



ACS150/ACS3XX DRIVES AND THE USE OF MANUAL MOTOR PROTECTORS

Description:

The use of Manual Motor Protectors with (ACS150/ACS310/ACS320/ACS355) drives is UL Authorized under UL File E211945, Vol. 1.

Details of the Application of Manual Motor Protectors:

ABB now holds UL's Notice of Authorization Letter which allows us to use ABB's Manual Motor Protectors in Combination with Micro Drives (ACS150/ACS310/ACS320/ACS355) and have the combination listed at 65kA 480Y/277 and 208-240V Delta systems. No currently recommend drive fuses are required in order to achieve these ratings.

Lists of Manual Motor Protectors by drive model number:

ACS150	Frame	Input Amps	MMP Type E ^{1,2}
1 Phase 200 - 240V			
ACS150-01x-02A4-2	R0	6.1	MS132-6.3 & S1-M3-25 ³
ACS150-01x-04A7-2	R1	11.4	MS451-16E
ACS150-01x-06A7-2	R1	16.1	MS451-20E
ACS150-01x-07A5-2	R2	16.8	MS451-20E
ACS150-01x-09A8-2	R2	21.0	MS451-25E
3 Phase 200 - 240V			
ACS150-03x-02A4-2	R0	4.3	MS132-6.3 & S1-M3-25 ³
ACS150-03x-03A5-2	R0	6.1	MS132-6.3 & S1-M3-25 ³
ACS150-03x-04A7-2	R1	7.6	MS132-10 & S1-M3-25 ³
ACS150-03x-06A7-2	R1	11.8	MS451-16E
ACS150-03x-07A5-2	R1	12.0	MS451-16E
ACS150-03x-09A8-2	R2	14.3	MS451-16E
3 Phase 380, 400, 415V ⁴			
ACS150-03x-01A2-4	R0	2.2	MS132-2.5 & S1-M3-25 ³

Rick Akey – Low Voltage Drives Industrial Applications		Date: 10/23/2014
External	Industrial	Document #: LVD-EOTN73U-EN
ACS150, ACS310, ACS320, ACS355		Revision: A

ACS150-03x-01A9-4	R0	3.6	MS132-4.0 & S1-M3-25	3
ACS150-03x-02A4-4	R1	4.1	MS132-6.3 & S1-M3-25	3
ACS150-03x-03A3-4	R1	6.0	MS132-6.3 & S1-M3-25	3
ACS150-03x-04A1-4	R1	6.9	MS132-10 & S1-M3-25	3
ACS150-03x-05A6-4	R1	9.6	MS132-10 & S1-M3-25	3
ACS150-03x-07A3-4	R1	11.6	MS451-16E	
ACS150-03x-08A8-4	R1	13.6	MS451-16E	
3 Phase 440, 460, 480V ⁴				
ACS150-03x-01A2-4	R0	1.8	MS132-2.5 & S1-M3-25	3
ACS150-03x-01A9-4	R0	3.0	MS132-4.0 & S1-M3-25	3
ACS150-03x-02A4-4	R1	3.4	MS132-4.0 & S1-M3-25	3
ACS150-03x-03A3-4	R1	5.0	MS132-6.3 & S1-M3-25	3
ACS150-03x-04A1-4	R1	5.8	MS132-6.3 & S1-M3-25	3
ACS150-03x-05A6-4	R1	8.0	MS132-10 & S1-M3-25	3
ACS150-03x-07A3-4	R1	9.7	MS132-10 & S1-M3-25	3
ACS150-03x-08A8-4	R1	11.3	MS451-16E	

ACS310	Frame	Input Amps	MMP Type E ^{1,2}	
1 Phase 200 - 240V				
ACS310-01x-02A4-2	R0	6.1	MS132-6.3 & S1-M3-25	3
ACS310-01x-04A7-2	R1	11.4	MS451-16E	
ACS310-01x-06A7-2	R1	16.1	MS451-20E	
ACS310-01x-07A5-2	R2	16.8	MS451-20E	
ACS310-01x-09A8-2	R2	21.0	MS451-25E	
3 Phase 200 - 240V				
ACS310-03x-02A6-2	R0	4.7	MS132-6.3 & S1-M3-25	3
ACS310-03x-03A9-2	R0	6.7	MS132-10 & S1-M3-25	3
ACS310-03x-05A2-2	R1	8.4	MS132-10 & S1-M3-25	3
ACS310-03x-07A4-2	R1	13.0	MS451-16E	
ACS310-03x-08A3-2	R1	13.2	MS451-16E	
ACS310-03x-10A8-2	R2	15.7	MS451-20E	

