Bulletin 140M Motor Circuit Protectors

140M – C 2 N – A63 – KN – CC – GJ

a b c d e f g h

a		b		c		d	
Bulletin Number		**Frame Size and Rating**		**Interrupting Rating / Breaking Capacity**		**Protection Type**	
Code	**Description**	**Code**	**Description**	**Code**	**Description**	**Code**	**Description**
140M	Motor Circuit Protectors (MCPs)	C	25 A	2	Normal Break	N	Fixed Mag Only (13 x In)
		D	32 A	8	High Break	P	Adj Mag Only (less than 13 x In)- MCPs
		F	45 A			R	Adj Mag Only (greater than 13 x In) - MCP's

e			f	g	h
Current Range			**Miscellaneous See 140M Factory Modifications (Open)**	**Aux/Trip Contacts See 140M Factory Modifications (Open)**	**UV and Shunt Trips See 140M Factory Modifications (Open)**
Code	**Description**	**Example**			
A	A = .10	A16 = 0.16			
B	B = 1.0	B16 = 1.6			
C	C = 10	C16 = 16			
D	D = 100	D16 = 160			
E	E = 1000	E16 = 1600			

Motor Circuit Protectors

- Short circuit protection — standard magnetic trip (13…14 x I_e)
- Short circuit protection for 3 component starters — No motor overload protection
  - separate Bulletin 193-E or 193-T product required for overload and installation protection
- For Trip Class 10 motor applications

Cat. No. 140M-C

Cat. No. 140M-D

Cat. No. 140M-F

Rated Operational Current (I_e) [A]	Magnetic Trip Current [A]	Ultimate Interrupting Current [kA]		Max. 3-phase Hp Ratings⋆				Max. kW, 3-Phase — AC-3⋆				Cat. No.
		400V (I_{cu})	480V (group motor)	200V	230V	460V	575V	230V	400/415V	500V	690V	
C-Frame												
0.16	2.1	100	65	–	–	–	–	–	0.02	0.06	0.06	140M-C2N-A16
0.25	3.3	100	65	–	–	–	–	–	0.04	0.09	0.09	140M-C2N-A25
0.4	5.2	100	65	–	–	–	0.25	0.06	0.09	0.12	0.18	140M-C2N-A40
0.63	8.2	100	65	–	–	0.25	0.33	0.09	0.18	0.18	0.25	140M-C2N-A63
1	13	100	65	–	–	0.5	0.75	0.18	0.25	0.37	0.55	140M-C2N-B10
1.6	21	100	65	0.25	0.33	1	1	0.25	0.55	0.75	1.1	140M-C2N-B16
2.5	33	100	65	0.5	0.75	1.5	2	0.37	0.75	1.1	1.8	140M-C2N-B25
D-Frame												
2.5	33	100	65	0.5	0.75	1.5	2	0.37	0.75	1.1	1.8	140M-D8N-B25
4	52	100	65	1	1	3	3	0.75	1.5	2.2	3	140M-D8N-B40
6.3	82	100	65	1.5	2	5	5	1.5	2.2	3	4	140M-D8N-B63
10	130	100	65	3	3	7.5	10	2.2	4	6.3	7.5	140M-D8N-C10
16	208	100	65	5	5	10	15	4	7.5	10	13	140M-D8N-C16
25	325	65	30	7.5	7.5	20	20	5.5	11	15	22	140M-D8N-C25
32	448	50	30	7.5	10	25	30	7.5	15	20	25	140M-D8N-C32
F-Frame												
25	325	100	65	7.5	10	20	25	6.3	11	15	22	140M-F8N-C25
32	416	65	65	7.5	10	25	30	7.5	15	20	30	140M-F8N-C32
45	585	65	65	10	15	30	40	13	22	30	40	140M-F8N-C45

⋆ Horsepower/kW ratings shown in the table above are for reference. **The final selection of the manual starter depends on the actual motor full load current.**

Note: In applications with 140M-C_N, 140M-D_N and 140M-F_N as the short circuit protection device of heavy duty starting motors, the rated operational current I_e of the above devices must be over-dimensioned with following factors:

CLASS 10 = 1.00
CLASS 15 = 1.22
CLASS 20 = 1.42
CLASS 25 = 1.58
CLASS 30 = 1.73

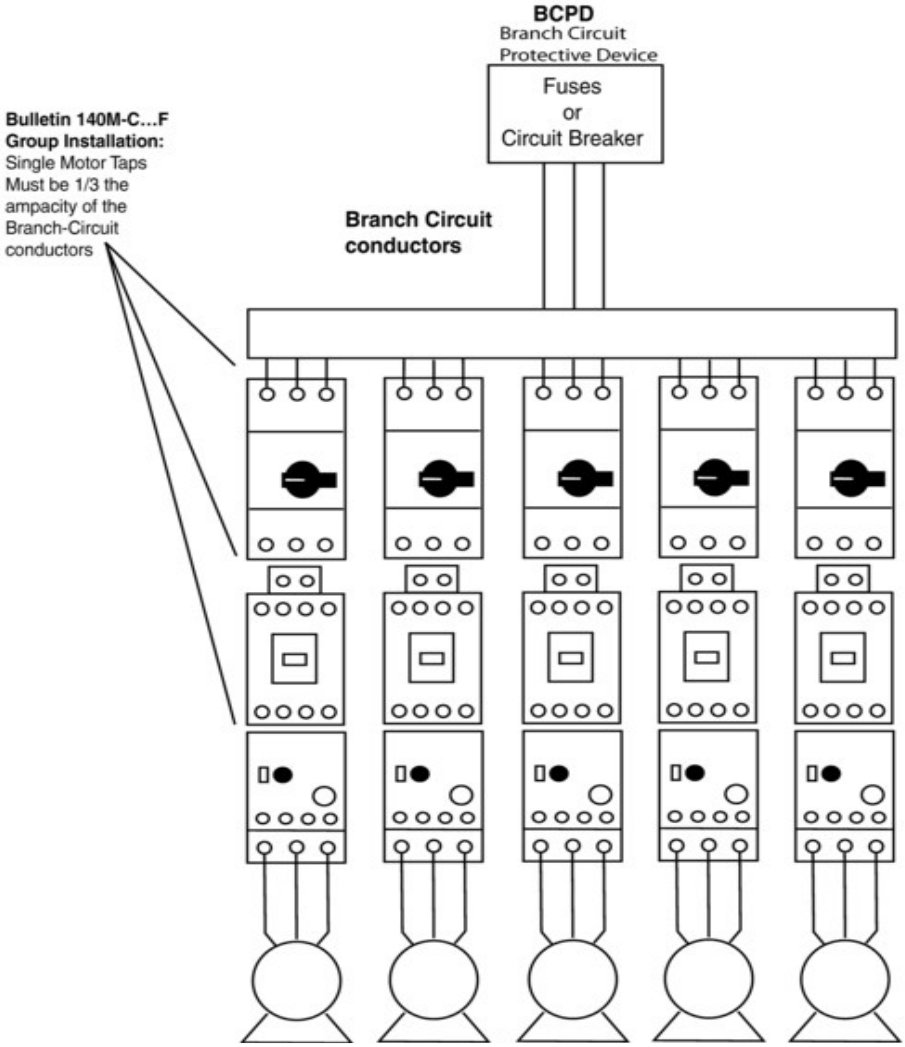
Group Installation with MCPs

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.
Below is an example that illustrates installations involving multiple motors with a single BCPD protecting the entire "Group".

Bulletin 140M Motor Circuit Protectors 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.
Motor Circuit Protectors do not provide thermal protection, so a separate overload relay must be used.
Therefore, MCPs cannot be UL/CSA Listed for Tap Conductor Protection in Group Installations.



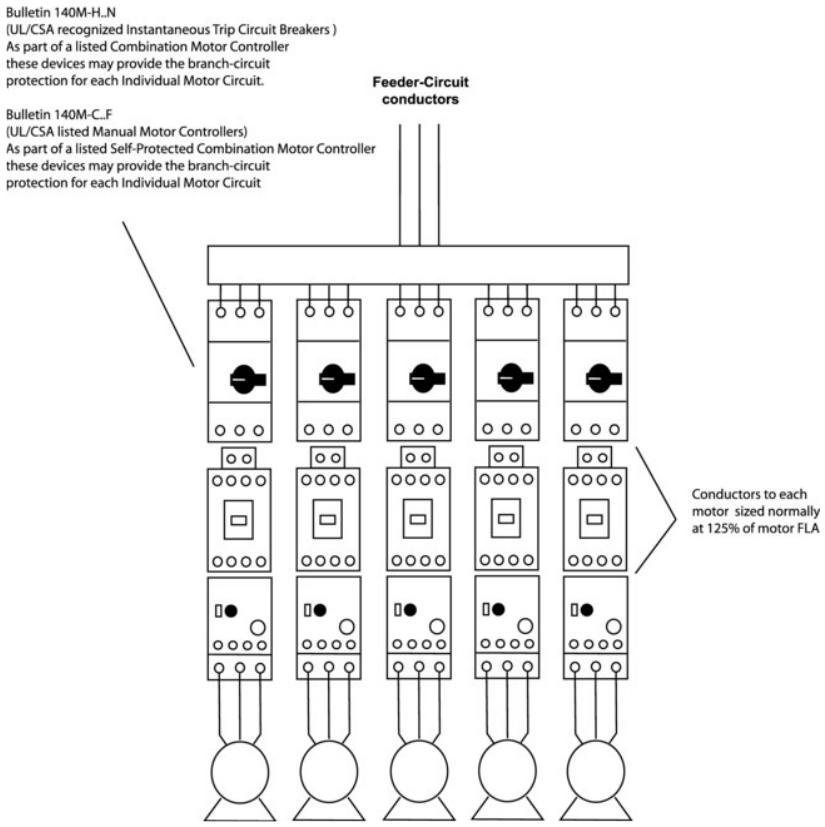
Group Motor Installation

3-Phase Power Supply

Multiple Motor Installation with MCPs

Each Motor has an Individual Branch Circuit Protective Device (BCPD)

Bulletin140M Motor Circuit Protectors are UL/CSA listed as part of a Combination Motor Controller or a Self-Protected Combination Motor Controller consisting of a 140M Motor Circuit Protector, a 100C Contactor and a 193 Overload Relay.
These UL/CSA listings allow the Bulletin 140M MCP's to provide the branch-circuit, short-circuit protection for each individual motor circuit. Additional short-circuit protection is not required for the protection of the individual motor circuits, leaving only the requirement for protection of the Feeder-Circuit conductors by an upstream protective device.
Below is an example that illustrates installations involving multiple motors, each with their own branch-circuit protection (BCPD).



Multi-Motor Installation

Application Ratings

UL/CSA Listed Application Ratings — Motor Protection Circuit Breaker (MPCB) Only

Cat. No.	UL 508 — Manual Motor Controller							UL 508 Self-Protected (Type E) Combination Motor Controller		UL 489 Inverse Time C.B. w/UL 508 Motor Overload Protection	
	Max. Fuse or C.B. per NEC	Group Motor Installation		Motor Disconnect		Tap Conductor Protection					
		Max. Short Circuit Current [kA]		Max. Short Circuit Current [kA]		Max. Short Circuit Current [kA]		Max. Short Circuit Current [kA]		Max. Short Circuit Current [kA]	
		480V	600V	480V	600V	480V	600V	480Y/277V§	600Y/347V§	480V	600V
C-Frame											
140M-C2E-A16	450	65	47	65	47	65	47	65	47	–	–
140M-C2E-A25	450	65	47	65	47	65	47	65	47	–	–
140M-C2E-A40	450	65	47	65	47	65	47	65	47	–	–
140M-C2E-A63	450	65	47	65	47	65	47	65	47	–	–
140M-C2E-B10	450	65	47	65	47	65	47	65	47	–	–
140M-C2E-B16	450	65	47	65	47	65	47	65	47	–	–
140M-C2E-B25	450	65	30	65	30	65	30	65	30	–	–
140M-C2E-B40	450	65	25	65	25	65	25	65	25	–	–
140M-C2E-B63	450	65	30	65	30	65	–	65	–	–	–
140M-C2E-C10	450	65	30	65	30	65	–	65	–	–	–
140M-C2E-C16	450	30	30	30	30	30	–	30	–	–	–
140M-C2E-C20	450	30	30	10	10	10	–	10	–	–	–
140M-C2E-C25	450	25	10	10	5	–	–	–	–	–	–
140M-C2E-C29	450	25	30	10	–	–	–	–	–	–	–
140M-C2E-C32	450	25	30	10	–	–	–	–	–	–	–
D-Frame											
140M-D8E-B25	450	65	30	65	30	65	30	65	30	–	–

140M-D8E-B40	450	65	30	65	30	65	30	65	30	–	–
140M-D8E-B63	450	65	30	65	30	65	30	65	30	–	–
140M-D8E-C10	450	65	30	65	30	65	30	65	30	–	–
140M-D8E-C16	450	65	30	65	30	65	30	65	30	–	–
140M-D8E-C20	450	65	30	65	30	65	–	65	–	–	–
140M-D8E-C25	450	30	30	30	30	30	–	30	–	–	–
140M-D8E-C29	450	30	30	30	18	–	–	–	–	–	–
140M-D8E-C32	450	30	30	30	18	–	–	–	–	–	–
F-Frame											
140M-F8E-C10	600	65	30	65	30	65	30	65	30	–	–
140M-F8E-C16	600	65	30	65	30	65	30	65	30	–	–
140M-F8E-C20	600	65	30	65	30	65	30	65	30	–	–
140M-F8E-C25	600	65	30	65	30	65	30	65	30	–	–
140M-F8E-C32	600	65	30	65	30	65	30	65	30	–	–
140M-F8E-C45	600	65	18	65	18	65	–	65	–	–	–
CMN-Frame											
140-CMN-2500	1000	30	15	–	–	–	–	–	–	–	–
140-CMN-4000	1000	20	10	–	–	–	–	–	–	–	–
140-CMN-6300	1000	10	5	–	–	–	–	–	–	–	–
140-CMN-9000	1000	10	5	–	–	–	–	–	–	–	–
I-Frame											
140M-I8E-C80	–	–	–	–	–	–	–	–	–	65	30
140M-I8E-D10	–	–	–	–	–	–	–	–	–	65	30
140M-I8E-D16	–	–	–	–	–	–	–	–	–	65	30
140M-I8E-D20	–	–	–	–	–	–	–	–	–	65	30
J-Frame											
140M-J2E-C50	–	–	–	–	–	–	–	–	–	25	18
140M-J2E-D10	–	–	–	–	–	–	–	–	–	25	18
140M-J2E-D16	–	–	–	–	–	–	–	–	–	25	18
140M-J2E-D25	–	–	–	–	–	–	–	–	–	25	18
140M-J8E-C50	–	–	–	–	–	–	–	–	–	65	25
140M-J8E-D10	–	–	–	–	–	–	–	–	–	65	25
140M-J8E-D16	–	–	–	–	–	–	–	–	–	65	25
140M-J8E-D25	–	–	–	–	–	–	–	–	–	65	25
L-Frame											
140M-L2E-D25	–	–	–	–	–	–	–	–	–	25	18
140M-L2E-D40	–	–	–	–	–	–	–	–	–	25	18
140M-L2E-D63	–	–	–	–	–	–	–	–	–	25	18
140M-L8E-D25	–	–	–	–	–	–	–	–	–	65	35
140M-L8E-D40	–	–	–	–	–	–	–	–	–	65	35
140M-L8E-D63	–	–	–	–	–	–	–	–	–	65	35

§ For full voltage (delta) ratings above 277V or 347V, follow the NEC or CEC rules for group motor applications.

Cat. No.	UL 508 Manual Motor Controller							UL 508 Self-Protected (Type E) Combination Motor Controller	
	Max. Fuse or C.B. per NEC	Group Motor Installation		Motor Disconnect		Tap Conductor Protection			
		Max. Short Circuit Current [kA]		Max. Short Circuit Current [kA]		Max. Short Circuit Current [kA]		Max. Short Circuit Current [kA]	
		480V	600V	480V	600V	480V	600V	480Y/277V§	600Y/347V§
C-Frame									
140M-C2T-A16	450	65	47	65	47	65	47	65	47
140M-C2T-A25	450	65	47	65	47	65	47	65	47
140M-C2T-A40	450	65	47	65	47	65	47	65	47
140M-C2T-A63	450	65	47	65	47	65	47	65	47
140M-C2T-B10	450	65	47	65	47	65	47	65	47
140M-C2T-B16	450	65	47	65	47	65	30	65	30
140M-C2T-B25	450	65	25	65	25	65	25	65	25
140M-C2T-B40	450	65	30	65	30	65	–	65	–
140M-C2T-B63	450	65	30	65	30	65	–	65	–
140M-C2T-C10	450	30	30	30	30	30	–	30	–
140M-C2T-C16	450	30	30	10	10	10	–	10	–
D-Frame									
140M-D8T-C16	450	65	30	65	30	65	30	65	30
140M-D8T-C20	450	30	30	30	30	30	–	30	–
F-Frame									
140M-F8T-C25	600	65	30	65	30	65	30	65	30
140M-F8T-C32	600	65	18	65	18	65	18	65	18

§ For full voltage (delta) ratings above 277V or 347V, follow the NEC or CEC rules for group motor applications.

UL Listed Application Ratings — Motor Circuit Protectors Only♣

Cat. No.	UL 508 Manual Motor Controller					UL 489 Instantaneous Trip Circuit Breaker (Magnetic Only)	
	Max. Fuse or C.B. per NEC	Group Motor Installation		Motor Disconnect		Motor Circuit Protector	
		Max. Short Circuit Current [kA]		Max. Short Circuit Current [kA]		Max. Short Circuit Current [kA]§	
		480V	600V	480V	600V	480V	600V
C-Frame							
140M-C2N-A16	450	65	47	65	47	–	–
140M-C2N-A25	450	65	47	65	47	–	–
140M-C2N-A40	450	65	47	65	47	–	–
140M-C2N-A63	450	65	47	65	47	–	–
140M-C2N-B10	450	65	47	65	47	–	–
140M-C2N-B16	450	65	47	65	47	–	–
140M-C2N-B25	450	65	30	65	30	–	–
D-Frame							
140M-D8N-B25	450	65	30	65	30	–	–
140M-D8N-B40	450	65	30	65	30	–	–
140M-D8N-B63	450	65	30	65	30	–	–
140M-D8N-C10	450	65	30	65	30	–	–
140M-D8N-C16	450	65	30	65	30	–	–
140M-D8N-C25	450	30	30	30	30	–	–
140M-D8N-C32	450	30	30	30	18	–	–
F-Frame							
140M-F8N-C25	600	65	30	65	30	–	–
140M-F8N-C32	600	65	30	65	30	–	–
140M-F8N-C45	600	65	18	65	18	–	–
H-Frame							
140M-H8P-B30	–	–	–	–	–	65	30
140M-H8P-B70	–	–	–	–	–	65	30
140M-H8P-C15	–	–	–	–	–	65	30

140M-H8P-C30	–	–	–	–	–	65	30
140M-H8P-C50	–	–	–	–	–	65	30
140M-H8P-C70	–	–	–	–	–	65	30
140M-H8P-D10	–	–	–	–	–	65	30
140M-H8R-D10	–	–	–	–	–	65	30
J-Frame							
140M-J8P-C70	–	–	–	–	–	65	30
140M-J8P-C90	–	–	–	–	–	65	30
140M-J8P-D10	–	–	–	–	–	65	30
140M-J8P-D12	–	–	–	–	–	65	30
140M-J8P-D15	–	–	–	–	–	65	30
140M-J8P-D17	–	–	–	–	–	65	30
140M-J8P-D20	–	–	–	–	–	65	30
140M-J8P-D22	–	–	–	–	–	65	30
140M-J8P-D25	–	–	–	–	–	65	30
L-Frame							
140M-L8P-D22	–	–	–	–	–	65	30
140M-L8P-D25	–	–	–	–	–	65	30
140M-L8P-D30	–	–	–	–	–	65	30
140M-L8P-D35	–	–	–	–	–	65	30
140M-L8P-D40	–	–	–	–	–	65	30
140M-L8P-D45	–	–	–	–	–	65	30
140M-L8P-D50	–	–	–	–	–	65	30
140M-L8P-D60	–	–	–	–	–	65	30
N-Frame							
140M-N8P-D80	–	–	–	–	–	65	35
140M-N8P-E12	–	–	–	–	–	65	35

♣ Separate overload protection is required.

§ The interrupting rating for MCPs is dependent upon the controller used. Contact your local Rockwell Automation sales office or Allen-Bradley distributor for further information.

UL Listed Application Ratings - Motor Protection Circuit Breakers with Bulletin 100-K Contactors

Cat. No.	UL 508 Manual Motor Controller						UL 508 Type F Combination Motor Controller			UL 508 Type E Self-Protected Combination Motor Controller		
	Max. Fuse or C.B. per NEC	Minimum Contactor Size	Group Motor Installation		Motor Disconnect		Minimum Contactor Size	Max. Short Circuit Current [kA]		Minimum Contactor Size	Max. Short Circuit Current [kA]	
			Max. Short Circuit Current [kA]		Max. Short Circuit Current [kA]							
			480V	600V	480V	600V		480Y/277V♣	600Y/347V♣		480Y/277V♣	600Y/347V♣
C-Frame												
140M-C2E-A16	450	100-K05	65	47	65	47	100-K05	65	47	–	–	–
140M-C2E-A25	450	100-K05	65	47	65	47	100-K05	65	47	–	–	–
140M-C2E-A40	450	100-K05	65	47	65	47	100-K05	65	47	–	–	–
140M-C2E-A63	450	100-K05	65	47	65	47	100-K05	65	47	–	–	–
140M-C2E-B10	450	100-K05	65	47	65	47	100-K05	65	47	–	–	–
140M-C2E-B16	450	100-K05	65	47	65	47	100-K05	65	47	–	–	–
140M-C2E-B25	450	100-K05	65	30	65	30	100-K05	65	30	–	–	–
140M-C2E-B40	450	100-K05	65	30	65	30	100-K05	65	30	–	–	–
140M-C2E-B63	450	100-K05	65	30	65	30	100-K05	65	–	–	–	–
140M-C2E-C10	450	100-K09	65	30	65	30	100-K09	65	–	–	–	–
140M-C2E-C16	450	100-K12	30	30	30	30	100-K12	30	–	–	–	–
D-Frame												
140M-D8E-B25	450	100-K05	65	30	65	30	100-K05	65	30	–	–	–
140M-D8E-B40	450	100-K05	65	30	65	30	100-K05	65	30	–	–	–
140M-D8E-B63	450	100-K05	65	30	65	30	100-K05	65	30	–	–	–
140M-D8E-C10	450	100-K09	65	30	65	30	100-K09	65	30	–	–	–
140M-D8E-C16	450	100-K12	65	30	65	30	100-K12	65	30	–	–	–

♣ For full voltage (delta) ratings above 277V or 347V, follow the NEC or CEC rules for group motor applications.

