
1 Phase 200 - 240V				
ACS150/310/320/355-01x-02A4-2	R0	6.1	MS132-6.3 & S1-M3-25 ³	1152
ACS355-01x-04A7-2	R1	11.0	MS165-16	1482
ACS150/310/320-01x-04A7-2	R1	11.4	MS165-16	1482
ACS355-01x-06A7-2	R1	16.0	MS165-20	1482
ACS150/310/320-01x-06A7-2	R1	16.1	MS165-20	1482
ACS150/310/320-01x-07A5-2	R2	16.8	MS165-20	1482
ACS355-01x-07A5-2	R2	17.0	MS165-20	1482
ACS150/310/320/355-01x-09A8-2	R2	21.0	MS165-25	1482
3 Phase 200 - 240V				
ACS150/355-03x-02A4-2	R0	4.3	MS132-6.3 & S1-M3-25 ³	1152
ACS310/320-03x-02A6-2	R0	4.7	MS132-6.3 & S1-M3-25 ³	1152
ACS150/355-03x-03A5-2	R0	6.1	MS132-6.3 & S1-M3-25 ³	1152
ACS310/320-03x-03A9-2	R0	6.7	MS132-10 & S1-M3-25 ³	1152
ACS150/355-03x-04A7-2	R1	7.6	MS132-10 & S1-M3-25 ³	1152
ACS310/320-03x-05A2-2	R1	8.4	MS132-10 & S1-M3-25 ³	1152
ACS150/355-03x-06A7-2	R1	11.8	MS165-16	1482
ACS310/320-03x-07A4-2	R1	13.0	MS165-16	1482
ACS150/355-03x-07A5-2	R1	12.0	MS165-16	1482
ACS310/320-03x-08A3-2	R1	13.2	MS165-16	1482
ACS150/355-03x-09A8-2	R2	14.3	MS165-16	1482
ACS310/320-03x-10A8-2	R2	15.7	MS165-20	1482
ACS355-03x-13A3-2	R2	22.0	MS165-25	1482
ACS310/320-03x-14A6-2	R2	23.9	MS165-25	1482
ACS355-03x-17A6-2	R2	25.0	MS165-32	1482
ACS310/320-03x-19A4-2	R2	27.3	MS165-32	1482
ACS355-03x-24A4-2	R3	41.0	MS165-45	1482
ACS310/320-03x-26A8-2	R3	45.0	MS165-54	1482
ACS355-03x-31A0-2	R4	50.0	MS165-65	1482
ACS310/320-03x-34A1-2	R4	55.0	MS165-65	1482
ACS355-03x-46A2-2	R4	69.0	MS495-75 or MS5100-100	1152
ACS310/320-03x-50A8-2	R4	76.0	MS495-90 or MS5100-100	1152
3 Phase 380, 400, 415V⁴				
ACS150/320/355-03x-01A2-4	R0	2.2	MS132-2.5 & S1-M3-25 ³	1152
ACS310-03x-01A3-4	R0	2.4	MS132-2.5 & S1-M3-25 ³	1152
ACS150/320/355-03x-01A9-4	R0	3.6	MS132-4.0 & S1-M3-25 ³	1152
ACS310-03x-02A1-4	R0	4.0	MS132-6.3 & S1-M3-25 ³	1152
ACS150/320/355-03x-02A4-4	R1	4.1	MS132-6.3 & S1-M3-25 ³	1152
ACS310-03x-02A6-4	R1	4.5	MS132-6.3 & S1-M3-25 ³	1152
ACS150/320/355-03x-03A3-4	R1	6.0	MS132-6.3 & S1-M3-25 ³	1152
ACS310-03x-03A6-4	R1	6.6	MS132-10 & S1-M3-25 ³	1152
ACS150/320/355-03x-04A1-4	R1	6.9	MS132-10 & S1-M3-25 ³	1152
ACS310-03x-04A5-4	R1	7.6	MS132-10 & S1-M3-25 ³	1152