Rick Akey – Low Voltage Drives Industrial Applications		Date: 10/23/2014
		Document #: LVD-EOTN73U-EN
External	Industrial	Revision: A
ACS150, ACS310, ACS320, ACS355		



ACS310-03x-14A6-2	R2	23.9	MS451-25E
ACS310-03x-19A4-2	R2	27.3	MS451-32E
ACS310-03x-26A8-2	R3	45.0	MS451-50E
ACS310-03x-34A1-2	R4	55.0	MS495-63E
ACS310-03x-50A8-2	R4	76.0	MS495-90E
3 Phase 380, 400, 415V ⁴			
ACS310-03x-01A3-4	R0	2.4	MS132-2.5 & S1-M3-25 ³
ACS310-03x-02A1-4	R0	4.0	MS132-6.3 & S1-M3-25 ³
ACS310-03x-02A6-4	R1	4.5	MS132-6.3 & S1-M3-25 ³
ACS310-03x-03A6-4	R1	6.6	MS132-10 & S1-M3-25 ³
ACS310-03x-04A5-4	R1	7.6	MS132-10 & S1-M3-25 ³
ACS310-03x-06A2-4	R1	10.6	MS451-16E
ACS310-03x-08A0-4	R1	12.8	MS451-16E
ACS310-03x-09A7-4	R1	15.0	MS451-20E
ACS310-03x-13A8-4	R3	20.7	MS451-25E
ACS310-03x-17A2-4	R3	24.3	MS451-32E
ACS310-03x-25A4-4	R3	34.0	MS451-40E
ACS310-03x-34A1-4	R4	57.0	MS495-63E
ACS310-03x-41A8-4	R4	67.0	MS495-75E
ACS310-03x-48A4-4	R4	74.0	MS495-90E
3 Phase 440, 460, 480V ⁴			
ACS310-03x-01A3-4	R0	2.0	MS132-2.5 & S1-M3-25 ³
ACS310-03x-02A1-4	R0	3.3	MS132-4.0 & S1-M3-25 ³
ACS310-03x-02A6-4	R1	3.8	MS132-6.3 & S1-M3-25 ³
ACS310-03x-03A6-4	R1	5.5	MS132-6.3 & S1-M3-25 ³
ACS310-03x-04A5-4	R1	6.3	MS132-10 & S1-M3-25 ³
ACS310-03x-06A2-4	R1	8.8	MS132-10 & S1-M3-25 ³
ACS310-03x-08A0-4	R1	11.0	MS451-16E
ACS310-03x-09A7-4	R1	12.0	MS451-16E
ACS310-03x-13A8-4	R3	17.0	MS451-20E
ACS310-03x-17A2-4	R3	20.0	MS451-25E
ACS310-03x-25A4-4	R3	28.0	MS451-32E
ACS310-03x-34A1-4	R4	48.0	MS451-50E
ACS310-03x-41A8-4	R4	56.0	MS495-63E
ACS310-03x-48A4-4	R4	61.0	MS495-63E

Rick Akey – Low Voltage Drives Industrial Applications		Date: 10/23/2014
External	Industrial	Document #: LVD-EOTN73U-EN
		Revision: A
ACS150, ACS310, ACS320, ACS355		

