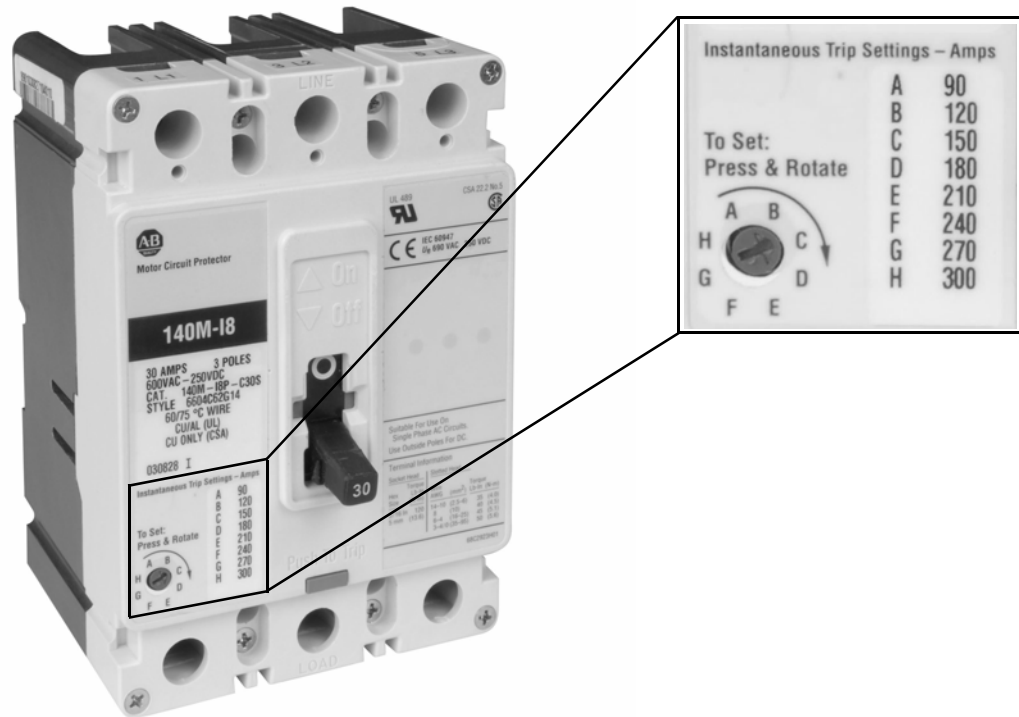




# CENTERLINE® 2100 Motor Control Centers

Instantaneous Trip Motor Circuit Protectors (MCP) in  
Combination NEMA Starter, Soft Starter (SMC) and  
Variable Frequency AC Drive Units



**150A Frame  
Instantaneous Trip Motor Circuit Protector (MCP)**

## Application

Motor circuit protector application is valid for the following CENTERLINE 2100 MCC products:

- Bulletin 2107 Full Voltage Reversing Combination Staters
- Bulletin 2113 Full Voltage Non-Reversing Combination Starters
- Bulletin 2123 Two Speed Non-Reversing Combination Starters
- Bulletin 2127 Two Speed Reversing Combination Starters
- Bulletin 2155 Combination Soft Starters
- Bulletin 2163 Variable Frequency AC Combination Drive Units
- Bulletin 2165 Variable Frequency AC Combination Drive with Manual Isolated Drive Bypass
- Bulletin 2173 Reduced Voltage Autotransformer Combination Starters

The information in this publication applies to Allen-Bradley motor circuit protectors (MCP) when they are used in NEMA (size 1 through 6) combination starter, soft starter controller, and variable frequency AC drive units. The particular motor circuit protector (trip range) supplied with a unit depends on the horsepower or kilowatt rating and voltage that was specified when the unit was ordered. Tables 1 - 11 list the various combinations of motor circuit protectors and unit ratings. When using Tables 1 - 11, be sure to use the line that applies to your equipment.

**IMPORTANT:** The information in this publication does not apply to inverse time circuit breakers. For combination starter units, soft starter controller units and variable frequency AC drive units with inverse time circuit breakers, refer to Publication 2100-TD002x-EN-P, *Inverse Time Circuit Breakers in Combination NEMA Starter, Soft Starter (SMC), and Variable Frequency AC Drive Units*.

## Motor Circuit Protector Size and Adjustment

Rockwell Automation has made engineering evaluations for the protective device (motor circuit protector) selection, sizing, and setting range based on the protection rules/requirements and motor criteria as stipulated in NEC, CEC, NEMA, UL and CSA Standards, e.g. motor full load currents (FLC), X/R ratios, locked rotor currents, nominal utilization voltages, etc. Should the motor application have criteria that deviates from those stated in the aforementioned standards, higher FLC and/or motor inrush currents (greater than 1300% of the nominal FLC) may be experienced, e.g. special motors, non/off standard NEMA or application-rated motors, Design B energy efficient, Design E motors, IEC N motors, etc.

