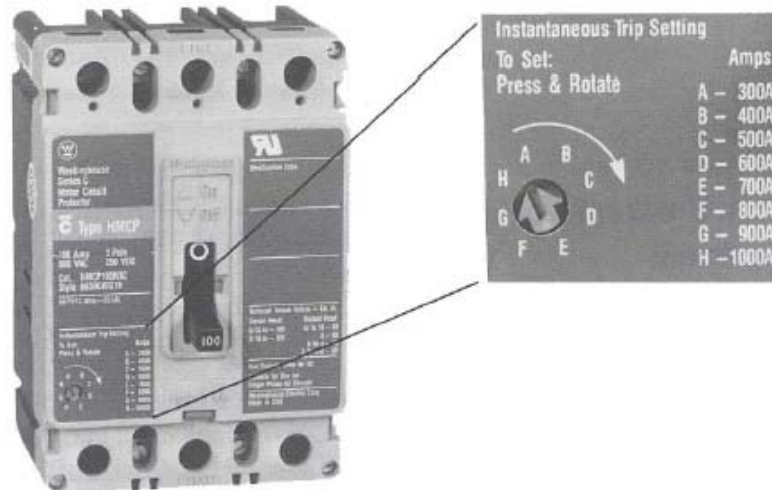




CENTERLINE[®] Motor Control Centers

Cutler-Hammer Instantaneous Trip Motor Circuit Protectors (HMCP) In Combination NEMA Starter, Application-Rated Soft Starter Controller (SMC) and Variable Frequency Drive Units



**Cutler-Hammer 150A Frame
Instantaneous Trip Motor Circuit Protector (HMCP).**

Application

Circuit breaker application is valid for the following Bulletin 2100 products:

- Bulletin 2107 Full Voltage Reversing Combination Staters
- Bulletin 2113 Full Voltage Non-Reversing Combination Starters
- Bulletin 2123 Two Speed 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 Cutler-Hammer motor circuit protectors (HMCP) when they are used in NEMA (size 1 through 6) combination starter, soft starter controller, and variable frequency drive units. The particular circuit breaker (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 circuit breakers 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 drive units with inverse time circuit breakers, refer to Publication 2100-TD002x-EN-P, *Cutler-Hammer Inverse Time Circuit Breaker in Combination NEMA Starter, Application-rated Soft Starter Controller (SMC), and Variable Frequency Drive Units.*

Circuit Breaker Size and Adjustment

Packaged Control Products has made engineering evaluations for the protective device (circuit breaker) selection, sizing, and setting range based on the protection rules/requirements and motor criteria as stipulated in CEC, NEC, NEMA, UL and CSA Standards, e.g. motor full load currents (FLC), X/R ratios, lock 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 circuit breaker is shipped with the instantaneous trip arrow set to the lowest value. The motor full load current determines the magnetic trip setting of the HMCP circuit breaker. Rockwell Automation recommends selecting a 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 circuit breaker 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 circuit breaker will not trip during motor starting. If the circuit breaker trips when attempting to start the motor, turn the pointer clockwise to successively higher positions, until the circuit breaker no longer trips when attempting to start the motor. Per the NEC the trip setting of the circuit breaker must never 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 breakers higher than 13 times the motor full-load current, but, should not exceed 17 times (change per 1999 NEC). For these applications consult the factory for controller and breaker 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 circuit breaker. Depress the red button on the circuit breaker cover. When the button is pushed, a plunger rotates the trip bar causing the breaker to trip, thus opening the HMCP contacts.

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 Allen-Bradley distributor if the motor full load current is not within these limits.

ATTENTION



ATTENTION: The horsepower and kilowatt ratings and corresponding trip settings in Table 1 -3 and Bulletin 2155F only in Table 4 are only valid when the combination starter units and soft starter controller units are equipped with an Allen-Bradley SMP solid-state overload relay or a Bulletin 592 overload relay (motor running overcurrent protective device) that has correctly sized heater elements.

When correctly selected, this combination of equipment 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.

The circuit breaker tripping 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 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*).

