

Motor Protection Circuit Breaker Specifications

Bulletin Number 140MP

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Product Overview

Bulletin 140MP Motor Protection Circuit Breakers (MPCBs) or Motor Protective Switching Devices (MPSDs) are UL Listed as Manual Motor Controllers (with optional approvals for Suitable as Motor Disconnect and Suitable for use in Group Installation).

Group motor installations eliminate the need for individual branch short circuit protective devices for each motor circuit, reducing panel space, installation & wiring time, and costs. There is only one Branch Circuit Protective Device (BCPD) for the "Group".

According to UL 60947-4-1, CSA C22.2 No.60947-4-1, these devices may provide the following control and protection functions.

- Disconnect for Motor Branch Circuit
- Manual Switching (Motor control means)
- Overload Protection (Thermal Protection)

These devices meet requirement of Motor Protective Switching Devices (MPSD) according to IEC 60947-4-1 and Circuit Breaker according to IEC 60947-2 standard for application outside of North America. These devices provide the following functions.

- Disconnect for Motor Branch Circuit
- Short-circuit Protection (Magnetic Protection)
- Overload Protection (Thermal Protection)
- Manual Switching (Motor control means)

140MP devices provide trip class 10A overload protection and phase loss sensitivity protection. These are suitable for single- and three-phase application.

Group Installation with MPCBs

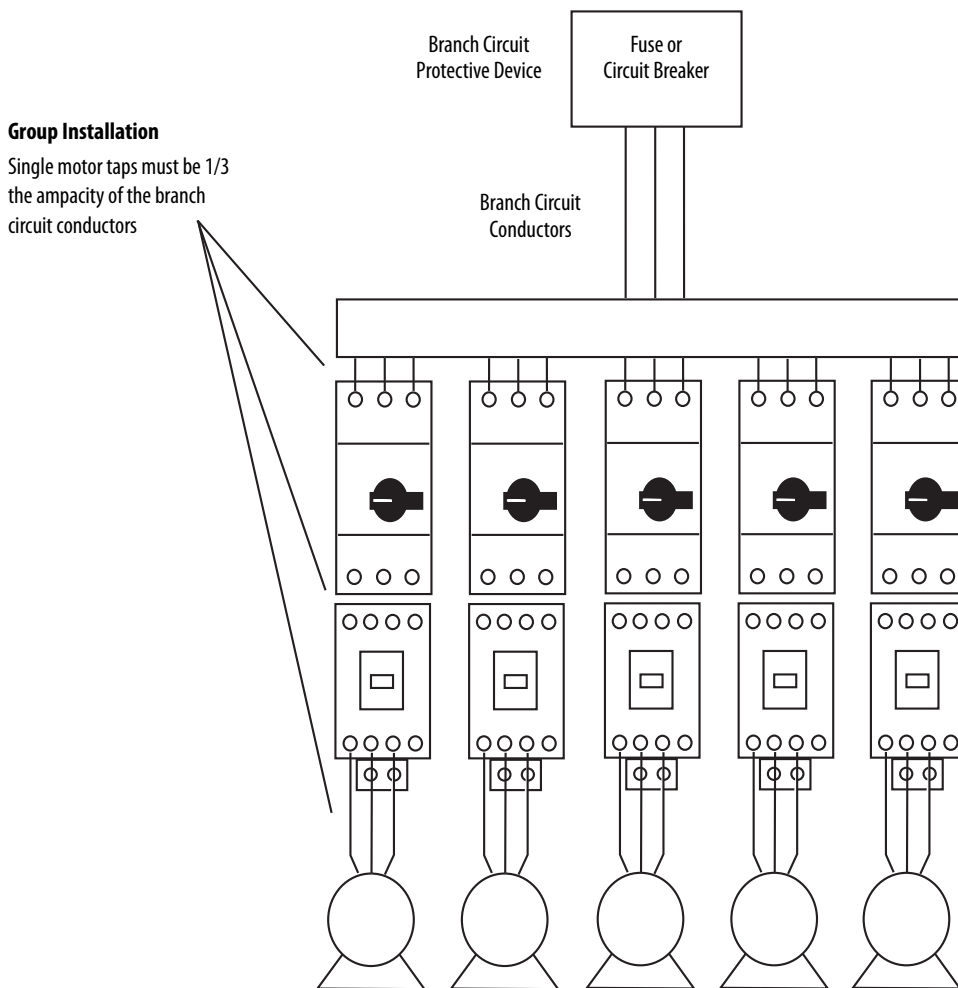
There is only one Branch Circuit Protective Device (BCPD) for the “Group”.

Group installation has been successfully used for many years in the U.S. and Canada. It allows “two or motors or one or more motors and other loads to be connected to the same branch-circuit...” The most restrictive part of the conditions specified for Group Installation is the requirement for the protection of the conductors for each motor circuit.

[Figure 1](#) shows an example that illustrates installations involving multiple motors with a single BCPD protecting the entire “Group”.

Bulletin 140MP Motor Protection Circuit Breakers are UL/CSA Listed for Group Installation: conductors from the BCPD to each motor must be a minimum of 1/3 the ampacity of the Branch Circuit conductors.

Figure 1 - Group Installation with MPCBs



Catalog Number Explanation

140MP - A 3 E - B10
a b c d e

a		b		c		d		e	
Bulletin Number		Frame Size		Interrupting Rating/ Breaking Capacity		Function		Current Range	
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
140MP	140MP Motor Protection Circuit Breaker	A	Frame A	3	Normal break	E	Adjustable Thermal / Fixed Magnetic MPCB	A	0.10 (example: A16 = 0.16 A)
								B	1.0 (example: B16=1.6 A)
								C	10 (example: C16 = 16 A)

Product Selection

Use the tables in this section to help select your Bulletin 140MP Motor Protection Circuit Breaker.