UL Listed Application Ratings - Motor Protection Circuit Breakers with Bulletin 100-C Contactors

Cat. No.	UL 508 Manual Motor Controller						UL 508 Type F Combination Motor Controller			UL 508 Type E Self-Protected Combination Motor Controller		
	Max. Fuse or C.B. per NEC	Minimum Contactor Size	Group Motor Installation		Motor Disconnect		Minimum Contactor Size	Max. Short Circuit Current [kA]		Minimum Contactor Size	Max. Short Circuit Current [kA]	
			Max. Short Circuit Current [kA]		Max. Short Circuit Current [kA]							
			480V	600V	480V	600V		480Y/277V♣	600Y/347V♣		480Y/277V♣	600Y/347V♣
C-Frame												
140M-C2E-A16	450	100-C09	65	47	65	47	100-C09	65	47	100-C09	65	47
140M-C2E-A25	450	100-C09	65	47	65	47	100-C09	65	47	100-C09	65	47
140M-C2E-A40	450	100-C09	65	47	65	47	100-C09	65	47	100-C09	65	47
140M-C2E-A63	450	100-C09	65	47	65	47	100-C09	65	47	100-C09	65	47
140M-C2E-B10	450	100-C09	65	47	65	47	100-C09	65	47	100-C09	65	47
140M-C2E-B16	450	100-C09	65	47	65	47	100-C09	65	47	100-C09	65	47
140M-C2E-B25	450	100-C09	65	30	65	30	100-C09	65	30	100-C09	65	30
140M-C2E-B40	450	100-C09	65	30	65	30	100-C09	65	30	–	65	25
140M-C2E-B63	450	100-C09	65	30	65	30	100-C09	65	–	–	65	–
140M-C2E-C10	450	100-C09	65	30	65	30	100-C09	65	–	–	65	–
140M-C2E-C16	450	100-C12	30	30	30	25	100-C12	30	–	–	30	–
140M-C2E-C20	450	100-C16	30	30	30	30	100-C23	10	–	–	10	–
140M-C2E-C25	450	100-C23	30	30	10	10	–	–	–	–	–	–
	450	100-C30	30	30	30	30	–	–	–	–	–	–
140M-C2E-C29	450	100-C30	30	30	10	10	–	–	–	–	–	–
140M-C2E-C32	450	100-C37	30	30	10	10	–	–	–	–	–	–
D-Frame												
140M-D8E-B25	450	100-C09	65	30	65	30	100-C09	65	30	100-C09	65	30
	–	–	–	–	–	–	–	–	–	100-C23	65	30
140M-D8E-B40	450	100-C09	65	30	65	30	100-C09	65	30	100-C23	65	30
140M-D8E-B63	450	100-C09	65	30	65	30	100-C09	65	30	100-C30	65	30
140M-D8E-C10	450	100-C09	65	30	65	30	100-C09	65	30	100-C30	65	30
140M-D8E-C16	450	100-C12	65	30	65	30	100-C12	65	30	100-C30	65	30
140M-D8E-C20	450	100-C23	65	30	65	30	100-C23	65	–	100-C30	65	–
140M-D8E-C25	450	100-C23	65	30	65	30	100-C23	30	–	100-C30	30	–
140M-D8E-C29	450	100-C30	65	30	65	10	–	–	–	–	–	–
140M-D8E-C32	450	100-C37	65	30	65	10	–	–	–	–	–	–
F-Frame												
140M-F8E-C10	600	100-C30	65	30	65	30	100-C30	65	30	100-C30	65	30
140M-F8E-C16	600	100-C30	65	30	65	30	100-C30	65	30	100-C30	65	30
140M-F8E-C20	600	100-C30	65	30	65	30	100-C30	65	30	100-C30	65	30
140M-F8E-C25	600	100-C30	65	30	65	30	100-C30	65	30	100-C30	65	30
140M-F8E-C32	600	100-C30	65	30	65	30	100-C30	65	30	100-C30	65	30
140M-F8E-C45	600	100-C37	65	18	65	18	100-C37	65	–	100-C37	65	–
CMN-Frame												
140-CMN-2500	1000	100-C16	65	42	–	–	–	–	–	–	–	–
140-CMN-4000	1000	100-C30	65	42	–	–	–	–	–	–	–	–
140-CMN-6300	1000	100-C43	42	18	–	–	–	–	–	–	–	–
140-CMN-9000	1000	100-C72	35	10	–	–	–	–	–	–	–	–

♣ For full voltage (delta) ratings above 277V or 347V, follow the NEC or CEC rules for group motor applications.

UL Listed Application Ratings - Motor Circuit Protectors with Bulletin 100-C Contactors♣

Cat. No.	UL 508 Manual Motor Controller						UL 508 Type E (Self-Protected) Combination Motor Controller		
	Max. Fuse or C.B. per NEC	Minimum Contactor Size	Group Motor Installation		Motor Disconnect				
			Max. Short Circuit Current [kA]		Max. Short Circuit Current [kA]		Minimum Contactor Size	Max. Short Circuit Current [kA]	Max. Short Circuit Current [kA]
			480V	600V	480V	600V		480Y/277V‡	600Y/347V‡
C-Frame									
140M-C2N-A16	450	100-C09	65	47	65	47	100-C09	65	47
140M-C2N-A25	450	100-C09	65	47	65	47	100-C09	65	47
140M-C2N-A40	450	100-C09	65	47	65	47	100-C09	65	47
140M-C2N-A63	450	100-C09	65	47	65	47	100-C09	65	47
140M-C2N-B10	450	100-C09	65	47	65	47	100-C09	65	47
140M-C2N-B16	450	100-C09	65	47	65	47	100-C09	65	47
140M-C2N-B25	450	100-C09	65	30	65	30	100-C09	65	–
D-Frame									
140M-D8N-B25	450	100-C09	65	30	65	30	100-C09	65	–
	–	–	–	–	–	–	100-C23	65	30
140M-D8N-B40	450	100-C09	65	30	65	30	100-C23	65	30
140M-D8N-B63	450	100-C09	65	30	65	30	100-C30	65	30
140M-D8N-C10	450	100-C09	65	30	65	30	100-C30	65	30
140M-D8N-C16	450	100-C12	65	30	65	30	100-C30	65	30
140M-D8N-C25	450	100-C23	30	30	30	30	100-C30	65	–
140M-D8N-C32	450	100-C37	65	10	65	10	–	–	–
F-Frame									
140M-F8N-C25	600	100-C23	65	30	65	30	100-C30	65	30
140M-F8N-C32	600	100-C30	65	30	65	30	100-C30	65	30
140M-F8N-C45	600	100-C37	65	18	65	18	100-C37	65	–

♣ Separate overload protection is required.

‡ For full-voltage (delta) ratings above 277V or 347V, follow the NEC or CEC rules for group motor applications.

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 motor protection device 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, current-limiting Bulletin 140M Motor Protection Circuit Breakers make it possible to build economical, fully short-circuit coordinated starter combinations with Type 2 coordination.

Type 2 Coordination 400V

Cat. No.			Max. Short Circuit Current [kA]	For Use With Contactors Below (or larger)
Standard Motor Protection	**High Inrush Motor Protection**	**Motor Circuit Protection**	**400V**	
C-Frame				
140M-C2E-A16	–	140M-C2N-A16	100	100-C09
140M-C2E-A25	140M-C2T-A16	140M-C2N-A25	100	100-C09
140M-C2E-A40	140M-C2T-A25	140M-C2N-A40	100	100-C09
140M-C2E-A63	140M-C2T-A40	140M-C2N-A63	100	100-C09
140M-C2E-B10	140M-C2T-A63	140M-C2N-B10	100	100-C09
140M-C2E-B16	140M-C2T-B10	140M-C2N-B16	100	100-C09
140M-C2E-B25	140M-C2T-B16	140M-C2N-B25	50	100-C09
140M-C2E-B40	140M-C2T-B25	–	50	100-C09
140M-C2E-B63	140M-C2T-B40	–	50	100-C09
140M-C2E-C10	140M-C2T-B63	–	50	100-C09
140M-C2E-C16	140M-C2T-C10	–	50	100-C12⋆
140M-C2E-C20	140M-C2T-C16	–	50	100-C23
140M-C2E-C25	–	–	15	100-C30
140M-C2E-C29	–	–	15	100-C30
140M-C2E-C32	–	–	15	100-C37
D-Frame				
140M-D8E-B25	–	140M-D8N-B25	100	100-C09
140M-D8E-B40	–	140M-D8N-B40	100	100-C09
140M-D8E-B63	–	140M-D8N-B63	100	100-C09
140M-D8E-C10	–	140M-D8N-C10	65	100-C09
140M-D8E-C16	–	140M-D8N-C16	65	100-C12
140M-D8E-C20	140M-D8T-C16	–	65	100-C23
140M-D8E-C25	140M-D8T-C20	140M-D8N-C25	50	100-C23
140M-D8E-C29	–	–	65	100-C30
140M-D8E-C32	–	140M-D8N-C32	65	100-C37
F-Frame				
140M-F8E-C10	–	–	100	100-C09
140M-F8E-C16	–	–	100	100-C12
140M-F8E-C20	–	–	100	100-C23
140M-F8E-C25	–	140M-F8N-C25	100	100-C30
140M-F8E-C32	140M-F8T-C25	140M-F8N-C32	100	100-C30
140M-F8E-C45	140M-F8T-C32	140M-F8N-C45	100	100-C37
CMN-Frame				
140-CMN-2500	–	–	65	100-C16
140-CMN-4000	–	–	65	100-C30
140-CMN-6300	–	–	42	100-C43
140-CMN-9000	–	–	35	100-C72

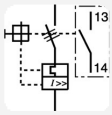
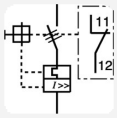
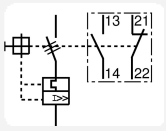
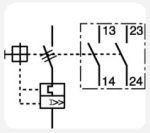
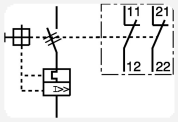
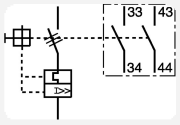
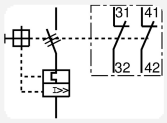
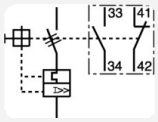
⋆ Cat. No. 100-C16 contactors Type 1 only

Type 2 Coordination 480V

Cat. No.			Max. Short Circuit Current [kA]	For Use With Contactors Below (or larger)
Standard Motor Protection	High Inrush Motor Protection	Motor Circuit Protection	480V	
C-Frame				
140M-C2E-A16	–	140M-C2N-A16	65	100-C09
140M-C2E-A25	140M-C2T-A16	140M-C2N-A25	65	100-C09
140M-C2E-A40	140M-C2T-A25	140M-C2N-A40	65	100-C09
140M-C2E-A63	140M-C2T-A40	140M-C2N-A63	65	100-C09
140M-C2E-B10	140M-C2T-A63	140M-C2N-B10	65	100-C09
140M-C2E-B16	140M-C2T-B10	140M-C2N-B16	65	100-C09
140M-C2E-B25	140M-C2T-B16	140M-C2N-B25	50	100-C16
140M-C2E-B40	140M-C2T-B25	–	50	100-C30
140M-C2E-B63	140M-C2T-B40	–	50	100-C30
140M-C2E-C10	140M-C2T-B63	–	50	100-C30
140M-C2E-C16	140M-C2T-C10	–	10	100-C30
140M-C2E-C20	140M-C2T-C16	–	10	100-C30
140M-C2E-C25	–	–	10	100-C30
140M-C2E-C29	–	–	10	100-C30
140M-C2E-C32	–	–	10	100-C37
D-Frame				
140M-D8E-B25	–	140M-D8N-B25	65	100-C09
140M-D8E-B40	–	140M-D8N-B40	65	100-C09
140M-D8E-B63	–	140M-D8N-B63	65	100-C09
140M-D8E-C10	–	140M-D8N-C10	65	100-C09
140M-D8E-C16	–	140M-D8N-C16	65	100-C12
140M-D8E-C20	140M-D8T-C16	–	65	100-C23
140M-D8E-C25	140M-D8T-C20	140M-D8N-C25	65	100-C23
140M-D8E-C29	–	–	65	100-C30
140M-D8E-C32	–	140M-D8N-C32	65	100-C37
F-Frame				
140M-F8E-C10	–	–	65	100-C09
140M-F8E-C16	–	–	65	100-C12
140M-F8E-C20	–	–	65	100-C23
140M-F8E-C25	–	140M-F8N-C25	65	100-C30
140M-F8E-C32	140M-F8T-C25	140M-F8N-C32	65	100-C30
140M-F8E-C45	140M-F8T-C32	140M-F8N-C45	65	100-C37
CMN-Frame				
140-CMN-2500	–	–	65	100-C16
140-CMN-4000	–	–	65	100-C30
140-CMN-6300	–	–	42	100-C43
140-CMN-9000	–	–	35	100-C72

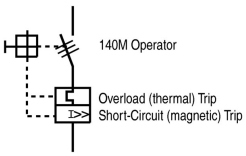
Type 2 Coordination 600V

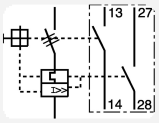
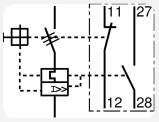
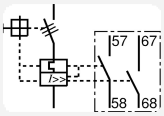
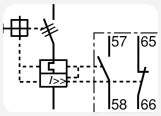
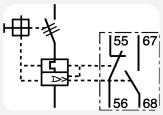
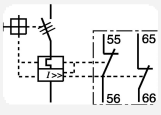
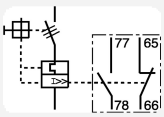
Cat. No.			Max. Short Circuit Current [kA]	For Use With Contactors Below (or larger)
Standard Motor Protection	**High Inrush Motor Protection**	**Motor Circuit Protection**	**600V**	
C-Frame				
140M-C2E-A16	–	140M-C2N-A16	47	100-C09
140M-C2E-A25	140M-C2T-A16	140M-C2N-A25	47	100-C09
140M-C2E-A40	140M-C2T-A25	140M-C2N-A40	47	100-C09
140M-C2E-A63	140M-C2T-A40	140M-C2N-A63	47	100-C09
140M-C2E-B10	140M-C2T-A63	140M-C2N-B10	47	100-C09
140M-C2E-B16	140M-C2T-B10	140M-C2N-B16	47	100-C09
140M-C2E-B25	140M-C2T-B16	140M-C2N-B25	10	100-C16
140M-C2E-B40	140M-C2T-B25	–	10	100-C16
140M-C2E-B63	140M-C2T-B40	–	5	100-C23
140M-C2E-C10	140M-C2T-B63	–	5	100-C30
140M-C2E-C16	140M-C2T-C10	–	5	100-C30
140M-C2E-C20	140M-C2T-C16	–	5	100-C30
140M-C2E-C25	–	–	5	100-C30
140M-C2E-C29	–	–	5	100-C30
140M-C2E-C32	–	–	5	100-C37
D-Frame				
140M-D8E-B25	–	140M-D8N-B25	30	100-C30
140M-D8E-B40	–	140M-D8N-B40	30	100-C30
140M-D8E-B63	–	140M-D8N-B63	30	100-C30
140M-D8E-C10	–	140M-D8N-C10	30	100-C30
140M-D8E-C16	–	140M-D8N-C16	30	100-C30
140M-D8E-C20	140M-D8T-C16	–	5	100-C30
140M-D8E-C25	140M-D8T-C20	140M-D8N-C25	5	100-C30
140M-D8E-C29	–	–	10	100-C30
140M-D8E-C32	–	140M-D8N-C32	10	100-C37
F-Frame				
140M-F8E-C10	–	–	30	100-C30
140M-F8E-C16	–	–	30	100-C30
140M-F8E-C20	–	–	30	100-C30
140M-F8E-C25	–	140M-F8N-C25	30	100-C30
140M-F8E-C32	140M-F8T-C25	140M-F8N-C32	30	100-C30
140M-F8E-C45	140M-F8T-C32	140M-F8N-C45	10	100-C37
CMN-Frame				
140-CMN-2500	–	–	42	100-C16
140-CMN-4000	–	–	42	100-C30
140-CMN-6300	–	–	18	100-C43
140-CMN-9000	–	–	10	100-C72

Description		Operator Position ⋆			Term. No.	Description	Connection Diagram ‡	For Use With	Cat. No.
		OFF	ON	Tripped					
	**Front-Mounted Auxiliary Contact** • 1-pole or 2-pole • No additional space required • Only 1 per device	O	X	O	13-14	N.O. Aux		140M-C, D, F; 140U-D (UL489 only in combination with 140M-C-AFC)	140M-C-AFA10
		X	O	X	11-12	N.C. Aux			140M-C-AFA01
		O	X	O	13-14	N.O. Aux		140M-C, D, F; 140U-D (UL489 only in combination with 140M-C-AFC)	140M-C-AFA11
		X	O	X	21-22	N.C. Aux			
		O	X	O	13-14	N.O. Aux			140M-C-AFA20
		O	X	O	23-24	N.O. Aux			
		X	O	X	11-12	N.C. Aux			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 • Two per MPCB	O	X	O	33-34	N.O. Aux		140M-C, D, F	140M-C-ASA20
		O	X	O	43-44	N.O. Aux			
		X	O	X	31-32	N.C. Aux		140M-C, D, F	140M-C-ASA02
		X	O	X	41-42	N.C. Aux			
		O	X	O	33-34	N.O. Aux		140M-C, D, F	140M-C-ASA11
		X	O	X	41-42	N.C. Aux			

⋆ X = Contact Closed; O = Contact Open

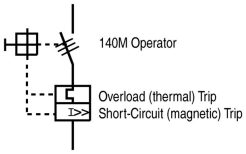
‡



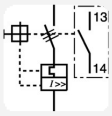
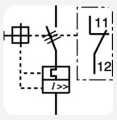
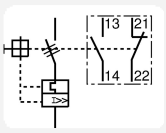
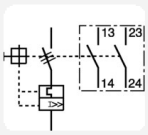
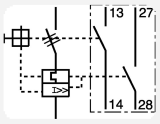
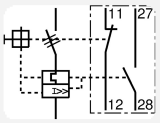
Description		Operator Position ⋆			Term. No.	Description	Connection Diagram ‡	For Use With	Cat. No.
		OFF	ON	Tripped					
	**Front-Mounted Trip Contact** • 2-pole • Indicates tripping of device • No additional space required	O	X	O	13-14	N.O. Aux		140M-C, D, F; 140U-D (UL489 only in combination with 140M-C-AFC)	140M-C-AFAR10A10
		O	O	X	27-28	N.O. Trip (Short-Circuit & Overload)			
		X	O	X	11-12	N.C. Aux			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 • One only per MPCB • A right-side mounted auxiliary contact may be tandem mounted on top of this trip contact	O	O	X	57-58	N.O. Trip (Short-Circuit & Overload)		140M-C, D, F	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-C, D, F	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-C, D, F	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-C, D, F	140M-C-ASAR01M01
		X	X	O	65-66	N.C. Trip (Short-Circuit)			
		O	O	X	77-78	N.O. Trip (Short-Circuit)		140M-C, D, F	140M-C-ASAM11
		X	X	O	65-66	N.C. Trip (Short-Circuit)			

⋆ X = Contact Closed; O = Contact Open

‡

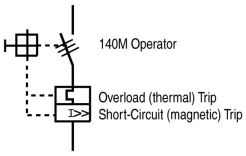


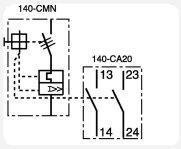
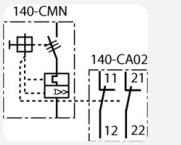
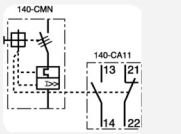
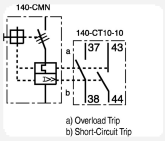
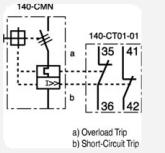
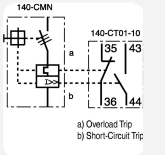
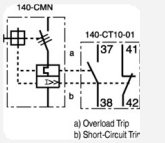
Accessories — Screwless

Description		Operator Position ⋆			Term. No.	Description	Connection Diagram ‡	For Use With	Cat. No.
		OFF	ON	Tripped					
	**Front-Mounted Auxiliary Contact** 1-pole or 2-pole No additional space required - Only 1 per MPCB	O	X	O	13-14	N.O. Aux		140M-C, D, F; 140M-RC	140M-RC-AFA10
		X	O	X	11-12	N.C. Aux			140M-RC-AFA01
		O	X	O	13-14	N.O. Aux		140M-C, D, F; 140M-RC	140M-RC-AFA11
		X	O	X	21-22	N.C. Aux			
		O	X	O	13-14	N.O. Aux			140M-RC-AFA20
		O	X	O	23-24	N.O. Aux			
	**Front-Mounted Trip Contact** 2-pole Indicates tripping of device No additional space required	O	X	O	13-14	N.O. Aux		140M-C, D, F; 140M-RC	140M-RC-AFAR10A01
		O	O	X	27-28	N.O. Trip (Short-Circuit & Overload)			
		X	O	X	11-12	N.C. Aux			140M-RC-AFAR10A10
		O	O	X	27-28	N.O. Trip (Short-Circuit & Overload)			

⋆ X = Contact Closed; O = Contact Open

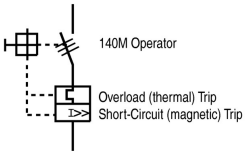
‡

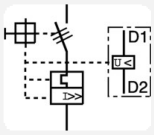
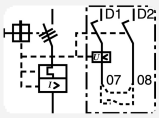
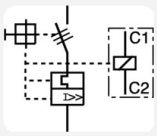
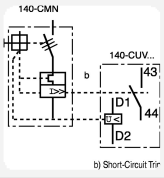
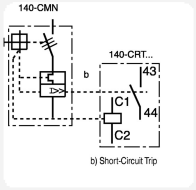


Description		Operator Position⋆			Term. No.	Description	Connection Diagram‡	For Use With	Cat. No.
		OFF	ON	Tripped					
	**Front-Mounted Auxiliary Contact** • Internal • 2-pole • 1 per MPCB	O	X	O	13-14	N.O. Aux		140-CMN	140-CA20
		O	X	O	23-24	N.O. Aux			
		X	O	X	11-12	N.C. Aux		140-CMN	140-CA02
		X	O	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 Contact** • Internal • 2-pole • 1 per MPCB	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)			