ACS320	Frame	Input Amps	MMP Type E ^{1,2}
1 Phase 200 - 240V			
ACS320-01x-02A4-2	R0	6.1	MS132-6.3 & S1-M3-25 ³
ACS320-01x-04A7-2	R1	11.4	MS451-16E
ACS320-01x-06A7-2	R1	16.1	MS451-20E
ACS320-01x-07A5-2	R2	16.8	MS451-20E
ACS320-01x-09A8-2	R2	21.0	MS451-25E
3 Phase 200 - 240V			
ACS320-03x-02A6-2	R0	4.7	MS132-6.3 & S1-M3-25 ³
ACS320-03x-03A9-2	R0	6.7	MS132-10 & S1-M3-25 ³
ACS320-03x-05A2-2	R1	8.4	MS132-10 & S1-M3-25 ³
ACS320-03x-07A4-2	R1	13.0	MS451-16E
ACS320-03x-08A3-2	R1	13.2	MS451-16E
ACS320-03x-10A8-2	R2	15.7	MS451-20E
ACS320-03x-14A6-2	R2	23.9	MS451-25E
ACS320-03x-19A4-2	R2	27.3	MS451-32E
ACS320-03x-26A8-2	R3	45.0	MS451-50E
ACS320-03x-34A1-2	R4	55.0	MS495-63E
ACS320-03x-50A8-2	R4	76.0	MS495-90E
3 Phase 380, 400, 415V ⁴			
ACS320-03x-01A2-4	R0	2.2	MS132-2.5 & S1-M3-25 ³
ACS320-03x-01A9-4	R0	3.6	MS132-4.0 & S1-M3-25 ³
ACS320-03x-02A4-4	R1	4.1	MS132-6.3 & S1-M3-25 ³
ACS320-03x-03A3-4	R1	6.0	MS132-6.3 & S1-M3-25 ³
ACS320-03x-04A1-4	R1	6.9	MS132-10 & S1-M3-25 ³
ACS320-03x-05A6-4	R1	9.6	MS132-10 & S1-M3-25 ³
ACS320-03x-07A3-4	R1	11.6	MS451-16E
ACS320-03x-08A8-4	R1	13.6	MS451-16E
ACS320-03x-12A5-4	R3	18.8	MS451-20E
ACS320-03x-15A6-4	R3	22.1	MS451-25E
ACS320-03x-23A1-4	R3	30.9	MS451-40E
ACS320-03x-31A0-4	R4	52.0	MS495-63E

Rick Akey – Low Voltage Drives Industrial Applications		Date: 10/23/2014
		Document #: LVD-EOTN73U-EN
External	Industrial	Revision: A
ACS150, ACS310, ACS320, ACS355		



ACS320-03x-38A0-4	R4	61.0	MS495-63E
ACS320-03x-44A0-4	R4	67.0	MS495-75E
3 Phase 440, 460, 480V ⁴			
ACS320-03x-01A2-4	R0	1.8	MS132-2.5 & S1-M3-25 ³
ACS320-03x-01A9-4	R0	3.0	MS132-4.0 & S1-M3-25 ³
ACS320-03x-02A4-4	R1	3.4	MS132-4.0 & S1-M3-25 ³
ACS320-03x-03A3-4	R1	5.0	MS132-6.3 & S1-M3-25 ³
ACS320-03x-04A1-4	R1	5.8	MS132-6.3 & S1-M3-25 ³
ACS320-03x-05A6-4	R1	8.0	MS132-10 & S1-M3-25 ³
ACS320-03x-07A3-4	R1	9.7	MS132-10 & S1-M3-25 ³
ACS320-03x-08A8-4	R1	11.0	MS451-16E
ACS320-03x-12A5-4	R3	16.0	MS451-20E
ACS320-03x-15A6-4	R3	18.0	MS451-20E
ACS320-03x-23A1-4	R3	26.0	MS451-32E
ACS320-03x-31A0-4	R4	43.0	MS451-45E
ACS320-03x-38A0-4	R4	51.0	MS495-63E
ACS320-03x-44A0-4	R4	56.0	MS495-63E

ACS355	Frame	Input Amps	MMP Type E ^{1,2}
1 Phase 200 - 240V			
ACS355-01x-02A4-2	R0	6.1	MS132-6.3 & S1-M3-25 ³
ACS355-01x-04A7-2	R1	11.0	MS451-16E
ACS355-01x-06A7-2	R1	16.0	MS451-20E
ACS355-01x-07A5-2	R2	17.0	MS451-20E
ACS355-01x-09A8-2	R2	21.0	MS451-25E

Rick Akey – Low Voltage Drives Industrial Applications		Date: 10/23/2014
		Document #: LVD-EOTN73U-EN
External	Industrial	Revision: A
ACS150, ACS310, ACS320, ACS355		

