

Motor Protection Circuit Breakers

- Short Circuit Protection — Standard Magnetic Trip (Fixed at $13 \times I_e$)
- Overload Protection — Trip Class 10 (Adjustable Current Range)



Cat. No. 140M-C



Cat. No. 140M-D



Cat. No. 140M-F

Rated Operational Current [A] (I _e)	Motor Current Adjustment Range [A]	Magnetic Trip Current [A]	3-phase Hp Ratings [Hp] ●				Cat. No.
			200V	230V	460V	575V	
C-Frame							
0.16	0.10...0.16	2.1	—	—	—	—	140M-C2E-A16
0.25	0.16...0.25	3.3	—	—	—	—	140M-C2E-A25
0.40	0.25...0.40	5.2	—	—	—	—	140M-C2E-A40
0.63	0.40...0.63	8.2	—	—	—	—	140M-C2E-A63
1.0	0.63...1.0	13	—	—	1/2	3/4	140M-C2E-B10
1.6	1.0...1.6	21	—	—	1	1	140M-C2E-B16
2.5	1.6...2.5	33	1/2	3/4	1-1/2	2	140M-C2E-B25
4	2.5...4	52	1	1	3	3	140M-C2E-B40
6.3	4...6.3	82	1-1/2	2	5	5	140M-C2E-B63
10	6.3...10	130	3	3	7-1/2	10	140M-C2E-C10
16	10...16	208	3	5	10	15	140M-C2E-C16
20	14.5...20	260	5	7-1/2	15	20	140M-C2E-C20
25	18...25	325	7-1/2	7-1/2	15	20	140M-C2E-C25
D-Frame							
2.5	1.6...2.5	33	1/2	3/4	1-1/2	2	140M-D8E-B25
4.0	2.5...4	52	1	1	3	3	140M-D8E-B40
6.3	4...6.3	82	1-1/2	2	5	5	140M-D8E-B63
10	6.3...10	130	3	3	7-1/2	10	140M-D8E-C10
16	10...16	208	3	5	10	15	140M-D8E-C16
20	14.5...20	260	5	7-1/2	15	20	140M-D8E-C20
25	18...25	325	7-1/2	7-1/2	15	20	140M-D8E-C25
F-Frame							
10	6.3...10	130	3	3	7-1/2	10	140M-F8E-C10
16	10...16	208	3	5	10	15	140M-F8E-C16
20	14.5...20	260	5	7-1/2	15	20	140M-F8E-C20
25	18...25	325	7-1/2	10	20	25	140M-F8E-C25
32	23...32	416	10	10	25	30	140M-F8E-C32
45	32...45	585	15	15	30	40	140M-F8E-C45
CMN-Frame							
25	16...25	350	7-1/2	10	20	25	140-CMN-2500
40	25...40	560	10	15	30	40	140-CMN-4000
63	40...63	882	20	20	50	60	140-CMN-6300
90	63...90	1260	30	30	60	75	140-CMN-9000
I-Frame							
80	40...80	1200	25	30	60	75	140M-I8E-C80
100	80...100	1500	30	40	75	100	140M-I8E-D10
160	100...160	2400	50	60	125	150	140M-I8E-D16
205	160...205	2665	60	75	150	200	140M-I8E-D20

❶ Horsepower ratings shown in the table above are maximum values for each device. **The final selection of the manual starter depends on the actual motor full load current and service factor.**

Motor Protection Circuit Breakers

Product Selection, Continued

Motor Protection Circuit Breakers

- Short Circuit Protection — High Magnetic Trip (Fixed at $16...20 \times I_e$)
- Overload Protection — Trip Class 10



Cat. No. 140M-C



Cat. No. 140M-D



Cat. No. 140M-F

Rated Operational Current [A] (<i>I</i> _e)	Motor Current Adjustment Range [A]	Magnetic Trip Current [A]	1-phase Hp Ratings [Hp] ❶		3-phase Hp Ratings [Hp] ❶				Cat. No.
			115V	230V	200V	230V	460V	575V	
C-Frame									
0.16	0.10...0.16	3.2	—	—	—	—	—	—	140M-C2T-A16
0.25	0.16...0.25	5.2	—	—	—	—	—	—	140M-C2T-A25
0.40	0.25...0.40	8.2	—	—	—	—	—	—	140M-C2T-A40
0.63	0.40...0.63	13	—	—	—	—	—	—	140M-C2T-A63
1.0	0.63...1.0	21	—	—	—	—	1/2	3/4	140M-C2T-B10
1.6	1.0...1.6	32	—	1/10	—	—	1	1	140M-C2T-B16
2.5	1.6...2.5	52	1/10	1/6	1/2	3/4	1-1/2	2	140M-C2T-B25
4.0	2.5...4	82	1/8	1/3	1	1	3	3	140M-C2T-B40
6.3	4...6.3	130	1/4	3/4	1-1/2	2	5	5	140M-C2T-B63
10	6.3...10	208	1/2	1-1/2	3	3	7-1/2	10	140M-C2T-C10
16	10...16	260	1	3	3	5	10	15	140M-C2T-C16
D-Frame									
16	10...16	260	1	3	3	5	10	15	140M-D8T-C16
20	14.5...20	325	1-1/2	3	5	7-1/2	15	20	140M-D8T-C20
F-Frame									
25	18...25	416	2	3	7-1/2	10	20	25	140M-F8T-C25
32	23...32	585	2	5	10	10	25	30	140M-F8T-C32

① Horsepower ratings shown in the table above are maximum values for each device. The final selection of the manual starter depends on the actual motor full load current and service factor.

Motor Circuit Protectors

- Short Circuit Protection — Standard Magnetic Trip (Fixed at 13 x I_e)
- Overload Protection — None (Magnetic Trip Only)



Cat. No. 140M-C



Cat. No. 140M-D



Cat. No. 140M-F

Rated Operational Current [A] (I _e)	Motor Current Adjustment Range [A]	Magnetic Trip Current [A]	1-Phase Hp Ratings [Hp] ❶		3-Phase Hp Ratings [Hp] ❶				Cat. No.
			115V	230V	200V	230V	460V	575V	
C-Frame									
0.16	—	2.1	—	—	—	—	—	—	140M-C2N-A16
0.25	—	3.3	—	—	—	—	—	—	140M-C2N-A25
0.40	—	5.2	—	—	—	—	—	—	140M-C2N-A40
0.63	—	8.2	—	—	—	—	—	—	140M-C2N-A63
1.0	—	13	—	—	—	—	1/2	3/4	140M-C2N-B10
1.6	—	21	—	1/10	—	—	1	1	140M-C2N-B16
2.5	—	33	1/10	1/6	1/2	3/4	1-1/2	2	140M-C2N-B25
D-Frame									
2.5	—	33	1/10	1/6	1/2	3/4	1-1/2	2	140M-D8N-B25
4.0	—	52	1/8	1/3	1	1	3	3	140M-D8N-B40
6.3	—	82	1/4	3/4	1-1/2	2	5	5	140M-D8N-B63
10	—	130	1/2	1-1/2	3	3	7-1/2	10	140M-D8N-C10
16	—	208	1	3	3	5	10	15	140M-D8N-C16
25	—	325	2	3	7-1/2	7-1/2	15	20	140M-D8N-C25
F-Frame									
25	—	325	2	3	7-1/2	10	20	25	140M-F8N-C25
32	—	416	2	5	10	10	25	30	140M-F8N-C32
45	—	585	3	7-1/2	15	15	30	40	140M-F8N-C45

❶ Horsepower ratings shown in the table above are maximum values for each device. **The final selection of the manual starter depends on the actual motor full load current and service factor.**

Motor Protection Circuit Breakers

Product Selection, Continued

UL Listed Application Ratings

Cat. No.	UL 508 — Manual Motor Controller						UL 508 Manual Self-Protected (Type E) Combination Motor Controller	
	Group Installation				Motor Disconnect			
	Max. Short Circuit Current [kA]		Max. Fuse or C.B. per NEC	For Use With Contactors Below (or larger)	Max. Short Circuit Current [kA]		Max. Short Circuit Current [kA]	
	480V	600V			480V	600V	480Y/277V	600Y/347V
C-Frame								
140M-C2E-A16	65	47	450	100-M05,100-C09	65	47	65	47
140M-C2E-A25	65	47	450	100-M05,100-C09	65	47	65	47
140M-C2E-A40	65	47	450	100-M05,100-C09	65	47	65	47
140M-C2E-A63	65	47	450	100-M05,100-C09	65	47	65	47
140M-C2E-B10	65	47	450	100-M05,100-C09	65	47	65	47
140M-C2E-B16	65	47	450	100-M05,100-C09	65	47	65	47
140M-C2E-B25	65	30	450	100-M05,100-C09	65	30	65	30
140M-C2E-B40	65	30	450	100-M05,100-C09	65	25	65	25
140M-C2E-B63	65	30	450	100-M05,100-C09	65	30	65	—
140M-C2E-C10	65	30	450	100-M09,100-C09	65	30	65	—
140M-C2E-C16	30	30	450	100-C12	30	30	30	—
140M-C2E-C20	30	30	450	100-C16	10	10	10	—
140M-C2E-C25	25	10	450	100-C23	10	—	—	—
D-Frame								
140M-D8E-B25	65	30	450	100-M05,100-C09	65	30	65	30
140M-D8E-B40	65	30	450	100-M05,100-C09	65	30	65	30
140M-D8E-B63	65	30	450	100-M05,100-C09	65	30	65	30
140M-D8E-C10	65	30	450	100-M09,100-C09	65	30	65	30
140M-D8E-C16	65	30	450	100-C12	65	30	65	30
140M-D8E-C20	65	30	450	100-C16	65	30	65	—
140M-D8E-C25	65	30	450	100-C23	35	30	35	—
F-Frame								
140M-F8E-C10	65	30	600	100-C09	65	30	65	30
140M-F8E-C16	65	30	600	100-C12	65	30	65	30
140M-F8E-C20	65	30	600	100-C16	65	30	65	30
140M-F8E-C25	65	30	600	100-C23	65	30	65	30
140M-F8E-C32	65	30	600	100-C30	65	30	65	30
140M-F8E-C45	65	30	600	100-C37	65	30	65	—
CMN-Frame								
140-CMN-2500	65	42	1000	100-C16	—	—	—	—
140-CMN-4000	65	42	1000	100-C30	—	—	—	—
140-CMN-6300	42	18	1000	100-C43	—	—	—	—
140-CMN-9000	35	10	1000	100-C72	—	—	—	—
I-Frame								
140M-I8E-C80	—	—	—	—	—	—	—	—
140M-I8E-D10	—	—	—	—	—	—	—	—
140M-I8E-D16	—	—	—	—	—	—	—	—
140M-I8E-D20	—	—	—	—	—	—	—	—