The motor circuit protector is shipped with the instantaneous trip arrow set to the lowest value. The motor full load current determines the magnetic trip setting of the motor circuit protector. Rockwell Automation recommends selecting an initial trip setting that is approximately ten times the motor nameplate full load current. The trip setting can be adjusted to a position which corresponds to the determined magnetic trip current: positions A through H for 150A and 600A frames, and A through I for 250A and 400A frames. To adjust the trip setting:

- a. Make certain that the motor circuit protector operating handle is in the **OFF/O** position.
- b. Depress the adjustment pointer with a small screwdriver, and turn clockwise to the determined setting. Verify that the motor circuit protector will not trip during motor starting. If the motor circuit protector trips when attempting to start the motor, turn the pointer clockwise to successively higher positions, until the motor circuit protector no longer trips when attempting to start the motor. Per the NEC, the trip setting of the motor circuit protector must not exceed 13 times the motor full-load current. The controller design is based on this requirement. Should Design B or E energy efficient motors (or IEC N motors) be utilized, it may be necessary to set the motor circuit protectors higher than 13 times the motor full-load current, but, must not exceed 17 times. For these applications consult the factory for controller and motor circuit protector sizing. Refer to the National Electrical Code (NEC) or the Canadian Electrical Code (CEC) for more information.

**NOTE:** When the devices are energized, motor peak inrush current can randomly exceed the maximum limit set by the code.

## Push-To-Trip Mechanism

The push-to-trip mechanism provides a manual means for tripping the motor circuit protector. Depress the red button on the motor circuit protector cover. When the button is pushed, a plunger rotates the trip bar causing the motor circuit protector to trip.

## Horsepower and Kilowatt Ratings

The horsepower ratings for combination starter units, soft starter controller units, and variable frequency AC drive units listed in Tables 1 through 8 were determined from full load currents as specified by NEC/CEC.

Acceptable performance should occur when the motor full load current is within 15% of the value which corresponds to the horsepower or kilowatt ratings and voltages listed in the NEC/CEC. Consult your local Rockwell Automation sales office or distributor if the motor full load current is not within these limits.

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**ATTENTION**

**ATTENTION:** The horsepower and kilowatt ratings and corresponding trip settings in Table 1 are only valid when the combination starter units are equipped with an Allen-Bradley electronic or solid-state overload relay or a Bulletin 592 eutectic alloy overload relay that has correctly sized heater elements.

When correctly selected, this combination of motor circuit protector and overload relay protects against short circuit and ground fault damage, and provides coordinated overcurrent protection in the motor branch circuit for continuous-duty rated motors, as defined in the NEC and CEC.

A motor circuit protector which has tripped may indicate the interruption of a high fault current. To ensure protection against fire and/or shock hazard, examine the current carrying parts of the combination starter units, soft starter controller units, and variable frequency drive AC units and replace if damaged. (Refer to NEMA Standards Publication Number ICS 2.2, *Maintenance of Motor Controllers After a Fault Condition*, and NEMA Standard Publication Number ICS 2, Parts ICS 2-302).

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Table 1 Combination 2107, 2113, 2123, 2127 and 2173 Starter Units - Instantaneous Trip Motor Circuit Protector (MCP and MCPS)