Type Code	Frame	Input Amps	MMP Type E ^{1,2}	Min. Encl. Vol. (cu in) ⁵
3 Phase 380, 400, 415V ⁴				
ACS150/320/355-03x-05A6-4	R1	9.6	MS132-10 & S1-M3-25 ³	1152
ACS310-03x-06A2-4	R1	10.6	MS165-16	1482
ACS150/320-03x-07A3-4	R1	11.6	MS165-16	1482
ACS355-03x-07A3-4	R1	12.0	MS165-16	1482
ACS310-03x-08A0-4	R1	12.8	MS165-16	1482
ACS150/320-03x-08A8-4	R1	13.6	MS165-16	1482
ACS355-03x-08A8-4	R1	14.0	MS165-16	1482
ACS310-03x-09A7-4	R1	15.0	MS165-20	1482
ACS320-03x-12A5-4	R3	18.8	MS165-20	1482
ACS355-03x-12A5-4	R3	19.0	MS165-20	1482
ACS310-03x-13A8-4	R3	20.7	MS165-25	1482
ACS355-03x-15A6-4	R3	22.0	MS165-25	1482
ACS320-03x-15A6-4	R3	22.1	MS165-25	1482
ACS310-03x-17A2-4	R3	24.3	MS165-32	1482
ACS320-03x-23A1-4	R3	30.9	MS165-42	1482
ACS355-03x-23A1-4	R3	31.0	MS165-32	1482
ACS310-03x-25A4-4	R3	34.0	MS165-42	1482
ACS320/355-03x-31A0-4	R4	52.0	MS165-65	1482
ACS310-03x-34A1-4	R4	57.0	MS165-65	1482
ACS320/355-03x-38A0-4	R4	61.0	MS165-65	1482
ACS310-03x-41A8-4	R4	67.0	MS495-75 or MS5100-100	1152
ACS320-03x-44A0-4	R4	67.0	MS495-75 or MS5100-100	1152
ACS355-03x-44A0-4	R4	67.0	MS495-75 or MS5100-100	1152
ACS310-03x-48A4-4	R4	74.0	MS495-90 or MS5100-100	1152
3 Phase 440, 460, 480V ⁴				
ACS150/320/355-03x-01A2-4	R0	1.8	MS132-2.5 & S1-M3-25 ³	1152
ACS310-03x-01A3-4	R0	2.0	MS132-2.5 & S1-M3-25 ³	1152
ACS150/320/355-03x-01A9-4	R0	3.0	MS132-4.0 & S1-M3-25 ³	1152
ACS310-03x-02A1-4	R0	3.3	MS132-4.0 & S1-M3-25 ³	1152
ACS150/320/355-03x-02A4-4	R1	3.4	MS132-4.0 & S1-M3-25 ³	1152
ACS310-03x-02A6-4	R1	3.8	MS132-6.3 & S1-M3-25 ³	1152
ACS150/320/355-03x-03A3-4	R1	5.0	MS132-6.3 & S1-M3-25 ³	1152
ACS310-03x-03A6-4	R1	5.5	MS132-6.3 & S1-M3-25 ³	1152
ACS150/320/355-03x-04A1-4	R1	5.8	MS132-6.3 & S1-M3-25 ³	1152
ACS310-03x-04A5-4	R1	6.3	MS132-10 & S1-M3-25 ³	1152
ACS150/320/355-03x-05A6-4	R1	8.0	MS132-10 & S1-M3-25 ³	1152
ACS310-03x-06A2-4	R1	8.8	MS132-10 & S1-M3-25 ³	1152
ACS150/320/355-03x-07A3-4	R1	9.7	MS132-10 & S1-M3-25 ³	1152
ACS310-03x-08A0-4	R1	11.0	MS165-16	1482
ACS320/355-03x-08A8-4	R1	11.0	MS165-16	1482
ACS150-03x-08A8-4	R1	11.3	MS165-16	1482

Type Code	Frame	Input Amps	MMP Type E ^{1,2}	Min. Encl. Vol. (cu in) ⁵
3 Phase 440, 460, 480V ⁴				
ACS310-03x-09A7-4	R1	12.0	MS165-16	1482
ACS320/355-03x-12A5-4	R3	16.0	MS165-20	1482
ACS310-03x-13A8-4	R3	17.0	MS165-20	1482
ACS320/355-03x-15A6-4	R3	18.0	MS165-20	1482
ACS310-03x-17A2-4	R3	20.0	MS165-25	1482
ACS320/355-03x-23A1-4	R3	26.0	MS165-32	1482
ACS310-03x-25A4-4	R3	28.0	MS165-32	1482
ACS320/355-03x-31A0-4	R4	43.0	MS165-54	1482
ACS310-03x-34A1-4	R4	48.0	MS165-54	1482
ACS320/355-03x-38A0-4	R4	51.0	MS165-65	1482
ACS310-03x-41A8-4	R4	56.0	MS165-65	1482
ACS320/355-03x-44A0-4	R4	56.0	MS165-65	1482
ACS310-03x-48A4-4	R4	61.0	MS165-65	1482

1 All manual motor protectors listed are Type E self-protected up to 65 kA. See ABB publication 2CDC131085M0201 – Manual Motor Starters – North American Applications for complete technical data on the ABB Type E manual motor protectors. In order for these manual motor protectors to be used for branch circuit protection, they must be UL listed Type E manual motor protectors, otherwise they can be used only as an At Motor Disconnect. "At Motor Disconnect" is a disconnect just ahead of the motor on the load side of the panel.

2 Manual motor protectors may require adjusting the trip limit from the factory setting at or above the drive input Amps to avoid nuisance tripping. If the manual motor protector is set to the maximum current trip level and nuisance tripping is occurring, select the next size MMP. (MS132-10 is the highest size in the MS132 frame size to meet Type E at 65kA; next size up is MS165-16.)

3 Requires use of the S1-M3-25 line side feeder terminal with the manual motor protector to meet Type E self-protection class.

4 480Y/277V delta systems only: Short-circuit protective devices with slash voltage ratings (e.g. 480Y/277 VAC) can be applied only in solidly grounded networks where the voltage from line-to-ground does not exceed the lower of the two ratings (e.g. 277 V AC), and the voltage from line-to-line does not exceed the higher of the two ratings (e.g. 480 V AC). The lower rating represents the device's interrupting capability per pole.

5 For all drives, the enclosure must be sized to accommodate the specific thermal considerations of the application as well as provide free space for cooling.

For UL only: The minimum enclosure volume is specified in the UL listing when applied with the ABB Type E MMP shown in the table. ACS150/310/320/355 drives are intended to be mounted in an enclosure unless a NEMA-1 kit is added. See the applicable ABB User Manual for free space requirements.

To obtain the most current product documentation go to www.abb.com and select Offerings/Low Voltage AC Drives to navigate to the complete User Manual for the appropriate drive