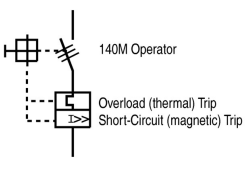
⋆ X = Contact Closed
O = Contact Open

‡

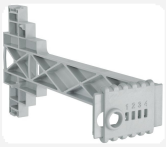


Description	Connection Diagram*	Trip Rating	For Use With	Cat. No.
 **Undervoltage Trip** • Left-side mounted • Adds 18 mm to the width of the circuit breaker • Automatically trips MPCB/MCP when voltage falls below 35...70%		24V, 60 Hz	140M-C, D, F; 140U-D	140M-C-UXJ
		24V, 50 Hz		140M-C-UXK
		110V, 50 Hz/120V, 60 Hz		140M-C-UXD
		208V, 60 Hz		140M-C-UXH
		220...230V, 50 Hz		140M-C-UXF
		240...260V, 60 Hz		140M-C-UXA
		240V, 50 Hz/277V, 60 Hz		140M-C-UXT
		380...400V, 50 Hz		140M-C-UXN
		480V, 60 Hz/415V, 50 Hz		140M-C-UXB
		575V, 60 Hz/500V, 50 Hz		140M-C-UXM
		600V, 60 Hz		140M-C-UXVC
Undervoltage Trip • Left-side mounted • 2 early make contacts integrated • Adds 18 mm to the width of the circuit breaker • Automatically trips MPCB/MCP when voltage falls below 35...70%		24V, 60 Hz	140M-C, D, F	140M-C-UCJ
		24V, 50 Hz		140M-C-UCK
		110V, 50 Hz/120V, 60 Hz		140M-C-UCD
		208V, 60 Hz		140M-C-UCH
		220...230V, 50 Hz		140M-C-UCF
		240...260V, 60 Hz		140M-C-UCA
		240V, 50 Hz/277V, 60 Hz		140M-C-UCT
		380...400V, 50 Hz		140M-C-UCN
		480V, 60 Hz/415V, 50 Hz		140M-C-UCB
		575V, 60 Hz/500V, 50 Hz		140M-C-UCM
		600V, 60 Hz		140M-C-UCVC
Shunt Trip • Left-side mounted • Adds 18 mm to the width of the circuit breaker • Provides remote tripping of the MPCB/MCP • Maximum on time for DC operated devices: 5 sec.		24V, 60 Hz	140M-C, D, F; 140U-D	140M-C-SNJ
		24V, 50 Hz		140M-C-SNK
		110V, 50 Hz/120V, 60 Hz		140M-C-SND
		208V, 60 Hz		140M-C-SNH
		220...230V, 50 Hz		140M-C-SNF
		240...260V, 60 Hz		140M-C-SNA
		240V, 50 Hz/277V, 60 Hz		140M-C-SNT
		380...400V, 50 Hz		140M-C-SNN
		480V, 60 Hz/415V, 50 Hz		140M-C-SNB
		575V, 60 Hz/500V, 50 Hz		140M-C-SNM
		600V, 60 Hz		140M-C-SNVC
		24V DC		140M-C-SNZJ
 **Undervoltage Trip Unit** • Internal, front-mounted • Integrated short-circuit trip indication • Automatically trips MPCB when voltage falls below 35...70%		24V, 50/60 Hz	140-CMN	140-CUV-KJ
		110V, 50 Hz/120V, 60 Hz		140-CUV-D
		220V, 50 Hz/240V, 60 Hz		140-CUV-A
 **Shunt Trip Unit** • Internal, front-mounted • Integrated short-circuit trip indication • Provides remote tripping of the MPCB		24V, 50/60 Hz	140-CMN	140-CRT-KJ
		110V, 50 Hz/120V, 60 Hz		140-CRT-D
		220V, 50 Hz/240V, 60 Hz		140-CRT-A

*



Description	For Use With	Cat. No.
 **Anti-Tamper Shield** • Provides protection against inadvertent adjustment of the current setting • Must be ordered in multiples of 10 (10 pcs/pkg)	140M-C, D, F	140M-C-CA

	**Lockable Twist Knob** • For one padlock 5 mm (3/16 in.) ∅ shackle • Can be locked in OFF position	Black Red/Yellow	140M-C, D, F; 140U-D	140M-C-KN1 140M-C-KRY1
	**Locking Tag** • Padlock attachment to the lockable handles • Up to three padlocks 4...8 mm (5/16 in.) ∅ shackle		140M-C-KN1, 140M-C-KRY1	140M-C-M3
	**Padlockable Operating Knob** • Accepts 8 mm (5/16 in.) ∅ padlock shackle – up to three padlocks • Permits padlocking in the off position	Black Red/Yellow	140-CMN	140-KN 140-KRY
	**Door Coupling Handle** • For 3 padlocks 4...8 mm (5/16 in.) in diameter • IP66 Protection/Type 1, 4, 4X, 12 • Interlock override capability • Can be modified for locking in ON position • Ships with coupling – order extension shaft and legend plate separately • Mounting depth (front of DIN Rail to front of enclosure door): - 140M-C: 105.5 mm ± 5 mm (4.15 in. ± 3/16 in.) - 140M-D: 114.5 mm ± 5 mm (4.5 in. ± 3/16 in.) - 140M-F: 137.1 mm ± 5 mm (5.4 in. ± 3/16 in.) - 140-CMN: 169 mm +/- 5 mm (6.7 in. +/- 3/16 in.) - 140U-D: 114.5mm +/- 5mm (4.5 in. +/- 3/16 in.) ser E or later handles only	Black Red/Yellow	140M-C, D, F; 140U-D 140-CMN 140M-C, D, F; 140U-D 140-CMN	140M-C-DN66 140-CDN66 140M-C-DRY66 140-CDRY66
	**Extension Shaft** Cut to required length for mounting depth (front of DIN Rail to front of enclosure door): - 140M-C: 117...338 mm (4.6....13.3 in.) - 140M-D: 126...347 mm (5.0....13.7 in.) - 140M-F: 149...369 mm (5.9....14.5 in.) - 140-CMN: 180...403 mm (7.1....15.9 in.) - 140U-D: 126...347 mm (5.0...13.7 in.) ser E or later handles only		140M-C-DN66, 140M-C-DRY66, 140-CDN66, 140-CDRY66	140M-C-DS
	Extension Shaft (Extended Length) Cut to required length for mounting depth (front of DIN Rail to front of enclosure door): - 140M-C: 117...488 mm (4.6...19.2 in.) - 140M-D: 126...497 mm (5.0...19.6 in.) - 140M-F: 149...519 mm (5.9...20.4 in.) - 140-CMN: 180...553 mm (7.1...21.8 in.) - 140U-D: 126...497 mm (5.0...19.6 in.) ser E or later handles only		140M-C-DN66, 140M-C-DRY66, 140-CDN66, 140-CDRY66	140M-C-DSL
	**Door coupling handle** Type 3, 3R, 4, 4X, 12 (IP66) For up to 2 padlocks Fits in 30.5 mm cutout Requires 140M-C-DNC coupler	Black	140M-C, -D, -F; 140U-D	140M-SB
	**Door coupling handle** Type 3, 3R, 4, 4X, 12 (IP66) For up to 2 padlocks Fits in 30.5 mm cutout Requires 140M-C-DNC coupler	Red/Yellow	140M-C, -D, -F; 140U-D	140M-SY
	**Extension shaft -** cut to required length 12 in. (30.48 cm)		140M-SB, 140M-SY	140M-S1
	Extension shaft - cut to required length 21 in. (53.34 cm)		140M-SB, 140M-SY	140M-S2
	**Coupler** Included with Cat. Nos. 140M-C-DN66 and 140M-C-DRY66		140M-C, D, F; 140U-D	140M-C-DNC
	**Extension Shaft Support** • Provides consistent alignememnt of the 140M-C-DS and 140M-C-DSL shafts with the 140M-C-DN66 or 140M-C-DRY66 door coupling handles. • It is recommended for shaft lenghts >200 mm. • Snaps on the right side of the 140M-C, -D, -F or 140U-D and allows for the addition of one side mounted auxiliary contact. Width 9 mm. • For use with screw-mounted or hat rail mounted devices.		140M-C, D, F; 140U-D	140M-C-SHS
	**Legend Plate** • Marking: "Hauptschalter" and "Main Switch" • Marking: "Not-Aus" and "Emergency Off"		140-CDN66 140-CDRY66	140M-C-DFCN 140M-C-DFCRY
	**IP65 Non-Metallic Enclosure** • Knockouts for M20 and M25 fittings • Suitable for flexible cable with internal ground wire or conduit when externally grounded around the outside of the enclosure (no UL/CSA approval)	Black Handle Red/Yellow Handle	140M-C 140M-C	198E-AYTG2 198E-AYTJ2
	**Screw Adapter** • For screw arrangement of a motor protection circuit breaker • Must be ordered in multiples of 10 (10 pcs/pkg)		140M-C, D, F; 140U-D	140M-C-N45

Operating Handles (Accepts 3 Padlocks)

	Description	Shaft Type	For Use With	Color	Environmental Rating	Cat. No.
	Padlockable handle, standard, with trip indication	Bul. 140U/UE Molded Case Circuit Breakers, 140M Motor Protection Circuit Brealers & Motor Circuit Protectors; 100, 125, and 250 A devices	Bul. 140U/UE Molded Case Circuit Breakers, 140M Motor Protection Circuit Brealers & Motor Circuit Protectors; 100, 125, and 250 A devices	Black	Type 3R, 3, 12, 4, 4X (IP66)	140U-PB
		Bul. 140U/UE Molded Case Circuit Breakers, 140M Motor Protection Circuit Brealers & Motor Circuit Protectors; 100, 125, and 250 A devices		Red/Yellow	Type 3R, 3, 12, 4, 4X (IP66)	140U-PY

OSHA Lockout/Tag Out Compliance (LOTO)

OSHA CFR36 Section 1910 mandates that disconnects be able to be locked out while in the OFF position during servicing. All Bulletin 140U handles comply with this important safety requirement.

(Please see NFPA Article 430 for disconnect requirements of motor applications)

Operating Shafts

	Description	For Use With	Operating Shaft Length	Cat. No.
	**Extension shaft** Standard length	140U-P*, 194R-P*, and 194R-P*T handles	12 in. (30.48 cm)	194R-S1
			21 in. (53.34 cm)	194R-S2
	**NFPA 79 internal operating handle with shaft**		12 in. (30.48 cm)	194R-N1
			21 in. (53.34 cm)	194R-N2

Bulletin 140U

To order the components for a handle kit, select the rated current of the protective device and then one of each of the following: rotary operator, handle, and shaft.

Bulletin 140U/UE/M Frame Size	Rotary Operator	Handle		Operating Shaft§	
	Cat. No.	Color	Cat. No.	Length	Cat. No.
G	140U-G-RMX	Black	140U-PB	12 in. (30.48 cm)	194R-S1
				21 in. (53.34 cm)	194R-S2
		Red/Yellow	140U-PY	12 in. (30.48 cm)	194R-S1
				21 in. (53.34 cm)	194R-S2
H	140U-H-RMX	Black	140U-PB	12 in. (30.48 cm)	194R-S1
				21 in. (53.34 cm)	194R-S2
		Red/Yellow	140U-PY	12 in. (30.48 cm)	194R-S1
				21 in. (53.34 cm)	194R-S2
J	140U-J-RMX	Black	140U-PB	12 in. (30.48 cm)	194R-S1
				21 in. (53.34 cm)	194R-S2
		Red/Yellow	140U-PY	12 in. (30.48 cm)	194R-S1
				21 in. (53.34 cm)	194R-S2

§ If NFPA 79 operator is required, replace Cat. No. 194R-S1 with Cat. No. **194R-N1** or Cat. No. 194R-S2 with Cat. No. **194R-N2**.

Description		For Use With	Cat. No.
	**ECO Connecting Module — 12 A** • For DOL and reversing starters • Eco-starters mount on single DIN Rail (140M on DIN Rail) • Electrical and mechanical interconnection of 140M and 100-K contactors	140M-C to 100-K	140M-C-PEK12
	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-C (with AC coils or 24V DC electronic coils) contactors	140M-C to 100-C09...C23	140M-C-PEC23
		140M-D to 100-C09...C23	140M-D-PEC23
	ECO Connecting Modules — 25 A • Eco-starters mount on single DIN Rail (100-C on DIN Rail) • Electrical and mechanical interconnection of 140M MPCB and 100-C (with conventional DC coils)	140M-C, 140M-D to 100-C09...C23	140M-C-PEC23A
	Connecting Modules — 25 and 45 A • Contactor and MPCB **MUST BE** mounted separately on (2) DIN Rails • Electrical interconnection of 140M and 100-C (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
	Coil Modules — 25 A and 45 A • For use with Bulletin 103T/107T 3-component starters	140M-C, -D to 100-C09...C23	140M-C-PSC23
		140M-D, -F to 100-C30...C43	140M-F-PSC43
	**Spacing Adapter** • Required for self-protected combination motor controller (Type E) applications of Bul. 140M-C, -D, and -F MPCBs. Not for use with bus bars.	140M-C, -D	140M-C-TE1
		140M-F	140M-F-TE
	**Feeder Block for Compact Busbar** • Supply of compact busbars • Increases terminal capacity	140M-C	140M-C-WBE
		140M-F	140M-F-WBE
	**Feeder Terminal for Compact Busbar** • For supply of compact busbars • Top feed — overlaps compact busbar • Meets IEC spacing requirements	140M-C, -D	140M-C-WTN
	**Feeder Terminal for Compact Busbar** • For supply of compact busbars • Top feed — overlaps compact busbar • Meets UL Type E spacing requirements	140M-C, -D	140M-C-WTEN
		140M-F	140M-F-WTE
	**Three-Phase Compact Busbar for 32 A Motor Protection Circuit Breakers — 64 A Max. Continuous Current** • 45 mm spacing • For use with front-mounted auxiliary contact	2 connections	140M-C-W452N
		3 connections	140M-C-W453N
		4 connections	140M-C-W454N
		5 connections	140M-C-W455N

	**Three-Phase Compact Busbar for 32 A Motor Protection Circuit Breakers — 64 A Max. Continuous Current** • 54 mm spacing • For use with side-mounted auxiliary contact	2 connections	140M-C, -D	140M-C-W542N
		3 connections		140M-C-W543N
		4 connections		140M-C-W544N
		5 connections		140M-C-W545N
	**Three-Phase Compact Busbar 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
	Three-Phase Compact Busbar for 45 A Motor Protection Circuit Breakers — 115 A Max. Continuous Current • 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
	**Terminal Cover** • For covering of unused compact bus bar terminals • IP2X finger protection • Must be ordered in multiples of 10 (10 pcs/pkg)		140M-C, 140M-D	140M-C-WSN
			140M-F	140M-F-WS
	**Top Hat Rail Adpapter — 10 mm** • Adjusts the depth of the 140M-C to the 140M-D • Allows the use of compact busbars accross both frame sizes • Must be ordered in multiples of 10 (10 pcs/pkg)		140M-C	140-KBH2

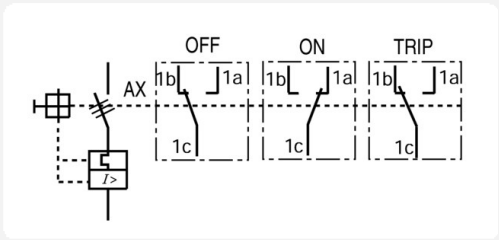
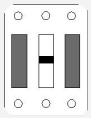
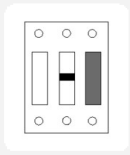
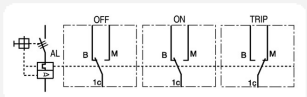
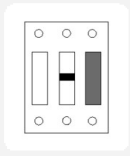
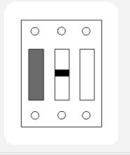
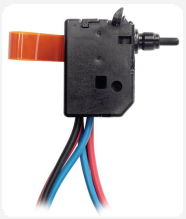
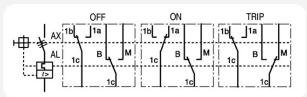
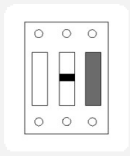
Notes: 1. See Bulletin 140U for Internal and External Accessories for Bulletin 140M-H, J, L and N frames.

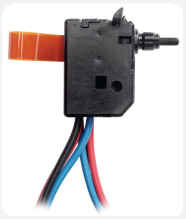
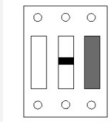
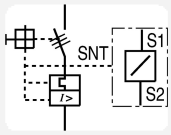
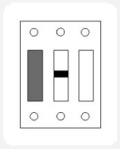
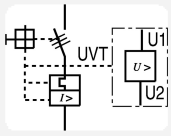
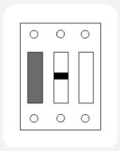
2. Bulletin 140M-I frame Accessories such as auxiliaries, alarms, undervoltage and shunt trips are only available as factory installed modifications. See 140M Factory Modifications (Open).

Description	For Use With	Pkg. Quantity	Cat. No.
 **Terminal End Cover — 0.25 in.**	140M-I	1	140U-I-TC2
Terminal End Cover — 0.41 in.			140U-I-TC4
 **Terminal Shields (Plastic)** IP20 Ingress Protection	140M-I	1	140U-I-TS1
 **Padlockable Handle Lock Hasp — Off only** Padlocking Hasp Lock-OFF only	140M-I	1	140U-I-PL
 **End Cap Kit** Provides 3-phase connections for terminal or bolt-on connections Metric Hardware	140M-I	1	140U-I-ECM
 **Phase Barriers** Provides additional phase clearance when special connections are required	140M-I	2	140U-I-PB
 **Terminal Lugs** Steel Terminal Copper/Aluminum wire #14-1/0 AWG	140M-I	3	140U-I-TLS1
Terminal Lugs Stainless Steel Terminal Copper/Aluminum wire #4-4/0 AWG			140U-I-TLS2
 **Rotary Close Couple Handle** International Black handle	140M-I	1	140U-I-RCB
Rotary Close Couple Handle International Red/Yellow handle			140U-I-RCR
 **Operating Mechanism for External Handles**	140M-I	1	198-H2
 **External Handles**			
Black/Grey IP66 (Type 3/3R/4/4X/12)	140M-I	1	190-HM4
Red/Yellow IP66 (Type 3/3R/4/4X/12)			190-HM4E
Black/Grey IP55 (Type 1)			190-HM1
Red/Yellow IP55 (Type 1)			190-HM1E
 **Overload Pre-trip Auxiliary Contact (AX)** Opens contactor coil circuit on overload before MPCB trips (Automatic reset)	140M-J, -L (MPCB only)	1	140U-J-ER1RX

Description			For Use With	Pkg. Quantity	Cat. No.
	**Extension Shafts**		140M-I	5	194R-R3
	Standard Enclosure Working Depth [mm (in.)]				
	Minimum	203 (8)			
	Maximum	305 (12)			
	Extended				194R-R4
	Minimum	203 (8)			
	Maximum	508 (20)			
	**Flex-Cable Operating Mechanism** NEMA Type 1/3/12/4/4X Flange-Mount Handle	3 ft. (0.9 m) Cable	140M-I	1	140U-I-FCX03
		4 ft. (1.2 m) Cable			140U-I-FCX04
		6 ft. (1.9 m) Cable			140U-I-FCX06
		10 ft. (3.0 m) Cable			140U-I-FCX10
	Flex-Cable Operating Mechanism Stainless Steel - Type 4/4X Flange Mount Handle	3 ft. (0.9 m) Cable			140U-I-FCS03
		4 ft. (1.2 m) Cable			140U-I-FCS04
		6 ft. (1.9 m) Cable			140U-I-FCS06
		10 ft. (3.0 m) Cable			140U-I-FCS10
	**DIN (#3) symmetrical hat rail** 35 x 7.5 x 1 m		140M-D 140M-F 100-C all	10 pcs/kg	199-DR1
	**DIN (#3) Symmetrical Rail** 35 mm x 15 mm x 1 m long Top Hat Rail (DIN #3 Symmetrical Rail)		140M-C 140M-D 140M-F 140-CMN	5 pcs/kg	1492-DR9

Internal Control Modules — Field Installed

	Description		Diagram	Mounting Location	For Use With	Cat. No.
	**Auxiliary Contact (AX)** Electrically indicates "ON/OFF" status of breakers	(1) 1a-1b			140M-H, -J, -L	140U-H-EA1
					140M-N	140U-N-EA1
		(2) 1a-1b			140M-H, -J, -L	140U-H-EA2
				Left AND Right side	140M-N	140U-N-EA2
		(1) 1a-1b			140M-I (Note: adding this part in the field voids UL/CSA on the MPCB)	140U-I-EA1RX
				Right side only		
	Alarm Contact (AL) Electrically indicates when the breaker is in the "TRIPPED" state	(1) 1M (make)-1B (break)			140M-H	140U-H-ER1
					140M-J, -L	140U-J-ER1
				Right side ONLY	140M-N	140U-N-ER1
					140M-I (Note: adding this part in the field voids UL/CSA on the MPCB)	140U-I-ER1LX
				Left side ONLY		
	**Auxiliary/Alarm Contact (AX/AL) Combination** Combination of auxiliary contact and alarm contact	(1) 1a-1b (1) 1M (make)-1B (break)			140M-H	140U-H-EA1R1
					140M-J, -L	140U-J-EA1R1
				Right side only	140M-N	140U-N-EA1R1

	**Overload Pre-trip Auxiliary Contact (AX)** Opens contactor coil circuit on overload before MPCB trips (Automatic reset)	(1) 1a-1b		 Right side only	140M-J, -L (MPCB only)	140U-J-ER1RX
	**Shunt Trip (SNT)** Provides remote tripping of the circuit breaker Undervoltage trip not available when shunt trip is used	24...60 V, 50/60/DC			140M-H, -J, -L	140U-H-SNJ
		12...24V, 50/60/DC			140M-N	140U-N-SNJ
		110...240V; 50/60 Hz			140M-H, -J, -L	140U-H-SND
		110...240V AC			140M-N	140U-N-SND
		380...440V AC, 220...250V DC			140M-H, -J, -L	140U-H-SNN
		380...440V AC, 220...250V DC			140M-N	140U-N-SNN
		380...600V, 50/60 Hz		Left side ONLY	140M-H, -J, -L	140U-H-SNB
		480...600V, 50/60 Hz			140M-N	140U-N-SNB
	Undervoltage Release (UVT) Automatically trips breaker when voltage falls between preset value, 35...70% Shunt trip is not available when undervoltage release is used	24V, 50/60Hz AC; 24V DC			140M-H, -J, -L	140U-H-UJ
		24V, 50/60 Hz			140M-N	140U-N-UJ
		110...127V, 50/60 Hz			140M-H, -J, -L	140U-H-UD
					140M-N	140U-N-UD
		208...240V, 50/60 Hz			140M-H, -J, -L	140U-H-UA
					140M-N	140U-N-UA
		380...500V, 50/60 Hz			140M-H, -J, -L	140U-H-UB
				Left side ONLY	140M-N	140U-N-UB
		525...600V, 50/60 Hz			140M-H, -J, -L	140U-H-UC