MCP Continuous Current Rating (Amperes)	NEMA Starter Size	Horsepower Range					Magnetic Trip Setting				Magnetic Trip Setting					High Interrupting Capacity Suffix Letter "CA"	High Interrupting Capacity with Current Limiter Suffix Letter "CC"	
		200V	230V	380 - 415V	460V	575V	A	B	C	D	E	F	G	H	I			Allen-Bradley Catalog Number
3	1	0.125 - 0.33	0.125 - 0.33	0.125 - 0.75	0.125 - 0.75	0.125 - 1	9	12	15	18		21	24	27	30	—	140M-I8P-B30	140M-I8P-B30 25107-101-10
3 <sup>(1)</sup>	1	0.125 - 0.33	0.125 - 0.33	0.125 - 0.75	0.125 - 0.75	0.125 - 1	9	12	15	18		21	24	27	30	—	140M-I8P-B30S	—
7	1	0.5 - 1	0.5 - 1	1 - 2	1 - 2	1.5-3 <sup>(3)</sup>	21	28	35	42		49	56	63	70	—	140M-I8P-B70	140M-I8P-B70 25107-101-11
7 <sup>(1)</sup>	1	0.5 - 1	0.5 - 1	1 - 2	1 - 2	1.5-3 <sup>(4)</sup>	21	28	35	42		49	56	63	70	—	140M-I8P-B70S	—
15	1	1.5 - 2	1.5 - 2	3 - 5	3 - 5	5	45	60	75	90		105	120	135	150	—	140M-I8P-C15	140M-I8P-C15 25107-101-12
15 <sup>(1)</sup>	1	1.5 - 2	1.5 - 2	3 - 5	3 - 5	5	45	60	75	90		105	120	135	150	—	140M-I8P-C15S	—
30	1	3	3 - 5	7.5 - 10	7.5 - 10	7.5 - 10	90	120	150	180		210	240	270	300	—	140M-I8P-C30	140M-I8P-C30 25107-101-13
30 <sup>(1)</sup>	1	3	3 - 5	7.5 - 10	7.5 - 10	7.5 - 10	90	120	150	180		210	240	270	300	—	140M-I8P-C30S	—
50	1	5 - 7.5	7.5	—	—	—	150	200	250	300		350	400	450	500	—	140M-I8P-C50	140M-I8P-C50 25107-101-14
50 <sup>(1)</sup>	1	5 - 7.5	7.5	—	—	—	150	200	250	300		350	400	450	500	—	140M-I8P-C50S	—
50	2	10	10	15 - 20	15 - 25	15 - 25	150	200	250	300		350	400	450	500	—	140M-I8P-C50	140M-I8P-C50 25107-101-14
50 <sup>(1)</sup>	2	10	10	15 - 20	15 - 25	15 - 25	150	200	250	300		350	400	450	500	—	140M-I8P-C50S	—
50	3	—	—	—	—	30	150	200	250	300		350	400	450	500	—	140M-I8P-C50	140M-I8P-C50 25107-101-14
100	2	—	15	25	—	—	300	400	500	600		700	800	900	1000	—	140M-I8P-D10	140M-I8P-D10 25107-101-15
	3	15 - 20	20 - 25	30 - 40	30 - 50	40 - 50	300	400	500	600		700	800	900	1000	—		
	4	—	—	—	—	60 <sup>(2)</sup>	300	400	500	600		700	800	900	1000	—		
150L	3	25	30	50	—	—	450	600	750	900		1050	1200	1350	1500	—	140M-I8P-D15	140M-I8P-D15 25107-101-16
	4	30	—	60	60 <sup>(6)</sup>	75 <sup>(6)</sup>	450	600	750	900		1050	1200	1350	1500	—		
150H	4	40	40 - 50 <sup>(6)</sup>	75	75 - 100 <sup>(6)</sup>	100 <sup>(6)</sup>	750	1000	1250	1500		1750	2000	2250	2500	—	140M-I8R-D15	140M-I8R-D15 25107-101-16
250	4 <sup>(2)</sup>	—	—	—	—	60 <sup>(2)</sup>	500	565	625	690		750	810	875	935	1000	140M-JD8P-C80-W	
		—	—	—	60 <sup>(2)</sup>	75 <sup>(2)</sup>	750	840	935	1030		1125	1220	1315	1410	1500	140M-JD8P-D12-W	—
		—	40 - 50 <sup>(2)</sup>	—	75 - 100 <sup>(2)</sup>	100 <sup>(2)</sup>	875	980	1090	1200		1310	1420	1530	1640	1750	140M-JD8P-D14-W	—
400 <sup>(5)</sup>	5	50 - 60	60 - 75	100 - 125	125 - 150 <sup>(5)</sup>	125 - 200	1250	1405	1560	1720		1875	2030	2185	2340	2500	140M-JD8P-D20-W	—
600	6	75	100	150	200	—	2000	2250	2500	2750		3000	3250	3500	3750	4000	140M-K8P-D40	—
600	6	100 - 150	125 - 150	200 - 300	250 - 350	250 - 400	1800	2400	3000	3600		4200	4800	5400	6000	—	140M-Q8P-D60	—

(1) Use when a current limiter is not supplied, but any electronic or solid-state overload relay (SMP-1, SMP-2, SMP-3, E3, E1 Plus) is supplied. Also used for all NEMA Space Saving starter units.

(2) For Bulletin 2173 only

(3) Only when a current limiter is supplied (suffix letter "CC")

(4) Use when a current limiter is not supplied, regardless of overload relay type

(5) When 460V, 125 Hp or 150 Hp specified with circuit breaker catalog, suffix "CAH", use the line for 400A, 460V, 200 Hp

(6) All bulletins except 2173

Table 2 Combination 2155G SMC Dialog Plus Soft Starter (SMC) - Instantaneous Trip Motor Circuit Protector (MCP)

MCP Continuous Current Rating (Amperes)	Unit Output Rating (Amperes)	Nominal Horsepower Rating (Nominal Kilowatt Rating) (The horsepower and kW ratings shown are nominal. The limiting factor in the application and use of the SMC Dialog Plus soft starter unit is the output ampere rating.)					Magnetic Trip Setting			Magnetic Trip Setting						High Interrupting Capacity Suffix Letter "CA"	
		220 - 230V	230V	380 - 415V	460V	575V	A	B	C	D	E	F	G	H	I	Allen-Bradley Catalog Number	
3	24	—	—	—	—	1	9	12	15		18	21	24	27	30	—	140M-I8P-B30
7	24	(0.75)	1	(0.75 - 1.5)	1 - 2	1.5 - 3	21	28	35		42	49	56	63	70	—	140M-I8P-B70
15	24	(1.1 - 1.5)	1.5 - 2	(2.2)	3 - 5	5	45	60	75		90	105	120	135	150	—	140M-I8P-C15
30	24	(2.2)	3 - 5	(3.7 - 5.5)	7.5 - 10	7.5 - 10	90	120	150		180	210	240	270	300	—	140M-I8P-C30
50	24	(3.7 - 5.5)	7.5	(7.5 - 11)	15	15 - 20	150	200	250		300	350	400	450	500	—	140M-I8P-C50
	35	—	10	—	20 - 25	25 - 30	150	200	250		300	350	400	450	500	—	
100	35	(7.5)	—	(15)	—	—	300	400	500		600	700	800	900	1000	—	140M-I8P-D10
	54	(11)	15 - 20	(18.5 - 22)	30 - 40	40 - 50	300	400	500		600	700	800	900	1000	—	
	97	—	25	—	50	60	300	400	500		600	700	800	900	1000	—	
150L	54	(15)	—	—	—	—	450	600	750		900	1050	1200	1350	1500	—	140M-I8P-D15
	97	(18.5 - 22)	30	(30 - 37)	60	75	450	600	750		900	1050	1200	1350	1500	—	
150H	97	—	—	(45)	75	—	750	1000	1250		1500	1750	2000	2250	2500	—	140M-I8R-D15
	135	(30 - 37)	40 - 50	(55)	100	100	750	1000	1250		1500	1750	2000	2250	2500	—	
250	135	—	—	—	—	125	1250	1405	1560		1720	1875	2030	2185	2340	2500	140M-JD8P-D20-W
	180	(45)	60	(75)	125 - 150	150	1250	1405	1560		1720	1875	2030	2185	2340	2500	
400	180	—	—	(90)	—	—	2000	2250	2500		2750	3000	3250	3500	3750	4000	140M-K8P-D40
	240	(55)	75	(110)	200	200 - 250	2000	2250	2500		2750	3000	3250	3500	3750	4000	
	240	(75)	—	—	—	—	2250	2530	2810		3090	3375	3655	3935	4215	4500	
600	360	(90 - 110)	100 - 150	(132 - 185)	250 - 300	300 - 350	1800	2400	3000		3600	4200	4800	5400	6000	—	140M-Q8P-D60
	500	(132)	—	(200-220)	350	400-450	1800	2400	3000		3600	4200	4800	5400	6000	—	