Table 1 - Bulletin 140MP MPCB Selection Using Current and Hp/kW Ratings

Rated Operational Current (I_e) [A]	Motor Current Adjustment Range [A]	Nominal Magnetic Trip Current [A]	Max. Short Circuit Current [kA]		Max. 3-phase Hp Ratings ⁽¹⁾				Max. kW, 3-Phase — AC-3 ⁽¹⁾				Cat. No.
			400V	480V	200V	230V	460V	575V	230V	400/415V	500V	690V	
			(I_{cu})	(group motor)									
0.16	0.10...0.16	2	100	30	—	—	—	—	—	0.02	0.06	0.06	140MP-A3E-A16
0.25	0.16...0.25	3.1	100	30	—	—	—	—	—	0.04	0.09	0.09	140MP-A3E-A25
0.4	0.25...0.40	5	100	30	—	—	—	0.25	0.06	0.09	0.12	0.18	140MP-A3E-A40
0.63	0.40...0.63	7.9	100	30	—	—	0.25	0.33	0.09	0.18	0.18	0.25	140MP-A3E-A63
1	0.63...1.0	12.5	100	30	—	—	0.5	0.75	0.18	0.25	0.37	0.55	140MP-A3E-B10
1.6	1.0...1.6	20	100	30	0.25	0.33	1	1	0.25	0.55	0.75	1.1	140MP-A3E-B16
2.5	1.6...2.5	31.3	75	30	0.5	0.75	1.5	2	0.37	0.75	1.1	1.8	140MP-A3E-B25
4	2.5...4.0	50	75	18	1	1	3	3	0.75	1.5	2.2	3	140MP-A3E-B40
6.3	4.0...6.3	78.8	50	18	1.5	2	5	5	1.5	2.2	3	4	140MP-A3E-B63
10	6.3...10	150	50	18	3	3	7.5	10	2.2	4	6.3	7.5	140MP-A3E-C10
12	8.0...12	180	50	18	3	3	7.5	10	3	5.5	6.3	7.5	140MP-A3E-C12
16	10...16	240	15	18	5	5	10	15	4	7.5	10	13	140MP-A3E-C16
20	16...20	300	15	18	5	7.5	15	20	5.5	10	11	17	140MP-A3E-C20
25	20...25	375	15	18	7.5	7.5	20	20	5.5	11	15	22	140MP-A3E-C25
32	25...32	480	15	18	7.5	10	25	30	7.5	15	20	25	140MP-A3E-C32

(1) Horsepower/kW ratings shown are for reference. The final selection of the MPCB/MPSD depends on the actual motor full load current.

Table 2 - Bulletin 140MP MPCB Selection Using Interrupting Rating/Breaking Capacity

Breaking Capacity, IEC 60947-2															Cat. No.			
230V AC			400V AC			440V AC			500V AC			690V AC						
I_{cs} [kA]	I_{cu} [kA]	Back-up Fuse Rating ⁽¹⁾ [A]	I_{cs} [kA]	I_{cu} [kA]	Back-up Fuse Rating ⁽¹⁾ [A]	I_{cs} [kA]	I_{cu} [kA]	Back-up Fuse Rating ⁽¹⁾ [A]	I_{cs} [kA]	I_{cu} [kA]	Back-up Fuse Rating ⁽¹⁾ [A]	I_{cs} [kA]	I_{cu} [kA]	Back-up Fuse Rating ⁽¹⁾ [A]				
50	100	___ ⁽²⁾	50	100	___ ⁽²⁾	30	100	___ ⁽²⁾	30	100	___ ⁽²⁾	30	100	___ ⁽²⁾	140MP-A3E-A16			
50	100		50	100		30	100		30	100		30	100		140MP-A3E-A25			
50	100		50	100		30	100		30	100		30	100		140MP-A3E-A40			
50	100		50	100		30	100		30	100		30	100		140MP-A3E-A63			
50	100		50	100		30	100		30	100		30	100		140MP-A3E-B10			
50	100		50	100		30	100		30	100		30	100		140MP-A3E-B16			
50	75		50	75		10	30		25 ⁽³⁾	10		20	25 ⁽³⁾		5	10	25 ⁽³⁾	140MP-A3E-B25
50	75		50	75		6	18		25 ⁽³⁾	6		15	25 ⁽³⁾		2	3	25 ⁽³⁾	140MP-A3E-B40
50	50		50	50		6	18		63 ⁽³⁾	6		10	63 ⁽³⁾		2	3	40 ⁽³⁾	140MP-A3E-B63
50	50		50	50		6	18		63 ⁽³⁾	6		10	63 ⁽³⁾		2	3	50 ⁽³⁾	140MP-A3E-C10
25	50	80 ⁽³⁾	25	50	80 ⁽³⁾	6	15	63 ⁽³⁾	6	10	63 ⁽³⁾	2	3	50 ⁽³⁾	140MP-A3E-C12			
15	15	80 ⁽³⁾	15	15	80 ⁽³⁾	4	6	63 ⁽³⁾	4	6	63 ⁽³⁾	2	3	63 ⁽³⁾	140MP-A3E-C16			
10	15	125 ⁽³⁾	10	15	125 ⁽³⁾	3	6	125 ⁽³⁾	3	6	125 ⁽³⁾	2	3	80 ⁽³⁾	140MP-A3E-C20			
10	15	125 ⁽³⁾	10	15	125 ⁽³⁾	3	6	125 ⁽³⁾	3	6	125 ⁽³⁾	2	3	100 ⁽³⁾	140MP-A3E-C25			
10	15	125 ⁽³⁾	10	15	125 ⁽³⁾	3	6	125 ⁽³⁾	3	6	125 ⁽³⁾	2	3	100 ⁽³⁾	140MP-A3E-C32			

- (1) Back-up fuses are type gG, aM.
- (2) No Back-up fuse required if $I_{cc} < I_{cs}$.
- (3) Rated back-up fuse for short-circuit up to 50 kA.

Accessories

Table 3 - Auxiliary Contacts


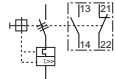
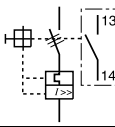
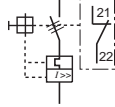
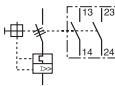

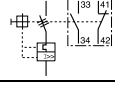
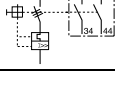
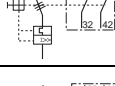
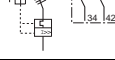
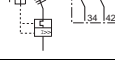
Description	Auxiliary Contacts		Connection Diagram	Pkg. Qty.	Cat. No.
	N.O	N.C			
 <p>Front-mounted Auxiliary Contact</p> <ul style="list-style-type: none"> No additional space required 1 and 2-pole 	1	1		10	140MP-A-AFA11
	1	0			140MP-A-AFA10
	0	1			140MP-A-AFA01
	2	0			140MP-A-AFA20
 <p>Right-side-mounted Auxiliary Contact</p> <ul style="list-style-type: none"> 2-pole Adds 9 mm to the width of the Manual Motor Starter Use compact bus bars with 54 mm spacing 	1	1		2	140MP-A-ASA11
	2	0			140MP-A-ASA20
	0	2			140MP-A-ASA02
	Lead Contacts				140MP-A-ASA20L
	2	0			