	Description		For Use With	Cat. No.
	**Terminal End Cover** 6.4 mm (0.25 in.) diameter cable entry		140M-H	140U-H-TC2
			140M-I	140U-I-TC2
	Terminal End Cover 10.4 mm (0.41 in.) diameter cable entry		140M-H	140U-H-TC4
			140M-I	140U-I-TC4
	**Terminal Shields** IP20 Ingress Protection Rating		140M-H	140U-H-TS
			140M-I	140U-I-TS1
			140M-J	140U-J-TS
			140M-L	140U-L-TS
	**Flex-Cable Operating Mechanism** Includes handle, cable, operating, and bail mechanism Pre-assembled and adjusted Non-Metallic - Type 1/3R/12/4/4X Flange Mount Operating Handle	3 ft (0.9 m) Cable	140M-H	140U-H-FCX03
		4 ft (1.3 m) Cable		140U-H-FCX04
		6 ft (1.8 m) Cable		140U-H-FCX06
		10 ft (3.0 m) Cable		140U-H-FCX10
		3 ft. (0.9 m) Cable	140M-I	140U-I-FCX03
		4 ft. (1.2 m) Cable		140U-I-FCX04
		6 ft. (1.9 m) Cable		140U-I-FCX06
		10 ft. (3.0 m) Cable		140U-I-FCX10
		3 ft (0.9 m) Cable	140M-J	140U-J-FCX03
		4 ft (1.3 m) Cable		140U-J-FCX04
		6 ft (1.8 m) Cable		140U-J-FCX06
		10 ft (3.0 m) Cable		140U-J-FCX10
		4 ft (1.2 m) Cable	140M-L	140U-L-FCX04
		6 ft (1.9 m) Cable		140U-L-FCX06
		10 ft (3.0 m) Cable		140U-L-FCX10
		4 ft. (1.2 m) Cable	140M-N	140U-N-FCX04
		6 ft. (1.9 m) Cable		140U-N-FCX06
		10 ft. (3.0 m) Cable		140U-N-FCX10
	Flex-Cable Operating Mechanism Includes handle, cable, operating, and bail mechanism Pre-assembled and adjusted Stainless Steel - Type 1/3R/12/4/4X Flange Mount Operating Handle	3 ft (0.9 m) Cable	140M-H	140U-H-FCS03
		4 ft (1.3 m) Cable		140U-H-FCS04
		6 ft (1.8 m) Cable		140U-H-FCS06
		10 ft (3.0 m) Cable		140U-H-FCS10
		3 ft. (0.9 m) Cable	140M-I	140U-I-FCS03
		4 ft. (1.2 m) Cable		140U-I-FCS04
		6 ft. (1.9 m) Cable		140U-I-FCS06
		10 ft. (3.0 m) Cable		140U-I-FCS10
		3 ft (0.9 m) Cable	140M-J	140U-J-FCS03
		4 ft (1.3 m) Cable		140U-J-FCS04
		6 ft (1.8 m) Cable		140U-J-FCS06
		10 ft (3.0 m) Cable		140U-J-FCS10
		4 ft (1.2 m) Cable	140M-L	140U-L-FCS04
		6 ft (1.9 m) Cable		140U-L-FCS06
		10 ft (3.0 m) Cable		140U-L-FCS10

	Description		For Use With	Cat. No.
	**Rotary, Variable-Depth Operating Mechanism** Rotary handle - IP66, UL Type 3/12/4/4X 12 in. (30.48 cm) operating rod	Black Handle	140M-H	140U-H-RVM12B
		Red/Yellow Handle		140U-H-RVM12R
		Black Handle	140M-J	140U-J-RVM12B
		Red/Yellow Handle		140U-J-RVM12R
		Black Handle	140M-L	140U-L-RVM12B
		Red/Yellow Handle		140U-L-RVM12R
		Black Handle	140M-N	140U-N-RM12B
	Rotary, Variable-Depth Operating Mechanism UL Type 3/12/4/4X, IP 66 Rotary handle 21 in. (53.34 cm) operating rod	Black Handle	140M-H	140U-H-RVM21B
		Red/Yellow Handle		140U-H-RVM21R
		Black Handle	140M-J	140U-J-RVM21B
		Red/Yellow Handle		140U-J-RVM21R
		Black Handle	140M-L	140U-L-RVM21B
		Red/Yellow Handle		140U-L-RVM21R
	**Rotary, Variable-Depth Operating Mechanism with Internal NFPA 79 Operating Handle** External Type 3/4/4X/12 IP66 Rotary Handle 12 in. (30.48 cm) operating rod	Black Handle	140M-H	140U-H-NVM12B
		Red/Yellow Handle		140U-H-NVM12R
		Black Handle	140M-J	140U-J-NVM12B
		Red/Yellow Handle		140U-J-NVM12R
		Black Handle	140M-L	140U-L-NVM12B
		Red/Yellow Handle		140U-L-NVM12R
	Rotary, Variable-Depth Operating Mechanism with Internal NFPA 79 Operating Handle External Type 3/4/4X/12 IP66 Rotary Handle 21 in. (53.34 cm) operating rod	Black Handle	140M-H	140U-H-NVM21B
		Red/Yellow Handle		140U-H-NVM21R
		Black Handle	140M-J	140U-J-NVM21B
		Red/Yellow Handle		140U-J-NVM21R
		Black Handle	140M-L	140U-L-NVM21B
		Red/Yellow Handle		140U-L-NVM21R

	Description		For Use With	Cat. No.
	**Operating Mechanism for External Handles**		140M-I	198-H2
	External Operating Handle	Black/Grey Handle IP66 (Type 3/3R/4/4X/12)	140M-I	190-HM4
		Red/Yellow Handle IP66 (Type 3/3R/4/4X/12)		190-HM4E
		Black/Grey Handle IP55 (Type 1)		190-HM1
		Red/Yellow Handle IP55 (Type 1)		190-HM1E

	**Extension Shaft** Standard length – Enclosure Working Depth • Minimum: 8 in. (203 mm) • Maximum: 12 in (305 mm)		140M-I	194R-R3
	Extension Shaft Extended length – Enclosure Working Depth • Minimum: 8 in. (203 mm) Maximum: 20 in (508 mm)			194R-R4
	**Motor Operator** Remotely opens, closes, and resets the MPCB or MCP	For use with 3- or 4-pole MCCBs, 110...240V AC, 100...220V DC	140M-H	140U-H-EOPD
		For use with 3- or 4-pole MCCBs, 24V DC		140U-H-EOPZ
		For use with 3- or 4-pole MCCBs, 120...240V AC, 125V DC	140M-J	140U-J-EOPD
		For use with 3- or 4-pole MCCBs, 24V DC		140U-J-EOPZ
		For use with 3- or 4-pole MCCBs, 110...127V AC; 110...125V DC	140M-L	140U-L-EOPD
		For use with 3- or 4-pole MCCBs, 208...240V AC; 220...250V DC		140U-L-EOPA
		For use with 3- or 4-pole MCCBs, 24V DC		140U-L-EOPZ
		For use with 3- or 4-Pole MCCBs, 110...120V AC	140M-N	140U-N-EOPD
		For use with 3- or 4-Pole MCCBs, 230...240V AC/DC		140U-N-EOPA
For use with 3- or 4-Pole MCCBs, 24V DC		140U-N-EOPZ		
	**Rotary, Direct Couple Operating Mechanism** Rotary handle - IP42 UL Type 1 Breaker mounted	Black Handle	140M-H	140U-H-RCB
		Black Handle		140U-H-RCB
		Black Handle	140M-I	140U-I-RCB
		Red/Yellow Handle		140U-I-RCR
		Black Handle	140M-J	140U-J-RCB
		Red/Yellow Handle		140U-J-RCR
		For use with 3- or 4-pole MCCBs	140M-L	140U-L-RMX
	**End Cap Kit** Provides three-phase connections for terminal or bolt-on connections Metric hardware provided		140M-H	140U-H-ECM
			140M-I	140U-I-ECM
			140M-J	140U-J-ECM
			140M-L	140U-L-ECM
	**Padlock Kit** Padlocking hasp Lock-OFF only		140M-H	140U-H-PL
			140M-I	140U-I-PL
			140M-J	140U-J-PL
			140M-N	140U-N-PL
	**DIN Rail Adapter** Allows MCCB to mount to 35 mm DIN Rail		140M-H	140U-H-DRA

	**Phase Barriers** Provides additional phase clearance when special connections that extend past the circuit breaker housing are required	Qty: 2	140M-H	140U-H-PB
			140M-I	140U-I-PB
			140M-J	140U-J-PB
			140M-L	140U-K-PB
			140M-N	140U-N-PB
	**Plug-in Base Adapters** Plug-in provides power terminations and adapter for applications where the ability to quickly remove or replace the circuit breakers is required		140M-H	140U-H-PAD3
	Plug-in Base Auxiliary Contacts Provides auxiliary contact functions to detect breaker installation status		140M-H	140U-H-PDK
	**Replacement Mounting Hardware**	(4) M4 - 0.7 x 75 mm	140M-H	140U-H-MHM
	Replacement Mounting Hardware	(4) M4 - 0.7 x 90 mm	140M-J	140U-J-MHM
	Replacement Mounting Hardware	(4) M5 - 0.8 x 100 mm	140M-L	140U-L-MHM
	Replacement Mounting Hardware	(4) M8 - 1 x 35 mm	140M-N	140U-N-MHM

Terminal Lugs

	Description			Frame Size	Cat. No.
	**Terminal Lugs**	Steel Terminal Copper/Aluminum wire #14-1/0 AWG	Qty: 3	I	140U-I-TLS1
		Stainless Steel Terminal Copper/Aluminum wire #4-4/0 AWG	Qty: 3	I	140U-I-TLS2
	**Terminal Lugs**	Aluminum lugs, Al or Cu wire (1) 4...350 MCM or (1) 25...185 mm2	Qty: 1	J	140U-J-TLA1
		Stainless steel box lugs, Cu wire only (1) 4...350 MCM or (1) 25...185 mm2	Qty: 1	J	140U-J-TLS1
	**Terminal Lugs**	Aluminum lug, Al or Cu wire (1) 2...500 MCM or (1) 35...240 mm2	Qty: 1	L	140U-L-TL4A1
		Copper lug, Cu wire only (1) 2...500 MCM or (1) 35...240 mm2	Qty: 1		140U-L-TL4C1
		Aluminum lug, Al or Cu wire (1) 500...750 MCM or (1) 240...380 mm2	Qty: 3 (includes shield)		140U-L-TL6A1
		Copper lug, Cu wire only (1) 500...750 MCM or (1) 240...380 mm2	Qty: 3 (includes shield)		140U-L-TL6C1
	**Terminal Lugs**	Aluminum lug, Al or Cu wire (2) 2...500 MCM or (2) 35...240 mm2	Qty: 3 (includes shield)	L	140U-L-TL6A2
		Copper lug, Cu wire only (2) 2...500 MCM or (2) 35...240 mm2	Qty: 3 (includes shield)		140U-L-TL6C2

	Description			Frame Size	Cat. No.
	**Terminal Lugs**	Aluminum lug, Al or Cu wire (2) 1...500 MCM or (2) 50...240 mm2	Qty: 1	N	140U-N-TLA2
		Aluminum lug, Al or Cu wire (3) 3/0...400 MCM or (3) 95...185 mm2	Qty: 1	N	140U-N-TLA3
		Aluminum lug, Al or Cu wire (4) 4/0...500 MCM or (4) 120...300 mm2	Qty: 1	N	140U-N-TLA4
		Aluminum lug, Al or Cu wire (3) 500...750 MCM or (3) 300...400 mm2	Qty: 1	N	140U-N-TLA3A
		Copper lug, Cu wire only (2) 2/0...500 MCM or (2) 70...240 mm2	Qty: 1	N	140U-N-TLC2
		Copper lug, Cu wire only (3) 3/0...500 MCM or (3) 95...240 mm2	Qty: 1		140U-N-TLC3
		Copper lug, Cu wire only (4) 3/0...400 MCM or (4) 95...185 mm2	Qty: 1		140U-N-TLC4

140M Factory Modifications (Open)

Note: For modifications add (option code _) for desired features to cat. no. Available in North America only.

f		
Miscellaneous		
Code	**Description**	**Frame Size**
KN(1)	Black Lockable Knob	C, D, F, CMN
KRY(1)	Red/Yellow Lockable Knob	C, D, F, CMN
TE(1)	Spacing Adapter for Self-Protected Starters (Type E)	C, D, F
MT	STD Bus Bar Mount, Top	C, D, F, H, CMN
MU	STD Bus Bar Mount, Universal	J, K, L

g			
Aux / Trip Contacts - C, D, F			
1st Code	**Description**	**2nd Code**	**Description**
Bottom Front		**Right Side**	
X	Placeholder	X	Placeholder
A	1 N.C.	C	1 N.O. + 1 N.C.
B	1 N.O.	D	2 N.O.
C	1 N.O. + 1 N.C.	E	2 N.C.
D	2 N.O.	K	1 N.C. (SC+OL) + 1 N.C. (SC)
E	2 N.C.	L	1 N.O. (SC+OL) + 1 N.O. (SC)
R	1 N.C. + 1 N.O. (SC+OL)	M	1 N.C. (SC+OL) + 1 N.O. (SC)
S	1 N.O. + 1 N.O. (SC+OL)	N	1 N.O. (SC+OL) + 1 N.C. (SC)
		Q	1 N.O. (SC) + 1 N.C. (SC)

g			
Aux / Trip Contacts - CMN			
1st Code	**Description**	**2nd Code**	**Description**
Bottom Front		**Top Front§**	
X	Placeholder	X	Placeholder
C	1 N.O. + 1 N.C.	K	1 N.C. (OL) + 1 N.C. (SC)
D	2 N.O.	L	1 N.O. (OL) + 1 NO (SC)
E	2 N.C.	M	1 N.C. (OL) + 1 N.O. (SC)
		N	1 N.O. (OL) + 1 N.C. (SC)

§ Cannot be combined with option "h".

g			
Aux / Trip Contacts - H, J, L			
1st Code	**Description**	**2nd Code**	**Description**
Bottom Front		**Right Side**	
X	Placeholder	X	Placeholder
		C	1 N.O. + 1 N.C.
		R‡	1 N.O. + 1 N.C. (Overload Function)
		F⋆	2 N.O. + 2 N.C.
		N⋆	1 N.O. (SC+OL) + 1 N.C. (SC)
		T⋆	1 N.O. + 1 N.C. and 1 N.O. + 1 N.C. (SC+OL)

⋆ Only available on MCPs.
‡ J- and L-Frame MPCB only.

g			
Aux / Trip Contacts - I, N			
1st Code	**Description**	**2nd Code**	**Description**
Left Side		**Right Side**	
X	Placeholder	X	Placeholder
C	1 N.O. + 1 N.C.	C	1 N.O. + 1 N.C.
F	2 N.O. + 2 N.C.	F⋆	2 N.O. + 2 N.C.
N	1 N.O. (SC+OL) + 1 N.C. (SC)	N⋆	1 N.O. (SC+OL) + 1 N.C. (SC)
T	1 N.O. + 1 N.C. and 1 N.O. + 1 N.C. (SC+OL)	T⋆	1 N.O. + 1 N.C. and 1 N.O. + 1 N.C. (SC+OL)

⋆ Only available on MCPs.

140M Factory Modifications (Open), Continued

Note: For modifications add (option code *) for desired features to cat. no. Available in North America only.

h			
UV and Shunt Trips - C, D, F			
1st Code	**Description**	**2nd Code**	**Description**
Left Side		**Voltage**	
G	Undervoltage Trip	J	24V AC, 60 Hz
P	Shunt Trip	K	24V AC, 50 Hz
		D	120V AC, 60 Hz
		C	110V AC, 50 Hz
		H	208V AC, 60 Hz
		F	220...230V AC, 50 Hz
		A	240V AC, 60 Hz
		T	277V AC, 60 Hz
		N	380...400V AC, 50 Hz
		B	480V AC, 60 Hz and 415V AC, 50 Hz
		VC	600V AC, 60 Hz
		M	575V AC, 60 Hz and 500V AC, 50 Hz
		ZR	9V DC
		ZQ	12V DC
		ZJ	24V DC
		ZW	36V DC
		ZY	48V DC
		ZZ	60V DC
		ZB	64V DC
		ZG	72V DC
		ZE	80V DC

h			
UV and Shunt Trips - CMN			
1st Code	**Description**	**2nd Code**	**Description**
Top Front§		**Voltage**	
G	Undervoltage Trip	KJ	24V AC, 60 Hz and 24V AC, 50 Hz
P	Shunt Trip	D	120V AC, 60 Hz and 110V AC, 50 Hz
		A	240V AC, 60 Hz and 220...230V AC, 50 Hz

IEC Performance Data

		Cat. No. 140M-C2E-														
		A16	**A25**	**A40**	**A63**	**B10**	**B16**	**B25**	**B40**	**B63**	**C10**	**C16**	**C20**	**C25**	**C29**	**C32**
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	29	32
Magnetic Release Current	[A]	2.1	3.3	5.2	8.2	13	21	33	52	82	130	208	260	325	406	448
Switching of Standard Three-Phase Motors																
AC-3																
230/240V	[kW]	–	–	0.06	0.09	0.18	0.25	0.37	0.75	1.5	2.2	4.0	5.5	5.5	7.5	7.5
400/415V	[kW]	0.02	0.04	0.09	0.18	0.25	0.55	0.75	1.5	2.2	4.0	7.5	10	11	13	15
500V	[kW]	0.06	0.09	0.12	0.18	0.37	0.75	1.1	2.2	3.0	6.3	10	11	15	18.5	20
690V	[kW]	0.06	0.09	0.18	0.25	0.55	1.1	1.8	3.0	4.0	7.5	13	17	22	25	25
Back-Up Fuses																
gG, gL, only if $I_{cc} \geq I_{cu}$																
230/240V	[A]	*	*	*	*	*	*	*	*	*	*	*	100	100	125	125
400/415V	[A]	*	*	*	*	*	*	*	*	*	*	80	100	100	125	125
440/460V	[A]	*	*	*	*	*	*	*	*	*	63	80	80	80	100	100
500V	[A]	*	*	*	*	*	*	*	*	*	80	80	80	80	100	100
690V	[A]	*	*	*	*	*	16	20	35	50	50	63	63	63	80	80
Ultimate Short Circuit Breaking Capacity																
I_{cu}																
230/240V	[kA]	100	100	100	100	100	100	100	100	100	100	100	65	65	50	50
400/415V	[kA]	100	100	100	100	100	100	100	100	100	100	65	50	15	15	15
440/460V	[kA]	100	100	100	100	100	100	100	100	100	50	10	6	6	6	6
500V	[kA]	100	100	100	100	100	100	100	100	100	50	10	6	6	6	6
690V	[kA]	100	100	100	100	100	8	8	8	4	4	3	3	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	25	25
400/415V	[kA]	100	100	100	100	100	100	100	100	100	100	50	15	15	15	15
440/460V	[kA]	100	100	100	100	100	100	100	100	100	50	6	6	6	6	6
500V	[kA]	100	100	100	100	100	100	100	100	100	50	6	6	6	6	6
690V	[kA]	100	100	100	100	100	8	8	8	4	4	3	3	3	3	3

* No back-up fuse required.

		Cat. No. 140M-D8E-									Cat. No. 140M-F8E-					
		B25	B40	B63	C10	C16	C20	C25	C29	C32	C10	C16	C20	C25	C32	C45
Rated Operational Current, I_e	[A]	2.5	4.0	6.3	10	16	20	25	29	32	10	16	20	25	32	45
Magnetic Release Current	[A]	33	52	82	130	208	260	325	406	448	130	208	260	325	416	585
Switching of Standard Three-Phase Motors																
AC-3																
230/240V	[kW]	0.37	0.75	1.5	2.2	4.0	5.5	5.5	7.5	7.5	2.2	4.0	5.5	6.3	7.5	13
400/415V	[kW]	0.75	1.5	2.2	4.0	7.5	10	11	13	15	4.0	7.5	10	11	15	22
500V	[kW]	1.1	2.2	3.0	6.3	10	11	15	18.5	20	6.3	10	11	15	20	30
690V	[kW]	1.8	3.0	4.0	7.5	13	17	22	25	25	7.5	13	17	22	30	40
Back-Up Fuses																
gG, gL, only if $I_{cc} \geq I_{cu}$																
230/240V	[A]	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
400/415V	[A]	*	*	*	*	*	100	100	125	125	80	100	100	100	125	125
440/460V	[A]	*	*	*	*	80	100	100	125	125	80	100	100	100	125	125
500V	[A]	*	*	*	*	80	80	80	100	100	80	100	100	100	125	125
690V	[A]	20	35	50	50	63	63	63	80	80	63	80	80	80	100	100
Ultimate Short Circuit Breaking Capacity																
I_{cu}																
230/240V	[kA]	100	100	100	100	100	100	100	65	65	100	100	100	100	100	100
400/415V	[kA]	100	100	100	100	100	100	65	50	50	100	100	100	100	65	65
440/460V	[kA]	100	100	100	100	50	50	50	25	25	65	65	65	65	65	50
500V	[kA]	100	100	100	100	50	50	50	25	25	50	50	50	50	50	50
690V	[kA]	10	10	10	6	6	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	50	50	100	100	100	100	100	100
400/415V	[kA]	100	100	100	100	50	25	25	25	25	50	50	50	50	50	50
440/460V	[kA]	100	100	100	100	50	25	25	20	20	50	50	50	50	50	50
500V	[kA]	100	100	100	100	50	25	25	20	20	50	50	50	50	50	50
690V	[kA]	10	10	10	6	4	4	4	4	4	10	10	10	10	6	6

* No back-up fuse required.