Table 3 Combination 2155H SMC-3 Soft Starter Units - Instantaneous Trip Motor Circuit Protector (MCP)

MCP Continuous Current Rating (Amperes)	Unit Output Rating (Amperes)	Nominal Horsepower Rating (Nominal Kilowatt Rating) (The horsepower and kW ratings shown are nominal. The limiting factor in the application and use of the SMC-3 soft starter unit is the output ampere rating.)					Magnetic Trip Setting			Magnetic Trip Setting						High Interrupting Capacity Suffix Letter "CA"	
		220 - 230V	230V	380 - 415V	460V	575V	A	B	C	D	E	F	G	H	I	Allen-Bradley Catalog Number	
3	3	(0.25)	—	(0.37)	0.5 - 0.75	0.75 - 1	9	12	15		18	21	24	27	30	—	140M-I8P-B30
7	3	(0.37 - 0.55)	0.5	(0.55 - 1.1)	1 - 1.5	1.5 - 2	21	28	35		42	49	56	63	70	—	140M-I8P-B70
	9	(0.75)	0.75 - 1	(1.5)	2	3	21	28	35		42	49	56	63	70	—	
15	9	(1.1 - 1.5)	1.5 - 2	(2.2)	3 - 5	5	45	60	75		90	105	120	135	150	—	140M-I8P-C15
30	9	(2.2)	—	(3.7)	—	7.5	90	120	150		180	210	240	270	300	—	140M-I8P-C30
	19	—	3 - 5	(5.5)	7.5 - 10	10	90	120	150		180	210	240	270	300	—	
50	19	(3.7)	—	(7.5)	—	15	150	200	250		300	350	400	450	500	—	140M-I8P-C50
	25	(5.5)	7.5	(11)	15	20	150	200	250		300	350	400	450	500	—	
	30	—	10	—	20	25	150	200	250		300	350	400	450	500	—	
100	37	—	—	—	25	30	150	200	250		300	350	400	450	500	—	140M-I8P-D10
	30	(7.5)	—	(15)	—	—	300	400	500		600	700	800	900	1000	—	
	37	—	—	(18.5)	—	—	300	400	500		600	700	800	900	1000	—	
	43	(11)	15	(22)	30	40	300	400	500		600	700	800	900	1000	—	
150L	60	—	20	—	40	50	300	400	500		600	700	800	900	1000	—	140M-I8P-D15
	85	—	25	—	50	60	300	400	500		600	700	800	900	1000	—	
	60	(15)	—	(30)	—	—	450	600	750		900	1050	1200	1350	1500	—	
150H	85	(18.5 - 22)	30	(37)	60	75	450	600	750		900	1050	1200	1350	1500	—	140M-I8R-D15
	85	—	—	(45)	—	—	750	1000	1250		1500	1750	2000	2250	2500	—	
	108	(30)	40	(55)	75	100	750	1000	1250		1500	1750	2000	2250	2500	—	
250	135	(37)	50	—	100	—	750	1000	1250		1500	1750	2000	2250	2500	—	140M-JD8P-D20-W
250	135	—	—	—	—	125	1250	1405	1560		1720	1875	2030	2185	2340	2500	