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

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	Cutler-Hammer Catalog Number	Allen-Bradley Part Number	Cutler-Hammer Catalog Number	Allen-Bradley Part Number					
3	1	0.125 - 0.33	0.125 - 0.33	0.125 - 0.75	0.125 - 1	0.125 - 1	9	12	15	18						21	24	27	30	—	HMCP003A0C	25102-258-01	ELC3003R	25107-101-10
3 ^①	1	0.125 - 0.33	0.125 - 0.33	0.125 - 0.75	0.125 - 1	0.125 - 1	9	12	15	18						21	24	27	30	—	HMCP003A0C	25102-258-13	ELC3003R	25107-101-10
7	1	0.5 - 1	0.5 - 1	1 - 2	1.5 - 2	1.5 - 3	21	28	35	42						49	56	63	70	—	HMCP007C0C	25102-258-02	ELC3007R	25107-101-11
7 ^①	1	0.5 - 1	0.5 - 1	1 - 2	1.5 - 2	1.5 - 3	21	28	35	42						49	56	63	70	—	HMCP007C0C	25102-258-12	ELC3007R	25107-101-11
15	1	1.5 - 2	1.5 - 2	3 - 5	3 - 5	5	45	60	75	90						105	120	135	150	—	HMCP015E0C	25102-258-03	ELC3015R	25107-101-12
15 ^①	1	1.5 - 2	1.5 - 2	3 - 5	3 - 5	5	45	60	75	90						105	120	135	150	—	HMCP015E0C	25102-258-14	ELC3015R	25107-101-12
30	1	3	3 - 5	7.5 - 10	7.5 - 10	7.5 - 10	90	120	150	180						210	240	270	300	—	HMCP030H1C	25102-258-04	ELC3030R	25107-101-13
30 ^①	1	3	3 - 5	7.5 - 10	7.5 - 10	7.5 - 10	90	120	150	180						210	240	270	300	—	HMCP030H1C	25102-258-15	ELC3030R	25107-101-13
50	1	5 - 7.5	7.5	—	—	—	150	200	250	300						350	400	450	500	—	HMCP050K2C	25102-258-05	ELC3050R	25107-101-14
50 ^①	1	5 - 7.5	7.5	—	—	—	150	200	250	300						350	400	450	500	—	HMCP050K2C	25102-258-16	ELC3050R	25107-101-14
50	2	10	10	15 - 20	15 - 25	15 - 25	150	200	250	300						350	400	450	500	—	HMCP050K2C	25102-258-05	ELC3050R	25107-101-14
50 ^①	2	10	10	15 - 20	15 - 25	15 - 25	150	200	250	300						350	400	450	500	—	HMCP050K2C	25102-258-16	ELC3050R	25107-101-14
50	3	—	—	—	—	30	150	200	250	300						350	400	450	500	—	HMCP050K2C	25102-258-05	ELC3050R	25107-101-14
100	2	—	15	25	—	—	300	400	500	600						700	800	900	1000	—	HMCP100R3C	25102-258-06	ELC3100R	25107-101-15
	3	15 - 20	20 - 25	30 - 40	30 - 50	40 - 50	300	400	500	600						700	800	900	1000	—				
	4	—	—	—	—	60	300	400	500	600						700	800	900	1000	—				
150L	3	25	30	50	—	—	450	600	750	900						1050	1200	1350	1500	—	HMCP150T4C	25102-258-07	ELC3150R	25107-101-16
	4	30	—	60	60	75	450	600	750	900						1050	1200	1350	1500	—	HMCP150T4C	25102-258-07		
150H	4	40	40 - 50	75	75 - 100	100	750	1000	1250	1500						1750	2000	2250	2500	—	HMCP150U4C	25102-258-08		
250	4 ^②	—	—	—	—	60	500	565	625	690						750	810	875	935	1000	HMCP250D5W	25102-321-03	—	—
		—	—	—	60	75	750	840	935	1030						1125	1220	1315	1410	1500	HMCP250G5W	25102-321-04	—	—
		—	40 - 50	—	75 - 100	100	875	980	1090	1200						1310	1420	1530	1640	1750	HMCP250J5W	25102-321-01	—	—
400	5	50 - 60	60 - 75	100 - 125	125 - 150	125 - 200	1250	1405	1560	1720						1875	2030	2185	2340	2500	HMCP250W5W	25102-321-02	—	—
400	5	75	100	150	200	—	2000	2250	2500	2750						3000	3250	3500	3750	4000	HMCP400X5W	25102-353-01	—	—
600	6	100 - 150	125 - 150	200 - 300	250 - 350	250 - 400	1800	2400	3000	3600						4200	4800	5400	6000	—	HMCP600L6W	25103-412-01	—	—