Cat. No.		140-CMN-...			
		-2500	-4000	-6300	-9000
Rated Operational Current, I_e	[A]	25	40	63	90
Magnetic Release Current	[A]	350	560	890	1260
Switching of Standard Three-Phase Motors					
AC-3					
230/240V‡	[kW]	5.5/7.5	10/11	13/20	22/25
400/415V‡	[kW]	7.5/13	15/22	25/32	37/45
500V‡	[kW]	11/15	18.5/25	30/40	45/55
690V‡	[kW]	15/22	25/30	37/55	63/75
Back-up fuses					
gG, gL,, only if $I_{cc} \geq I_{cu}$					
230/240V	[A]	*	*	*	*
400/415V	[A]	160	160	160	160
500V	[A]	160	160	160	160
690V	[A]	160	160	160	160
Ultimate short-circuit breaking capacity I_{cu}					
230/240V	[kA]	100	100	50	50
400/415V	[kA]	50	30	20	20
500V	[kA]	30	20	10	10
690V	[kA]	15	8	4	4
Rated service short-circuit breaking capacity I_{cs}					
230/240V	[kA]	100	100	50	50
400/415V	[kA]	50	30	8	8
500V	[kA]	30	15	6	6
690V	[kA]	15	8	4	4

* No back-up fuse required.

‡ Power ratings: Preferred values according to IEC 60072-1.

		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-3								
230/240V	[kW]	–	–	0.06	0.09	0.18	0.25	0.37
400/415V	[kW]	0.02	0.04	0.09	0.18	0.25	0.55	0.75
500V	[kW]	0.06	0.09	0.12	0.18	0.37	0.75	1.1
690V	[kW]	0.06	0.09	0.18	0.25	0.55	1.1	1.8
Back-Up Fuses								
gG, gL, only if $I_{cc} \geq I_{cu}$ ⋆								
230/240V	[A]	⋆	⋆	⋆	⋆	⋆	⋆	⋆
400/415V	[A]	⋆	⋆	⋆	⋆	⋆	⋆	⋆
440/460V	[A]	⋆	⋆	⋆	⋆	⋆	⋆	⋆
500V	[A]	⋆	⋆	⋆	⋆	⋆	⋆	⋆
690V	[A]	⋆	⋆	⋆	⋆	⋆	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	10	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

⋆ No back-up fuse required.

		Cat. No. 140M-D8N-							Cat. No. 140M-F8N-		
		B25	B40	B63	C10	C16	C25	C32	C25	C32	C45
Rated Operational Current, I_e	[A]	2.5	4.0	6.3	10	16	25	32	25	32	45
Magnetic Release Current	[A]	32	52	82	130	208	325	448	325	416	585
Switching of Standard Three-Phase Motors											
AC-3											
230/240V	[kW]	0.37	0.75	1.5	2.2	4.0	5.5	7.5	6.3	7.5	13
400/415V	[kW]	0.75	1.5	2.2	4.0	7.5	11	15	11	15	22
500V	[kW]	1.1	2.2	3.0	6.3	10	15	20	15	20	30
690V	[kW]	1.8	3.0	4.0	7.5	13	22	25	22	30	40
Back-Up Fuses											
gG, gL, only if $I_{cc} \geq I_{cu}$											
230/240V	[A]	*	*	*	*	*	*	*	100	125	125
400/415V	[A]	*	*	*	*	*	100	125	100	125	125
440/460V	[A]	*	*	*	*	80	100	125	100	125	125
500V	[A]	*	*	*	*	80	80	100	100	125	125
690V	[A]	20	35	50	50	63	63	80	80	100	100
Ultimate Short Circuit Breaking Capacity											
I_{cu}											
230/240V	[kA]	100	100	100	100	100	100	65	100	100	100
400/415V	[kA]	100	100	100	100	100	65	50	100	65	65
440/460V	[kA]	100	100	100	100	50	50	25	65	65	50
500V	[kA]	100	100	100	100	50	25	25	50	50	50
690V	[kA]	10	10	10	6	6	6	6	10	10	10
Rated Service Short Circuit Breaking Capacity											
I_{cs}											
230/240V	[kA]	100	100	100	100	100	100	50	100	100	100
400/415V	[kA]	100	100	100	100	50	25	25	50	50	50
440/460V	[kA]	100	100	100	100	50	25	20	50	50	50
500V	[kA]	100	100	100	100	50	25	20	50	50	50
690V	[kA]	10	10	10	6	4	4	4	10	6	6

* No back-up fuse required.

		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-3												
230/240V	[kW]	–	–	0.06	0.09	0.18	0.25	0.37	0.75	1.5	2.2	4.0
400/415V	[kW]	0.02	0.04	0.09	0.18	0.25	0.55	0.75	1.5	2.2	4.0	7.5
500V	[kW]	0.06	0.09	0.12	0.18	0.37	0.75	1.1	2.2	3.0	6.3	10
690V	[kW]	0.06	0.09	0.18	0.25	0.55	1.1	1.8	3.0	4.0	7.5	13
Back-Up Fuses												
gG, gL, only if $I_{cc} \geq I_{cu}$												
230/240V	[A]	*	*	*	*	*	*	*	*	*	*	*
400/415V	[A]	*	*	*	*	*	*	*	*	*	*	80
440/460V	[A]	*	*	*	*	*	*	*	*	*	63	80
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	50	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.

		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-3					
230/240V ‡	[kW]	4.0	5.5	6.3	7.5
400/415V ‡	[kW]	7.5	10	11	15
500V ‡	[kW]	10	11	15	20
690V ‡	[kW]	13	17	22	30
Back-up fuses					
gG, gL,, only if $I_{cc} \geq I_{cu}$					
230/240V	[A]	*	*	*	*
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]	100	65	65	65
440/460V	[kA]	50	25	65	65
500V	[kA]	50	25	50	50
690V	[kA]	6	6	10	10
Rated service short-circuit breaking capacity I_{cs}					
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	6	6

* No back-up fuse required.

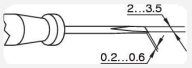
‡ Consult your local Rockwell Automation sales office or Allen-Bradley distributor.

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			600
Rated Impulse Withstand Voltage U_{imp}					
Pollution degree		3			3
Main circuits U_{imp} /Overvoltage Category		6 kV/III			6 kV/III
Auxiliary circuits U_{imp} /Overvoltage Category		6 kV/III			6 kV/III
Rated Frequency	[Hz]	50/60			40...60
Utilization Category					
IEC 60947-2 (Circuit breaker)		A			A
IEC 60947-4-1 (Motor starter)		AC-3			AC-3 (except 90 A)
Life Span					
Mechanical	[operations]	100 000		30 000	30 000
Electrical (I_e max.)	[operations]	100 000		30 000	5 000
Switching Frequency	[operations/h]	max. 25			max. 20
Ambient Temperature					
Storage	[°C]	-40 ... +80			-25... +80
Operation	[°C]	-25... +60			
Climatic resistance					
Moisture change climate (600068-2-30)		23 °C / 83 % relative humidity and 40 °C / 92 % relative humidity, 56 cycles			
Dry heat (60086-2-2)		100 °C, relative humidity <50 %, 7 days			
Moisture heat (60068-2-3)		40 °C, relative humidity 93 %, 56 days			
Site Altitude	[m]	to 2000 N.N.			
Protection Class		IP2X, when wired			
Resistance to Shock, Transport (60068-2-27)		30 g, 11 ms, all axes			30, 11 ms
Resistance to Vibration, Opertion (60068-2-6)		5 g			
Rated Thermal Current I_{th}					
up to 40 °C ambient temperature	[A]	0.1...32	1.6...32	6.3...45	16... 90
up to 60 °C ambient temperature	[A]	0.1...32	1.6...32	6.3...45	16... 90
Rated Supply Current I_e	[A]	0.1...32	1.6...32	6.3...45	16... 90
Dependence on Temperature					
40 °C	[A]	no reduction			
50 °C	[A]	no reduction			
60 °C	[A]	no reduction			
70 °C	[A]	15 % current reduction of the upper rated current I_e			
Overload Protection					
Characteristics		IEC 60947-4-1 Motor protection (except Cat. Nos. 140M-C2N, 140M-D8N, 140M-F8N)			IEC 60947
Ambient Temperature Compensation	[°C]	-20 ...+60			
Phase-loss Protection		Differential release			
Trip class		10 (except Cat. Nos. 140M-C2N, 140M-D8N, 140M-F8N) fixed setting			10
Magnetic Release Release current (+/-20 %)		fixed setting 13...14 x I_e max. (for 140M-C2E, 140M-D8E, 140M-F8E, 140M-C2N, 140M-D8N, 140M-F8N) 16...21 x I_e max. (for 140M-C2T, 140M-D8T, 140M-F8T) I_e max. = maximum values of setting ranges			fixed setting 14 x I_e max.
Total Power loss P_v					
Circuit Breaker at rated load operating temperature	[W]	6...11.5	6...11.6	9...16	33
Main Disconnect Switch Application		Yes, with accessories			
Application Conditions		For utilization outside North America, assemblies (of products) shall comply to the IEC 61439-1 requirements			
		140M manual motor starters are intended for use in closed areas without hazardous operating conditions such as dust or explosive or corrosive gases. Enclosures of appropriate manner need to be in place to protect devices in such environments.			

Cat. No.			140M-C...	140M-D...	140M-F...	140-CMN
Conformity to Standards			IEC 60947-1; -2; -4-1; EN 60947-1; -2; -4-1; UL 508; CSA 22.2, No. 14			IEC 60947-1; -2; EN 60947-1; -2; UL 508; CSA 22.2, No. 14
Approvals			CE, UL, CSA			CE, UL, CSA
Terminal Parts Type of terminals						
Screwdriver			Pozidriv No. 2/Blade No. 3		Pozidriv No. 2/Blade No. 3	
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	1...6/No. 16...10 1...4/No. 16...10		2.5...25/No. 14...4 2.5...25/No. 14...4	2.5...35
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	1...6/No. 16...10 1...6/No. 16...10		2.5...25/No. 14...4 2.5...25/No. 14...4	2.5...35
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	1.5...6/No. 16...8 1.5...6/No. 16...8		16...25/No. 14...4 16...25/No. 14...4	4...50 / 12...2
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	1...6/No. 16...10 1...6/No. 16...10		2.5...10/No. 14...8 2.5...10/No. 14...8	4...50 / 12...2
Tightening torque		[Nm]/[lb•in]	2...2.5/18...22		3...3.5/27...30	6...10/55...90

Screwless

Cat. No.			140M-RC...
Terminal Parts Type of terminals			
Screwdriver			
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	0.5...2.5/— 0.5...2.5/—
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	0.5...2.5/No. 18...12 0.5...2.5/No. 18...12
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	1...4/No. 16...12 1...4/No. 16...12

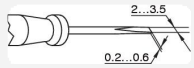
Accessories for Bulletin 140M Motor Protection Circuit Breakers

			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		[V]	24	120	240	24	120	240	415	690
	AC-15	[A]	4	3	1.5	6	5	3	2	0.7
	DC-13	[V]	24	120	240	24	120	240	415	
		[A]	2	0.5	0.25	2	0.5	0.25	0.15	
Terminal Parts Type of terminals										
Screwdriver			Pozidriv No. 2/Blade No. 3							
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	0.5...1.5/18...14 0.75...1.5/18...14			0.5...2.5/18...14 0.75...2.5/18...14				
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	0.75...1.5/18...14 0.75...1.5/18...14			0.75...2.5/18...14 0.75...2.5/18...14				
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	0.75...1.5/18...14 0.75...1.5/18...14			0.75...2.5/18...14 0.75...2.5/18...14				
Tightening torque		[N•m]/[lb•in]	1.2...1.5/10.6...13			1.2...1.5/10.6...13				

			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%	AC: 100%; DC: max. 5 sec.
Coil Rating		Pull-in Hold	8.5 VA, 8 W 4 VA, 2 W	8.5 VA, 8 W 4 VA, 2 W	8.5 VA, 8 W 4 VA, 2 W
Terminal Parts Type of terminals					
Screwdriver			Pozidriv No. 2/Blade No. 3		
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	0.5...2.5/No. 18...14 0.75...2.5/No. 18...14		
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	0.75...2.5/No. 18...14 0.75...2.5/No. 18...14		
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	0.75...2.5/No. 18...14 0.75...2.5/No. 18...14		
Tightening torque		[N•m]/[lb•in]	1.2...1.5/10.6...13.3		

			Compact Busbar Feeder Terminal		Compact Busbar		Compact Busbar Feeder Block			
Rated Thermal Current I_{th} at 60 °C ambient temperature			140M-C-WTN 140M-C-WTEN	140M-F-WTE	140M-C-W...	140M-F-W...	140M-C-WBE L1, L2, L3	140M-C-WBE T1, T2, T3	140M-F-WBE L1, L2, L3	140M-F-WBE T1, T2, T3
		[A]	64	120	64	120	64		IEC 120/UL 115	
	1. conductor	[mm2]/[AWG]	2.5...25/14...4	–	–	–	4...25/10...4	for use with 140M-C-W	4...50/10...4	for use with 140M-F-W
	1. conductor	[mm2]/[AWG]	2.5...25/14...4	4...50/12...1/0	–	–	4...25/10...4	for use with 140M-C-W	4...25/10...4	for use with 140M-F-W
	1. conductor	[mm2]/[AWG]	2.5...25/14...4	2.5...50/12...1/0	–	–	2.5...25/14...4	for use with 140M-C-W	2.5...25/14...4	for use with 140M-F-W
Tightening torque		[N•m]/[lb•in]	3...3.5/27...31	5...6/45...54	–	–	3...3.5/27...31	2.5...3/23...27	5...6/45...54	

Accessories for Bulletin 140M Screwless

Cat. No.			140M-RC...
Terminal Parts Type of terminals			
Screwdriver			
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	0.5...1.5/– 0.5...1.5/–
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	0.5...1.5/No. 18...14 0.5...1.5/No. 18...14
	1. conductor 2. conductor	[mm2]/[AWG] [mm2]/[AWG]	0.5...1.5/No. 18...14 0.5...1.5/No. 18...14

Weights

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

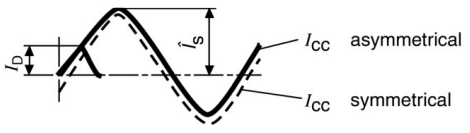
Description	Weight [g]	Cat.No.
Anti-Tamper Cover	2	140M-C-CA
Lockable Twist Knob	5	140M-C-KN1
		140M-C-KRY1
Locking Tag	30	140M-C-M3
Door Coupling Handle	123	140M-C-DN66
		140M-C-NRY66
Extension Shaft	46	140M-C-DS
Legend Plate	4	140M-C-DFC...
Feeder Terminal	51	140M-C-WTEN
	172	140M-F-WT
Compact Busbars	27	140M-C-W452N
	48	140M-C-W453N
	69	140M-C-W454N
	90	140M-C-W455N
	30	140M-C-W542N
	55	140M-C-W543N
	80	140M-C-W544N
	105	140M-C-W545N
Top Hat Rail Adpapter	6	140-KBH2

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 up to 60 °C ambient temperature	[A] [A]	10 6					2 2					
NEMA contact class (UL/CSA-Approval)	AC DC	B 600 Standard Pilot Duty R 300 Light Pilot Duty					Make/Break max. voltage 432 VA72 VA480 V 28 VA28 VA250 V					
Back-Up Fuse gG, gL		16 A					16 A					
Rated Current I_e												
AC-15:	[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:	[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 2.conductor	[mm2]/[AWG] [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 2.conductor	[mm2]/[AWG] [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	[N•m]/[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 Drop-out	[VA/W] [VA/W]	11 / 8 4 / 1	12 / 7 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

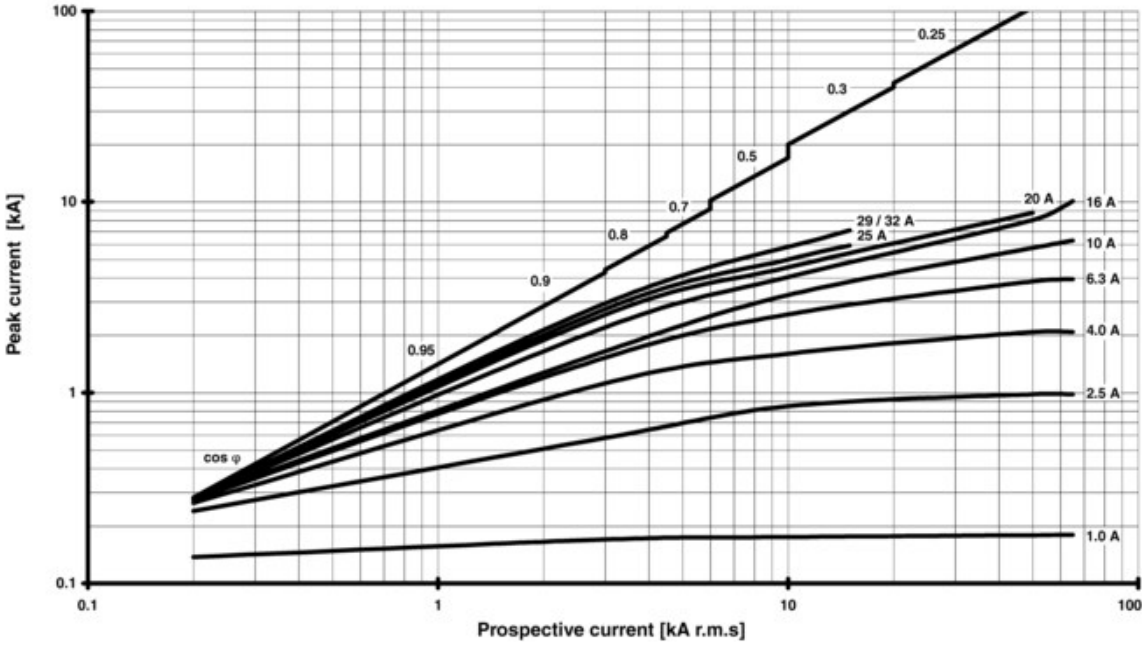
Cut-off current



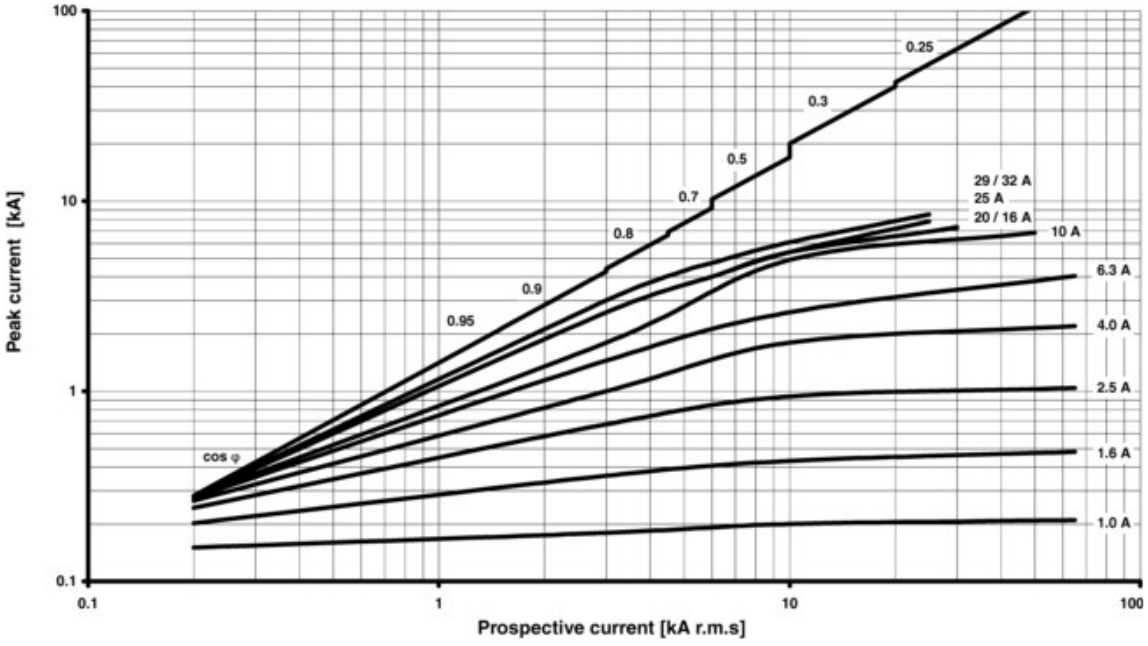
The Bulletin 140-M limits solid short-circuit current I_{CC} (prospective short-circuit current). I_D is the maximum cut-off current (highest instantaneous value of the limited short-circuit current). This value is indicated in the following diagrams as a function of the progressive system short-circuit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

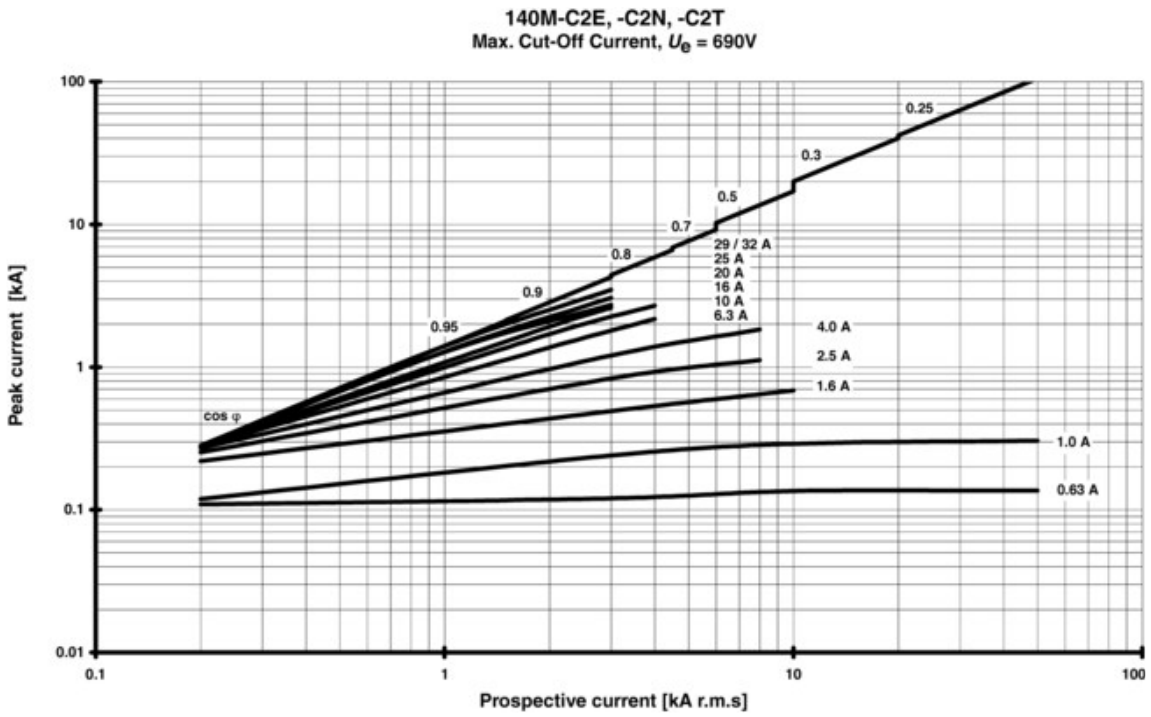
Bulletin 140M-C Circuit Breaker (Maximum Cut-Off Current)

