Catalog Number Explanation

Examples given in this section are not intended to be used for product selection.

140M	–	C	2	E	–	A63	–	KN	–	CC	–	GJ
a		b	c	d		e		f		g		h

a	
Bulletin Number	
Code	**Description**
140M	Motor Protection Circuit Breaker

b	
Frame/Rating	
Code	**Description**
C	32 A
D	32A
F	45A

c	
Interrupting Rating/Breaking Capacity	
Code	**Description**
2	Normal Break
8	High Break

d	
Protection Type	
Code	**Description**
E	Adj Thermal/ Fixed Mag(13 x I_n)
T	Adj Thermal/Fixed Mag (Fixed at 16...20 x I_n)
V	Adj Thermal/Fixed Mag application at output of VFD (multi-motor)

e		
Current Range		
Code	**Description**	**Example**
A	A=0.10	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

f		
Miscellaneous		
Code	**Description**	**Frame Size**
KN	Black Lockable Knob	C,D,F
KRY	Red/Yellow Lockable Knob	C,D,F
TE	Spacing Adapter for Self-Protected Starters (Type E)	C,D,F
MT	STD BusBar Mount, Top	C,D,F

g			
Auxiliary Trip Contacts			
C, D, F Frames			
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	2N.O.	K	1 N.C. (SC+OL) + 1 N.C. (SC)
E	2N.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)

h			
UV and Shunt Trips			
C, D, F Frame			
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, 60Hz
		T	277V AC, 60 Hz
		N	380…400V AC, 50 Hz
		B	480V AC, 60Hz and 415V AC, 50 Hz
		VC	600V AC, 60Hz
		M	575V AC, 60Hz and 500V AC, 50 Hz

Application Diagrams

Group Installation with MPCBs

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

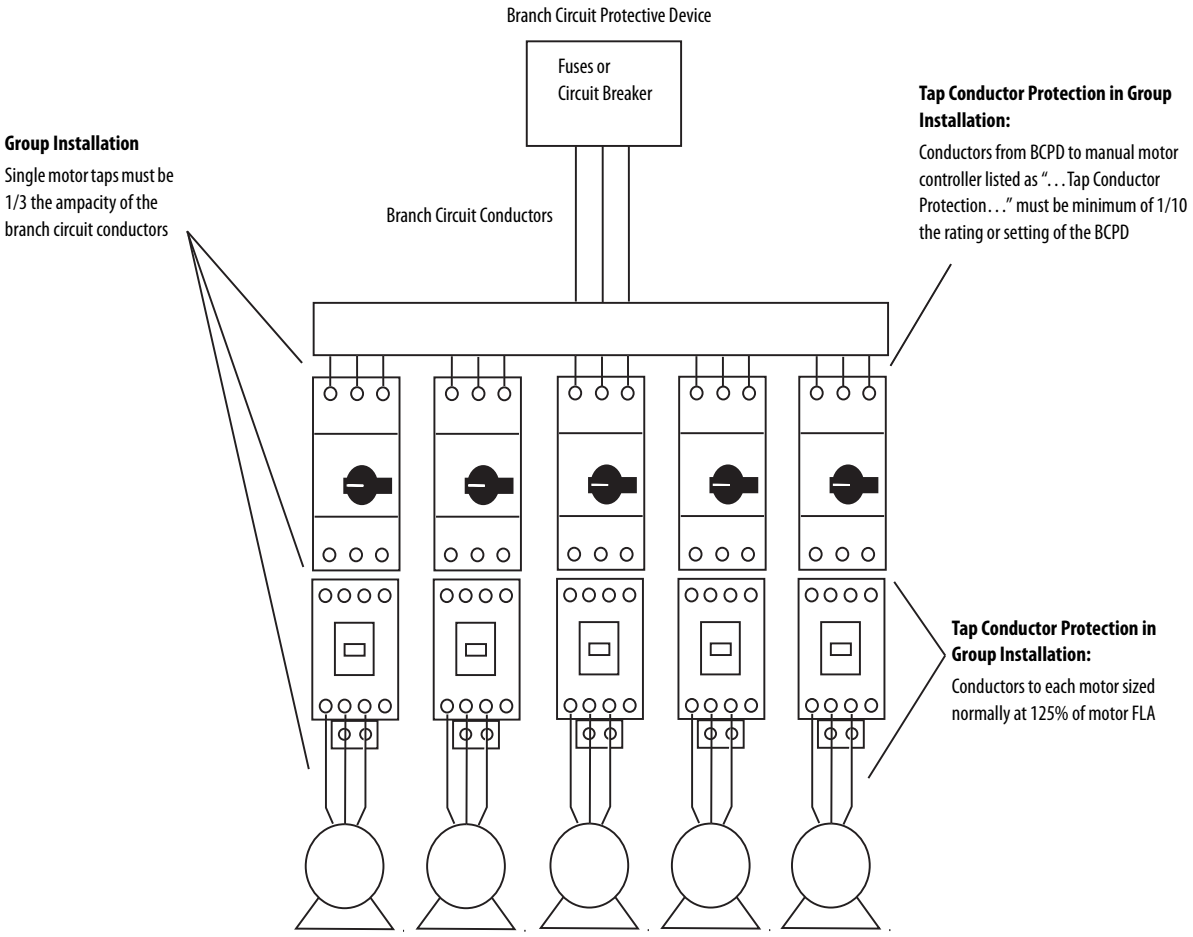
Group installation has been successfully used for many years in the U.S. and Canada. It allows "two or motors or one or more motors and other loads to be connected to the same branch-circuit...". The most restrictive part of the conditions specified for Group Installation is the requirement for the protection of the conductors for each motor circuit. In the U.S. NEC for 2002, a new rule for the conductor sizing was added for devices that are listed and marked "Suitable for use as Tap Conductor Protection".