**Table 4 Combination 2155J SMC-Flex Soft Starter Units - Instantaneous Trip Motor Circuit Protector (MCP)**

MCP Continuous Current Rating (Amperes)	Unit Output Rating (Amperes)	Nominal Horsepower Rating (Nominal Kilowatt Rating) (The horsepower and kW ratings shown are nominal. The limiting factor in the application and use of the SMC-Flex soft starter unit is the output ampere rating.)					Magnetic Trip Setting			Magnetic Trip Setting						High Interrupting Capacity Suffix Letter "CA"	
		220 - 230V	230V	380 - 415V	460V	575V	A	B	C	D	E	F	G	H	I	Allen-Bradley Catalog Number	
3	5	(0.25)	—	(0.37)	0.5 - 1	0.75 - 1	9	12	15		18	21	24	27	30	—	140M-I8P-B30
7	5	(0.37 - 0.75)	0.5 - 1	(0.55 - 1.5)	1.5 - 2	1.5 - 3	21	28	35		42	49	56	63	70	—	140M-I8P-B70
15	5	(1.1)	—	(2.2)	3	—	45	60	75		90	105	120	135	150	—	140M-I8P-C15
	25	(1.5)	1.5 - 2	—	5	5	45	60	75		90	105	120	135	150	—	
30	25	(2.2)	3 - 5	(3.7 - 5.5)	7.5 - 10	7.5 - 10	90	120	150		180	210	240	270	300	—	140M-I8P-C30
50	25	(3.7 - 5.5)	7.5	(7.5 - 11)	15	15 - 20	150	200	250		300	350	400	450	500	—	140M-I8P-C50
	43	—	10	—	20 - 25	25 - 30	150	200	250		300	350	400	450	500	—	
100	43	(7.5-11)	15	(15 - 22)	30	40	300	400	500		600	700	800	900	1000	—	140M-I8P-D10
	60	—	20	—	40	50	300	400	500		600	700	800	900	1000	—	
	85	—	25	—	50	60	300	400	500		600	700	800	900	1000	—	
150L	60	(15)	—	(30)	—	—	450	600	750		900	1050	1200	1350	1500	—	140M-I8P-D15
	85	(18.5 - 22)	30	(37)	60	75	450	600	750		900	1050	1200	1350	1500	—	
150H	85	—	—	(45)	—	—	750	1000	1250		1500	1750	2000	2250	2500	—	140M-I8R-D15
	108	(30)	40	(55)	75	100	750	1000	1250		1500	1750	2000	2250	2500	—	
	135	(37)	50	—	100	125	750	1000	1250		1500	1750	2000	2250	2500	—	
250	201	(45)	60 - 75	(75)	125 - 150	150 - 200	1250	1405	1560		1720	1875	2030	2185	2340	2500	140M-JD8P-D20-W
400	201	(55)	—	(90)	—	—	1250	2250	2500		2750	3000	3250	3500	3750	4000	140M-K8P-D40
	251	—	100	(110)	200	250	2000	2250	2500		2750	3000	3250	3500	3750	4000	
	251	(75)	—	(132)	—	—	2250	2530	2810		3090	3375	3655	3935	4215	4500	140M-K8P-D45
600	317	(90)	125	(150 - 160)	250	300	1800	2400	3000		3600	4200	4800	5400	6000	—	140M-Q8P-D60
	361	(110)	150	(185)	300	350	1800	2400	3000		3600	4200	4800	5400	6000	—	
	480	(132)	—	(200 - 220)	350	400 - 450	1800	2400	3000		3600	4200	4800	5400	6000	—	

**Table 5 Combination 2163P Bulletin 1336 PLUS II Drive Units (220 - 230V and 230V, Constant Torque) - Instantaneous Trip Motor Circuit Protector (MCP)**

MCP Continuous Current Rating (Amperes)	Unit Output Rating (Amperes)	Nominal Horsepower Rating (Nominal Kilowatt Rating) (The horsepower and kW ratings shown are nominal. The limiting factor in the application and use of the Bulletin 1336 PLUS II drive unit is the output ampere rating.)		Magnetic Trip Setting			Magnetic Trip Setting					High Interrupting Capacity Suffix Letter "CA"
		220 - 230V (50 Hz)	230V (60 Hz)	A	B	C	D	E	F	G	H	Allen-Bradley Catalog Number
7	2.3	(0.37)	0.5	21	28	35	42	49	56	63	70	140M-I8P-B70
	3	(0.55)	0.75	21	28	35	42	49	56	63	70	
	4.5	(0.75)	1	21	28	35	42	49	56	63	70	
15	4.5	(1.1)	—	45	60	75	90	105	120	135	150	140M-I8P-C15
	6	(1.5)	1.5	45	60	75	90	105	120	135	150	
	8	—	2	45	60	75	180	105	120	270	150	
30	12	(2.2)	3	90	120	150	180	210	240	270	300	140M-I8P-C30
	18	—	5	90	120	150	180	210	240	270	300	
50	18	(3.7)	—	150	200	250	300	350	400	450	500	140M-I8P-C50
	27	(5.5)	7.5	150	200	250	300	350	400	450	500	
	34	—	10	150	200	250	300	350	400	450	500	
100	27	(7.5)	—	300	400	500	600	700	800	900	1000	140M-I8P-D10
	48	(11)	15	300	400	500	600	700	800	900	1000	
	65	—	20	300	400	500	600	700	800	900	1000	
	77	—	25	300	400	500	600	700	800	900	1000	
150L	65	(15 - 18.5)	—	450	600	750	900	1050	1200	1350	1500	140M-I8P-D15
	77	(22)	—	450	600	750	900	1050	1200	1350	1500	
	80	—	30	450	600	750	900	1050	1200	1350	1500	



**Table 6 Combination 2163P Bulletin 1336 PLUS II Drive Units (380 - 415V and 460V, Constant Torque) - Instantaneous Trip Motor Circuit Protector (MCP)**