140M-C2E, -C2N, -C2T
Max. Cut-Off Current, U_e = 400…415V

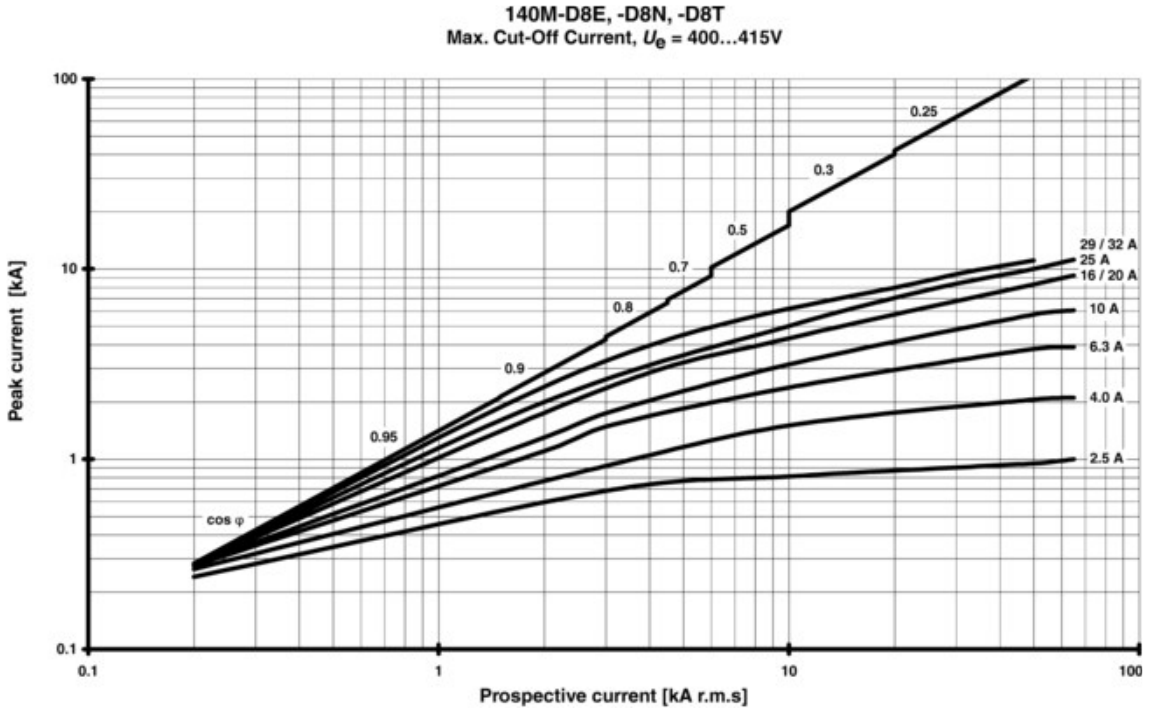


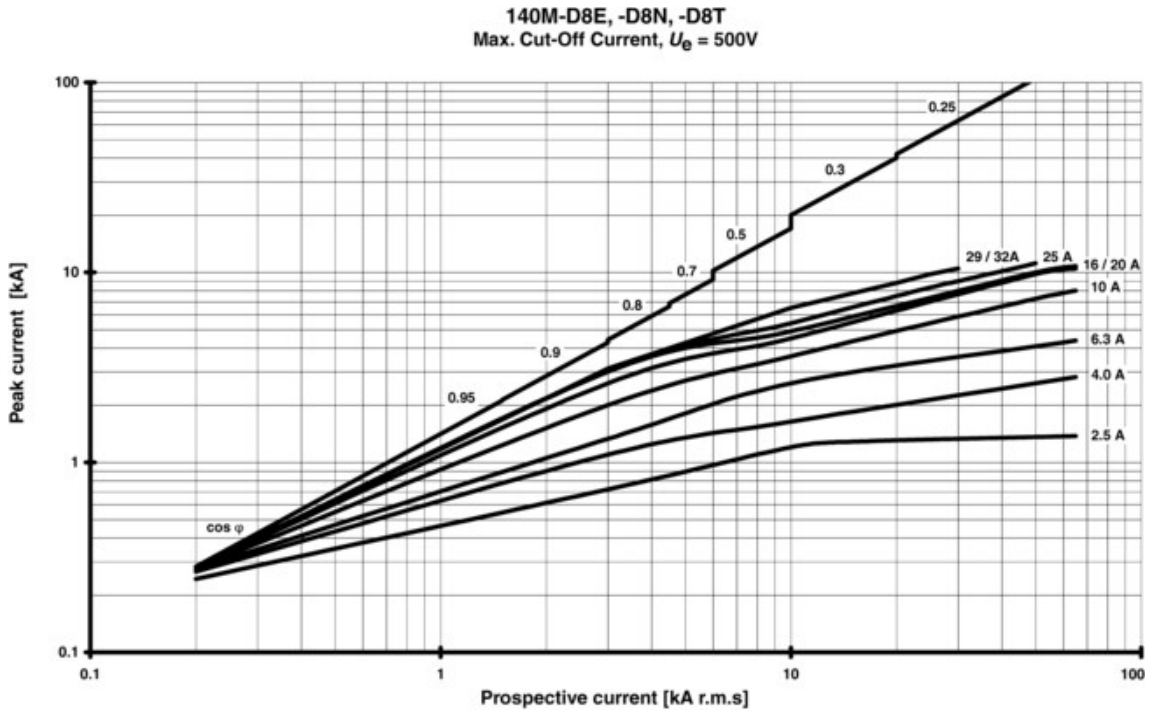
140M-C2E, -C2N, -C2T
Max. Cut-Off Current, U_e = 500V

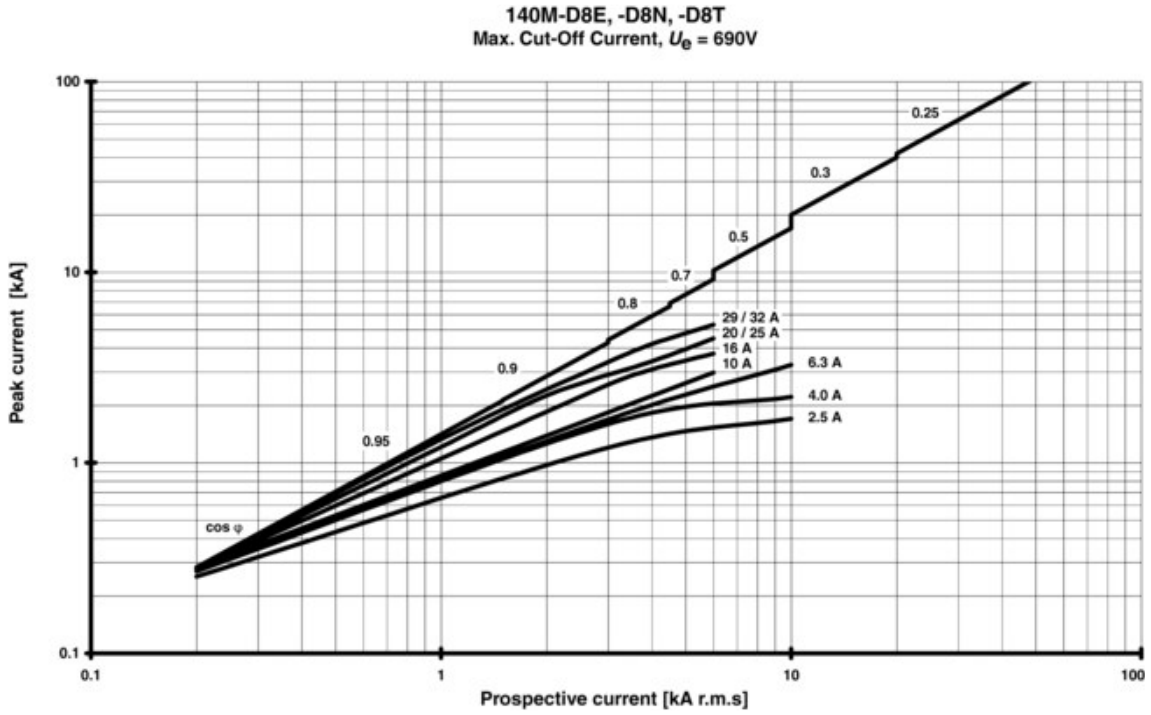




Bulletin 140M-D Circuit Breaker (Maximum Cut-Off Current)

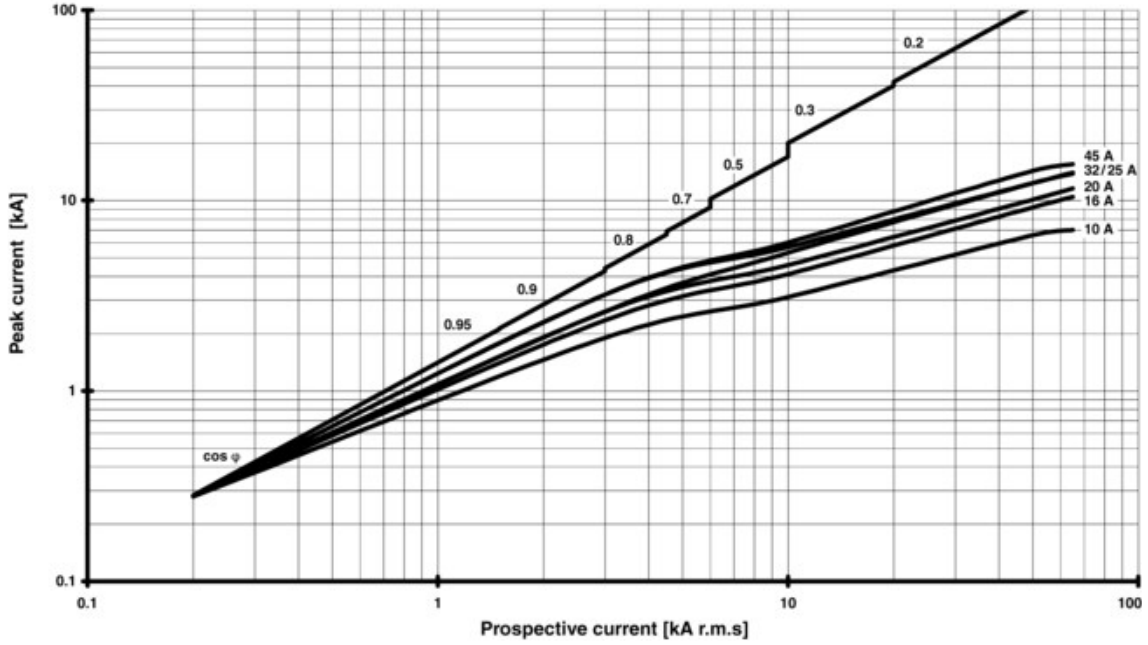




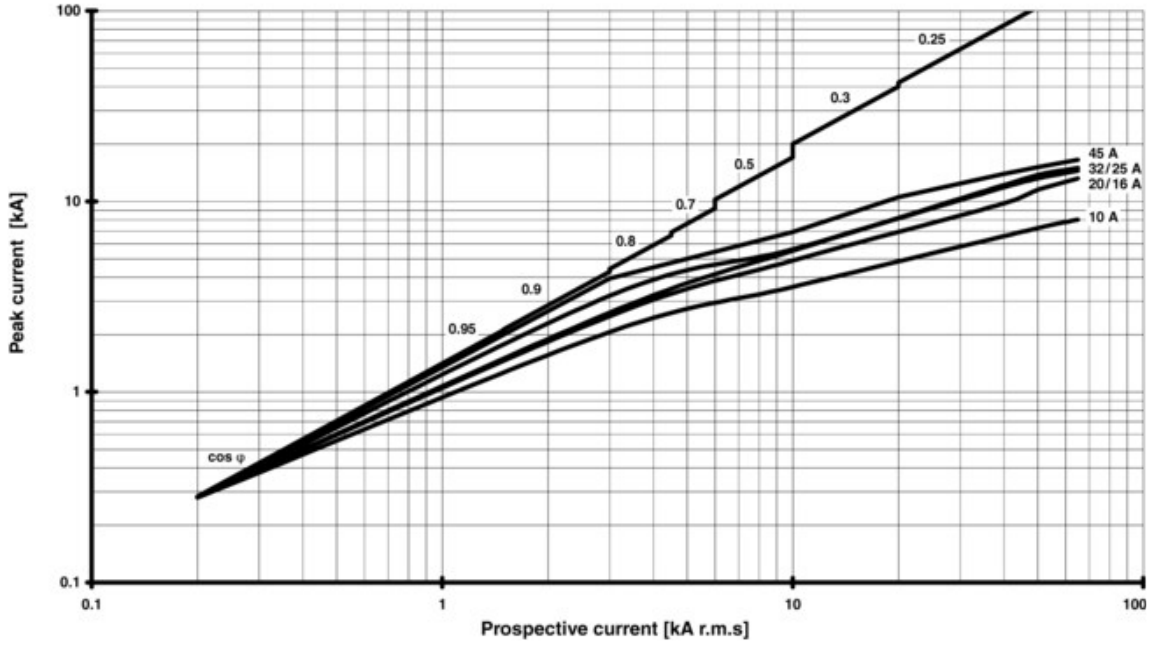


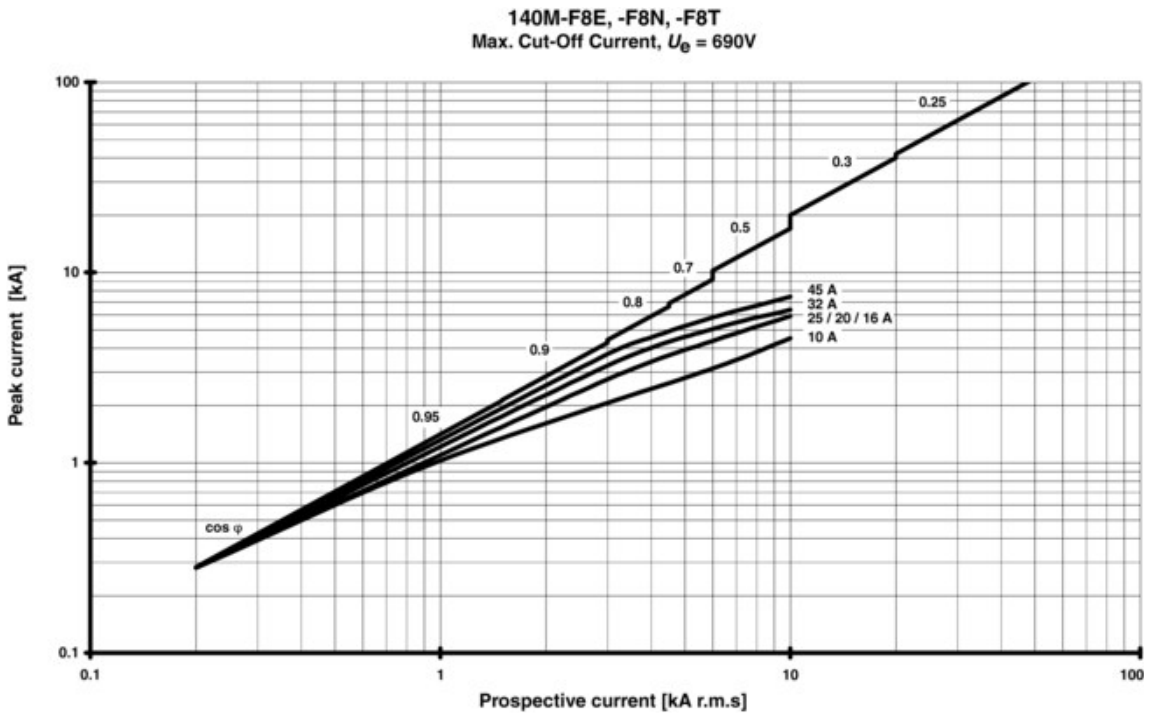
Bulletin 140M-F Circuit Breaker (Maximum Cut-Off Current)

140M-F8E, -F8N, -F8T
Max. Cut-Off Current, U_e = 400…415V

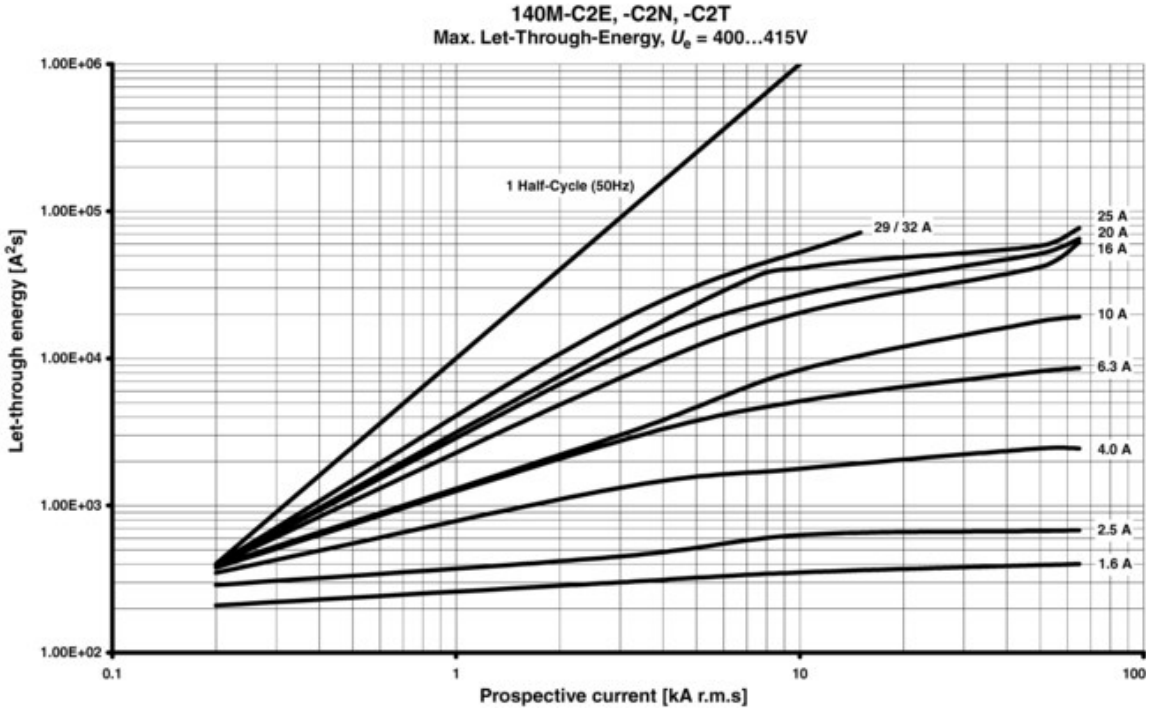


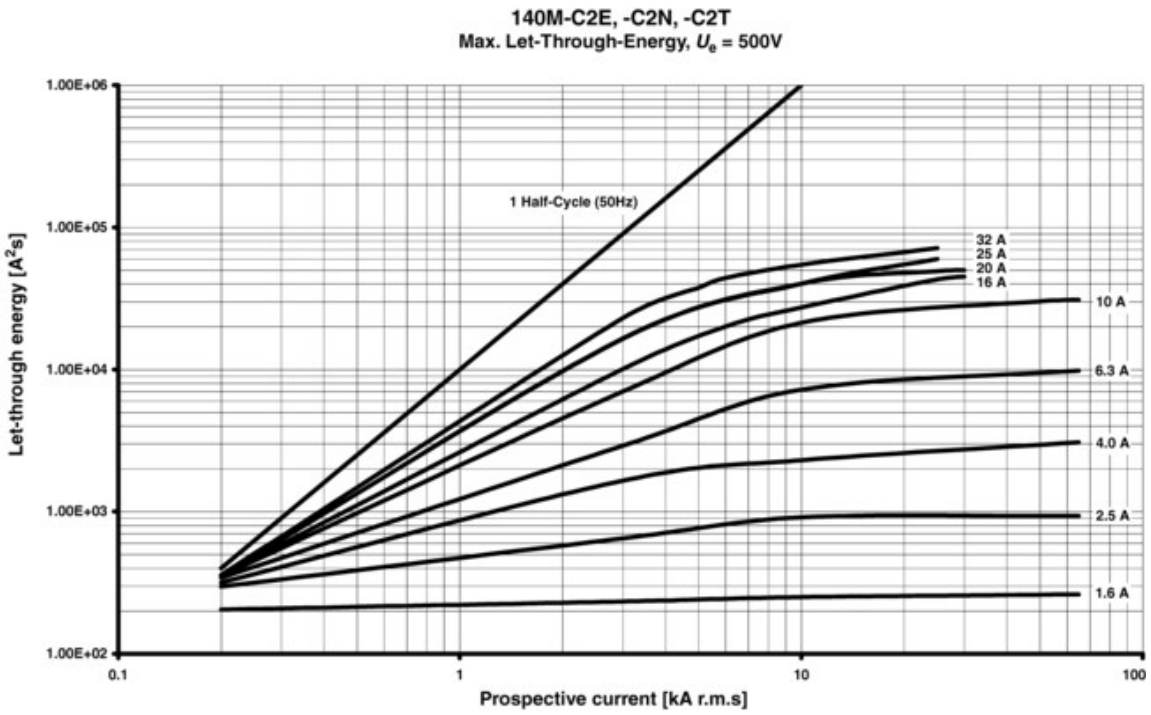
140M-F8E, -F8N, -F8T
Max. Cut-Off Current, U_e = 500V