Table 4 - Trip Contacts


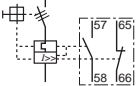
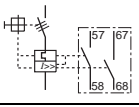
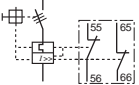
Description	Auxiliary Contacts		Connection Diagram	Pkg. Qty.	Cat. No.
	N.O	N.C			
 <p>Right-side-mounted Trip Signaling Contact</p> <ul style="list-style-type: none"> 2-pole Adds 9 mm to the width of the Manual Motor Starter Use compact bus bars with 54 mm spacing 	1	1		2	140MP-A-ASAR11
	2	0			140MP-A-ASAR20
	0	2			140MP-A-ASAR02

Table 5 - Undervoltage and Shunt Trip Units


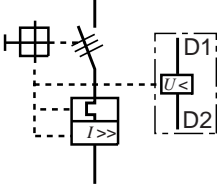

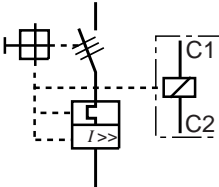
Description		Trip Rating	Connection Diagram	Pkg. Qty.	Cat. No.
 <p>Undervoltage Trip Release</p> <ul style="list-style-type: none"> Right-side mounted Adds 18 mm to the width of the Manual Motor Starter 		20V, 50 Hz/ 24V, 60 Hz		1	140MP-A-UXJ
		24V, 50 Hz			140MP-A-UXK
		48V, 50 Hz			140MP-A-UXY
		60V, 50 Hz			140MP-A-UXYA
		110V, 50 Hz/ 120V, 60 Hz			140MP-A-UXC
		208V, 60 Hz			140MP-A-UXH
		230V, 50 Hz/ 240V, 60 Hz			140MP-A-UXF
		400V, 50 Hz			140MP-A-UXN
		415V, 50 Hz/ 480V, 60 Hz			140MP-A-UXB
		575V, 60 Hz			140MP-A-UXM
 <p>Shunt Trip Release</p> <ul style="list-style-type: none"> Right-side mounted Adds 18 mm to the width of the Manual Motor Starter 		20-24 V, 50/60 Hz		1	140MP-A-SNKJ
		110V, 50/60 Hz			140MP-A-SND
		200...240V, 50/60 Hz			140MP-A-SNAF
		350...415V, 50/60 Hz			140MP-A-SNN

Table 6 - Bus Bars



Description		Terminal Links	For Use With	Pkg. Qty.	Cat. No.
 <p>Compact Bus Bars</p> <ul style="list-style-type: none"> UL: 600V, 60 A IEC: 690V, 65 A 	<ul style="list-style-type: none"> 45 mm spacing For use with front-mounted auxiliary contact 	2 x 3 connections	140MP	10	140MP-A-W452
		3 x 3 connections			140MP-A-W453
		4 x 3 connections			140MP-A-W454
		5 x 3 connections			140MP-A-W455
	<ul style="list-style-type: none"> 54 mm spacing For use with side-mounted auxiliary contact 	2 x 3 connections	140MP	10	140MP-A-W542
		3 x 3 connections			140MP-A-W543
		4 x 3 connections			140MP-A-W544
		5 x 3 connections			140MP-A-W545
	<ul style="list-style-type: none"> 63 mm spacing For use with side-mounted auxiliary contact 	2 x 3 connections	140MP	10	140MP-A-W632
		3 x 3 connections			140MP-A-W633
		4 x 3 connections			140MP-A-W634
		5 x 3 connections			140MP-A-W635
 <p>Bus Bar Feeder Terminal (Flat)</p> <ul style="list-style-type: none"> Supply of compact bus bars Increases terminal capacity 			140MP-A-W	10	140MP-A-WTN
	<p>Bus Bar Feeder Terminal (High)</p> <ul style="list-style-type: none"> Supply of compact bus bars Increases terminal capacity 			140MP-A-W	10

Table 7 - Connecting Modules

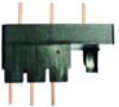

Description		For Use With	Cat. No.
 <p>ECO Connecting Module - 12 A</p> <ul style="list-style-type: none"> For DOL Starters ECO Starters mount on single DIN Rail (140MP on DIN rail) Electrical and mechanical interconnection of 140MP and 100-K Contactors 	140MP-A to 100-K	140MP-A-PEK12	
 <p>ECO Connecting Module - 25 A</p> <ul style="list-style-type: none"> For DOL Starters ECO Starters mount on single DIN Rail (140MP on DIN rail) Electrical and mechanical interconnection of 140MP and 100-C Contactors 	140MP-A to 100-C09...C23	140MP-A-PEC23	

Table 8 - Additional Accessories

Description		For Use With	Pkg. Qty.	Cat. No.
	Blank Space Cover • For covering unused terminal links • Must be ordered in multiples of 10 (10pcs/pkg)	140MP-A-W	50	140MP-A-WSN
	Screw Adapter • For screw arrangement of a motor protection circuit breaker • Hat (DIN) Rail 35 x 7.5 mm • 44 mm length	140MP	10	140MP-A-N45
	Enclosure • Up to three padlocks in OFF position • Protection Class: IP65; UL/CSA Type 12	Red/yellow handle	140MP	140MP-A-ENY65
		Black handle		140MP-A-ENN65
	Door Mounting Kit • Up to three padlocks in OFF position • Protection Class: IP65; UL/CSA Type 12	Red/yellow handle	140MP	140MP-A-DMY65
		Black handle		140MP-A-DMN65
	Door Coupling Handle • Up to three padlocks in OFF position • Defeatable	Red/Yellow	140MP	140MP-A-DCY65
		Black		140MP-A-DC65
	Coupler • Coded - Positioning of ON indication dependent from mounting orientation of the 140MP	Driver with screw	140MP	140MP-A-DNC
	• Uncoded - Positioning of ON indication independent from mounting orientation of the 140MP	Driver without coding, with screw		140MP-A-DNUC
	Shaft Alignment Ring • Supports the long shafts for alignment to the handle inlet. It makes closing panel doors more easy • Use for shafts	140MP	1	140MP-A-SAR
	Extension Shaft	105 mm (4.13 in.)	140MP	140MP-A-DS
		180 mm (7.1 in.)		140MP-A-DSM
	Extension Shaft Support • Supports the shaft in the extension of handle (140MP-A-DC) • Required for shaft lengths >130 mm (5.1 in.) • Snaps on the right side of the MPCB • Width 9 mm. • For use with screw-mounted or hat rail mounted devices.	140MP	1	140MP-A-SHS
	Lockable Handle Accessory • For locking 140MP devices in the OFF position	140MP	10	140MP-A-KN1

Specifications

This section provides specification information for MPCBs and related accessories.