① With any electronic or solid-state overload (SMP-1, SMP-2, SMP-3, E3, E1 Plus)

② For Bulletin 2173 only

Table 2 — Combination 2155F and 2155G SMC Units - Instantaneous Trip Motor Circuit Protector (HMCP)

Continuous Current Rating (Amperes)	SMC 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 Plus and the SMC Dialog Plus 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	Cutler-Hammer Catalog Number	Allen-Bradley Part Number	
3	24	—	—	—	1	1	9	12	15		18	21	24	27	30	—	HMCP003A0C	25102-258-01
7	24	(0.75)	1	(0.75 - 1.5)	1.5 - 2	1.5 - 3	21	28	35		42	49	56	63	70	—	HMCP007C0C	25102-258-02
15	24	(1.1 - 1.5)	1.5 - 2	(2.2)	3 - 5	(3.7 - 5.5)	45	60	75		90	105	120	135	150	—	HMCP015E0C	25102-258-03
30	24	(2.2)	3 - 5	(3.7 - 5.5)	7.5 - 10	7.5 - 10	90	120	150		180	210	240	270	300	—	HMCP030H1C	25102-258-04
50	24	(3.7 - 5.5)	7.5	(7.5 - 11)	15	15 - 20	150	200	250		300	350	400	450	500	—	HMCP020K2C	25102-258-05
	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	—	HMCP100R3C	25102-258-06
	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	—	HMCP150T4C	25102-258-07
	97	(18.5 - 22)	30	(30 - 37)	60	75	450	600	750		900	1050	1200	1350	1500	—	HMCP150T4C	25102-258-07
150H	97	—	—	(45)	75	—	750	1000	1250		1500	1750	2000	2250	2500	—	HMCP150U4C	25102-258-08
	135	(30 - 37)	40 - 50	(55)	100	100	750	1000	1250		1500	1750	2000	2250	2500	—	HMCP150U4C	25102-258-08
250	135	—	—	—	—	125	1250	1405	1560		1720	1875	2030	2185	2340	2500	HMCP250W5W	25102-321-02
	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	HMCP400X5W	25102-353-01
	240	(55)	75	(110)	200	200 - 250	2000	2250	2500		2750	3000	3250	3500	3750	4000	HMCP400X5W	25102-353-01
	240	(75)	—	—	—	—	2250	2530	2810		3090	3375	3655	3935	4215	4500	HMCP400Y5W	25102-353-03
600	360	(90 - 110)	100 - 150	(132 - 185)	250 - 300	300 - 350	1800	2400	3000		3600	4200	4800	5400	6000	—	HMCP600L5W	25103-412-01
	500	(132)	—	(200-220)	350	400	1800	2400	3000		3600	4200	4800	5400	6000	—		

Table 3 — Combination 2155H SMC Units - Instantaneous Trip Motor Circuit Protector (HMCP)