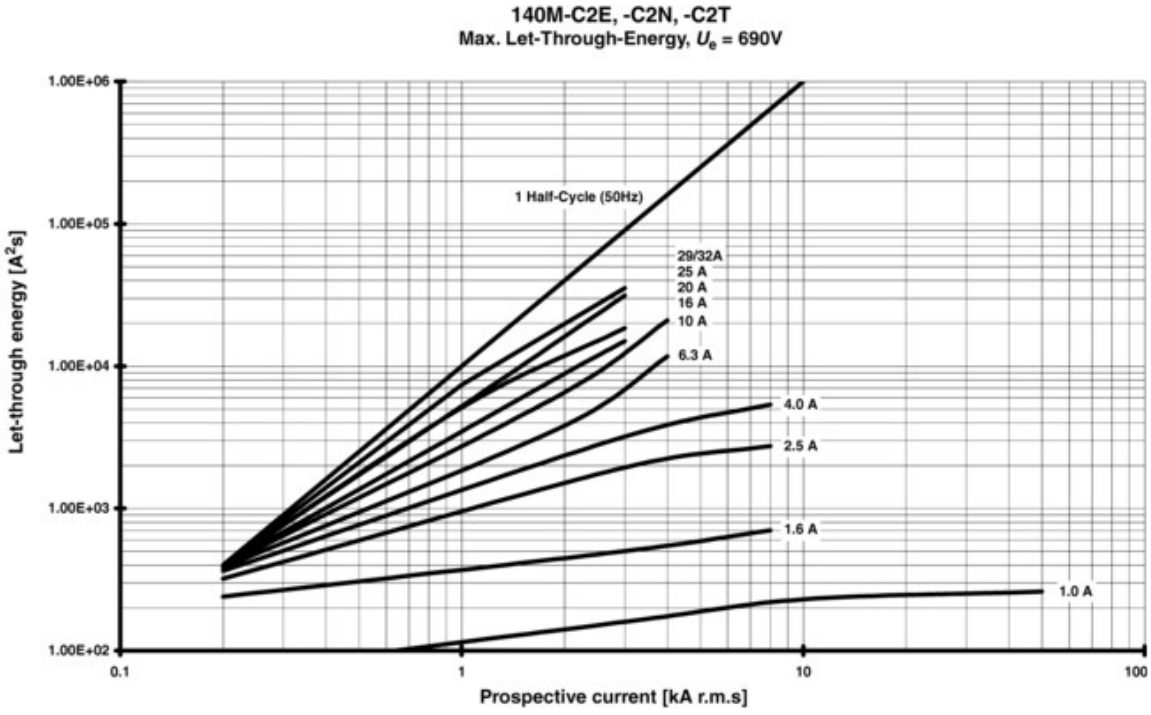




Bulletin 140M-C Circuit Breaker (Maximum Let-Through-Energy)

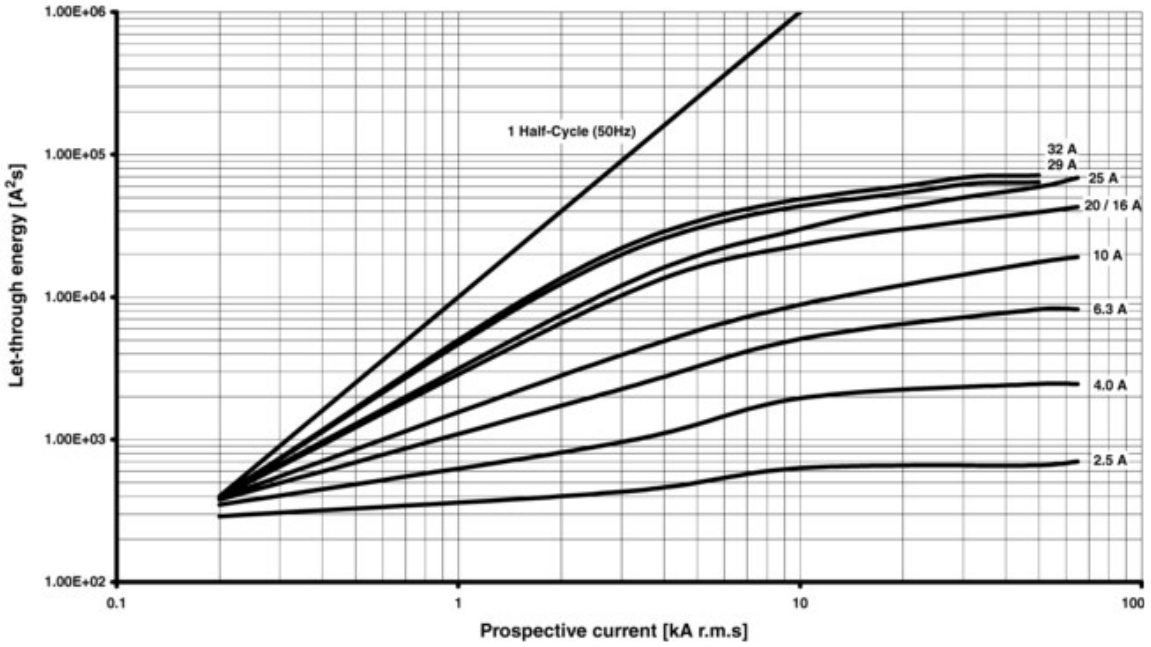




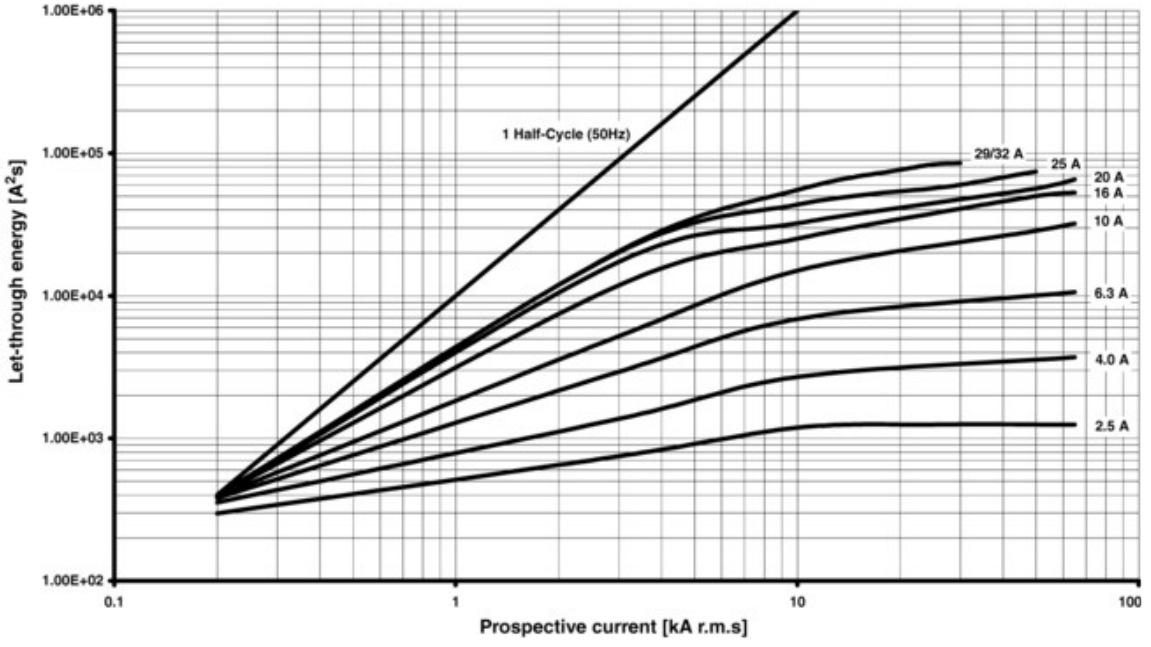


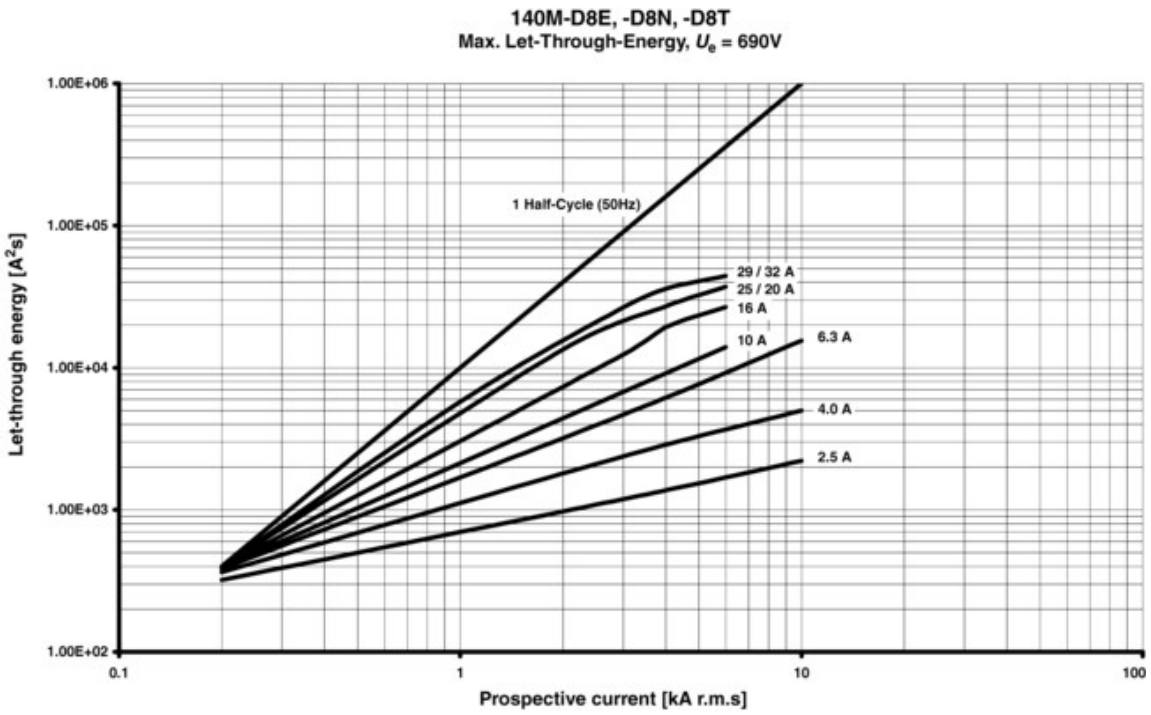
Bulletin 140M-D Circuit Breaker (Maximum Let-Through-Energy)

140M-D8E, -D8N, -D8T
Max. Let-Through-Energy, U_e = 400…415V

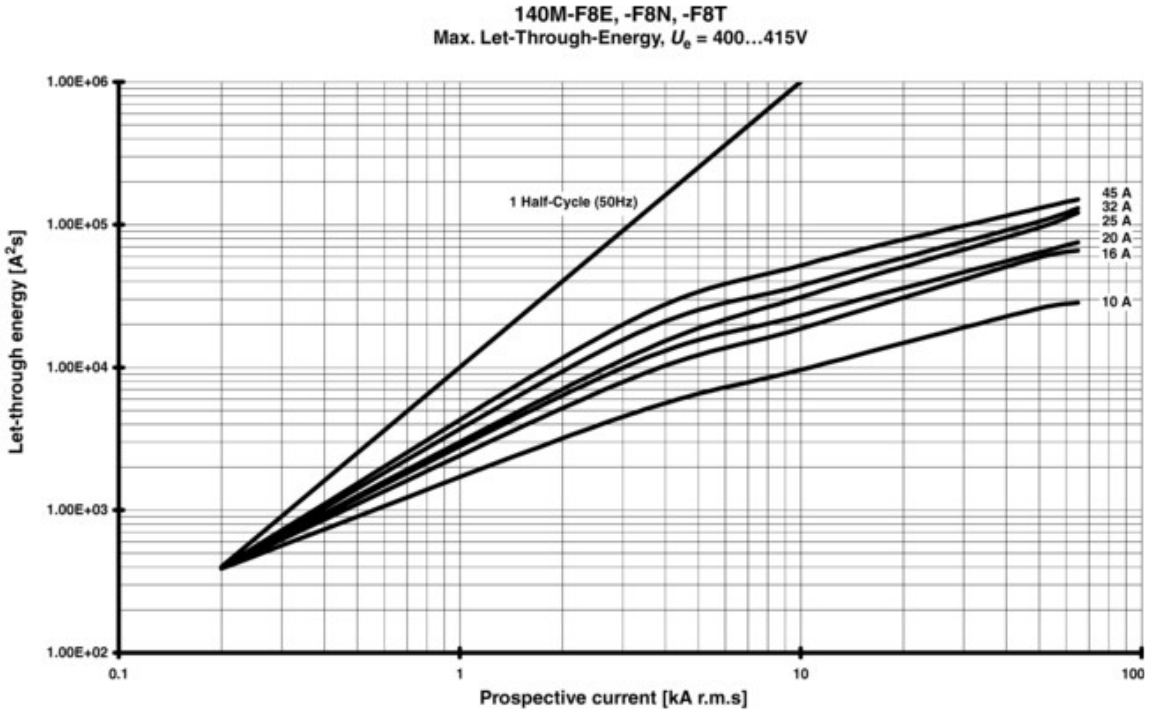


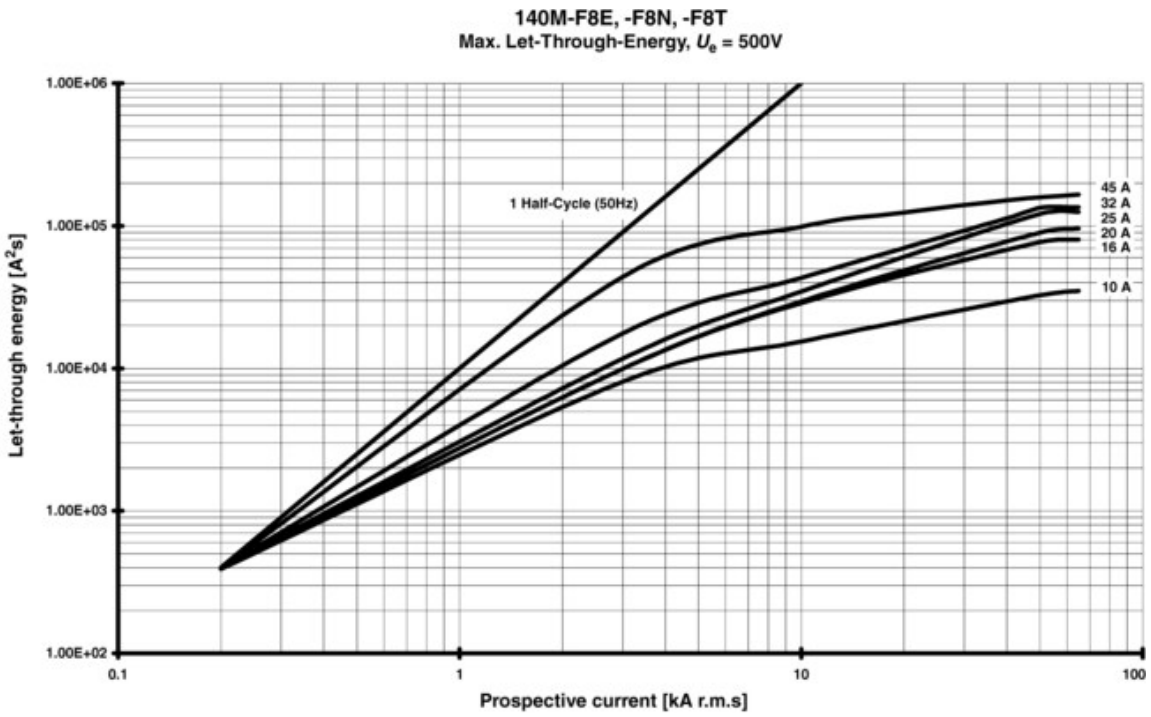
140M-D8E, -D8N, -D8T
Max. Let-Through-Energy, U_e = 500V

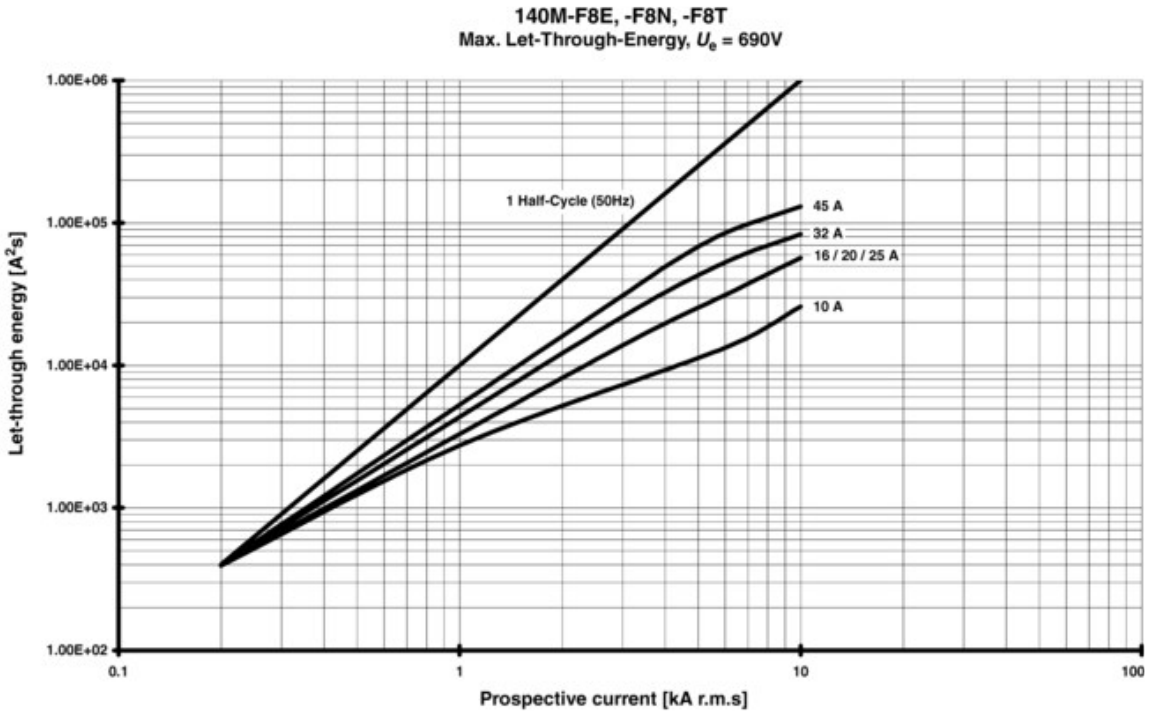




Bulletin 140M-F Circuit Breaker (Maximum Let-Through-Energy)

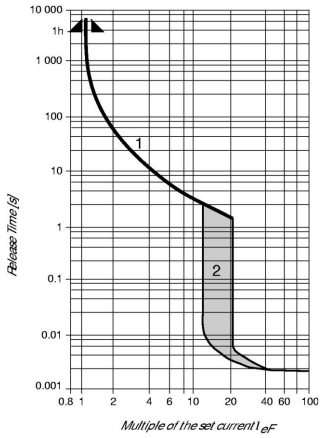




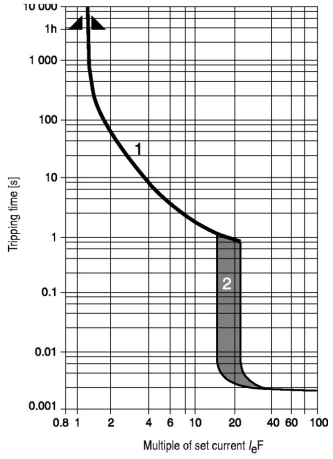


Time-Current Characteristic

Bulletin 140M-C, -D, -F Motor Protection Circuit Breakers



Bulletin 140-CMN 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…14 times the maximum value of setting range. (Transformer protection up to 20 x I_e max.) At a lower setting it is correspondingly higher.

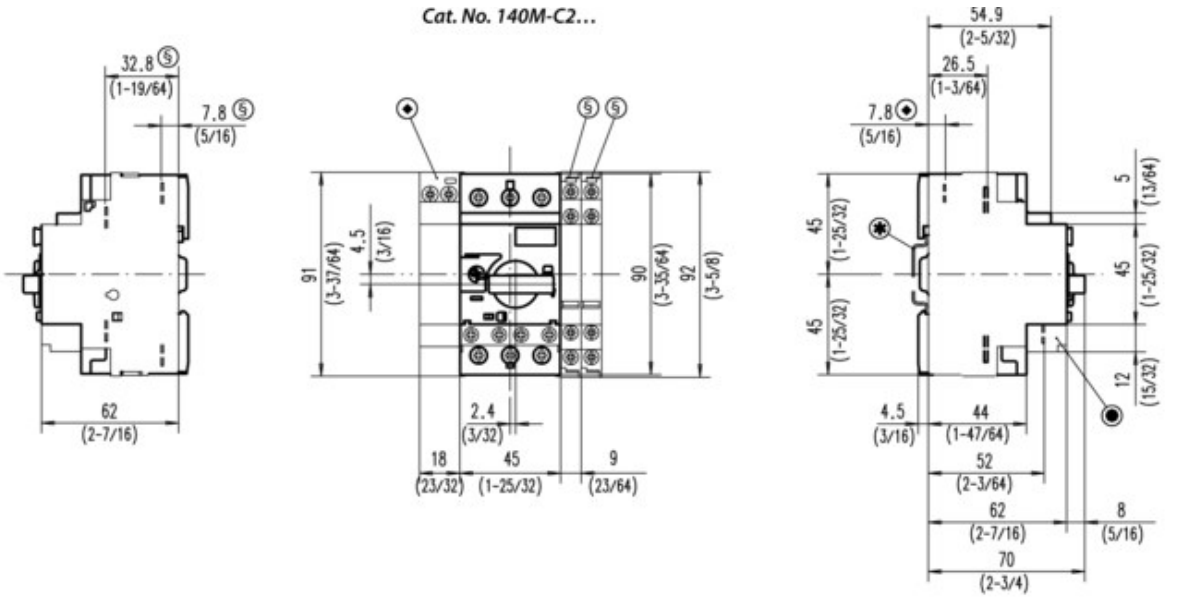
Current Setting I_{eF}

The overload trip corresponds to a thermal overload relay in a motor starter conforming to IEC947-4-1. 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.