Figure 1 shows an example that illustrates installations involving multiple motors with a single BCPD protecting the entire "Group".

Bulletin 140M Motor Protection Circuit Breakers 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.

Bulletin 140M Motor Protection Circuit Breakers UL/CSA Listed for Tap conductor Protection in Group Installations: conductors from the BCPD to manual motor controller listed as "...Tap Conductor Protection..." must be minimum of 1/10 the rating or setting of the BCPD. Conductors from the controller to the motor must be 125% of the motor FLA.

Figure 1 - Group Installation with MPCBs

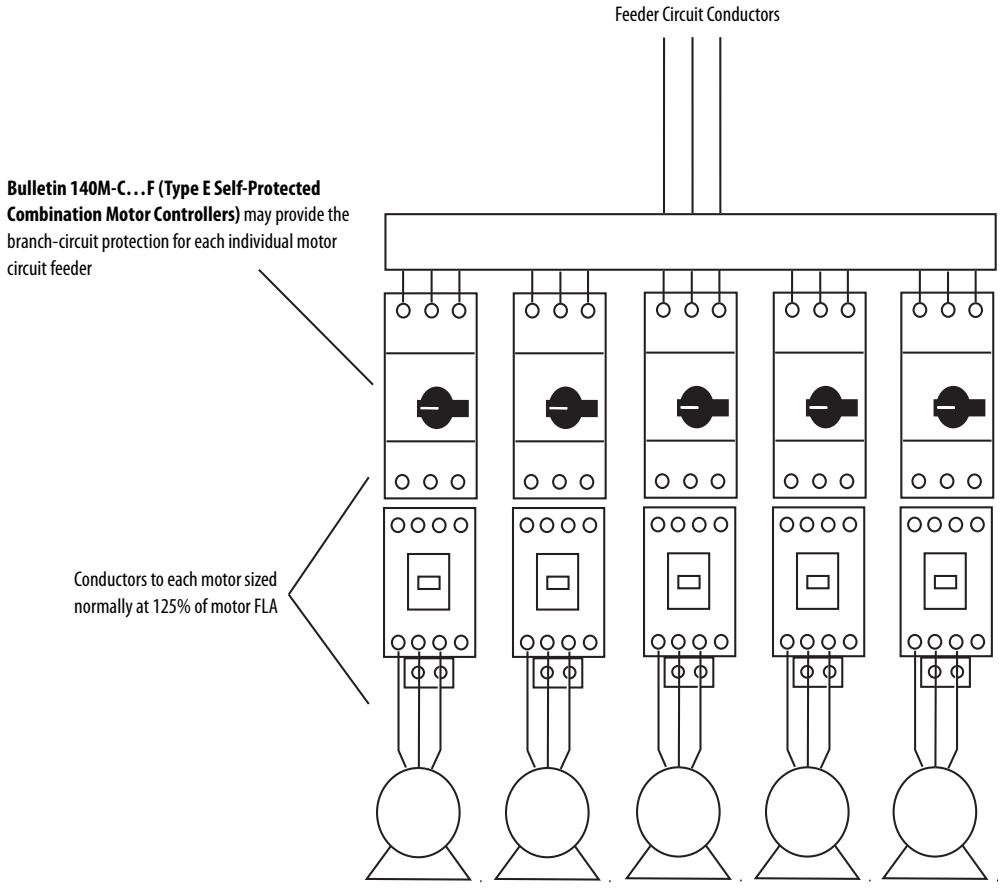


Multiple Motor Installation with MPCBs

Each Motor has an Individual Branch Circuit Protective Device.

Bulletin 140M Motor Protection Circuit Breakers (MPCBs) are UL/CSA Listed as **Type E Manual Self-Protected Combination Motor Controllers** or UL/CSA Listed as Circuit Breakers. These UL/CSA Listings allow the Bulletin 140M MPCBs to provide the branch-circuit, short-circuit protection (as well as overload 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. Figure 2 shows an example that illustrates installations involving multiple motors, each with its own branch-circuit protection (BCPD).