MCP Continuous Current Rating (Amperes)	Unit Output Rating (Amperes)	Nominal Horsepower Rating (Nominal Kilowatt Rating) (The horsepower and kW ratings shown are nominal. The limiting factor in the application and use of the Bulletin 1336 PLUS II drive unit is the output ampere rating.)		Magnetic Trip Setting				Magnetic Trip Setting					High Interrupting Capacity Suffix Letter "CA"	
		380 - 415V	460V	A	B	C	D	E	F	G	H	I	Allen-Bradley Catalog Number	
3	1.1	(0.25)	0.5	9	12	15	18		21	24	27	30	—	140M-I8P-B30
	1.6	(0.37)	0.75	9	12	15	18		21	24	27	30	—	
7	1.6	(0.55)	—	21	28	35	42		49	56	63	70	—	140M-I8P-B70
	2.1	(0.75)	1	21	28	35	42		49	56	63	70	—	
	2.8	(1.1)	1.5	21	28	35	42		49	56	63	70	—	
	3.8	(1.5)	2	21	28	35	42		49	56	63	70	—	
15	5.3	(2.2)	3	45	60	75	90		105	120	135	150	—	140M-I8P-C15
	8.4	—	5	45	60	75	90		105	120	135	150	—	
30	8.4	(3.7)	—	90	120	150	180		210	240	270	300	—	140M-I8P-C30
	13.3	(5.5)	7.5	90	120	150	180		210	240	270	300	—	
	16.1	—	10	90	120	150	180		210	240	270	300	—	
50	16.1	(7.5)	—	150	200	250	300		350	400	450	500	—	140M-I8P-C50
	24.0	(11)	15	150	200	250	300		350	400	450	500	—	
	27	—	20	150	200	250	300		350	400	450	500	—	
	39	—	25	150	200	250	300		350	400	450	500	—	
100	27	(15)	—	300	400	500	600		700	800	900	1000	—	140M-I8P-D10
	39	(18.5)	—	300	400	500	600		700	800	900	1000	—	
	45	(22)	30	300	400	500	600		700	800	900	1000	—	
	60	—	40	300	400	500	600		700	800	900	1000	—	
	75	—	50	300	400	500	600		700	800	900	1000	—	
150L	60	(30)	—	450	600	750	900		1050	1200	1350	1500	—	140M-I8P-D15
	75	(37)	—	450	600	750	900		1050	1200	1350	1500	—	
	77	—	60	450	600	750	900		1050	1200	1350	1500	—	
250	85	(45)	—	875	980	1090	1200		1310	1430	1530	1640	1750	140M-JD8P-D14-W
	106	—	75	875	980	1090	1200		1310	1430	1530	1640	1750	
	106	(55)	—	875	980	1090	1200		1875	2030	2185	2340	2500	140M-JD8P-D20-W
	138	(75)	100	875	980	1090	1200		1875	2030	2185	2340	2500	
	173	—	125	875	980	1090	1200		1875	2030	2185	2340	2500	
400	173	(90)	—	2000	2250	2500	2750		3000	3250	3500	3750	4000	140M-K8P-D40

**Table 7 Combination 2163P Bulletin 1336 PLUS II Drive Units (460V Variable Torque) - Instantaneous Trip Motor Circuit Protector (MCP)**

MCP Continuous Current Rating (Amperes)	Unit Output Rating (Amperes)	Nominal Horsepower Rating (The horsepower ratings shown are nominal. The limiting factor in the application and use of the Bulletin 1336 PLUS II drive unit is the output ampere rating.)	Magnetic Trip Setting				Magnetic Trip Setting					High Interrupting Capacity Suffix Letter "CA"	
			A	B	C	D	E	F	G	H	I		
		<b>460V</b>											<b>Allen-Bradley Catalog Number</b>
3	1.2	0.5	9	12	15	18		21	24	27	30	—	140M-I8P-B30
	1.7	0.75	9	12	15	18		21	24	27	30	—	
7	2.3	1	21	28	35	42		49	56	63	70	—	140M-I8P-B70
	3	1.5	21	28	35	42		49	56	63	70	—	
	4	2	21	28	35	42		49	56	63	70	—	
15	6	3	45	60	75	90		105	120	135	150	—	140M-I8P-C15
	9	5	45	60	75	90		105	120	135	150	—	
30	15.4	7.5 - 10	90	120	150	180		210	240	270	300	—	140M-I8P-C30
50	22	15	150	200	250	300		350	400	450	500	—	140M-I8P-C50
	27	20	150	200	250	300		350	400	450	500	—	
	34	25	150	200	250	300		350	400	450	500	—	
100	42	30	300	400	500	600		700	800	900	1000	—	140M-I8P-D10
	65	40 - 50	300	400	500	600		700	800	900	1000	—	
150L	75	60	450	600	750	900		1050	1200	1350	1500	—	140M-I8P-D15
250	96	75	875	980	1090	1200		1310	1430	1530	1640	1750	140M-JD8P-D14-W
	120	100	1250	1405	1560	1720		1875	2030	2185	2340	2500	140M-JD8P-D20-W
	150	125	1250	1405	1560	1720		1875	2030	2185	2340	2500	
	180	150	1250	1405	1560	1720		1875	2030	2185	2340	2500	

**Table 8 Combination 2163P Bulletin 1336 PLUS II Drive Units (575V Constant Torque) - Instantaneous Trip Motor Circuit Protector (MCP)**