Continuous Current Rating (Amperes)	SMC-3 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 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	Cutler-Hammer Catalog Number	Allen-Bradley Part Number		
3	3	(0.25)	—	(0.37)	0.5 - 1	0.75 - 1	9	12	15		18	21	24	27	30	—	HMCP003A0C	25102-258-01
7	3	(0.37 - 0.55)	0.5	(0.55 - 1.1)	1.5	1.5 - 2	21	28	35		42	49	56	63	70	—	HMCP007C0C	25102-258-02
	9	(0.75)	0.75 - 1	(1.5)	2	3	21	28	35		42	49	56	63	70	—	HMCP007C0C	25102-258-02
15	9	(1.1 - 1.5)	1.5 - 2	(2.2)	3 - 5	5	45	60	75		90	105	120	135	150	—	HMCP015E0C	25102-258-03
30	9	(2.2)	—	(3.7)	—	7.5	90	120	150		180	210	240	270	300	—	HMCP030H1C	25102-258-04
	19	—	3 - 5	(5.5)	7.5 - 10	10	90	120	150		180	210	240	270	300	—	HMCP030H1C	25102-258-04
50	19	(3.7)	—	(7.5)	—	15	150	200	250		300	350	400	450	500	—	HMCP050K2C	25102-258-05
	25	(5.5)	7.5	(11)	15	20	150	200	250		300	350	400	450	500	—	HMCP050K2C	25102-258-05
	30	—	10	—	20	25	150	200	250		300	350	400	450	500	—	HMCP050K2C	25102-258-05
	37	—	—	(18.5)	25	—	150	200	250		300	350	400	450	500	—	HMCP050K2C	25102-258-05
100	30	(7.5)	—	(15)	—	—	300	400	500		600	700	800	900	1000	—	HMCP100R3C	25102-258-06
	37	—	—	—	—	30	300	400	500		600	700	800	900	1000	—	HMCP100R3C	25102-258-06

Table 4 — Combination 2155J SMC-Flex Units - Instantaneous Trip Motor Circuit Protector (HMCP)

Continuous Current Rating (Amperes)	SMC 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 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	Cutler-Hammer Catalog Number	Allen-Bradley Part Number	
100	108	—	25	—	50	60	300	400	500		600	700	800	900	1000	—	HMCP100R3C	25102-258-06
150L	108	(18.5 - 22)	30	(30 - 37)	60	75	450	600	750		900	1050	1200	1350	1500	—	HMCP150T4C	25102-258-07
150H	108	(30)	40	(45 - 55)	75	100	750	1000	1250		1500	1750	2000	2250	2500	—	HMCP150J4C	25102-258-08
	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	HMCP250W5W	25102-321-02
400	201	(55)	—	(90)	—	—	1250	2250	2500		2750	3000	3250	3500	3750	4000	HMCP400X5W	25102-353-01
	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	HMCP400Y5W	25102-353-03
600	317	(90)	125	(150 - 160)	250	300	1800	2400	3000		3600	4200	4800	5400	6000	—	HMCP600L5W	25103-412-01
	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 Drive Units (220 - 230V and 230V, Constant Torque) - Instantaneous Trip Motor Circuit Protector (HMCP)

Continuous Current Rating (Amperes)	Drive 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 and 1336 Plus II drive is the output ampere rating.)		Magnetic Trip Setting			Magnetic Trip Setting					High Interrupting Capacity Suffix Letter "CA"		
		220 - 230V	230V	A	B	C	D	E	F	G	H	Cutler-Hammer Catalog Number	Allen-Bradley Part Number	
7	2.3	(0.37)	0.5	21	28	35		42	49	56	63	70	HMCP007C0C	25102-258-02
	3	(0.55)	0.75	21	28	35		42	49	56	63	70		
	4.5	—	1	21	28	35		42	49	56	63	70		
15	4.5	(0.75 - 1.1)	—	45	60	75		90	105	120	135	150	HMCP015E0C	25102-258-03
	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	HMCP030H1C	25102-258-04
	18	—	5	90	120	150		180	210	240	270	300		
50	18	(3.7)	—	150	200	250		300	350	400	450	500	HMCP050K2C	25102-258-05
	27	—	7.5	150	200	250		300	350	400	450	500		
	34	—	10	150	200	250		300	350	400	450	500		
100	27	(5.5 - 7.5)	—	300	400	500		600	700	800	900	1000	HMCP100R3C	25102-258-06
	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	HMCP150T4C	25102-258-07
	77	(22)	—	450	600	750		900	1050	1200	1350	1500		
	80	—	30	450	600	750		900	1050	1200	1350	1500		