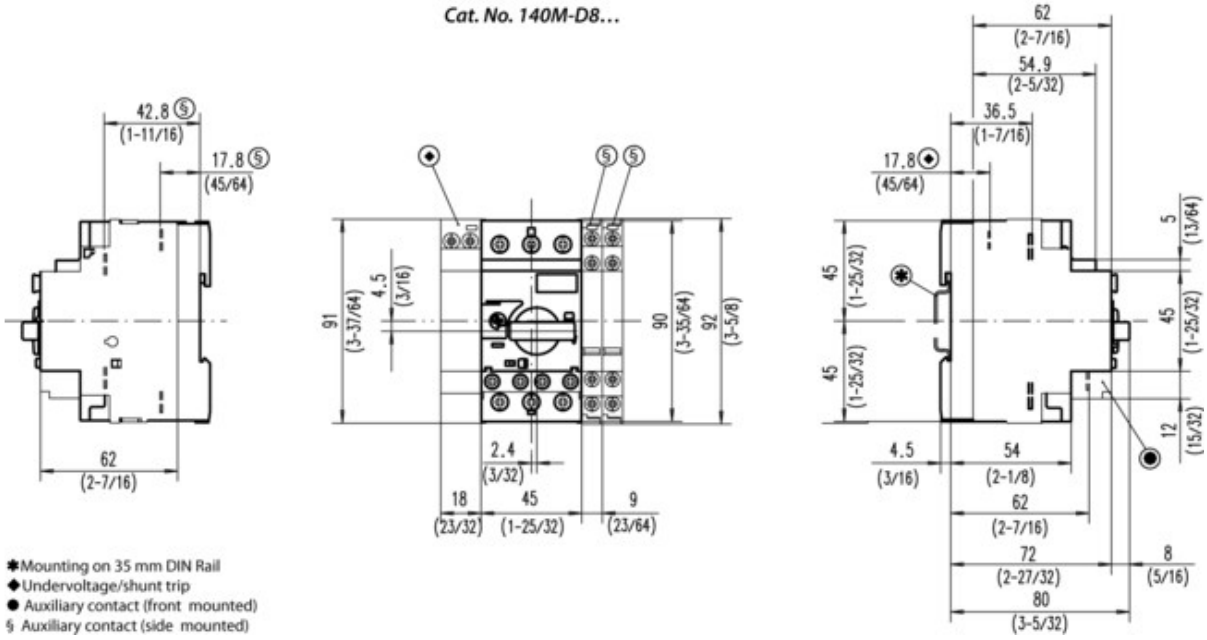
Cat. No. 140M-C, -D, -F

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

Cat. No. 140M-C2…

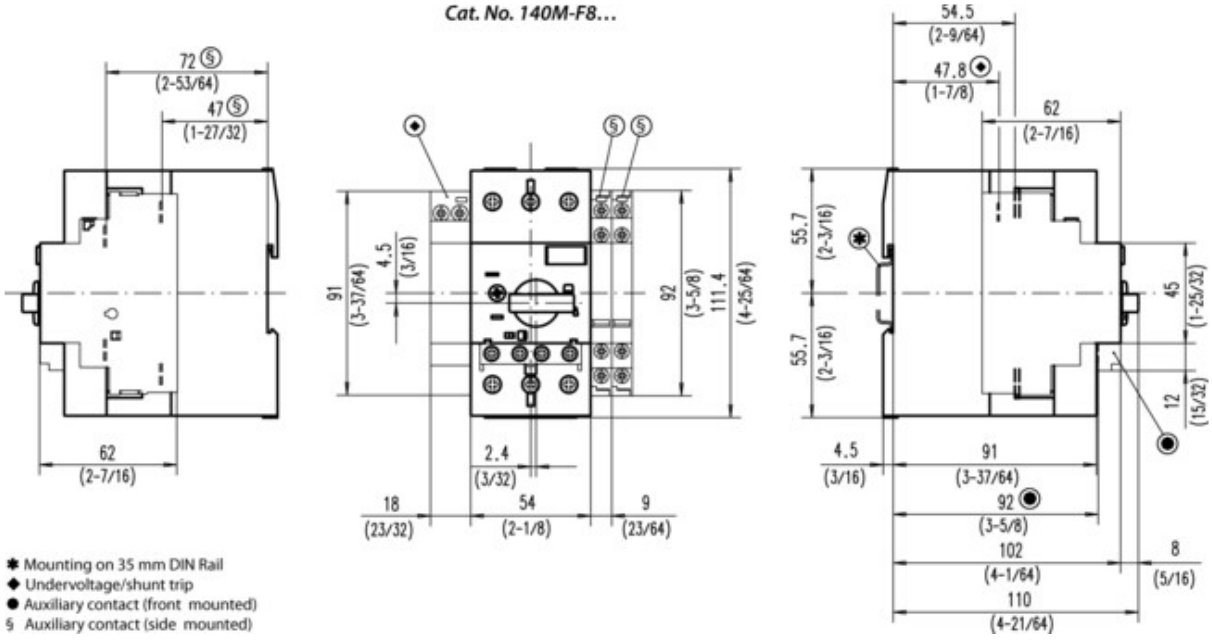


Cat. No. 140M-D8…



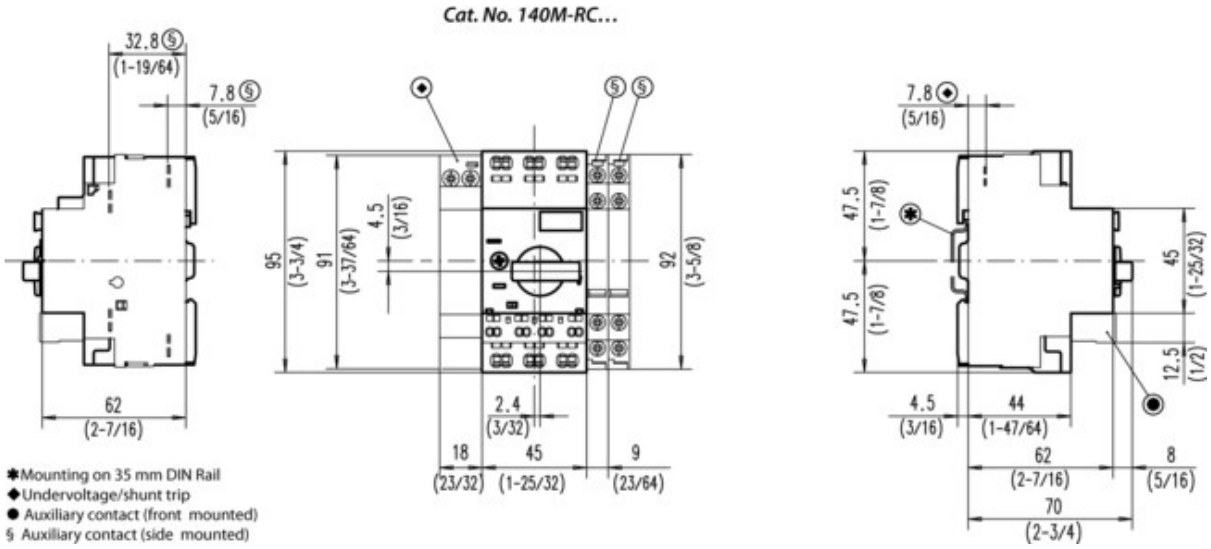
✱Mounting on 35 mm DIN Rail
◆Undervoltage/shunt trip
● Auxiliary contact (front mounted)
§ Auxiliary contact (side mounted)

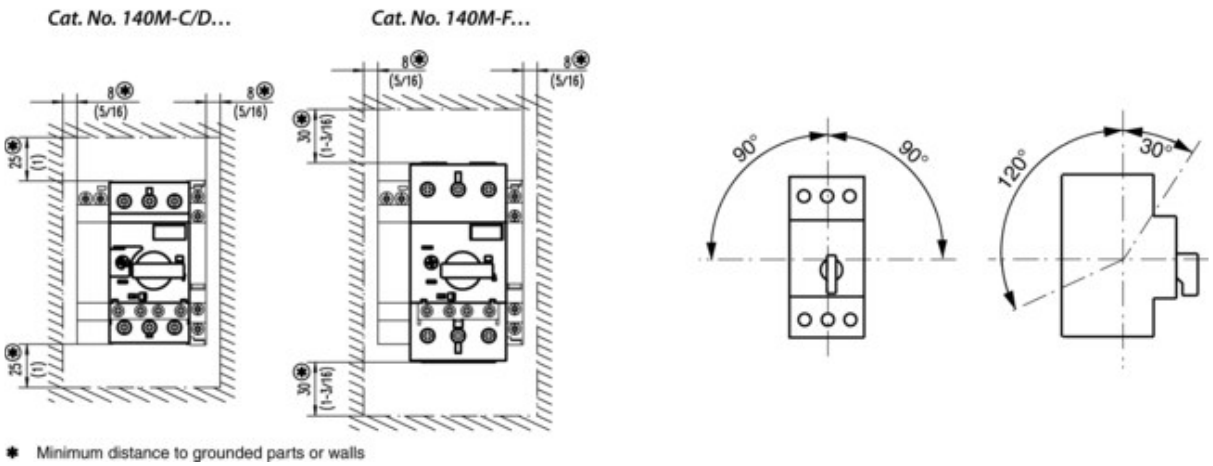
Cat. No. 140M-F8…



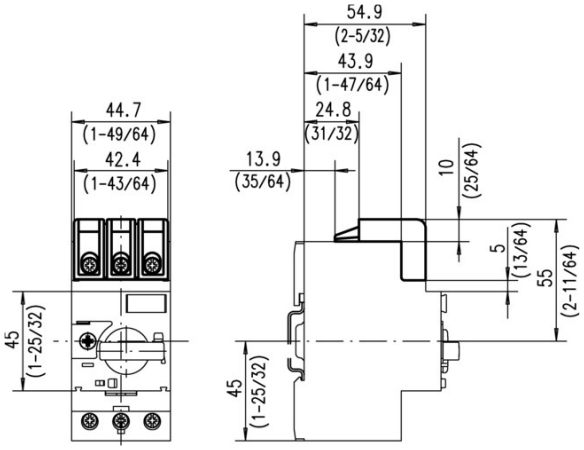
✱ Mounting on 35 mm DIN Rail
◆ Undervoltage/shunt trip
● Auxiliary contact (front mounted)
§ Auxiliary contact (side mounted)

Cat. No. 140M-RC, Screwless

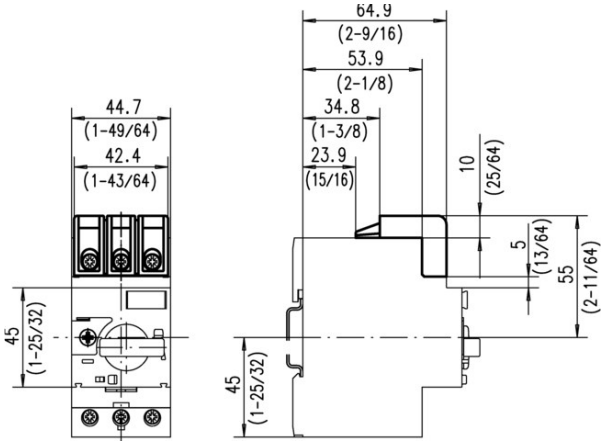




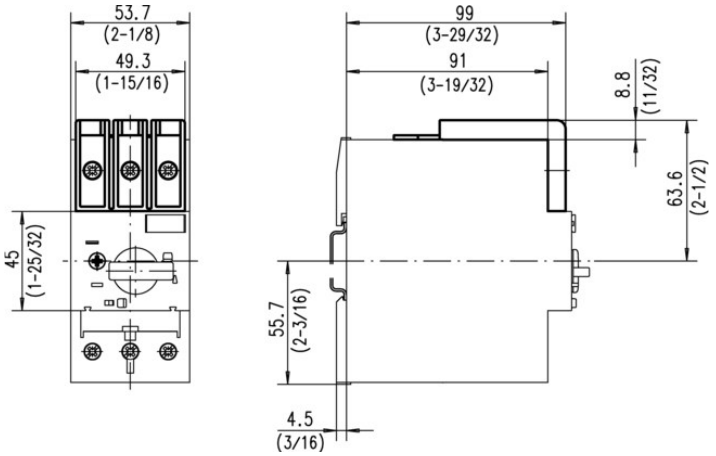
Mounting position/safety clearance of Cat. No. 140M-C..., 140M-D..., 140M-F...



Cat. No. 140M-C-TE1 Type E adapter on Cat. No. 140M-C2E...

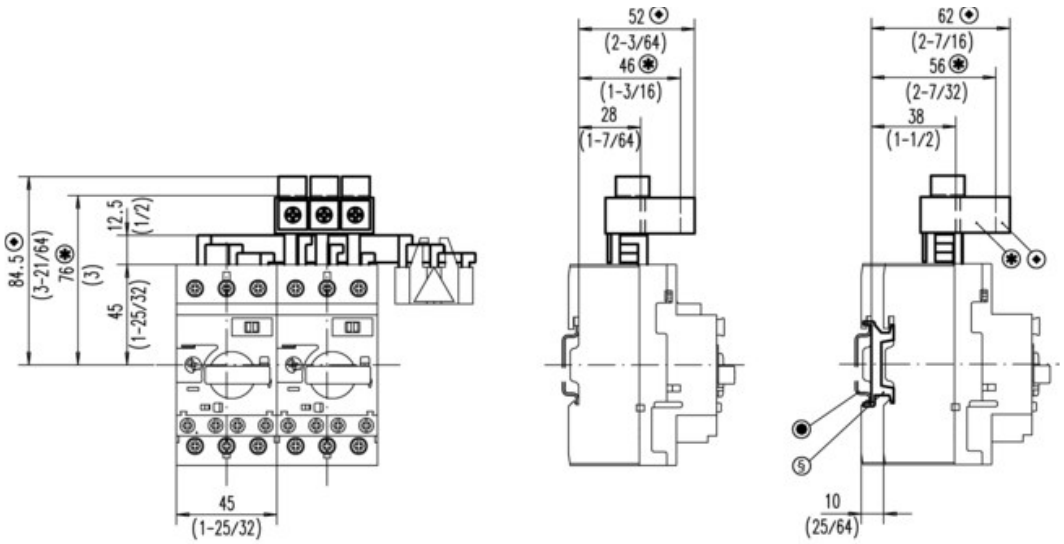


Cat. No. 140M-C-TE1 Type E adapter on Cat. No. 140M-D8E…



Cat. No. 140M-F-TE Type E adapter on Cat. No. 140M-F8E…

Screw Adapter 140M-C-N45 for 140M-C2/D8 and 140M-F8



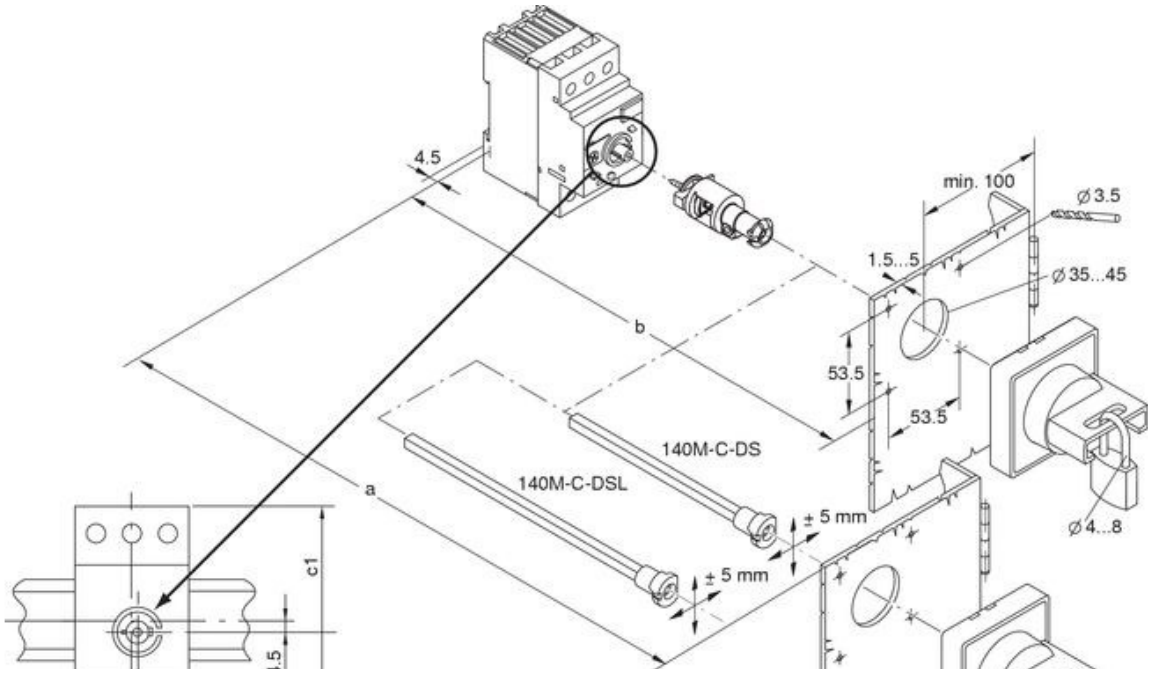
✱ Compact Busbar Feeder Terminal IEC
◆ Compact Busbar Feeder Terminal UL type E and IEC
● Mounting on 35 mm DIN Rail
§ Top Hat Rail Adapter 10 mm

Cat. No. 140M-C with Busbar

✱ Compact Busbar Feeder Terminal IEC
◆ Compact Busbar Feeder Terminal UL type E and IEC
● Mounting on 35 mm DIN Rail
§ Top Hat Rail Adapter 10 mm

Cat. No. 140M-C with Busbar

140M-C-SHS; Extension Shaft Support for 140M-C, -D, -F and 140U-D



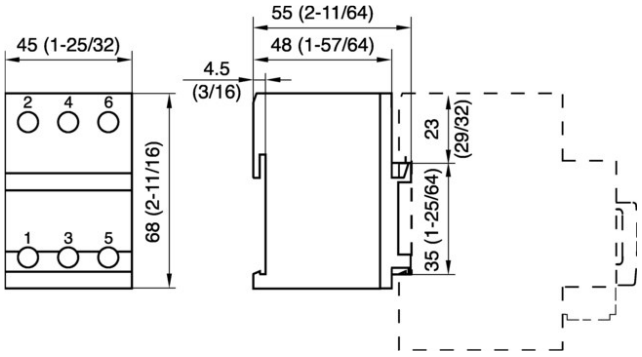
140M-C-D…66

With Cat. No. 140-M-C-DS Shaft

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

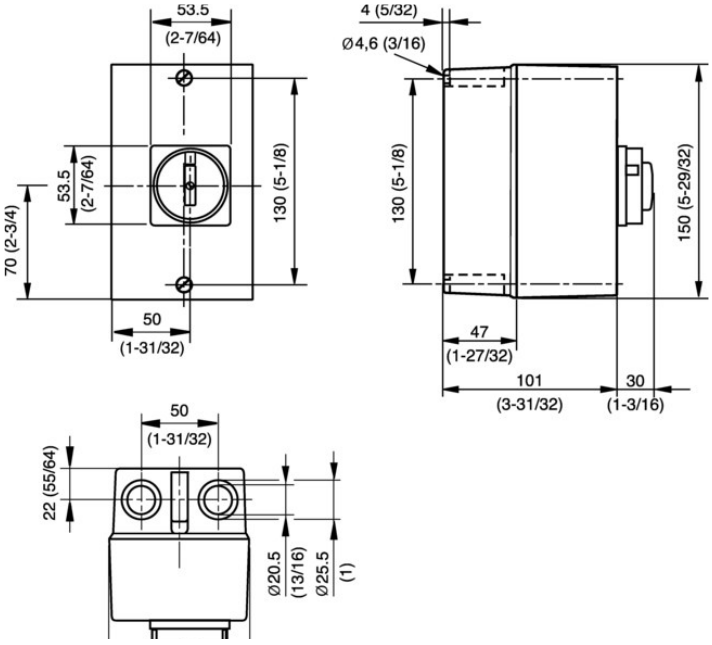
With Cat. No. 140-M-C-DSL Shaft

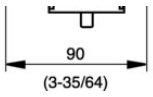
Cat. No.	a	b	c1	c2
140M-C	117...438	105.5 ±5	49.5	40.5
140M-D	126...497	114.5 ±5	49.5	40.5
140M-F	148.6...519	137.1 ±5	59.35	50.35



140M-C-WBE

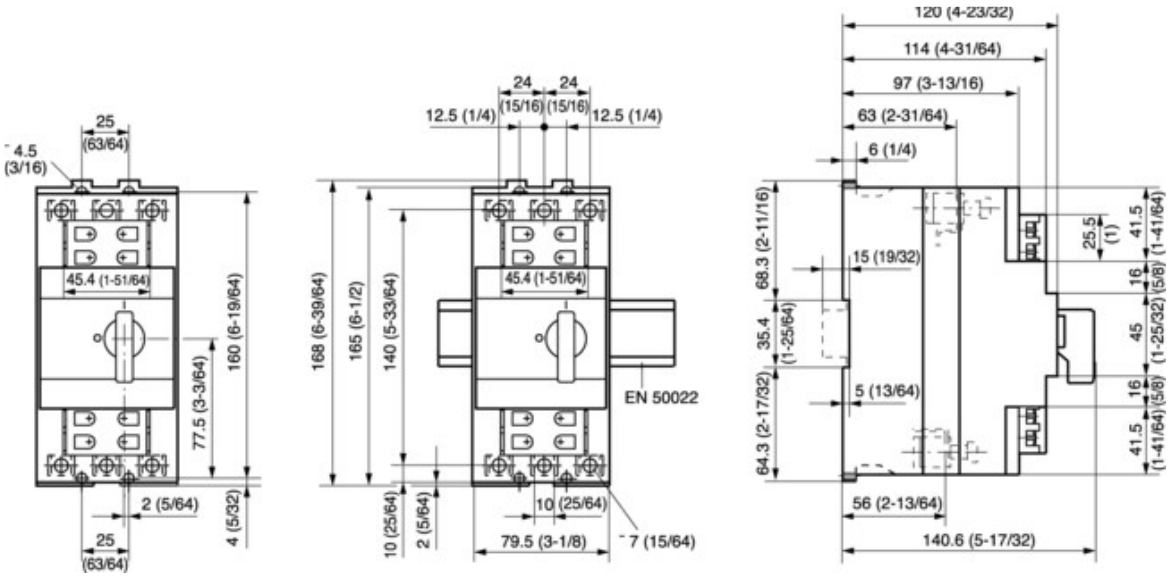
Cat. No. 198E…



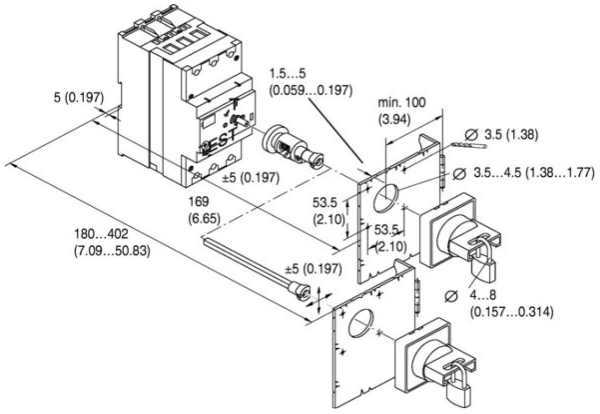


198E-AYT…

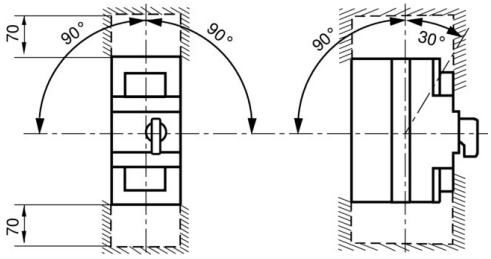
Cat. No. 140-CMN…



140-CMN



140-CD…



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

Note: See Bulletin 140U-H, J, L and N for dimensions of 140M-H, J, L and N frames.