MCP Continuous Current Rating (Amperes)	Unit Output Rating (Amperes)	Nominal Horsepower Rating (The horsepower ratings shown are nominal. The limiting factor in the application and use of the Bulletin 1336 PLUS II drive unit is the output ampere rating.)	Magnetic Trip Setting				Magnetic Trip Setting					High Interrupting Capacity Suffix Letter "CA"	
			A	B	C	D	E	F	G	H	I		
		<b>575V</b>											<b>Allen-Bradley Catalog Number</b>
3	2	1	9	12	15	18		21	24	27	30	—	140M-I8P-B30
7	4	2	21	28	35	42		49	56	63	70	—	140M-I8P-B70
	6	3	21	28	35	42		49	56	63	70	—	
15	8	5	45	60	75	90		105	120	135	150	—	140M-I8P-C15
30	10	7.5	90	120	150	180		210	240	270	300	—	140M-I8P-C30
	12	10	90	120	150	180		210	240	270	300	—	
50	19	15	150	200	250	300		350	400	450	500	—	140M-I8P-C50
	24	20	150	200	250	300		350	400	450	500	—	
	30	25	150	200	250	300		350	400	450	500	—	
	35	30	150	200	250	300		350	400	450	500	—	
100	45	40	300	400	500	600		700	800	900	1000	—	140M-I8P-D10
	57	50	300	400	500	600		700	800	900	1000	—	
	62	60	300	400	500	600		700	800	900	1000	—	
250	85	75	750	840	935	1030		1125	1220	1315	1410	1500	140M-JD8P-D12-W
	109	100	875	980	1090	1720		1310	1430	1530	1640	1750	140M-JD8P-D14-W
	138	125	1250	1405	1560	1720		1875	2030	2185	2340	3500	140M-JD8P-D20-W

**Table 9 Combination 2163Q PowerFlex 70 Drive Units (380 - 415, 460, and 575V) and 2165Q PowerFlex 70 Drive Units with Manual Isolated Drive Bypass (460 and 575V) - Instantaneous Trip Motor Circuit Protector (MCPS)**

MCP Continuous Current Rating (Amperes)	Unit Output Rating (Amperes)	Nominal Horsepower Rating (Nominal Kilowatt Rating) (The horsepower and kW ratings shown are nominal. The limiting factor in the application and use of the PowerFlex 70 drive unit is the output ampere rating.)			Magnetic Trip Setting				Magnetic Trip Setting				High Interrupting Capacity Suffix Letter "CA"	
		380 - 415V	460V	575V	A	B	C	D	E	F	G	H	Allen-Bradley Catalog Number	
3	0.9	—	—	0.5	9	12	15	18		21	24	27	30	140M-I8P-B30S
	1.1	—	0.5	—	9	12	15	18		21	24	27	30	
	1.3	(0.37)	—	—	9	12	15	18		21	24	27	30	
	1.7	—	—	0.75 - 1	9	12	15	18		21	24	27	30	
	2.1	—	0.75	—	9	12	15	18		21	24	27	30	
7	2.1	(0.55 - 0.75)	1	—	21	28	35	42		49	56	63	70	140M-I8P-B70S
	2.2	—	—	—	21	28	35	42		49	56	63	70	
	2.7	—	—	1.5 - 2	21	28	35	42		49	56	63	70	
	3.4	—	1.5 - 2.0	—	21	28	35	42		49	56	63	70	
	3.5	(1.1 - 1.5)	—	—	21	28	35	42		49	56	63	70	
	3.9	—	—	3	21	28	35	42		49	56	63	70	
15	4.2	—	—	—	21	28	35	42		49	56	63	70	140M-I8P-C15S
	5	(2.2)	3	—	45	60	75	90		105	120	135	150	
	6.1	—	—	5	45	60	75	90		105	120	135	150	
	6.8	—	—	—	45	60	75	90		105	120	135	150	
30	8	—	5	—	45	60	75	90		105	120	135	150	140M-I8P-C30S
	8.7	(3.7)	—	—	90	120	150	180		210	240	270	300	
	9	—	—	7.5	90	120	150	180		210	240	270	300	
	9.6	—	—	—	90	120	150	180		210	240	270	300	
	11	—	7.5	10	90	120	150	180		210	240	270	300	
	11.5	(5.5)	—	—	90	120	150	180		210	240	270	300	
	14	—	10	—	90	120	150	180		210	240	270	300	
50	15	—	—	—	90	120	150	180		210	240	270	300	140M-I8P-C50S
	15.3	—	—	—	150	200	250	300		350	400	450	500	
	15.4	(7.5)	—	—	150	200	250	300		350	400	450	500	
	17	—	—	15	150	200	250	300		350	400	450	500	
	22	(11)	15	20	150	200	250	300		350	400	450	500	
	27	—	20	—	150	200	250	300		350	400	450	500	
	28	—	—	—	150	200	250	300		350	400	450	500	
100	32	—	—	30	150	200	250	300		350	400	450	500	140M-I8P-D10S
	34	—	25	—	150	200	250	300		350	400	450	500	
	28	—	—	—	300	400	500	600		700	800	900	1000	
	30	(15)	—	—	300	400	500	600		700	800	900	1000	
	37	(18.5)	—	—	300	400	500	600		700	800	900	1000	
	40	—	30	—	300	400	500	600		700	800	900	1000	
	41	—	—	40	300	400	500	600		700	800	900	1000	
150L	43	(22)	—	—	300	400	500	600		700	800	900	1000	140M-I8P-D15S
	52	—	—	50	300	400	500	600		700	800	900	1000	
	52	—	40	—	300	400	500	600		700	800	900	1000	
150L	65	—	50	—	300	400	500	600		700	800	900	1000	140M-I8P-D15S
	60	(30)	—	—	450	600	750	900		1050	1200	1350	1500	
	72	(37)	—	—	450	600	750	900		1050	1200	1350	1500	