Table 6 — Combination 2163P Drive Units (380 - 415V and 460V, Constant Torque) - Instantaneous Trip Motor Circuit Protector (HMCP)

Continuous Current Rating (Amperes)	Drive 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 and 1336 Plus II drive 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	Cutler-Hammer Catalog Number	Allen-Bradley Part Number
3	1.1	(0.25)	0.5	9	12	15	18	21	24	27	30	—	HMCP003A0C	25102-258-01
	1.6	(0.37 - 0.55)	0.75	9	12	15	18	21	24	27	30	—	HMCP003A0C	25102-258-01
	2.1	—	1	9	12	15	18	21	24	27	30	—	HMCP003A0C	25102-258-01
7	2.1	(0.75)	—	21	28	35	42	49	56	63	70	—	HMCP007C0C	25102-258-02
	2.8	(1.1)	1.5	21	28	35	42	49	56	63	70	—	HMCP007C0C	25102-258-02
	3.8	—	2	21	28	35	42	49	56	63	70	—	HMCP007C0C	25102-258-02
15	3.8	(1.5)	—	45	60	75	90	105	120	135	150	—	HMCP015E0C	25102-258-03
	5.3	(2.2)	3	45	60	75	90	105	120	135	150	—	HMCP015E0C	25102-258-03
	8.4	—	5	45	60	75	90	105	120	135	150	—	HMCP015E0C	25102-258-03
30	8.4	(3.7)	—	90	120	150	180	210	240	270	300	—	HMCP030H1C	25102-258-04
	13.3	—	7.5	90	120	150	180	210	240	270	300	—	HMCP030H1C	25102-258-04
	16.1	—	10	90	120	150	180	210	240	270	300	—	HMCP030H1C	25102-258-04
50	13.3	(5.5)	—	150	200	250	300	350	400	450	500	—	HMCP050K2C	25102-258-05
	16.1	(7.5)	—	150	200	250	300	350	400	450	500	—		
	24.0	—	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	24.0	(11)	—	300	400	500	600	700	800	900	1000	—	HMCP100R3C	25102-258-06
	27	(15)	—	300	400	500	600	700	800	900	1000	—		
	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	—	HMCP150T4C	25102-258-07
	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	HCMP250J5W	25102-321-01
	106	—	75	875	980	1090	1200	1310	1430	1530	1640	1750	HCMP250J5W	25102-321-01
	106	(55)	—	875	980	1090	1200	1875	2030	2185	2340	2500	HCMP250W5W	25102-321-02
	138	(75)	100	875	980	1090	1200	1875	2030	2185	2340	2500	HCMP250W5W	25102-321-02
	173	—	125	875	980	1090	1200	1875	2030	2185	2340	2500	HCMP250W5W	25102-321-02
400	173	(90)	—	2000	2250	2500	2750	3000	3250	3500	3750	4000	HCMP400X5W	25102-353-01

Table 7 — Combination 2163P Drive Units (460V Variable Torque) - Instantaneous Trip Motor Circuit Protector (HMCP)

Continuous Current Rating (Amperes)	Drive 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 and 1336 Plus II drive is the output ampere rating.)	Magnetic Trip Setting				Magnetic Trip Setting					High Interrupting Capacity Suffix Letter "CA"		
			460V				A	B	C	D	E	F	G	H
3	1.2	0.5	9	12	15	18		21	24	27	30	—	HMCP003A0C	25102-258-01
	1.7	0.75	9	12	15	18		21	24	27	30	—	HMCP003A0C	25102-258-01
	2.3	1	9	12	15	18		21	24	27	30	—	HMCP003A0C	25102-258-01
7	3	1.5	21	28	35	42		49	56	63	70	—	HMCP007C0C	25102-258-02
	4	2	21	28	35	42		49	56	63	70	—	HMCP007C0C	25102-258-02
15	6	3	45	60	75	90		105	120	135	150	—	HMCP015E0C	25102-258-03
	9	5	45	60	75	90		105	120	135	150	—	HMCP015E0C	25102-258-03
30	15.4	7.5 - 10	90	120	150	180		210	240	270	300	—	HMCP030H1C	25102-258-04
50	22	15	150	200	250	300		350	400	450	500	—	HMCP050K2C	25102-258-05
	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	—	HMCP100R3C	25102-258-06
	65	40 - 50	300	400	500	600		700	800	900	1000	—		
150L	75	60	450	600	750	900		1050	1200	1350	1500	—	HMCP150T4C	25102-258-07
250	96	75	875	980	1090	1200		1310	1430	1530	1640	1750	HMCP250J5W	25102-321-01
	120	100	1250	1405	1560	1720		1875	2030	2185	2340	2500	HMCP250W5W	25102-321-02
	150	125	1250	1405	1560	1720		1875	2030	2185	2340	2500	HMCP250W5W	25102-321-02
	180	150	1250	1405	1560	1720		1875	2030	2185	2340	2500	HMCP250W5W	25102-321-02