MPCB Specifications

Table 9 - General Ratings

Attribute		Value
Standards compliance	IEC	IEC/EN 60947-2, IEC/EN 60947-4-1, IEC/EN 60947-1
	cULus	UL 60947-1, UL 60947-4-1, CSA C22.2, No. 60947-4-1
Certifications	Global	RINA (Marine)
	Regional	CCC, KC, EAC, CE, IEC, cULus, CB Scheme
Rated operating voltage U_e		690V AC
Maximum operating voltage (UL)		600 V
Rated Frequency		50/60 Hz
Trip Class		10A
Number of operations	Mechanical	100,000 Cycles
	Electrical	100,000 Cycles (0.1...16 A); 50,000 Cycles (20...32 A)
Rated impulse withstand voltage U_{imp}		6 kV
Rated insulation voltage U_i		690V
Pollution Degree		3
Phase loss sensitivity		Yes
Disconnect function per IEC/EN 60947-2		Yes
Resistance to shock per IEC 60068-2-27		25g / 11 ms
Resistance to vibrations per IEC 60068-2-6		5g /3 ... 150 Hz
Mounting		DIN Rail (EN 60715)
Group mounting (side by side)		up to 40 °C (104 °F)
Minimum distance to other units same type	Horizontal	0 mm (0 in.)
	Vertical	150 mm (5.9 in.)
Minimum distance to electrical conductive board	Horizontal, up to 400 V	0 mm (0 in.)
	Horizontal, up to 690 V	> 1.5 mm (0.06 in.)
	Vertical	75 mm (2.96 in.)
Degree of Protection	Housing	IP20
	Main Terminals	IP10
Short-circuit ratings	@230V, 400V, 440V, 500V, and 690 V	See Table 2
	@480V and 600V—for motor disconnect	See Table 13
	@480V and 600V—for group motor installation	
Utilization Category	IEC 60947-2 (Circuit breaker)	A
	IEC 60947-4-1 (Motor Starter)	AC-3

Table 10 - Power Loss





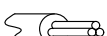
Power Loss	[W]	Rated Operating Current [A]				
		0.16...1.6	2.5...6.3	10...12	16...25	32
Power Loss in all 3 Poles up to:		5.1	5.4	7.2	8.4	9.3

Table 11 - Environmental Ratings

Attribute		Value
Operating Ambient air temperature	Open—compensated	-25 ... +55 °C (-13...+131 °F) ⁽¹⁾
	Open	-25 ... +70 °C (-13...+158 °F) ⁽¹⁾
	Enclosed	0 ... +40 °C (32...104 °F)
Storage Ambient air temperature		-50 ... +80 °C (-58...+176 °F)
Maximum operating altitude permissible		2000 m

(1) With derating. See [Table 13](#).

Table 12 - MPCB Connecting Characteristics

Connection		No. of Conductors	Devices Rated ≤ 16 A	Devices Rated 20...32 A
Type of terminals				
Connection Screw			M3.5/Pozidriv No.2	M4/Pozidriv No.2
Wiring	Solid	 1 or 2	1...4 mm ²	1...2.5 mm ² 2.5...6 mm ²
	Flexible with ferrule	 1 or 2	0.75...2.5 mm ²	0.75...6 mm ²
	Flexible	 1 or 2	0.75...2.5 mm ² /No. 16...12 AWG	1.5...2.5 mm ² /No.16...8 AWG 2.5...6 mm ² /No.16...8 AWG
	Stranded per UL/CSA	 1 or 2	1...4 mm ² /No. 16...12 AWG	1...2.5 mm ² /No.16...8 AWG 2.5...6 mm ² /No.16...8 AWG
	Stripping length			9 mm (0.35 in.)
Tightening torques			0.8...1.2 N·m / 7...10 lb·in	2 N·m /18 lb·in

Application Ratings

[Table 13](#) lists specific application ratings for MPCBs.

Table 13 - UL/CSA Listed Application Ratings, Motor Protection Circuit Breaker Only

Cat. No.	UL 60947-4-1 — Manual Motor Controller				
	Branch Circuit Protection Max. Size per NEC/CEC [A]	Max. Short Circuit Current [kA]			
		Motor Disconnect		Group Installation	
		480V	600V	480V	600V
140MP-A3E-A16	175	30	5	30	5
140MP-A3E-A25	175	30	5	30	5
140MP-A3E-A40	175	30	5	30	5
140MP-A3E-A63	175	30	5	30	5
140MP-A3E-B10	175	30	5	30	5
140MP-A3E-B16	175	30	5	30	5
140MP-A3E-B25	175	30	5	30	5
140MP-A3E-B40	175	18	5	18	5
140MP-A3E-B63	175	18	5	18	5
140MP-A3E-C10	175	18	5	18	5
140MP-A3E-C12	175	18	5	18	5
140MP-A3E-C16	175	18	5	18	5
140MP-A3E-C20	400	18	5	18	5
140MP-A3E-C25	400	18	5	18	5
140MP-A3E-C32	400	18	5	18	5

Table 14 through Table 16 lists specific application ratings for MPCBs in combination with Bulletin 100-K or 100-C contactors.