UL Listed Application Ratings, Continued

Cat. No.	Manual Motor Controller						Manual Self-Protected (Type E) Combination Motor Controller	
	Group Installation				Motor Disconnect			
	Max. Short Circuit Current [kA]		Max. Fuse or C.B. per NEC	For Use With Contactors Below (or larger)	Max. Short Circuit Current [kA]		Max. Short Circuit Current [kA]	
	480V	600V			480V	600V	480Y/277V	600Y/347V
C-Frame								
140M-C2T-A16	65	47	450	100-M05,100-C09	65	47	65	47
140M-C2T-A25	65	47	450	100-M05,100-C09	65	47	65	47
140M-C2T-A40	65	47	450	100-M05,100-C09	65	47	65	47
140M-C2T-A63	65	47	450	100-M05,100-C09	65	47	65	47
140M-C2T-B10	65	47	450	100-M05,100-C09	65	47	65	47
140M-C2T-B16	65	47	450	100-M05,100-C09	65	47	65	30
140M-C2T-B25	65	25	450	100-M05,100-C09	65	25	65	25
140M-C2T-B40	65	30	450	100-M05,100-C09	65	30	65	—
140M-C2T-B63	65	30	450	100-M05,100-C09	65	30	65	—
140M-C2T-C10	30	30	450	100-M09,100-C09	30	30	30	—
140M-C2T-C16	30	30	450	100-C12	10	10	10	—
D-Frame								
140M-D8T-C16	65	30	450	100-C12	65	30	65	30
140M-D8T-C20	65	30	450	100-C16	35	30	35	—
F-Frame								
140M-F8T-C25	65	30	600	100-C23	65	30	65	30
140M-F8T-C32	65	30	600	100-C30	65	30	65	30

Motor Protection Circuit Breakers

Product Selection, Continued

UL Listed Application Ratings, Continued

Cat. No.	Manual Motor Controller					
	Group Installation				Motor Disconnect	
	Max. Short Circuit Current [kA]		Max. Fuse or C.B. per NEC	For Use With Contactors below (or larger)	Max. Short Circuit Current [kA]	
	480V	600V			480V	600V
C-Frame						
140M-C2N-A16	65	47	450	100-M05,100-C09	65	47
140M-C2N-A25	65	47	450	100-M05,100-C09	65	47
140M-C2N-A40	65	47	450	100-M05,100-C09	65	47
140M-C2N-A63	65	47	450	100-M05,100-C09	65	47
140M-C2N-B10	65	47	450	100-M05,100-C09	65	47
140M-C2N-B16	65	47	450	100-M05,100-C09	65	47
140M-C2N-B25	65	30	450	100-M05,100-C09	65	30
D-Frame						
140M-D8N-B25	65	30	450	100-M05,100-C09	65	30
140M-D8N-B40	65	30	450	100-M05,100-C09	65	30
140M-D8N-B63	65	30	450	100-M05,100-C09	65	30
140M-D8N-C10	65	30	450	100-M09,100-C09	65	30
140M-D8N-C16	65	30	450	100-C12	65	30
140M-D8N-C25	65	30	450	100-C23	35	30
F-Frame						
140M-F8N-C25	65	30	600	100-C23	65	30
140M-F8N-C32	65	30	600	100-C30	65	30
140M-F8N-C45	65	30	600	100-C37	65	30

Type 2 Coordination

Cat. No.			480V		600V	
Standard Trip	High Trip	Mag Only Trip	Max. Short Circuit Current [kA]	For Use With Contactors Below (or larger)	Max. Short Circuit Current [kA]	For Use With Contactors Below (or larger)
C-Frame						
140M-C2E-A16	—	140M-C2N-A16	65	100-M05, 100-C09	47	100-C09
140M-C2E-A25	140M-C2T-A16	140M-C2N-A25	65	100-M05, 100-C09	47	100-C09
140M-C2E-A40	140M-C2T-A25	140M-C2N-A40	65	100-M05, 100-C09	47	100-C09
140M-C2E-A63	140M-C2T-A40	140M-C2N-A63	65	100-M05, 100-C09	47	100-C09
140M-C2E-B10	140M-C2T-A63	140M-C2N-B10	65	100-M05, 100-C09	47	100-C09
140M-C2E-B16	140M-C2T-B10	140M-C2N-B16	65	100-M05, 100-C09	47	100-C09
140M-C2E-B25	140M-C2T-B16	140M-C2N-B25	50	100-C09	10	100-C16
140M-C2E-B40	140M-C2T-B25	—	50	100-C30	10	100-C16
140M-C2E-B63	140M-C2T-B40	—	50	100-C30	5	100-C23
140M-C2E-C10	140M-C2T-B63	—	50	100-C30	5	100-C30
140M-C2E-C16	140M-C2T-C10	—	10	100-C30	5	100-C30
140M-C2E-C20	140M-C2T-C16	—	10	100-C30	5	100-C30
140M-C2E-C25	—	—	10	100-C30	5	100-C30
D-Frame						
140M-D8E-B25	—	140M-D8N-B25	65	100-C09	30	100-C09
140M-D8E-B40	—	140M-D8N-B40	65	100-C09	30	100-C16
140M-D8E-B63	—	140M-D8N-B63	65	100-C09	30	100-C23
140M-D8E-C10	—	140M-D8N-C10	65	100-C09	30	100-C30
140M-D8E-C16	—	140M-D8N-C16	65	100-C12	30	100-C30
140M-D8E-C20	140M-D8T-C16	—	65	100-C23	5	100-C30
140M-D8E-C25	140M-D8T-C20	140M-D8N-C25	65	100-C23	5	100-C30
F-Frame						
140M-F8E-C10	—	—	65	100-C09	30	100-C30
140M-F8E-C16	—	—	65	100-C12	30	100-C30
140M-F8E-C20	—	—	65	100-C16	30	100-C30
140M-F8E-C25	—	140M-F8N-C25	65	100-C23	30	100-C30
140M-F8E-C32	140M-F8T-C25	140M-F8N-C32	65	100-C30	30	100-C30
140M-F8E-C45	140M-F8T-C32	140M-F8N-C45	65	100-C37	10	100-C37
CMN-Frame						
140-CMN-2500	—	—	65	100-C16	42	100-C16
140-CMN-4000	—	—	65	100-C30	42	100-C30
140-CMN-6300	—	—	42	100-C43	18	100-C43
140-CMN-9000	—	—	35	100-C72	10	100-C72

Definition of Type 2 Short Circuit Coordination:

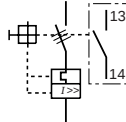
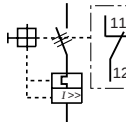
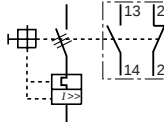
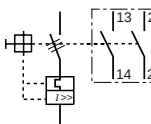
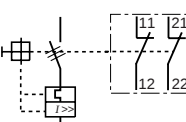
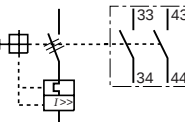
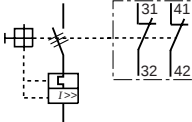
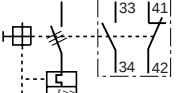
- The contactor or starter must not endanger persons or plant in the event of a short circuit.
- No damage to the overload relay or other parts may occur with the exception of welding of the contactor or starter contacts if these can be easily separated without appreciable deformation (such as with a screwdriver).

In the event of short circuit, fast-opening, strong current-limiting Bulletin 140M Motor Protection Circuit Breakers make it possible to build economical, fully short-circuit coordinated starter combinations to Type 2 coordination with EN60947-4.

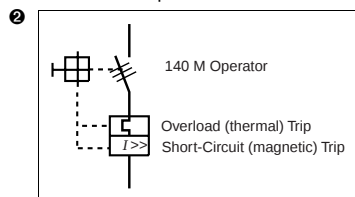
Bulletin 140M

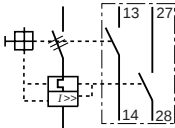
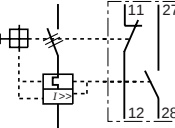
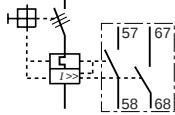
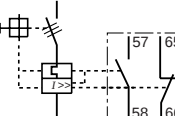
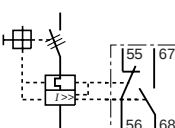
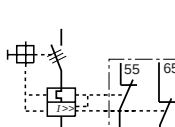
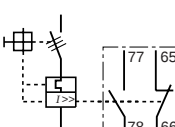
Motor Protection Circuit Breakers

Accessories

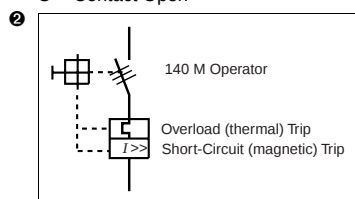
		Description ❶			Term. No.	Description	Connection Diagram ❷	For Use With	Cat. No.
		Operator Position ❸							
		OFF	ON	Tripped					
									
 	Front-Mounted Auxiliary Contact • 1-pole or 2-pole • No additional space required	O	X	O	13-14	N.O. Aux		140M	140M-C-AFA10
		X	O	X	11-12	N.C. Aux		140M	140M-C-AFA01
		O	X	O	13-14	N.O. Aux		140M	140M-C-AFA11
		X	O	X	21-22	N.C. Aux			
		O	X	O	13-14	N.O. Aux		140M	140M-C-AFA20
		O	X	O	23-24	N.O. Aux			
		X	O	X	11-12	N.C. Aux		140M	140M-C-AFA02
		X	O	X	21-22	N.C. Aux			
	Right Side-Mounted Auxiliary Contact • 2-pole • Adds 9 mm to the width of the device	O	X	O	33-34	N.O. Aux		140M	140M-C-ASA20
		O	X	O	43-44	N.O. Aux			
		X	O	X	31-32	N.C. Aux		140M	140M-C-ASA02
		X	O	X	41-42	N.C. Aux			
		O	X	O	33-34	N.O. Aux		140M	140M-C-ASA11
		X	O	X	41-42	N.C. Aux			

① X = Contact Closed
O = Contact Open

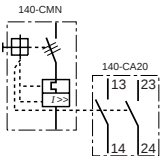
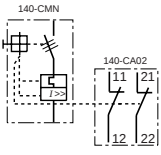
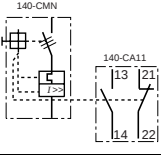
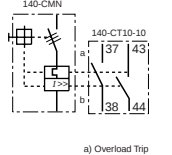
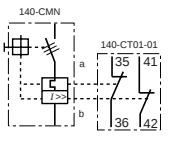
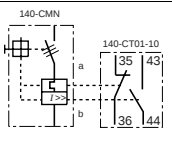
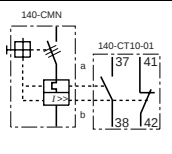


		Description					Connection Diagram ②	For Use With	Cat. No.
		Operator Position ①							
		OFF	ON	Tripped					
	Front-Mounted Trip Contact • 2-pole • Indicates tripping of device • No additional space required	O	X	O	13-14	N.O. Aux		140M	140M-C-AFAR10A10
		O	O	X	27-28	N.O. Trip (Short-Circuit & Overload)			
		X	O	X	11-12	N.C. Aux		140M	140M-C-AFAR10A01
		O	O	X	27-28	N.O. Trip (Short-Circuit & Overload)			
	Right Side-Mounted Trip Contact • 2-pole • Indicates tripping of Motor Protection Circuit Breaker • Adds 9 mm to the width of the circuit breaker	O	O	X	57-58	N.O. Trip (Short-Circuit & Overload)		140M	140M-C-ASAR10M10
		O	O	X	67-68	N.O. Trip (Short-Circuit)			
		O	O	X	57-58	N.O. Trip (Short-Circuit & Overload)		140M	140M-C-ASAR10M01
		X	X	O	65-66	N.C. Trip (Short-Circuit)			
		X	X	O	55-56	N.C. Trip (Short-Circuit & Overload)		140M	140M-C-ASAR01M10
		O	O	X	67-68	N.O. Trip (Short-Circuit)			
		X	X	O	55-56	N.C. Trip (Short-Circuit & Overload)		140M	140M-C-ASAR01M01
		X	X	O	65-66	N.C. Trip (Short-Circuit)			
		O	O	X	77-78	N.O. Trip (Short-Circuit)		140M	140M-C-ASAM11
		X	X	O	65-66	N.C. Trip (Short-Circuit)			