Table 8 — Combination 2163P Drive Units (575V Constant Torque) - Instantaneous Trip Motor Circuit Protector (HMCP)

Continuous Current Rating (Amperes)	Drive 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 and 1336 Plus II is the output ampere rating.)	Magnetic Trip Setting				Magnetic Trip Setting					High Interrupting Capacity Suffix Letter "CA"		
			575V				A	B	C	D	E	F	G	H
3	2	1	9	12	15	18		21	24	27	30	—	HMCP003A0C	25102-258-01
7	4	2	21	28	35	42		49	56	63	70	—	HMCP007C0C	25102-258-02
	6	3	21	28	35	42		49	56	63	70	—	HMCP007C0C	25102-258-02
15	8	5	45	60	75	90		105	120	135	150	—	HMCP015E0C	25102-258-03
30	10	7.5	90	120	150	180		210	240	270	300	—	HMCP030H1C	25102-258-04
	12	10	90	120	150	180		210	240	270	300	—	HMCP030H1C	25102-258-04
50	19	15	150	200	250	300		350	400	450	500	—	HMCP050K2C	25102-258-05
	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	—	HMCP100R3C	25102-258-06
	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	HMCP250G5	25102-321-04
	109	100	875	980	1090	1720		1310	1430	1530	1640	1750	HMCP250J5W	25102-321-01
	138	125	1250	1405	1560	1720		1875	2030	2185	2340	3500	HMCP250W5W	25102-321-02

Table 9 — Combination 2163Q PowerFlex 70 Drive (220 - 230, 230, 380 - 415, 460, and 575V) and 2165Q PowerFlex 70 Drive Units with Manual Isolated Drive Bypass (460 and 575V) - Instantaneous Trip Motor Circuit Protector (HMCPS)