3 Phase 200 - 240V				
ACS355-03x-02A4-2	R0	4.3	MS132-6.3 & S1-M3-25	3
ACS355-03x-03A5-2	R0	6.1	MS132-6.3 & S1-M3-25	3
ACS355-03x-04A7-2	R1	7.6	MS132-10 & S1-M3-25	3
ACS355-03x-06A7-2	R1	12.0	MS451-16E	
ACS355-03x-07A5-2	R1	12.0	MS451-16E	
ACS355-03x-09A8-2	R2	14.0	MS451-16E	
ACS355-03x-13A3-2	R2	22.0	MS451-25E	
ACS355-03x-17A6-2	R2	25.0	MS451-32E	
ACS355-03x-24A4-2	R3	41.0	MS451-45E	
ACS355-03x-31A0-2	R4	50.0	MS495-63E	
ACS355-03x-46A2-2	R4	69.0	MS495-75E	
3 Phase 380, 400, 415V ⁴				
ACS355-03x-01A2-4	R0	2.2	MS132-2.5 & S1-M3-25	3
ACS355-03x-01A9-4	R0	3.6	MS132-4.0 & S1-M3-25	3
ACS355-03x-02A4-4	R1	4.1	MS132-6.3 & S1-M3-25	3
ACS355-03x-03A3-4	R1	6.0	MS132-6.3 & S1-M3-25	3
ACS355-03x-04A1-4	R1	6.9	MS132-10 & S1-M3-25	3
ACS355-03x-05A6-4	R1	9.6	MS132-10 & S1-M3-25	3
ACS355-03x-07A3-4	R1	12.0	MS451-16E	
ACS355-03x-08A8-4	R1	14.0	MS451-16E	
ACS355-03x-12A5-4	R3	19.0	MS451-20E	
ACS355-03x-15A6-4	R3	22.0	MS451-25E	
ACS355-03x-23A1-4	R3	31.0	MS451-32E	
ACS355-03x-31A0-4	R4	52.0	MS495-63E	
ACS355-03x-38A0-4	R4	61.0	MS495-63E	
ACS355-03x-44A0-4	R4	67.0	MS495-75E	
3 Phase 440, 460, 480V ⁴				
ACS355-03x-01A2-4	R0	1.8	MS132-2.5 & S1-M3-25	3
ACS355-03x-01A9-4	R0	3.0	MS132-4.0 & S1-M3-25	3
ACS355-03x-02A4-4	R1	3.4	MS132-4.0 & S1-M3-25	3
ACS355-03x-03A3-4	R1	5.0	MS132-6.3 & S1-M3-25	3
ACS355-03x-04A1-4	R1	5.8	MS132-6.3 & S1-M3-25	3
ACS355-03x-05A6-4	R1	8.0	MS132-10 & S1-M3-25	3
ACS355-03x-07A3-4	R1	9.7	MS132-10 & S1-M3-25	3
ACS355-03x-08A8-4	R1	11.0	MS451-16E	

Rick Akey – Low Voltage Drives Industrial Applications		Date: 10/23/2014
		Document #: LVD-EOTN73U-EN
External	Industrial	Revision: A
ACS150, ACS310, ACS320, ACS355		



ACS355-03x-12A5-4	R3	16.0	MS451-20E
ACS355-03x-15A6-4	R3	18.0	MS451-20E
ACS355-03x-23A1-4	R3	26.0	MS451-32E
ACS355-03x-31A0-4	R4	43.0	MS451-45E
ACS355-03x-38A0-4	R4	51.0	MS495-63E
ACS355-03x-44A0-4	R4	56.0	MS495-63E

¹ All manual motor protectors listed are Type E self-protected up to 65kA.

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, then select the next size MMP.

(MS132-10 is the highest size in MS132 frame size to meet Type E at 65kA; the next size up is the MS451-16E)

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 only

Corrective Actions:

This will be documented in future revisions of the User's Manual and other collateral.

Rick Akey – Low Voltage Drives Industrial Applications		Date: 10/23/2014
External	Industrial	Document #: LVD-EOTN73U-EN
		Revision: A
ACS150, ACS310, ACS320, ACS355		