Table 14 - Application Ratings, 140MP to 100-K Miniature IEC Contactors

Cat. No.	UL 60947-4-1 — Manual Motor Controller					
	Max. Fuse or Circuit Breaker Size per NEC [A]	For Use With Contactor Cat. No.	Max. Short Circuit Current [kA]			
			Motor Disconnect		Group Installation	
			480V	600V	480V	600V
140MP-A3E-A16	175	100-K05	30	5	30	5
140MP-A3E-A25	175	100-K05	30	5	30	5
140MP-A3E-A40	175	100-K05	30	5	30	5
140MP-A3E-A63	175	100-K05	30	5	30	5
140MP-A3E-B10	175	100-K05	30	5	30	5
140MP-A3E-B16	175	100-K05	30	5	30	5
140MP-A3E-B25	175	100-K05	30	5	30	5
140MP-A3E-B40	175	100-K05	18	5	18	5
140MP-A3E-B63	175	100-K12	18	5	18	5
140MP-A3E-C10	175	100-K12	18	5	18	5
140MP-A3E-C12	175	100-K12	18	5	18	5
140MP-A3E-C16	175	100-K12	18	—	18	—

Table 15 - Application Ratings, 140MP to 100-C IEC Contactors

Cat. No.	UL 60947-4-1 — Manual Motor Controller					
	Max. Fuse or Circuit Breaker Size per NEC [A]	For Use With Contactor Cat. No.	Max. Short Circuit Current [kA]			
			Motor Disconnect		Group Installation	
			480V	600V	480V	600V
140MP-A3E-A16	175	100-C09	30	5	30	5
140MP-A3E-A25	175	100-C09	30	5	30	5
140MP-A3E-A40	175	100-C09	30	5	30	5
140MP-A3E-A63	175	100-C09	30	5	30	5
140MP-A3E-B10	175	100-C09	30	5	30	5
140MP-A3E-B16	175	100-C09	30	5	30	5
140MP-A3E-B25	175	100-C09	30	5	30	5
140MP-A3E-B40	175	100-C09	18	5	18	5
140MP-A3E-B63	175	100-C09	18	5	18	5
140MP-A3E-C10	175	100-C09	18	5	18	5
140MP-A3E-C12	175	100-C12	18	5	18	5
140MP-A3E-C16	175	100-C16	18	5	18	5
140MP-A3E-C20	400	100-C23	18	5	18	5
140MP-A3E-C25	400	100-C30	18	5	18	5
140MP-A3E-C32	400	100-C30	18	5	18	5

Table 16 - Type 2 Coordination Ratings, 140MP to 100-C IEC Contactors, Standard Motor Protection

Cat. No.	IEC 60947-4-1		UL 60947-4-1					
	400/415V		480V			600V		
	Max. Short Circuit Current [kA]	For Use With Contactor Cat. No.	Max. Fuse or Circuit Breaker Size per NEC [A]	Max. Short Circuit Current [kA]	For Use With Contactor Cat. No.	Max. Fuse or Circuit Breaker Size per NEC [A]	Max. Short Circuit Current [kA]	For Use With Contactor Cat. No.
140MP-A3E-A16	50	100-C09	175	30	100-C09	175	5	100-C09
140MP-A3E-A25	50	100-C09	175	30	100-C09	175	5	100-C09
140MP-A3E-A40	50	100-C09	175	30	100-C09	175	5	100-C09
140MP-A3E-A63	50	100-C09	175	30	100-C09	175	5	100-C09
140MP-A3E-B10	50	100-C09	175	30	100-C09	175	5	100-C09
140MP-A3E-B16	50	100-C09	175	30	100-C09	175	5	100-C09
140MP-A3E-B25	50	100-C09	175	30	100-C12	175	5	100-C12
140MP-A3E-B40	50	100-C09	175	18	100-C23	175	5	100-C23
140MP-A3E-B63	50	100-C09	175	18	100-C23	175	5	100-C23
140MP-A3E-C10	50	100-C09	175	18	100-C30	175	5	100-C30
140MP-A3E-C12	25	100-C12	175	18	100-C30	175	5	100-C30
140MP-A3E-C16	16	100-C23	175	18	100-C30	175	5	100-C30
140MP-A3E-C20	10	100-C30	400	18	100-C30	400	5	100-C30
140MP-A3E-C25	10	100-C30	400	18	100-C30	400	5	100-C30
140MP-A3E-C32	10	100-C30	400	18	100-C30	400	5	100-C30

Accessory Specifications

Table 17 - Auxiliary Contact, Signaling Contact, and Short-circuit Signaling Contact Specifications

Attribute		Side-mounted Auxiliary, Signaling, and Short-circuit Signaling Contacts	Front-mounted Auxiliary Contacts
Standards compliance	IEC	IEC/EN 60947-1, IEC/EN 60947-5-1	IEC/EN 60947-1, IEC/EN 60947-5-1
	UL/cULus	UL 60947-4-1, CAN/CSA22.2 No. 60947-4-1	UL 60947-4-1, CAN/CSA22.2 No. 60947-4-1
Rated operating voltage U_e		690V AC/600V DC	250V AC / 250V DC
Conventional free-air thermal current I_{th}		6 A	5 A
Rated Frequency		50/60 Hz	50/60 Hz
Rated impulse withstand voltage U_{imp}		6 kV	6 kV
Rated insulation voltage U_i		690 V AC	250 V AC
Pollution Degree		3	3
Ambient air temperature	Operation	-25 ... +60 °C (-13...+140 °F)	-25 ... +60 °C (-13...+140 °F)
	Storage	-50 ... +80 °C (-58...+176 °F)	-50 ... +80 °C (-58...+176 °F)
Resistance to shock per IEC 60068-2-27		25g / 11 ms	25g / 11 ms
Resistance to vibrations per IEC 60068-2-6		5g / 3 ... 150 Hz	5g / 3 ... 150 Hz
Rated operational current I_e AC-15 per IEC/EN 60947-5-1 for utilization category	24 V, 120 V	6 A	3 A
	240 V	4 A	1.5 A
	400 V	3 A	—
	440 V, 690 V	1 A	—
Rated operational current I_e DC-13 per IEC/EN 60947-5-1 for utilization category	24 V	2 A	1 A
	125 V	0.55 A	0.27 A
	250 V	0.27 A	0.11 A
	440 V, 600 V	0.15 A	—
Minimum switching capacity		17 V DC / 5 mA	17V DC / 5 mA
Short-circuit protective device (N.O, N.C)		10 A Type gG	10 A Type gG
Duty time		100 %	100 %
Mounting		Right side	Front
Number of operations	Mechanical	50,000 cycles	50,000 cycles
	Electrical		
Contact utilization characteristics according to UL/CSA			
Rated operating voltage U_e per UL/CSA		600 V AC / 600 V DC	250V AC / 250V DC
Pilot duty		B600, Q600	B300, R300
AC thermal rated current		5A	5 A
AC maximum volt-ampere	making	3600	3600 VA
	breaking	360	360 VA
DC thermal rated current		2.5 A	2.5 A
DC maximum volt-ampere	making	69 VA	28 VA
	breaking		
Connecting characteristics		Table 20	Table 20