Continuous Current Rating (Amperes)	Drive 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 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	Cutler-Hammer Catalog Number	Allen-Bradley Part Number		
3	0.9	—	—	—	—	0.5	9	12	15	18			21	24	27	30	HMCPS003AOC	25102-258-13
	1.1	—	—	—	0.5	—	9	12	15	18			21	24	27	30	HMCPS003AOC	25102-258-13
	1.3	—	—	(0.37)	—	—	9	12	15	18			21	24	27	30	HMCPS003AOC	25102-258-13
	1.7	—	—	—	—	1	9	12	15	18			21	24	27	30	HMCPS003AOC	25102-258-13
	2.1	—	—	—	1	—	9	12	15	18			21	24	27	30	HMCPS003AOC	25102-258-13
7	2.1	—	—	(0.55 - 0.75)	—	—	21	28	35	42			49	56	63	70	HMCPS007COC	25102-258-12
	2.2	(0.37)	0.5	—	—	—	21	28	35	42			49	56	63	70	HMCPS007COC	25102-258-12
	2.7	—	—	—	—	2	21	28	35	42			49	56	63	70	HMCPS007COC	25102-258-12
	3.4	—	—	—	1.5 - 2.0	—	21	28	35	42			49	56	63	70	HMCPS007COC	25102-258-12
	3.5	—	—	(1.1 - 1.5)	—	—	21	28	35	42			49	56	63	70	HMCPS007COC	25102-258-12
	3.9	—	—	—	—	3	21	28	35	42			49	56	63	70	HMCPS007COC	25102-258-12
	4.2	(0.55 - 0.75)	1	—	—	—	21	28	35	42			49	56	63	70	HMCPS007COC	25102-258-12
15	5	—	—	(2.2)	3	—	45	60	75	90			105	120	135	150	HMCPS015E0C	25102-258-14
	6.1	—	—	—	—	5	45	60	75	90			105	120	135	150	HMCPS015E0C	25102-258-14
	6.8	(1.1 - 1.5)	1.5 - 2	—	—	—	45	60	75	90			105	120	135	150	HMCPS015E0C	25102-258-14
	8	—	—	—	5	—	45	60	75	90			105	120	135	150	HMCPS015E0C	25102-258-14
30	8.7	—	—	(3.7)	—	—	90	120	150	180			210	240	270	300	HMCPS030H1C	25102-258-15
	9	—	—	—	—	7.5	90	120	150	180			210	240	270	300	HMCPS030H1C	25102-258-15
	9.6	(2.2)	3	—	—	—	90	120	150	180			210	240	270	300	HMCPS030H1C	25102-258-15
	11	—	—	—	7.5	10	90	120	150	180			210	240	270	300	HMCPS030H1C	25102-258-15
	11.5	—	—	(5.5)	—	—	90	120	150	180			210	240	270	300	HMCPS030H1C	25102-258-15
	14	—	—	—	10	—	90	120	150	180			210	240	270	300	HMCPS030H1C	25102-258-15
	15	—	5	—	—	—	90	120	150	180			210	240	270	300	HMCPS030H1C	25102-258-15
50	15.3	(3.7)	—	—	—	—	150	200	250	300			350	400	450	500	HMCPS050K2C	25102-258-16
	15.4	—	—	(7.5)	—	—	150	200	250	300			350	400	450	500	HMCPS050K2C	25102-258-16
	17	—	—	—	—	15	150	200	250	300			350	400	450	500	HMCPS050K2C	25102-258-16
	22	(5.5)	7.5	(11)	15	20	150	200	250	300			350	400	450	500	HMCPS050K2C	25102-258-16
	27	—	—	—	20	—	150	200	250	300			350	400	450	500	HMCPS050K2C	25102-258-16
	28	—	10	—	—	—	150	200	250	300			350	400	450	500	HMCPS050K2C	25102-258-16
100	28	(7.5)	—	—	—	—	300	400	500	600			700	800	900	1000	HMCPS100R3C	25102-258-17
	30	—	—	(15)	—	—	300	400	500	600			700	800	900	1000	HMCPS100R3C	25102-258-17

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 (HMCP)