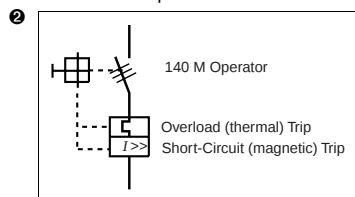
① X = Contact Closed
O = Contact Open

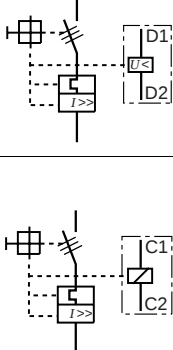
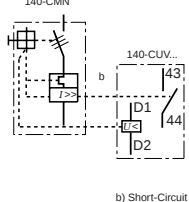
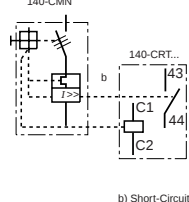


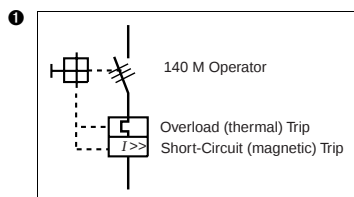
Bulletin 140M
Motor Protection Circuit Breakers
Accessories, Continued

		Description			Term. No.		Description		Connection Diagram ②		For Use With		Cat. No.	
		Operator Position ①												
		OFF	ON	Tripped										
														
	Front-Mounted Auxiliary Contacts • Internal • 2-Pole	O	X	O	13-14	N.O. Aux		140-CMN	140-CA20					
		O	X	O	23-24	N.O. Aux								
		X	O	X	11-12	N.C. Aux		140-CMN	140-CA02					
		X	O	X	21-22	N.C. Aux								
		O	X	O	13-14	N.O. Aux		140-CMN	140-CA11					
		X	O	X	21-22	N.C. Aux								
	Front-Mounted Trip Indicating Auxiliary Contacts • Internal • 2-Pole	O	O	X	37-38	N.O. Trip (Overload)		140-CMN	140-CT10-10					
		O	O	X	43-44	N.O. Trip (Short-Circuit)								
		X	X	O	35-36	N.C. Trip (Overload)		140-CMN	140-CT01-01					
		X	X	O	41-42	N.C. Trip (Short-Circuit)								
		X	X	O	35-36	N.C. Trip (Overload)		140-CMN	140-CT01-10					
		O	O	X	43-44	N.O. Trip (Short-Circuit)								
		O	O	X	37-38	N.O. Trip (Overload)		140-CMN	140-CT10-01					
		X	X	O	41-42	N.C. Trip (Short-Circuit)								

① X = Contact Closed
O = Contact Open



Description	Connection Diagram ❶		For Use With	Cat. No.
 Undervoltage Trip - Left-side mounted - Adds 18 mm to the width of the circuit breaker - Trips motor protector when voltage is removed Shunt Trip - Left-side mounted - Adds 18 mm to the width of the circuit breaker - Trips motor protector when voltage is applied		24V, 60 Hz 24V, 50 Hz 120V, 60 Hz 110V, 50 Hz 220...230V, 50 Hz 240...260V, 60 Hz 277V, 60 Hz 380...400V, 50 Hz 480V, 60 Hz/415V, 50 Hz 600V, 60 Hz 575V, 60 Hz/500V, 50 Hz	140M	140M-C-UXJ 140M-C-UXK 140M-C-UXD 140M-C-UXC 140M-C-UXF 140M-C-UXA 140M-C-UXT 140M-C-UXN 140M-C-UXB 140M-C-UXUB 140M-C-UXM
 Undervoltage Trip Unit - Internal, front mounted - Integrated short circuit trip indication - Trips Motor Protection Circuit Breaker when voltage is removed	 b) Short-Circuit Trip	24V 50/60 Hz 110V 50 Hz/120V 60 Hz 220V 50 Hz/240V 60 Hz	140-CMN	140-CUV-KJ 140-CUV-D 140-CUV-A
 Shunt Trip Unit - Internal, front mounted - Integrated short circuit trip indication - Trips Motor Protection Circuit Breaker when voltage is applied	 b) Short-Circuit Trip	24V 50/60 Hz 110V 50 Hz/120V 60 Hz 220V 50 Hz/240V 60 Hz	140-CMN	140-CRT-KJ 140-CRT-D 140-CRT-A



Description			For Use With	Cat. No.
	Anti-Tamper Shield Provides protection against inadvertent adjustment of the current setting	10 pcs/pkg	140M	140M-C-CA
	Lockable Twist Knob - For 1 padlock 4...8 mm (5/16") dia. shackle - Can be locked in OFF position	black	140M	140M-C-KN
		red/yellow	140M-C/-D	140M-C-KRY
		red/yellow	140M-F	140M-F-KRY
	Padlockable Operating Knob - Accepts 8 mm (5/16") padlock — up to three padlocks - Permits padlocking in the off position	black	140-CMN	140-KN
		red/yellow		140-KRY
	Door Coupling Handle - For 3 padlocks 4...8 mm (5/16") in diameter - IP66 Protection/Type 1, 12 - Interlock override capability - Can be modified for locking in ON position - Ships with coupling — order extension shaft and legend plate separately - Mounting depth (adapter-door): 140-C: 105.5 mm ± 5 mm (4.15" ± 3/16") 140-D: 114.5 mm ± 5 mm (4.5" ± 3/16") 140-F: 137.1 mm ± 5 mm (5.4" ± 3/16")	black	140M	140M-C-DN66
			140-CMN	140-CDN66
		red/yellow	140M	140M-C-DRY66
			140-CMN	140-CDRY66
	Extension Shaft - Cut to required length for mounting depth (adapter-door): 140-C: 117...338 mm (4.6"...13.3") 140-D: 126...347 mm (5.0"...13.7") 140-F: 149...369 mm (5.4"...14.5")		140M-C-DN66 140M-C-DRY66 140-CDN66 140-CDRY66	140M-C-DS
	Legend Plate - Marking: "Hauptschalter" and "Main Switch" - Marking: "Not-Aus" and "Emergency Off"		140M-C-DN66	140M-C-DFCN
			140M-C-DRY66	140M-C-DFCRY
	Locking Tag - Padlock attachment to the lockable handles - Up to three padlocks 4...8 mm (5/16") shackle		140M-C-KN 140M-C-KRY 140M-F-KRY	140M-C-M3
	IP65 Non-Metallic Enclosure - Knockouts for PG16 and PG21 fittings - Suitable for flexible cable with internal ground wire or conduit when externally grounded around the outside of the enclosure	black handle	140M-C	198E-AYTG2
		red/yellow handle	140M-C	198E-AYTJ2
	Terminal Cover - For covering of unused Commoning Link terminals - IP2X finger protection		140M-C 140M-D	140M-C-WS
			140M-F	140M-F-WS
	Screw Adapter For screw arrangement of a Motor Protection Circuit Breaker	10 pcs/pkg	140M	140M-C-N45

Description		For Use With	Cat. No.	
	ECO Connecting Modules — 25 A - Eco-starters mount on SINGLE DIN Rail (140M on DIN Rail) ELECTRICAL AND MECHANICAL interconnection of 140M MPCB and 100-M (with AC or DC coils) or 100-C (with AC coils) contactors	140M-C to 100-M	140M-C-PEM12	
		140M-C to 100-C09...C23	140M-C-PEC23	
		140M-D to 100-C09...C23	140M-D-PEC23	
	Connecting Modules — 25 A and 45 A - Contactor and MPCB MUST BE mounted separately on (2) DIN Rails ELECTRICAL interconnection between 140M MPCB and 100-C contactors (with AC coils)	140M-C to 100-C09...C23	140M-C-PNC23	
		140M-D to 100-C09...C23	140M-D-PNC23	
		140M-D to 100-C30...C37	140M-D-PNC37	
		140M-F to 100-C30...C37	140M-F-PNC37	
	140M-F to 100-C43	140M-F-PNC43		
	Spacing Adapter Required for Self-Protected combination motor controller (Type E) applications of 140M-C, -D, and -F MPCBs	140M-C, -D	140M-C-TE	
		140M-F	140M-F-TE	
	Commoning Link Feeder Terminal - For supply of commoning links - Top feed — overlaps commoning link	140M-C 140M-D	140M-C-WTE	
		140M-F	140M-F-WTE	
	Three-Phase Commoning Link for 25 A Motor Protection Circuit Breakers — 63 A Max. Continuous Current			
	45 mm spacing - For use with front-mounted auxiliary contact	2 connections	140M-C	140M-C-W452
		3 connections	140M-C 140M-D	140M-C-W453
		4 connections		140M-C-W454
		5 connections		140M-C-W455
	54 mm spacing - For use with side-mounted auxiliary contact	2 connections	140M-C 140M-D	140M-C-W542
		3 connections		140M-C-W543
		4 connections		140M-C-W544
		5 connections		140M-C-W545
	63 mm spacing - For use with side-mounted undervoltage trip and shunt trip	2 connections	140M-C 140M-D	140M-C-W632
		3 connections		140M-C-W633
		4 connections		140M-C-W634
		5 connections		140M-C-W635
 140M-D 140M-C	Jumper for 140M-D to 140M-C - Accommodates difference in depth from 140M-D to 140M-C - Can be used with all other commoning links 54 mm spacing	2 connections	140M-D to 140M-C	140M-C-WD542
	Three-Phase Commoning Link for 45 A Motor Protection Circuit Breakers — 115 A Max Continuous Current			
	54 mm spacing - For use with front-mounted auxiliary contact	2 connections	140M-F	140M-F-W542
		3 connections		140M-F-W543
		4 connections		140M-F-W544
	63 mm spacing - For use with side-mounted auxiliary contact	2 connections	140M-F	140M-F-W632
		3 connections		140M-F-W633
4 connections		140M-F-W634		
	DIN (#3) Symmetrical Rail 35 mm x 7.5 mm x 1 m long - Zinc-plated, yellow chromated - EN 50022	10 pcs/kg	140M-D 140M-F	199-DR1
	DIN (#3) Symmetrical Rail 35 mm x 15 mm x 1 m long	5 pcs/pkg	140M-C 140M-D 140M-F 140-CMN	1492-DR9

Motor Protection Circuit Breakers

Accessories, Continued

140M-C/D/F Factory Modifications (Open)

Note: For modifications add (option code **⓪**) for desired features to cat. no.