**Table 10 Combination 2163R PowerFlex 700 Drive Units (380 - 415V, 460V) and 2165R PowerFlex 700 Drive Units with Manual Isolated Drive Bypass (460V, 575V) - Instantaneous Trip Motor Circuit Protector (MCP)**

MCP Continuous Current Rating (Amperes)	Unit Output Rating (Amperes)	Nominal Horsepower Rating (Nominal Kilowatt Rating) (The horsepower and kW ratings shown are nominal. The limiting factor in the application and use of the PowerFlex 700 drive unit is the output ampere rating.)			Magnetic Trip Setting				Magnetic Trip Setting					High Interrupting Capacity Suffix Letter "CA"
		380 - 415V	460V	575V	A	B	C	D	E	F	G	H	I	Allen-Bradley Catalog Number
3	1.1	—	0.5	—	9	12	15	18	21	24	27	30	—	140M-I8P-B30
	1.3	(0.37)	—	—	9	12	15	18	21	24	27	30	—	
	1.7	—	—	1	9	12	15	18	21	24	27	30	—	
	2.1	—	0.75	—	9	12	15	18	21	24	27	30	—	
7	2.1	(0.55 - 0.75)	1	—	21	28	35	42	49	56	63	70	—	140M-I8P-B70
	2.7	—	—	1.5 - 2	21	28	35	42	49	56	63	70	—	
	3.4	—	1.5 - 2	—	21	28	35	42	49	56	63	70	—	
	3.5	(1.1 - 1.5)	—	—	21	28	35	42	49	56	63	70	—	
	3.9	—	—	3	21	28	35	42	49	56	63	70	—	
15	5	(2.2)	3	—	45	60	75	90	105	120	135	150	—	140M-I8P-C15
	6.1	—	—	5	45	60	75	90	105	120	135	150	—	
	8	—	5	—	45	60	75	90	105	120	135	150	—	
30	8.7	(3.7)	—	—	90	120	150	180	210	240	270	300	—	140M-I8P-C30
	9	—	—	7.5	90	120	150	180	210	240	270	300	—	
	11	—	7.5	10	90	120	150	180	210	240	270	300	—	
	11.5	(5.5)	—	—	90	120	150	180	210	240	270	300	—	
	14	—	10	—	90	120	150	180	210	240	270	300	—	
50	15.4	(7.5)	—	—	150	200	250	300	350	400	450	500	—	140M-I8P-C50
	17	—	—	15	150	200	250	300	350	400	450	500	—	
	22	(11)	15	20	150	200	250	300	350	400	450	500	—	
	27	—	20	25	150	200	250	300	350	400	450	500	—	
	32	—	—	30	150	200	250	300	350	400	450	500	—	
	34	—	25	—	150	200	250	300	350	400	450	500	—	
100	30	(15)	—	—	300	400	500	600	700	800	900	1000	—	140M-I8P-D10
	37	(18.5)	—	—	300	400	500	600	700	800	900	1000	—	
	40	—	30	—	300	400	500	600	700	800	900	1000	—	
	41	—	—	40	300	400	500	600	700	800	900	1000	—	
	43	(22)	—	—	300	400	500	600	700	800	900	1000	—	
	52	—	40	50	300	400	500	600	700	800	900	1000	—	
	62	—	—	60	300	400	500	600	700	800	900	1000	—	
150L	56	(30)	—	—	450	600	750	900	1050	1200	1350	1500	—	140M-I8P-D15
	72	(37)	—	—	450	600	750	900	1050	1200	1350	1500	—	
	77	—	60	—	450	600	750	900	1050	1200	1350	1500	—	
250	77	—	—	75	750	840	935	1030	1125	1220	1315	1410	1500	140M-JD8P-D12-W
	96	—	75	—	875	980	1090	1200	1310	1430	1530	1640	1750	140M-JD8P-D14-W
	105	(45 - 55)	—	—	875	980	1090	1200	1310	1430	1530	1640	1750	
	125	—	100	100	875	980	1090	1200	1310	1430	1530	1640	1750	140M-JD8P-D20-W
	125	—	—	125	1250	1405	1560	1720	1875	2030	2185	2340	2500	
	144	—	—	150	1250	1405	1560	1720	1875	2030	2185	2340	2500	
	156	—	125	—	1250	1405	1560	1720	1875	2030	2185	2340	2500	
	170	(75)	—	—	1250	1405	1560	1720	1875	2030	2185	2340	2500	
180	—	150	—	1250	1405	1560	1720	1875	2030	2185	2340	2500		
400	170	(90)	—	—	2000	2250	2500	2750	3000	3250	3500	3750	4000	140M-K8P-D40
	255	(110)	200	—	2000	2250	2500	2750	3000	3250	3500	3750	4000	140M-K8P-D45
	255	(132)	—	—	2250	2530	2810	3090	3375	3655	3935	4215	4500	



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