Figure 2 - Multiple Motor Installation with MPCBs



Product Selection

140M-C

140M-D

140M-F

Rated Operational Current (I_e) [A]	Motor Current Adjustment Range [A]	Magnetic Trip Current [A]	Max. Short Circuit Current [kA]		Max. 3-phase Hp Ratings[1]				Max. kW, 3-Phase — AC-3[1]				Cat. No.
			400V (I_{cu})	480V (group motor)	200V	230V	460V	575V	230V	400/415V	500V	690V	
C-Frame													
0.16	0.10…0.16	2.1	100	65	—	—	—	—	—	0.02	0.06	0.06	140M-C2E-A16
0.25	0.16…0.25	3.3	100	65	—	—	—	—	—	0.04	0.09	0.09	140M-C2E-A25
0.4	0.25…0.40	5.2	100	65	—	—	—	0.25	0.06	0.09	0.12	0.18	140M-C2E-A40
0.63	0.40…0.63	8.2	100	65	—	—	0.25	0.33	0.09	0.18	0.18	0.25	140M-C2E-A63
1	0.63…1.0	13	100	65	—	—	0.5	0.75	0.18	0.25	0.37	0.55	140M-C2E-B10
1.6	1.0…1.6	21	100	65	0.25	0.33	1	1	0.25	0.55	0.75	1.1	140M-C2E-B16
2.5	1.6…2.5	33	100	65	0.5	0.75	1.5	2	0.37	0.75	1.1	1.8	140M-C2E-B25
4	2.5…4.0	52	100	65	1	1	3	3	0.75	1.5	2.2	3	140M-C2E-B40
6.3	4.0…6.3	82	100	65	1.5	2	5	5	1.5	2.2	3	4	140M-C2E-B63
10	6.3…10	130	100	65	3	3	7.5	10	2.2	4	6.3	7.5	140M-C2E-C10
16	10…16	208	65	30	5	5	10	15	4	7.5	10	13	140M-C2E-C16
20	14.5…20	260	50	30	5	7.5	15	20	5.5	10	11	17	140M-C2E-C20
25	18…25	325	15	25	7.5	7.5	20	20	5.5	11	15	22	140M-C2E-C25
29	24…29	406	15	25	7.5	10	20	25	7.5	13	18.5	25	140M-C2E-C29
32	27…32	448	15	25	7.5	10	25	30	7.5	15	20	25	140M-C2E-C32
D-Frame													
2.5	1.6…2.5	33	100	65	0.5	0.75	1.5	2	0.37	0.75	1.1	1.8	140M-D8E-B25
4	2.5…4.0	52	100	65	1	1	3	3	0.75	1.5	2.2	3	140M-D8E-B40
6.3	4.0…6.3	82	100	65	1.5	2	5	5	1.5	2.2	3	4	140M-D8E-B63
10	6.3…10	130	100	65	3	3	7.5	10	2.2	4	6.3	7.5	140M-D8E-C10
16	10…16	208	100	65	5	5	10	15	4	7.5	10	13	140M-D8E-C16
20	14.5…20	260	100	65	5	7.5	15	20	5.5	10	11	17	140M-D8E-C20
25	18…25	325	65	30	7.5	7.5	20	20	5.5	11	15	22	140M-D8E-C25
29	24…29	406	50	30	7.5	10	20	25	7.5	13	18.5	25	140M-D8E-C29
32	27…32	448	50	30	7.5	10	25	30	7.5	15	20	25	140M-D8E-C32
D-Frame, 140M-D8V…													
1.6	1.0…1.6	82	65	65	0.25	0.33	1	—	0.25	0.55	0.75	—	140M-D8V-B16
2.5	1.6…2.5	82	65	65	0.5	0.75	1.5	—	0.37	0.75	1.1	—	140M-D8V-B25
4	2.5…4.0	82	65	65	1	1	3	—	0.75	1.5	2.2	—	140M-D8V-B40
6.3	4.0…6.3	82	65	65	1.5	2	5	—	1.5	2.2	3	—	140M-D8V-B63
10	6.3…10	130	65	65	3	3	7.5	—	2.2	4	6.3	—	140M-D8V-C10
16	10…16	208	65	65	5	5	10	—	4	7.5	10	—	140M-D8V-C16
20	14.5…20	260	65	65	5	7.5	15	—	5.5	10	11	—	140M-D8V-C20
25	18…25	325	65	30	7.5	7.5	20	—	5.5	11	15	—	140M-D8V-C25
29	24…29	406	50	30	7.5	10	20	—	7.5	13	18.5	—	140M-D8V-C29
32	27…32	448	50	30	7.5	10	25	—	7.5	15	20	—	140M-D8V-C32