⓪ Add desired option codes. Example: 140M-C2E-A16-KY

Modifications	
KN	Lockable Twist Knob (140M) - Black
KY	Lockable Twist Knob (140M) - Red/Yellow
TE	Spacing Adapter for UL508 Type E

IEC Performance Data

		Cat. No. 140M-C2E-												
		A16	A25	A40	A63	B10	B16	B25	B40	B63	C10	C16	C20	C25
Rated Operational Current, I_e [A]		0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	10	16	20	25
Magnetic Release Current [A]		2.1	3.3	5.2	8.2	13	21	33	52	82	130	208	260	325
Switching of Standard Three-Phase Motors AC-2, AC-3														
230/240V [kW]		—	—	—	0.06/0.09	0.12	0.18/0.25	0.37	0.55/0.75	1.1/1.5	2.2	3.0/4.0	4.0/5.5	—
400/415V [kW]		0.02	0.06	0.09	0.12/0.18	0.25	0.37/0.55	0.75	1.1/1.5	2.2	3.0/4.0	5.5/7.5	7.5/10	11
500V [kW]		—	—	—	0.18	0.25/0.37	0.55/0.75	1.1	1.5/2.2	2.5/3.0	4.0/6.3	7.5/10	11	15
690V [kW]		—	—	—	0.25	0.37/0.55	0.75/1.1	1.8	2.2/3.0	4.0	5.5/7.5	11/13	15/17	18.5/22
Back-Up Fuses gG, gL, only if $I_{cc} > I_{cu}$														
230/240V [A]		ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	100	100
400/415V [A]		ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	80	100	100
440/460V [A]		ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	63	63	80	80
500V [A]		ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	80	80	80	80
690V [A]		ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	16	20	35	50	50	63	63	63
Ultimate Short Circuit Breaking Capacity I_{cu}														
230/240V [kA]		100	100	100	100	100	100	100	100	100	100	100	50	50
400/415V [kA]		100	100	100	100	100	100	100	100	100	100	50	15	15
440/460V [kA]		100	100	100	100	100	100	100	100	100	50	10	10	10
500V [kA]		100	100	100	100	100	100	100	100	100	50	10	6	6
690V [kA]		100	100	100	100	100	10	8	8	4	4	3	3	3
Rated Service Short Circuit Breaking Capacity I_{cs}														
230/240V [kA]		100	100	100	100	100	100	100	100	100	100	100	50	50
400/415V [kA]		100	100	100	100	100	100	100	100	100	100	50	15	15
440/460V [kA]		100	100	100	100	100	100	100	100	100	50	6	6	6
500V [kA]		100	100	100	100	100	100	100	100	100	50	6	6	6
690V [kA]		100	100	100	100	100	8	8	8	4	4	3	3	3

ⓘ No back-up fuse required.

Bulletin 140M

Motor Protection Circuit Breakers

Specifications, Continued

IEC Performance Data, Continued

		Cat. No. 140M-D8E-							Cat. No. 140M-F8E-					
		B25	B40	B63	C10	C16	C20	C25	C10	C16	C20	C25	C32	C45
Rated Operational Current, I_e [A]		2.5	4.0	6.3	10	16	20	25	10	16	20	25	32	45
Magnetic Release Current [A]		33	52	82	130	208	260	325	130	208	260	325	416	585
Switching of Standard Three-Phase Motors AC-2, AC-3														
230/240V [kW]		0.37	0.55/0.75	1.1/1.5	2.2	3.0/4.0	4.0/5.5	—	2.2	3.0/4.0	4.0/5.5	5.5/6.3	7.5	11/13
400/415V [kW]		0.75	1.1/1.5	2.2	3.0/4.0	5.5/7.5	7.5/10	11	3.0/4.0	5.5/7.5	7.5/10	11	15	18.5/22
500V [kW]		1.1	1.5/2.2	2.5/3.0	4.0/6.3	7.5/10	11	15	4.0/6.3	7.5/10	11	15	15/20	22/30
690V [kW]		1.8	2.2/3.0	4.0	5.5/7.5	11/13	15/17	18.5/22	5.5/7.5	11/13	15/17	18.5/22	22/25	30/40
Back-Up Fuses gG, gL, only if $I_{cc} > I_{cu}$														
230/240V [A]		❶	❶	❶	❶	❶	❶	❶	❶	❶	❶	❶	❶	❶
400/415V [A]		❶	❶	❶	❶	❶	100	100	80	100	100	100	125	125
440/460V [A]		❶	❶	❶	❶	80	100	100	80	100	100	100	125	125
500V [A]		❶	❶	❶	❶	80	80	80	80	100	100	125	125	125
690V [A]		20	35	50	50	63	63	63	63	80	80	80	100	100
Ultimate Short Circuit Breaking Capacity I_{cu}														
230/240V [kA]		100	100	100	100	100	100	100	100	100	100	100	100	100
400/415V [kA]		100	100	100	100	100	50	65	65	65	65	65	65	65
440/460V [kA]		100	100	100	100	65	65	65	65	65	65	65	65	50
500V [kA]		100	100	100	100	50	50	50	50	50	50	50	50	50
690V [kA]		10	10	10	6	6	6	6	10	10	10	10	10	10
Rated Service Short Circuit Breaking Capacity I_{cs}														
230/240V [kA]		100	100	100	100	100	100	100	100	100	100	100	100	100
400/415V [kA]		100	100	100	100	50	25	25	50	50	50	50	50	50
440/460V [kA]		100	100	100	100	50	25	25	50	50	50	50	50	50
500V [kA]		100	100	100	100	50	25	25	50	50	50	50	50	50
690V [kA]		10	10	10	6	4	4	4	10	10	10	10	6	6

Cat. No.	140-CMN-...			
	-2500	-4000	-6300	-9000
Rated Operational Current, I_e [A]	25	40	63	90
Switching of Standard Three-Phase Motors				
AC-2, AC-3				
230/240 V ② [kW]	5.5/7.5	10/11	13/20	22/25
400/415 V ② [kW]	7.5/13	15/22	25/32	37/45
500 V ② [kW]	11/15	18.5/25	30/40	45/55
690 V ② [kW]	15/22	25/30	37/55	63/75
Back-up fuses				
gG, gL-, only if $I_{cc} > I_{cu}$				
230/240 V [A]	❶	❶	❶	❶
400/415 V [A]	160	160	160	160
500 V [A]	160	160	160	160
690 V [A]	160	160	160	160
Ultimate short-circuit breaking capacity I_{cu}				
230/240 V [kA]	100	100	100	100
400/415 V [kA]	65	65	65	50
500 V [kA]	50	30	30	25
690 V [kA]	15	8	8	6
Rated service short-circuit breaking capacity I_{cs}				
230/240 V [kA]	100	100	100	100
400/415 V [kA]	65	50	50	25
500 V [kA]	50	25	25	13
690 V [kA]	15	6	6	6

❶ No back-up fuse required.

② Power ratings: Preferred values according to IEC 60072-1

IEC Performance Data, Continued

		Cat. No. 140M-C2N-						
		A16	A25	A40	A63	B10	B16	B25
Rated Operational Current, I_e	[A]	0.16	0.25	0.4	0.63	1	1.6	2.5
Magnetic Release Current	[A]	2.1	3.3	5.2	8.2	13	21	32
Switching of Standard Three-Phase Motors AC-2, AC-3								
230/240V	[kW]	—	—	—	0.06/0.09	0.12	0.18/0.25	0.37
400/415V	[kW]	0.02	0.06	0.09	0.12/0.18	0.25	0.37/0.55	0.75
500V	[kW]	—	—	—	0.18	0.25/0.37	0.55/0.75	1.1
690V	[kW]	—	—	—	0.25	0.37/0.55	0.75/1.1	1.8
Back-Up Fuses gG, gL, only if $I_{cc} > I_{cu}$ ❶								
230/240V	[A]	❶	❶	❶	❶	❶	❶	❶
400/415V	[A]	❶	❶	❶	❶	❶	❶	❶
440/460V	[A]	❶	❶	❶	❶	❶	❶	❶
500V	[A]	❶	❶	❶	❶	❶	❶	❶
690V	[A]	❶	❶	❶	❶	❶	16	20
Ultimate Short Circuit Breaking Capacity I_{cu}								
230/240V	[kA]	100	100	100	100	100	100	100
400/415V	[kA]	100	100	100	100	100	100	100
440/460V	[kA]	100	100	100	100	100	100	100
500V	[kA]	100	100	100	100	100	100	100
690V	[kA]	100	100	100	100	100	100	8
Rated Service Short Circuit Breaking Capacity I_{cs}								
230/240V	[kA]	100	100	100	100	100	100	100
400/415V	[kA]	100	100	100	100	100	100	100
440/460V	[kA]	100	100	100	100	100	100	100
500V	[kA]	100	100	100	100	100	100	100
690V	[kA]	100	100	100	100	100	8	8

❶ No back-up fuse required.

Bulletin 140M
Motor Protection Circuit Breakers

Specifications, Continued

IEC Performance Data, Continued

	Cat. No. 140M-D8N-						Cat. No. 140M-F8N-		
	B25	B40	B63	C10	C16	C25	C25	C32	C45
Rated Operational Current, I_e [A]	2.5	4.0	6.3	10	16	25	25	32	45
Magnetic Release Current [A]	32	52	82	130	208	325	325	416	585
Switching of Standard Three-Phase Motors AC-2, AC-3									
230/240V [kW]	0.37	0.55/0.75	1.1/1.5	2.2	3.0/4.0	—	5.5/6.3	7.5	11/13
400/415V [kW]	0.75	1.1/1.5	2.2	3.0/4.0	5.5/7.5	11	11	15	18.5/22
500V [kW]	1.1	1.5/2.2	2.5/3.0	4.0/6.3	7.5/10	15	15	15/20	22/30
690V [kW]	1.8	2.2/3.0	4.0	5.5/7.5	11/13	18.5/22	18.5/22	22/25	30/40
Back-Up Fuses gG, gL, only if $I_{cc} > I_{cu}$									
230/240V [A]	❶	❶	❶	❶	❶	❶	❶	❶	❶
400/415V [A]	❶	❶	❶	❶	❶	100	100	125	125
440/460V [A]	❶	❶	❶	❶	80	100	100	125	125
500V [A]	❶	❶	❶	❶	80	80	125	125	125
690V [A]	20	35	50	50	63	63	80	100	100
Ultimate Short Circuit Breaking Capacity I_{cu}									
230/240V [kA]	100	100	100	100	100	100	100	100	100
400/415V [kA]	100	100	100	100	100	50	65	65	65
440/460V [kA]	100	100	100	100	65	50	65	65	50
500V [kA]	100	100	100	100	50	50	50	50	50
690V [kA]	10	10	10	6	6	6	10	10	10
Rated Service Short Circuit Breaking Capacity I_{cs}									
230/240V [kA]	100	100	100	100	100	100	100	100	100
400/415V [kA]	100	100	100	100	100	25	50	50	50
440/460V [kA]	100	100	100	100	50	25	50	50	50
500V [kA]	100	100	100	100	50	25	50	50	50
690V [kA]	10	10	10	6	4	4	10	6	6

- ❶ No back-up fuse required.
❷ Consult your local Allen-Bradley distributor.