Continuous Current Rating (Amperes)	Drive 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 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	Cutler-Hammer Catalog Number	Allen-Bradley Part Number	
3	1.1	—	0.5	—	9	12	15	18		21	24	27	30	—	HMCP003AOC	25102-258-01
	1.3	(0.37)	—	—	9	12	15	18		21	24	27	30	—	HMCP003AOC	25102-258-01
	1.7	—	—	1	9	12	15	18		21	24	27	30	—	HMCP003AOC	25102-258-01
	2.1	—	0.75 - 1	—	9	12	15	18		21	24	27	30	—	HMCP003AOC	25102-258-01
7	2.1	(0.55 - 0.75)	—	—	21	28	35	42		49	56	63	70	—	HMCP007COC	25102-258-02
	2.7	—	—	1.5 - 2	21	28	35	42		49	56	63	70	—	HMCP007COC	25102-258-02
	3.4	—	1.5 - 2	—	21	28	35	42		49	56	63	70	—	HMCP007COC	25102-258-02
	3.5	(1.1 - 1.5)	—	—	21	28	35	42		49	56	63	70	—	HMCP007COC	25102-258-02
	3.9	—	—	3	21	28	35	42		49	56	63	70	—	HMCP007COC	25102-258-02
15	5	(2.2)	3	—	45	60	75	90		105	120	135	150	—	HMCP015E0C	25102-258-03
	6.1	—	—	5	45	60	75	90		105	120	135	150	—	HMCP015E0C	25102-258-03
	8	—	5	—	90	120	150	180		210	240	270	300	—	HMCP015E0C	25102-258-03
30	8.7	(3.7)	—	—	90	120	150	180		210	240	270	300	—	HMCP030H1C	25102-258-04
	9	—	—	7.5	90	120	150	180		210	240	270	300	—	HMCP030H1C	25102-258-04
	11	—	7.5	10	90	120	150	180		210	240	270	300	—	HMCP030H1C	25102-258-04
	11.5	(5.5)	—	—	90	120	150	180		210	240	270	300	—	HMCP030H1C	25102-258-04
	14	—	10	—	90	120	150	180		210	240	270	300	—	HMCP030H1C	25102-258-04
50	15.4	(7.5)	—	—	150	200	250	300		350	400	450	500	—	HMCP050K2C	25102-258-05
	17	—	—	15	150	200	250	300		350	400	450	500	—	HMCP050K2C	25102-258-05
	22	(11)	15	20	150	200	250	300		350	400	450	500	—	HMCP050K2C	25102-258-05
	27	—	20	25	150	200	250	300		350	400	450	500	—	HMCP050K2C	25102-258-05
	32	—	—	30	150	200	250	300		350	400	450	500	—	HMCP050K2C	25102-258-05
	34	—	25	—	150	200	250	300		350	400	450	500	—	HMCP050K2C	25102-258-05
100	30	(15)	—	—	300	400	500	600		700	800	900	1000	—	HMCP100R3C	25102-258-06
	37	(18.5)	—	—	300	400	500	600		700	800	900	1000	—	HMCP100R3C	25102-258-06
	40	—	30	—	300	400	500	600		700	800	900	1000	—	HMCP100R3C	25102-258-06
	41	—	—	40	300	400	500	600		700	800	900	1000	—	HMCP100R3C	25102-258-06
	43	(22)	—	—	300	400	500	600		700	800	900	1000	—	HMCP100R3C	25102-258-06
	52	—	40	50	300	400	500	600		700	800	900	1000	—	HMCP100R3C	25102-258-06
	62	—	—	60	300	400	500	600		700	800	900	1000	—	HMCP100R3C	25102-258-06
150LA	56	(30)	—	—	450	600	750	900		1050	1200	1350	1500	—	HMCP150T4C	25102-258-07
	72	(37)	—	—	450	600	750	900		1050	1200	1350	1500	—	HMCP150T4C	25102-258-07
	77	—	60	—	450	600	750	900		1050	1200	1350	1500	—	HMCP150T4C	25102-258-07
250	77	—	—	75	750	840	935	1030		1125	1220	1315	1410	1500	HMCP250G5	25102-321-04
	96	—	75	—	875	980	1090	1200		1310	1430	1530	1640	1750	HMCP250J5W	25102-321-01
	105	(45 - 55)	—	—	875	980	1090	1200		1310	1430	1530	1640	1750	HMCP250J5W	25102-321-01
	125	—	100	100	875	980	1090	1200		1310	1430	1530	1640	1750	HMCP250J5W	25102-321-01
	125	—	—	125	1250	1405	1560	1720		1875	2030	2185	2340	2500	HMCP250W5W	25102-321-02
	144	—	—	150	1250	1405	1560	1720		1875	2030	2185	2340	2500	HMCP250W5W	25102-321-02
	156	—	125	—	1250	1405	1560	1720		1875	2030	2185	2340	2500	HMCP250W5W	25102-321-02
	170	(75)	—	—	1250	1405	1560	1720		1875	2030	2185	2340	2500	HMCP250W5W	25102-321-02
400	180	—	150	—	1250	1405	1560	1720		1875	2030	2185	2340	2500	HMCP250W5W	25102-321-02
	170	(90)	—	—	2000	2250	2500	2750		3000	3250	3500	3750	4000	HMCP400X5W	25102-353-01

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