Table 18 - Undervoltage Release Specifications

Attribute		Value
Standards compliance	IEC	IEC/EN 60947-1, IEC/EN 60947-5-1
	UL/cULus	UL 60947-4-1, CAN/CSA22.2 No. 60947-4-1
Rated control supply voltage		See Table 5
Rated frequency		
Operating voltage	Tripping	0.35 ... 0.7 x U _s
	Coil	0.85 ... 1.1 x U _s
Rated impulse withstand voltage U _{imp}		6 kV
Rated insulation voltage U _i		690V
Pollution degree		3
Ambient air temperature	Operation	-25 ... +60 °C (-13...+140 °F)
	Storage	-50 ... +80 °C (-58...+176 °F)
Resistance to shock per IEC 60068-2-27		25g / 11 ms
Resistance to vibrations per IEC 60068-2-6		5g / 3 ... 150 Hz
Mounting		left side of MPCB

Table 19 - Shunt Trip Specifications

Attribute		Value
Standards compliance	IEC	IEC/EN 60947-1, IEC/EN 60947-5-1
	UL/cULus	UL 60947-4-1, CAN/CSA22.2 No. 60947-4-1
Rated control supply voltage		See Table 5
Rated frequency		
Operating voltage	Tripping	0.7 ... 1.1 x U _s
Rated impulse withstand voltage U _{imp}		6 kV
Rated insulation voltage U _i		690V
Pollution degree		3
Ambient air temperature	Operation	-25 ... +60 °C (-13...+140 °F)
	Storage	-50 ... +80 °C (-58...+176 °F)
Resistance to shock per IEC 60068-2-27		15g/11ms
Resistance to vibrations per IEC 60068-2-6		5g / 3 ... 150 Hz
Mounting		left side of MPCB

Table 20 - Auxiliary Contact Connecting Characteristics


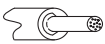







Connection		No. of Conductors	Side Mounted	Front Mounted
Wiring	Solid 	1 or 2	1...1.5 mm ²	1...2.5 mm ²
	Flexible with ferrule 	1 or 2	0.75...1.5 mm ²	
	Flexible 	1 or 2	0.75...1.5 mm ²	
	Stranded per UL/CSA 	1 or 2	No. 16...14 AWG	
	Stripping length		8 mm (0.31 in.)	
Tightening torques			0.8...1.2 N·m / 7 lb·in	
Recommended screwdriver			Pozidriv No.2	

Table 21 - Feeder Terminal and Bus Bar Current Ratings

Attribute	140MP-A-W45..., -W54..., -W63...	140MP-A-WT...
Rated operational voltage U_e	690 V	
Rated operational voltage U_e per UL/CSA	600V AC	
Rated operational current I_e	65 A	
Rated operational current I_e per UL/CSA	60 A	65 A
Suitable for enclosure size (UL)	200% of Size of 140MP-A with bus bars	
Rated frequency	50/60 Hz	
Rated impulse withstand voltage U_{imp}	6 kV	
Rated insulation voltage U_i	690V AC	

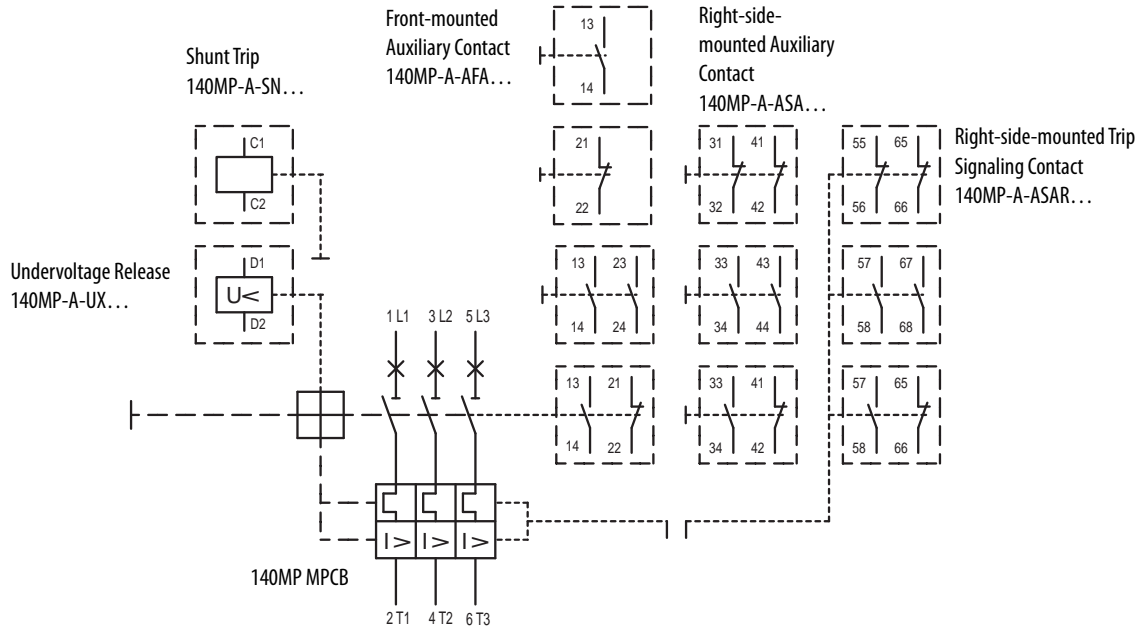
Table 22 - Main Circuit Connecting Characteristics

Connection		No. of Conductors	Value
Wiring	Solid 	1	6...25 mm ²
	Flexible with ferrule 	1	6...16 mm ²
	Flexible with insulated ferrule 	1	6...16 mm ²
	Flexible 	1	6...16 mm ²
	Stranded per UL/CSA 	1	No. 10...4 AWG
	Stripping length		10 mm (0.39 in.)
Tightening torques			2.5 N•m / 22 lb•in
Recommended screwdriver			Pozidriv No.2

Wiring Diagrams

Figure 2 illustrates basic wiring for the 140MP MPCB and accessories.

Figure 2 - 140MP Wiring Example



Approximate Dimensions

Dimensions are in millimeters (inches) and are not intended for manufacturing purposes.