IEC Performance Data, Continued

		Cat. No. 140M-C2T-										
		A16	A25	A40	A63	B10	B16	B25	B40	B63	C10	C16
Rated Operational Current, I_e	[A]	0.16	0.25	0.40	0.63	1.0	1.6	2.5	4.0	6.3	10	16
Magnetic Release Current	[A]	3.2	5.2	8.2	13	21	32	52	82	130	208	260
Switching of Standard Three-Phase Motors AC-2, AC-3												
230/240V	[kW]	—	—	—	0.06/0.09	0.12	0.18/0.25	0.37	0.55/0.75	1.1/1.5	2.2	3.0/4.0
400/415V	[kW]	0.02	0.06	0.09	0.12/0.18	0.25	0.37/0.55	0.75	1.1/1.5	2.2	3.0/4.0	5.5/7.5
500V	[kW]	—	—	—	0.18	0.25/0.37	0.55/0.75	1.1	1.5/2.2	2.5/3.0	4.0/6.3	7.5/10
690V	[kW]	—	—	—	0.25	0.37/0.55	0.75/1.1	1.8	2.2/3.0	4.0	5.5/7.5	11/13
Back-Up Fuses gG, gL, only if $I_{cc} > I_{cu}$												
230/240V	[A]	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ
400/415V	[A]	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	80
440/460V	[A]	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	63	63
500V	[A]	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	80	80
690V	[A]	ⓘ	ⓘ	ⓘ	ⓘ	ⓘ	16	20	35	50	50	63
Ultimate Short Circuit Breaking Capacity I_{cu}												
230/240V	[kA]	100	100	100	100	100	100	100	100	100	100	100
400/415V	[kA]	100	100	100	100	100	100	100	100	100	100	50
440/460V	[kA]	100	100	100	100	100	100	100	100	100	65	10
500V	[kA]	100	100	100	100	100	100	100	100	100	50	10
690V	[kA]	100	100	100	100	100	8	8	8	4	4	3
Rated Service Short Circuit Breaking Capacity I_{cs}												
230/240V	[kA]	100	100	100	100	100	100	100	100	100	100	100
400/415V	[kA]	100	100	100	100	100	100	100	100	100	100	15
440/460V	[kA]	100	100	100	100	100	100	100	100	100	50	6
500V	[kA]	100	100	100	100	100	100	100	100	100	50	6
690V	[kA]	100	100	100	100	100	8	8	8	4	4	3

ⓘ No back-up fuse required.

Bulletin 140M
Motor Protection Circuit Breakers

Specifications, Continued

IEC Performance Data, Continued

		Cat. No. 140M-D8T-		Cat. No. 140M-F8T-	
		C16	C20	C25	C32
Rated Operational Current, I_e	[A]	16	20	25	32
Magnetic Release Current	[A]	260	325	416	585
Switching of Standard Three-Phase Motors AC-2, AC-3					
230/240V	[kW]	3.0/4.0	4.0/5.5	5.5/6.3	7.5
400/415V	[kW]	5.5/7.5	7.5/10	11	15
500V	[kW]	7.5/10	11	15	15/20
690V	[kW]	11/13	15/17	18.5/22	22/25
Back-Up Fuses gG, gL, only if $I_{cc} > I_{cu}$					
230/240V	[A]	❶	❶	❶	❶
400/415V	[A]	80	100	100	125
440/460V	[A]	80	100	100	125
500V	[A]	80	80	100	125
690V	[A]	63	63	80	100
Ultimate Short Circuit Breaking Capacity I_{cu}					
230/240V	[kA]	100	100	100	100
400/415V	[kA]	65	65	65	65
440/460V	[kA]	65	65	65	65
500V	[kA]	50	50	50	50
690V	[kA]	6	6	10	10
Rated Service Short Circuit Breaking Capacity I_{cs}					
230/240V	[kA]	100	100	100	100
400/415V	[kA]	25	25	50	50
440/460V	[kA]	25	25	50	50
500V	[kA]	25	25	50	50
690V	[kA]	4	4	10	6

- ❶ No back-up fuse required.
❷ Consult your local Allen-Bradley distributor.

General Data

Cat. No.	140M-C	140M-D	140M-F	140-CMN
Rated Insulation Voltage U_i IEC, SEV, VDE 0660 [V]	690			690
UL, CSA [V]	600			690
Rated Impulse Withstand Voltage U_{imp} Pollution degree Main circuits Auxiliary circuits	6 kV/3 6 kV/3			6 kV/3 6 kV/3
Rated Frequency [Hz]	50/60			40...60
Utilization Category IEC 947-2 (Circuit breaker) IEC 947-4-1 (Motor starter)	A AC-3			
Life Span Mechanical [operations]	100 000		30 000	30 000
Electrical (I_e max.) [operations]	100 000		30 000	10 000 (up to 63 A) 5 000 (up to 90 A)
Switching Frequency [operations/h]	max. 25 (motor starts)			max. 20
Ambient Temperature Storage [°C]	- 40...+ 80			- 25...+ 80
Operation [°C]	- 25...+ 60			- 25...+ 60
Resistance to Climatic Change	IEC 68-2			C IV (acc. to IEC 68)
Moisture/heat resistance				40 °C, 92 %, 56 days
Moisture/change resistance				23 °C, 8 %/40 ×C, 93 %, 56 cycles
Site Altitude [m]	to 2000 N.N.			
Protection Class	IP20, when wired			IP20
Resistance to Shock [g]	30, 11 ms		in preparation	30, 11 ms
Resistance to Vibration Frequency range in all directions [Hz] [g]	IEC 68-2			10...150 under testing
Rated Thermal Current I_{th} IEC, SEV, VDE 0660 up to 40°C ambient temperature up to 60°C ambient temperature [A] [A]	0.1...25 0.1...25	1.6...25 1.6...25	6.3...45 6.3...45	16...90 16...90
Rated Supply Current I_e [A] Number of setting ranges	0.1...25 13	1.6...25 7	6.3...45 6	16...90 4
Dependence on Temperature 40 °C [A] 50 °C [A] 60 °C [A]	no reduction			no reduction
70 °C [A]	15 % current reduction of the upper rated current I_e			15 % current reduction of the upper rated current I_e
Overload Protection Characteristics	IEC 60947-4-1 Motor protection (except 140M-C2N, 140M-D8N, 140M-F8N)			IEC 60947-4-1 Motor protection
Ambient Temperature Compensation [°C]	- 20...+ 60			- 20...+ 60
Phase-loss Protection	Differential release			Differential release
Trip class	10 (except 140M-C2N, 140M-D8N, 140M-F8N) fixed setting			10
Magnetic Release Release current	13 × I_e max. (for 140M-C2E, 140M-D8E, 140M-F8E, 140M-C2N, 140M-D8N, 140M-F8N) 16...20 × I_e max. (for 140M-C2T, 140M-D8T, 140M-F8T) I_e max. = maximum values of setting ranges			fixed setting 14 × I_e max.
Total Power loss P_v Circuit Breaker at rated load operating temperature [W]	6...8	6...8	9...16	33
Main Circuit Breaker Application	Usable as main circuit breaker according to IEC 204 with corresponding accessories			

Bulletin 140M

Motor Protection Circuit Breakers

Specifications, Continued

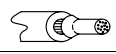
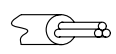
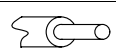
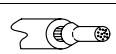
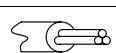
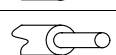
General Data

Cat. No.	140M-C...	140M-D...	140M-F...	140-CMN
Conformity to Standards	IEC 947; EN 60947; UL 508; CSA 22.2			IEC 60947; EN 60947; UL 508; CSA 22.2
Approvals	CE, UL, CSA			CE, UL Listed, CSA, (Germanischer Lloyd, Bureau Veritas, Lloyd's Register of Shipping, Maritime Register of Shipping, RINA, in preparation)
Terminal Parts Type of terminals				
Screwdriver	Pozidriv No. 2/Blade No. 3			Pozidriv No. 2/Blade No. 3
 1. conductor  2. conductor	[mm ²]/[AWG] [mm ²]/[AWG]	1...4/No. 16...12 1...4/No. 16...12	2.5...16/No. 14...6 2.5...10/No. 14...8	2.5...35
 1. conductor  2. conductor	[mm ²]/[AWG] [mm ²]/[AWG]	1...6/No. 16...8 1...6/No. 16...8	2.5...25/No. 14...4 2.5...16/No. 14...6	4...50 / No. 12...2
 1. conductor  2. conductor	[mm ²]/[AWG] [mm ²]/[AWG]	1.5...6/No. 16...8 1.5...6/No. 16...8	2.5...25/No. 14...4 2.5...16/No. 14...6	
Tightening torque	[Nm]/[lb-in.]	1...2.5/8.9...22	1.5...3.5/13...31	6...10/53...120

Accessories for Bulletin 140M Motor Protection Circuit Breakers

		Auxiliary Contact Blocks for Front Mounting Cat. No. 140M-C-AFA..., 140M-C-AFAR...			Auxiliary Contact Blocks for Right-Side Mounting Cat. No. 140M-C-ASA..., 140M-C-ASAR...				
Rated Thermal Current I_{th} at 40°C ambient temperature at 60°C ambient temperature	[A] [A]	5 4			10 6				
Contact Class Coordination According to NEMA (UL/CSA Standards)	AC DC	B 300 Q 300			B 600 Q 600				
Back-Up Fuses gG, gL	[A]	10			10				
Rated Supply Current AC-15	[V] [A]	24 4	120 3	240 1.5	24 6	120 5	240 3	415 2	690 0.7
DC-13	[V] [A]	24 2	120 0.5	240 0.25	24 2	120 0.5	240 0.25	415 0.15	
Terminal Parts Type of terminals									
Screwdriver		Pozidriv No. 2/Blade No. 3							
 1. conductor  2. conductor	[mm ²]/[AWG] [mm ²]/[AWG]	0.5...2.5/No. 18...14 0.5...2.5/No. 18...14							
 1. conductor  2. conductor	[mm ²]/[AWG] [mm ²]/[AWG]	0.75...2.5/No. 18...14 0.75...2.5/No. 18...14							
 1. conductor  2. conductor	[mm ²]/[AWG] [mm ²]/[AWG]	0.75...2.5/No. 18...14 0.75...2.5/No. 18...14							
Tightening torque	[Nm]/[lb-in.]	1.5/13.3							

Accessories for Bulletin 140M Motor Protection Circuit Breakers, Continued

		Undervoltage Trip for Left-Side Mounting Cat. No. 140M-C-UX...	Undervoltage Trip with 2 Auxiliary Contacts for Left-Side Mounting Cat. No. 140M-C-UC...	Shunt Trip for Left-Side Mounting Cat. No. 140M-C-SN...
Actuating Voltage Pull-in Drop-out		0.85...1.1 x U_s 0.7...0.35 x U_s	0.85...1.1 x U_s 0.7...0.35 x U_s	0.7...1.1 x U_s
Rated Control Voltage	min. max.	21V 50 Hz, 24V 60 Hz 600V 50 Hz	21V 50 Hz, 24V 60 Hz 600V 50 Hz	21V 50 Hz, 24V 60 Hz 600V 50 Hz
On-Time		100%	100%	100%
Coil Rating	Pull-in Hold	8.5 VA, 6 W 3 VA, 1.2 W	8.5 VA, 6 W 3 VA, 1.2 W	8.5 VA, 6 W 3 VA, 1.2 W
Terminal Parts Type of terminals				
Screwdriver				
		Pozidriv No. 2/Blade No. 3		
 1. conductor 2. conductor	[mm ²]/[AWG] [mm ²]/[AWG]	0.5...2.5/No. 18...14 0.5...2.5/No. 18...14		
 1. conductor 2. conductor	[mm ²]/[AWG] [mm ²]/[AWG]	0.75...2.5/No. 18...14 0.75...2.5/No. 18...14		
 1. conductor 2. conductor	[mm ²]/[AWG] [mm ²]/[AWG]	0.75...2.5/No. 18...14 0.75...2.5/No. 18...14		
Tightening torque	[Nm]/[lb-in]	1.5/13.3		
		Commoning Link Feeder Terminal 140M-C-WTE	Commoning Link 140M-C-W	
Rated Thermal Current I_{th} at 60°C ambient temperature	[A]	63	63	
 1. conductor 2. conductor	[mm ²]/[AWG] [mm ²]/[AWG]	4...16 4...10	—	
 1. conductor 2. conductor	[mm ²]/[AWG] [mm ²]/[AWG]	6...25/No. 14...4 6...16/No. 14...6	—	
 1. conductor 2. conductor	[mm ²]/[AWG] [mm ²]/[AWG]	6...25/No. 14...4 6...16/No. 14...6	—	
Tightening torque	[Nm]/[lb-in]	3/27	—	