Figure 3 - Mounting Position

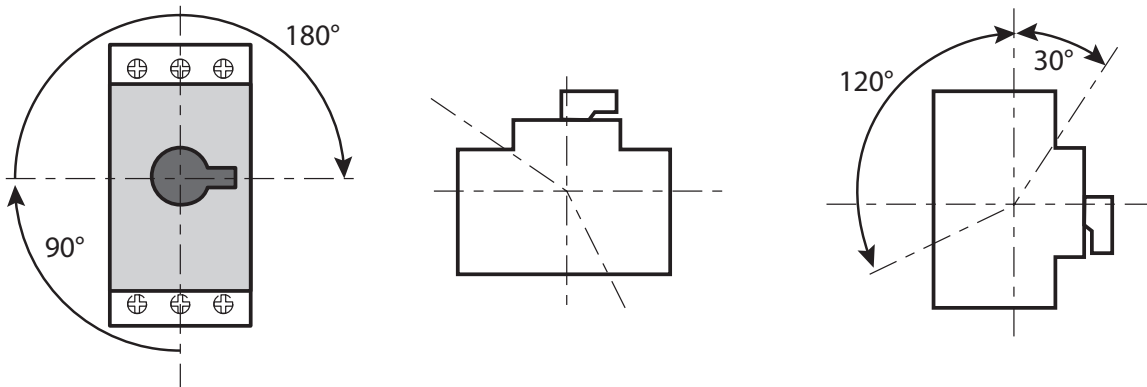


Figure 4 - Cat. No. 140MP-A3E..., 140MP-A-N45 ≤16 A

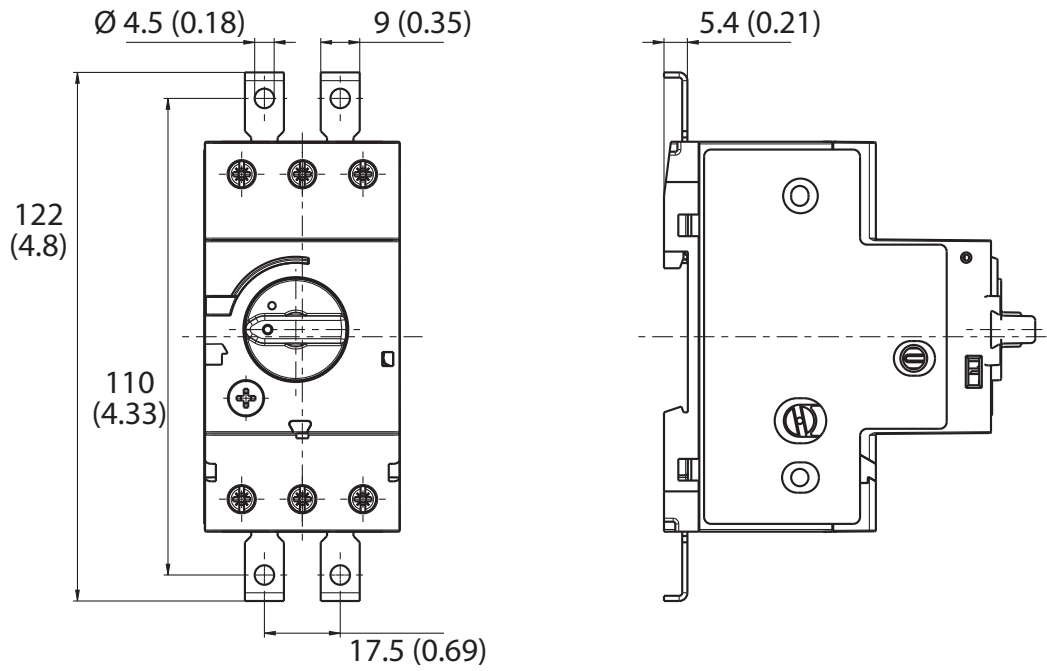


Figure 5 - Cat. No. 140MP-A3E..., 140MP-A-N45 ≥20 A

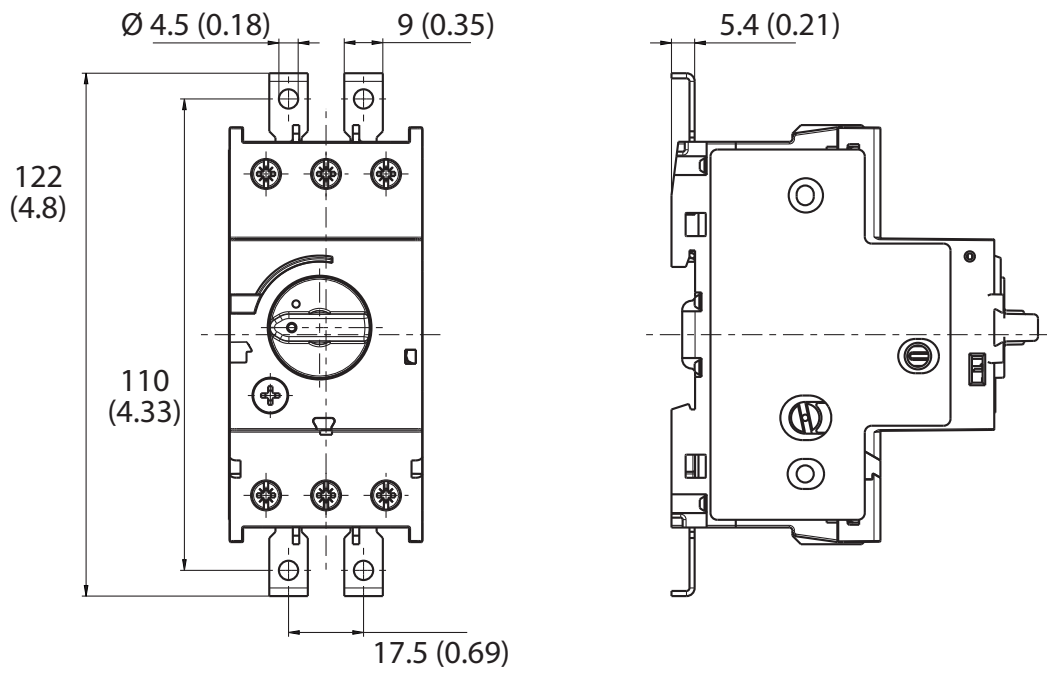


Figure 6 - Cat. No. 140MP-A3E-C16 with Accessories

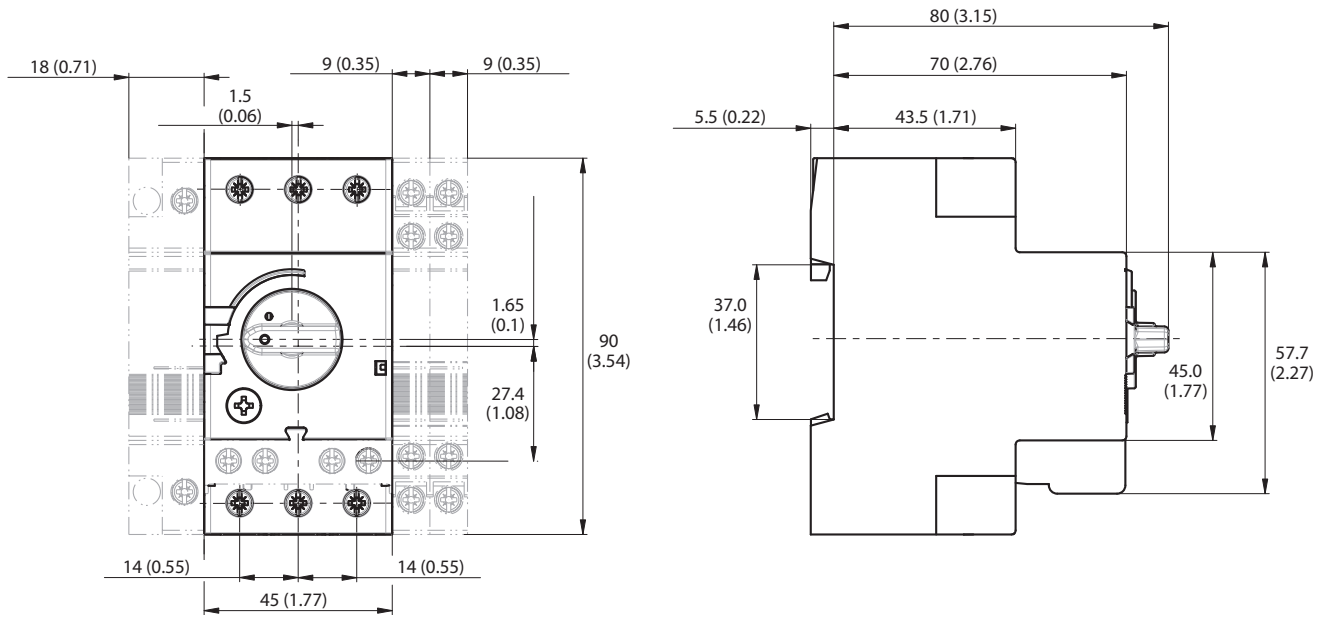
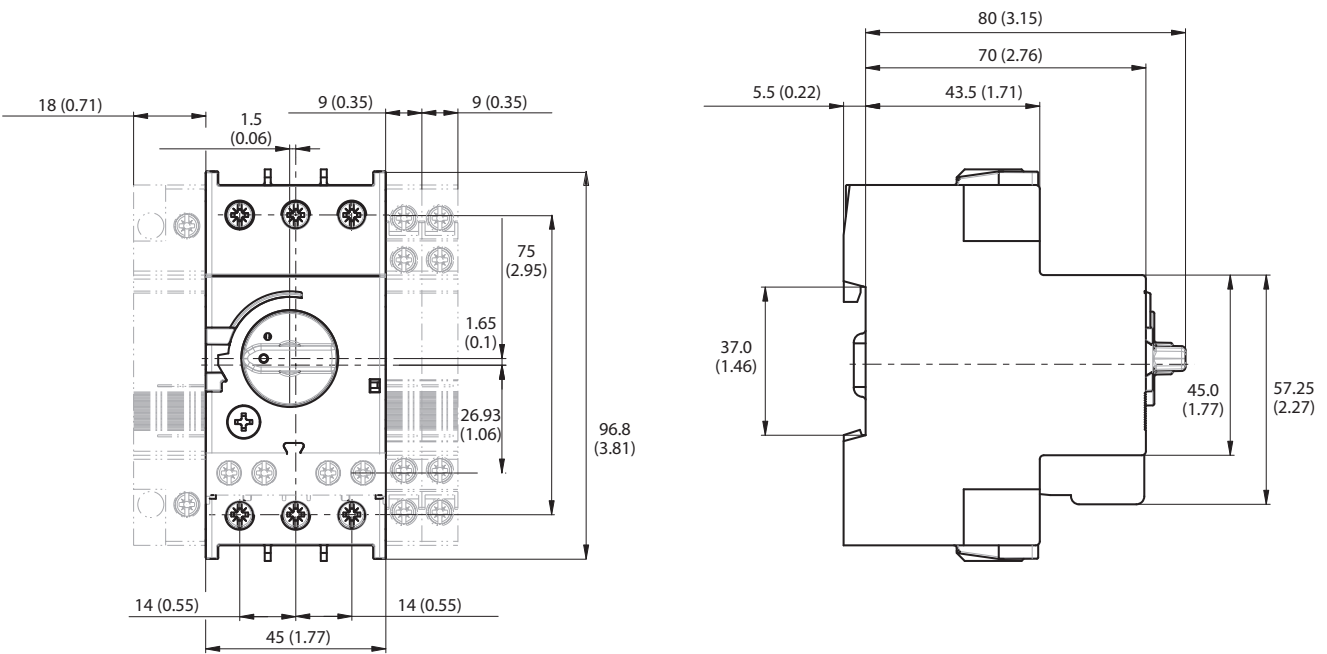


Figure 7 - Cat. No. 140MP-A3E-C32 with Accessories



Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, rok.auto/certifications .	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at <https://rok.auto/literature>.

Rockwell Automation Support

Use the following resources to access support information.

Technical Support Center	Knowledgebase Articles, How-to Videos, FAQs, Chat, User Forums, and Product Notification Updates.	rok.auto/support
Knowledgebase	Knowledgebase Articles	rok.auto/knowledgebase
Local Technical Support Phone Numbers	Locate the phone number for your country.	rok.auto/phonesupport
Literature Library	Installation Instructions, Manuals, Brochures, and Technical Data.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Get help determining how products interact, check features and capabilities, and find associated firmware.	rok.auto/pcdc

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Rockwell Otomasyon Ticaret A.Ş., Kar Plaza İş Merkezi E Blok Kat:6 34752 İçerenköy, İstanbul, Tel: +90 (216) 5698400

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444
Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640
Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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