Weights

Description	Cat. No.	Weight
Motor Protection Circuit Breakers	140M-C2E-...	317 g
	140M-D8E-...	373 g
	140M-F8E-...	782 g
	140M-C2N-...	315 g
	140M-D8N-...	365 g
	140M-F8N-...	782 g
	140M-C2T-...	315 g
	140M-D8T-...	365 g
	140M-F8T-...	782 g
	140-CMN-...	1845 g
Auxiliary Contacts	140M-C-AFA10 140M-C-AFA01	10 g
	140M-C-AFA11 140M-C-AFA20	
	140M-C-ASA...	
	140M-C-AFAR10A...	15 g
	140M-C-ASAR...M... 140M-C-ASAM11	
	140-A-...	31 g
Undervoltage Trip	140M-C-UX...	108 g
	140M-C-SN...	110 g
	140M-C-UC...	116 g
	140-CUV...	94 g
Trip Contact Blocks	140-CT...	31 g
Shunt Trip	140-CRT...	94 g

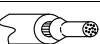
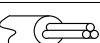
Description	Cat. No.	Weight
Anti-Tamper Cover	140M-C-CA	2 g
Lockable Twist Knob	140M-C-KN 140M-C-KRY	5 g
Locking Tag	140M-C-M3	30 g
Door Coupling Handle	140M-C-DN66 140M-C-NRY66	123 g
Extension Shaft	140M-C-DS	46 g
Legend Plate	140M-C-DFC...	4 g
Feeder Terminal	140M-C-WT 140M-F-WT	172 g
Commoning Links	140M-C-W452 140M-C-W453 140M-C-W454 140M-C-W455	47 g 80 g 104 g 132 g
	140M-C-W542 140M-C-W543 140M-C-W544 140M-C-W545	52 g 86 g 118 g 154 g
	140M-C-W632 140M-C-W633 140M-C-W634 140M-C-W635	56 g 92 g 134 g 170 g

Bulletin 140M

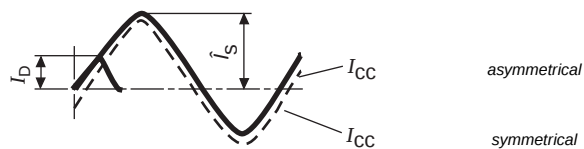
Motor Protection Circuit Breakers

Specifications, Continued

Accessories for Bulletin 140-CMN Circuit Breakers

		Cat. No. 140-CT Trip Contact Block for Flush Mounting on Cat. No. 140-CMN Circuit Breakers					Cat. No. 140-CRT, 140-CUV Undervoltage Trip and Shunt Trip for Flush Mounting on Cat. No. 140-CMN Circuit Breakers					
Rated Thermal Current I_{th}												
up to 40 °C ambient temperature	[A]	10					2					
up to 60 °C ambient temperature	[A]	6					2					
NEMA contact class (UL/CSA-Approval)		B 600 Standard Pilot Duty R 300 Light Pilot Duty					Make/Brake max. voltage 432 VA/72 VA/480 V 28 VA/28 VA/250 V					
Back-Up Fuse gG, gL		16 A					16 A					
Rated Current I_e												
AC-15:	$\frac{[V]}{[A]}$	230 3	400 2.5	500 1.5	690 0.75		AC-14:	24 1.5	110 1.5	230 1.0	400 1.0	500 0.75
DC-13:	$\frac{[V]}{[A]}$	24 2	48 0.6	110 0.2	230 0.1	440 0.04	DC 13:	24 1.5	48 0.5	60 0.4	110 0.2	
Terminals												
Screwdriver												
	1.conductor [mm²]/[AWG] 2.conductor [mm²]/[AWG]	0.75...2.5/No. 18...14 0.75...2.5/No. 18...14					0.75...2.5/No. 18...14 0.75...2.5/No. 18...14					
	1.conductor [mm²]/[AWG] 2.conductor [mm²]/[AWG]	0.75...2.5/No. 18...14 0.75...2.5/No. 18...14					0.75...2.5/No. 18...14 0.75...2.5/No. 18...14					
Tightening torque [Nm]/[lb-in]		1...1.5/8.8...10.3					1...1.5/8.8...10.3					
		Cat. No. 140-CUV... Undervoltage Trip Unit for Right-Side Mounting on Cat. No. 140-CMN Circuit Breakers					Cat. No. 140-CRT... Shunt Trip for Flush Mounting on Cat. No. 140-CMN Circuit Breakers					
Operating Voltage												
Pick-up		0.8...1.1 x U_s					0.7...1.1 x U_s					
Drop-out		0.7...0.35 x U_s					—					
Duty cycle		100 % ED					100 % ED					
Control Voltage												
	min.	12 V 50 Hz/14 V 60 Hz					12 V 50 Hz/14 V 60 Hz					
	max.	600 V 50 Hz					600 V 50 Hz					
Coil Performance												
Pick-up	[VA/W]	11 / 8					12 / 7					
Drop-out	[VA/W]	4 / 1					6 / 2					
Terminals												
Terminal type												
	Fine-stranded [mm²]	2 x 0.75...2.5					2 x 0.75...2.5					
	Coarse-stranded [mm²]	2 x 0.75...2.5					2 x 0.75...2.5					
Tightening torque [Nm]		1...1.5					1...1.5					
	Coarse-stranded [AWG]	No. 18... 14					No. 18... 12					
Tightening torque [lb-in]		8.8...10.3					8.8...10.3					

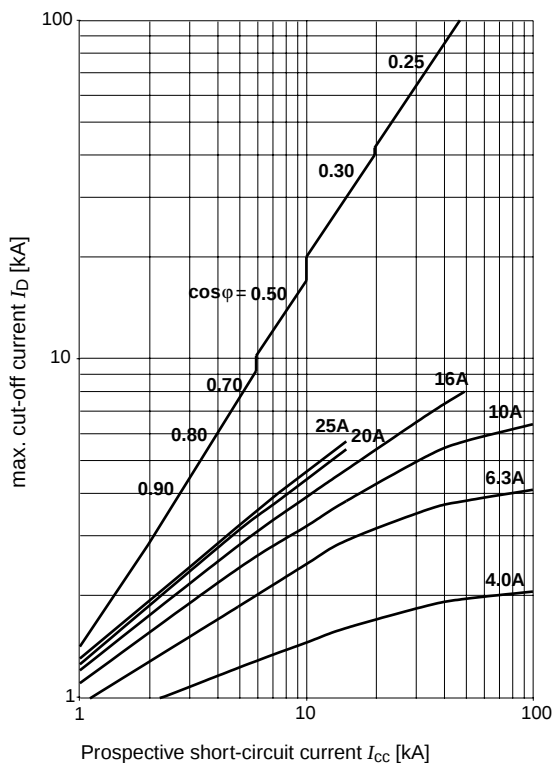
Cut-off current



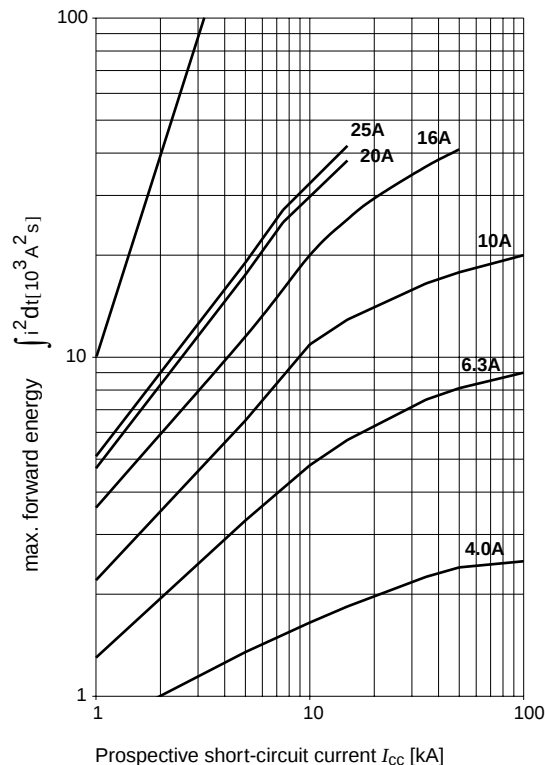
The Bulletin 140-M limits solid short-circuit current I_{cc} (prospective short-circuit current). I_b is the maximum cut-off current (highest instantaneous value of the limited short-circuit current). This value is indicated in the following diagrams as a function of the progressive system short-circuit current.

140M-C Circuit Breaker

Maximum cut-off current
 Rated operating voltage 415V

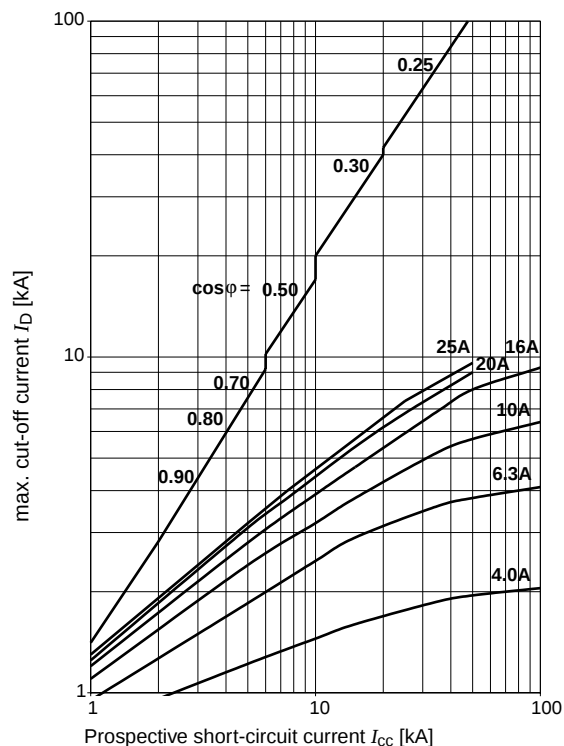


Maximum forward energy
 Rated operating voltage 415V

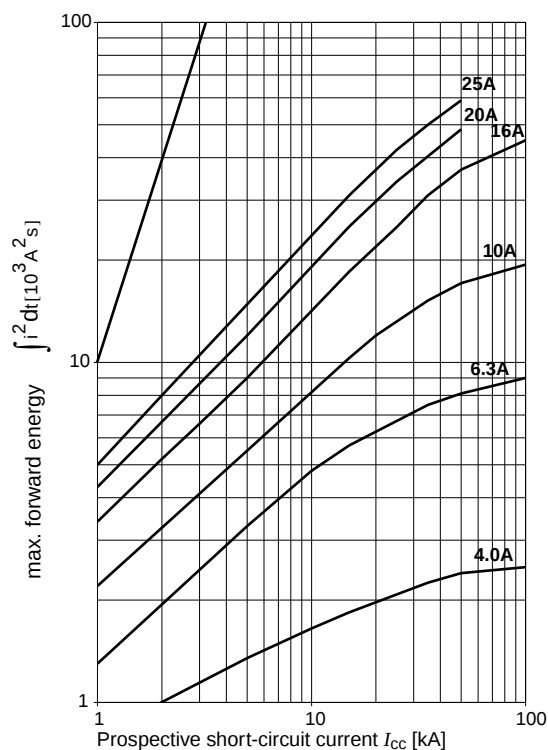


140M-D Circuit Breaker

Maximum cut-off current
 Rated operating voltage 415V

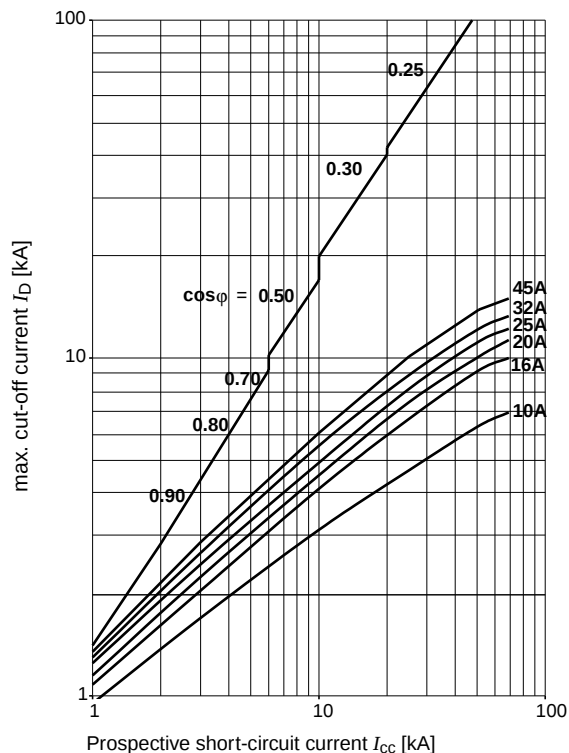


Maximum cut-off current
 Rated operating voltage 415V

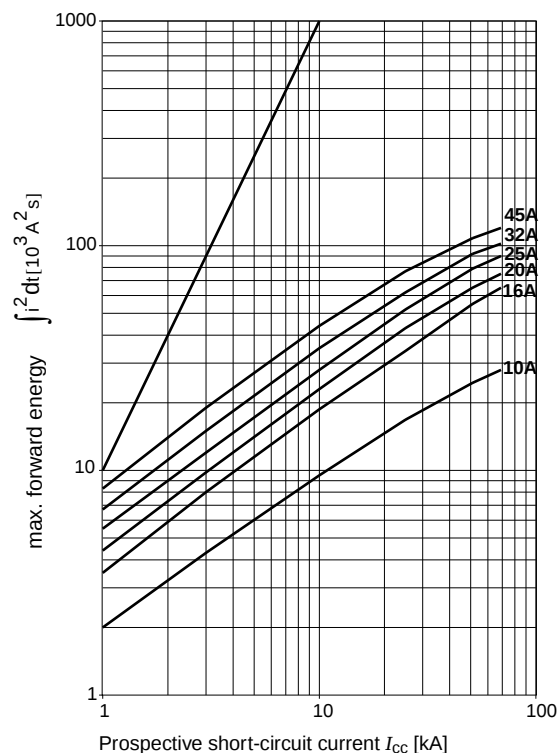


140M-F Circuit Breaker

Maximum cut-off current
 Rated operating voltage 415V

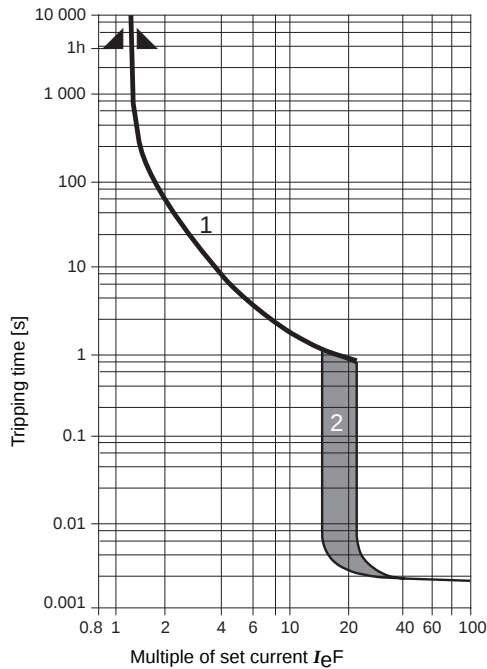


Maximum cut-off current
 Rated operating voltage 415V



Time-Current Characteristic

Bulletin 140M Motor Protector



1) Thermal Release Trip Current

The adjustable current-dependent delayed bimetal release protects motors against overload. The curve shows the mean operating current at an ambient temperature of 20°C starting from the cold state. Careful testing and setting ensures effective motor protection even in the case of single-phasing. The overload characteristic is also valid for transformer protection.

2) Magnetic Release Trip Current

The instantaneous magnetic trip has a fixed operating current setting. This corresponds to 13 times the maximum value of setting range. (Transformer protection up to 20 x I_e max.) At a lower setting it is correspondingly higher.

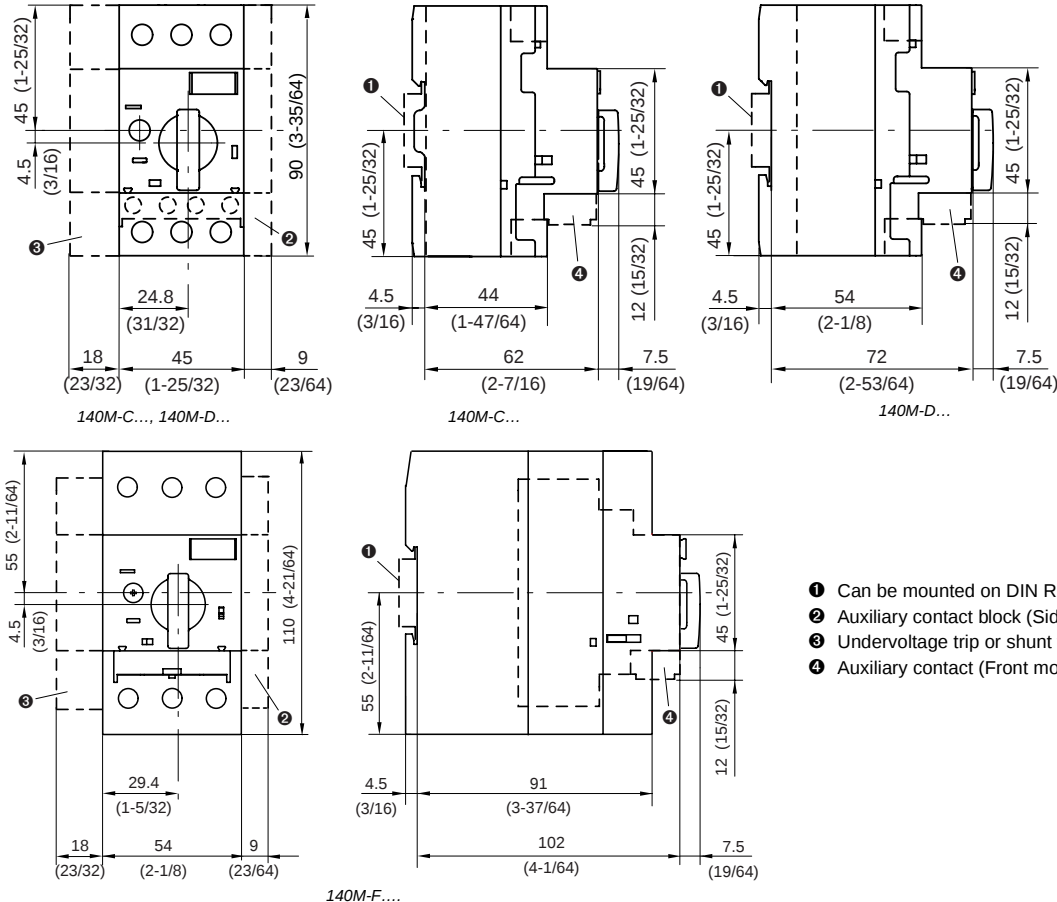
Current Setting $I_e F$

The overload trip corresponds to a thermal overload relay in a motor starter conforming to IEC 947-4-1. If a different value is prescribed (e.g., reduced I_e for cooling medium having a temperature higher than 40°C or a place of installation higher than 2000 m above sea level), the setting current is equal to the reduced rated current I_e of the motor.

Approximate Dimensions

Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

Cat. No. 140M-C, -D, -F



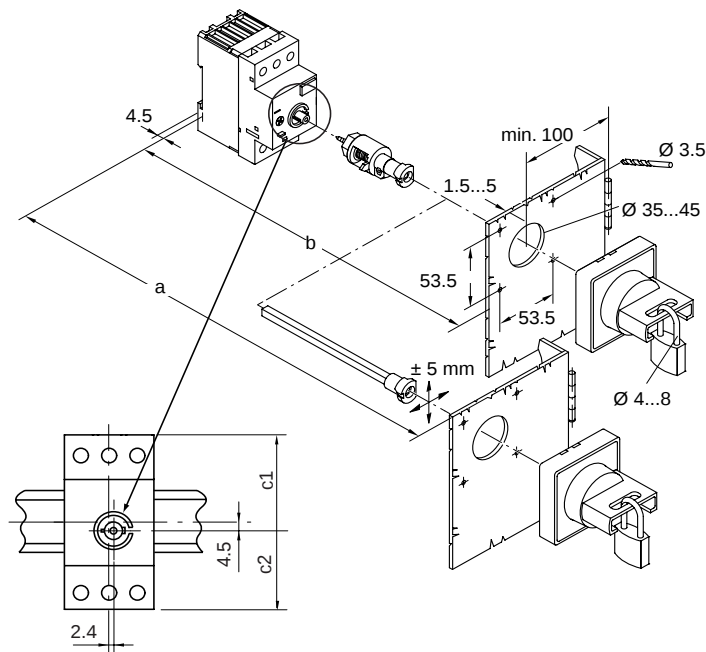
- ① Can be mounted on DIN Rail EN 50 022-35
- ② Auxiliary contact block (Side mounting)
- ③ Undervoltage trip or shunt trip
- ④ Auxiliary contact (Front mounting)

Bulletin 140M
Motor Protection Circuit Breakers

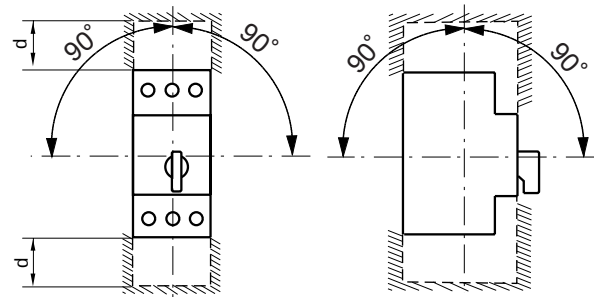
Approximate Dimensions, Continued

Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

Cat. No. 140M-C, -D, -F, continued



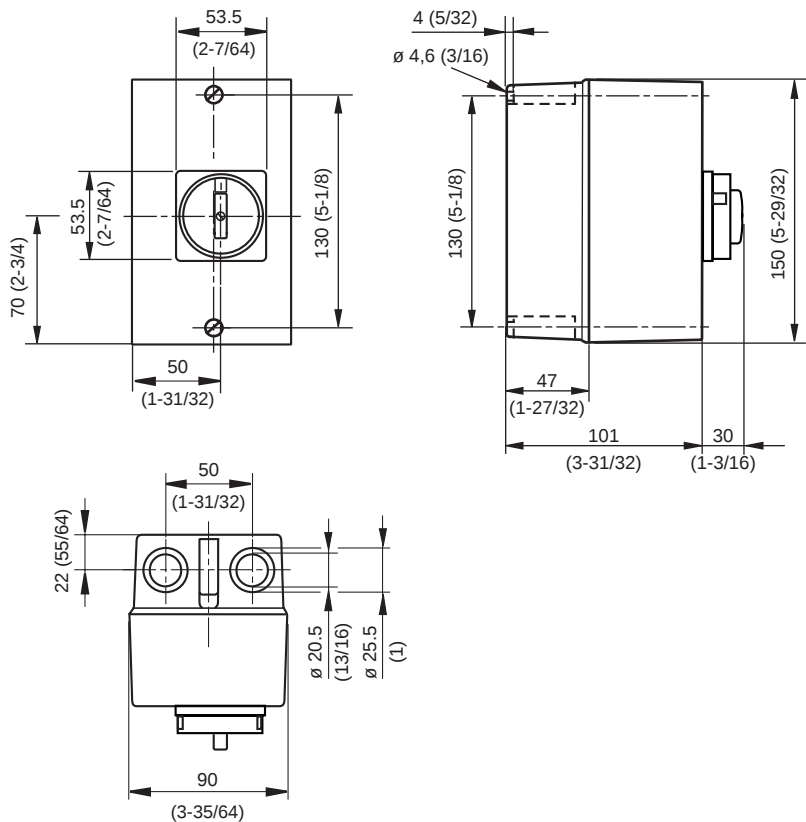
140M-C-D...66



Mounting position/safety clearance of Cat. No. 140M-C..., 140M-D..., 140M-F...

Cat. No.	a	b	c1	c2	d
140M-C	117...338	105.5 ±5	49.5	40.5	25
140M-D	126...347	114.5 ±5	49.5	40.5	25
140M-F	148.6...369.6	137.1 ±5	59.35	50.35	30

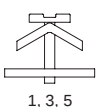
Cat. No. 198E...

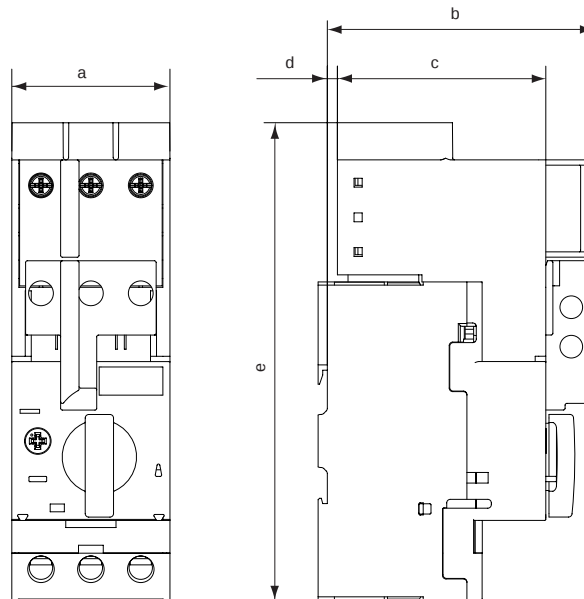


198E-AYT.

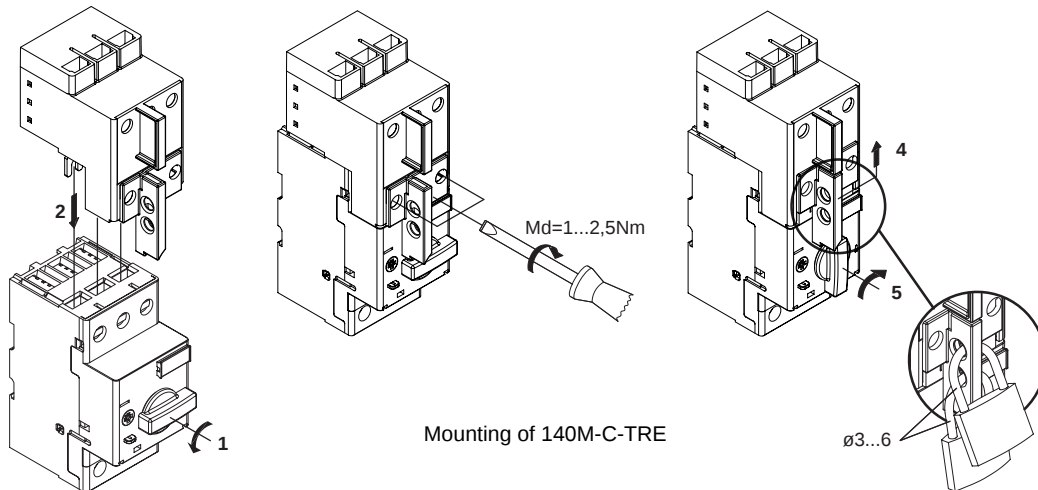
Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

Cat. No. 140M-C-TRE...

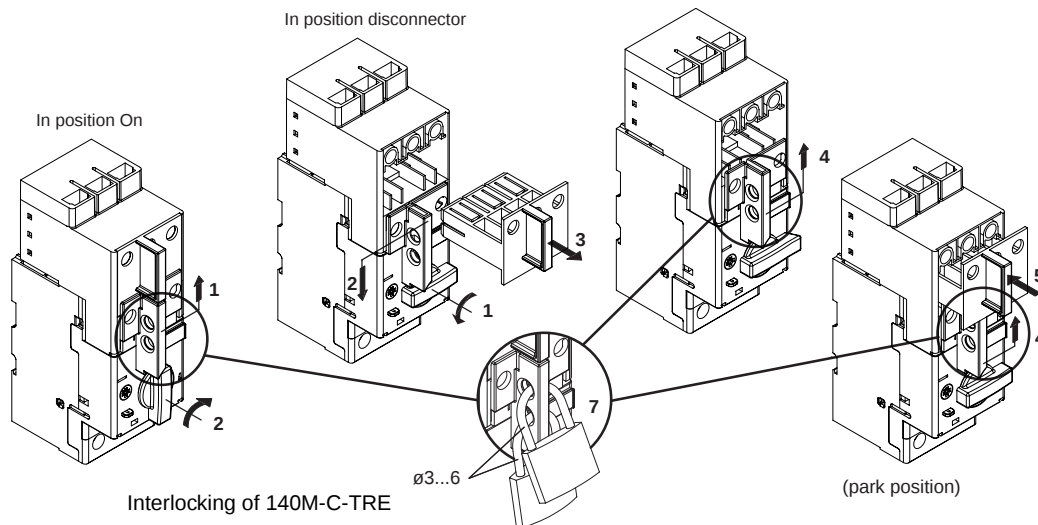
	
	
	
Use 75°C wire only	
	
Pozidriv No. 2	



140-C-TRE with Cat. No.	a	b	c	d	e
140M-C	44.7	75.55	58.9	2.85	134.9
140M-D	44.7	85.55	58.9	12.85	134.9



Mounting of 140M-C-TRE



Interlocking of 140M-C-TRE

Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

Technical drawing of the 140-CMN valve, showing front and side views with dimensions in mm and inches.

Front View Dimensions:

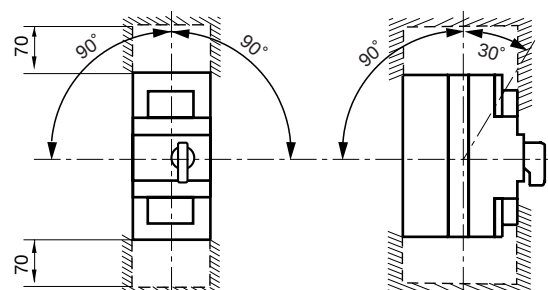
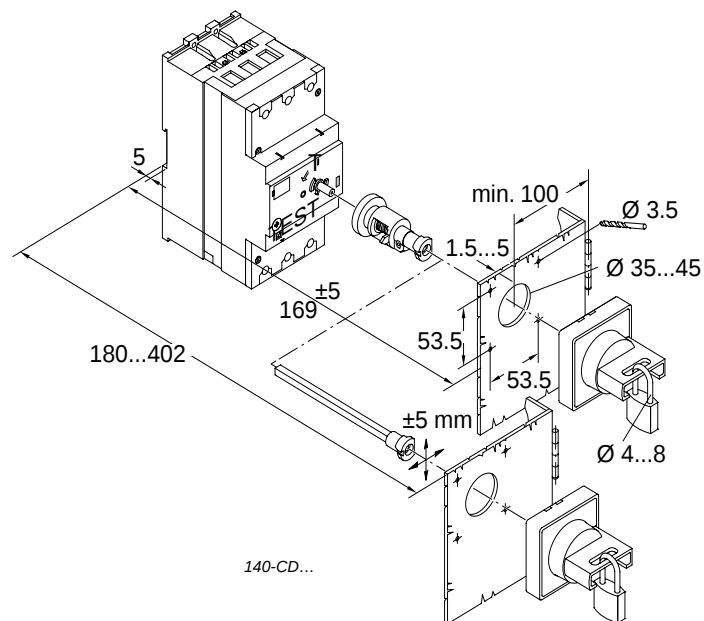
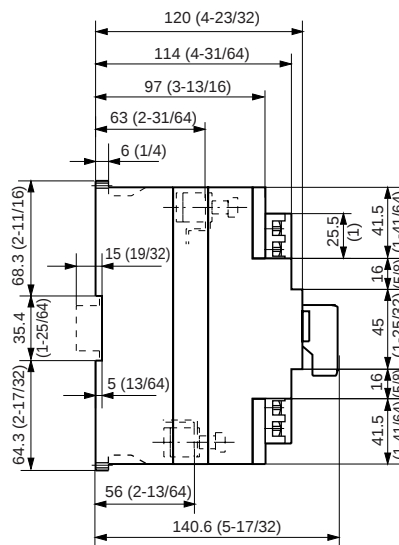
- Top flange: 25 (63/64)
- Top flange hole diameter: $\varnothing 4.5$ (3/16)
- Top flange hole spacing: 45.4 (1-51/64)
- Top flange hole diameter: 77.5 (3-3/64)
- Top flange hole diameter: 160 (6-19/64)
- Top flange hole diameter: 168 (6-39/64)
- Top flange hole diameter: 165 (6-1/2)
- Top flange hole diameter: 140 (5-33/64)
- Top flange hole diameter: 10 (25/64)
- Top flange hole diameter: 2 (5/64)
- Top flange hole diameter: 25 (63/64)
- Top flange hole diameter: 4 (5/32)

Side View Dimensions:

- Top flange: 24 (15/16)
- Top flange hole diameter: 12.5 (1/4)
- Top flange hole diameter: 168 (6-39/64)
- Top flange hole diameter: 165 (6-1/2)
- Top flange hole diameter: 140 (5-33/64)
- Top flange hole diameter: 10 (25/64)
- Top flange hole diameter: 2 (5/64)
- Top flange hole diameter: 25 (63/64)
- Top flange hole diameter: 4 (5/32)
- Top flange hole diameter: 79.5 (3-1/8)
- Top flange hole diameter: $\varnothing 7$ (15/64)

Other Labels:

- EN 50022
- 140-CMN



Mounting position/safety clearance of Cat. No. 140-CMN