



Open  
1H413



NEMA 12  
1H410



NEMA 4X  
1H414

## NEMA Manual Motor Starters

- 600VAC max.; 250VDC max.
- Required thermal units sold separately, see page 159
- Auxiliary contacts 1H589 and 1H590 available on page 156

Push-button motor starters provide On/Off operation and overload protection for small 1-phase, 3-phase, or DC motors. For use on small machine tools, pumps, fans, and conveyors. UL Listed.

Note: NEMA Type 12 enclosures can be converted for 3R outdoor use by drilling two 1/8" holes in the bottom.



Enclosure NEMA Rating	NEMA Size M-0 1 hp HP @ 120VAC, 2 hp HP @ 230VAC			NEMA Size M-1 2 hp HP @ 120VAC, 3 hp HP @ 230VAC			NEMA Size M-1P 3 hp HP @ 120VAC, 5 hp HP @ 230VAC		
	Thermal Unit Code	Mfr. Model	Item No.	Thermal Unit Code	Mfr. Model	Item No.	Thermal Unit Code	Mfr. Model	Item No.
1-Phase, 2 Pole									
No Enclosure	J1	2510MB01	2BW14	—	—	—	—	—	—
1	J2	2510MBG1	1H411	K2	2510MCG1	1H415	L2	2510MCG2	1H416
12	J2	2510MBA1	2BW07	K2	2510MCA1	2BW22	L2	2510MCA2	2BW23
4, 4X	J2	2510MBW1	2PYD9	—	—	—	L2	2510MCW2	2PYE8
1-Phase, 2 Pole, Stainless Steel Enclosure									
4, 4X	J2	2510MBW11	2BW20	K2	2510MCW11	2PYE6	—	—	—
Enclosure NEMA Rating	NEMA Size M-0 3 hp HP @ 240VAC, 5 hp HP @ 480VAC			NEMA Size M-1 7 1/2 hp HP @ 240VAC, 10 hp HP @ 480VAC					
	Thermal Unit Code	Mfr. Model	Item No.	Thermal Unit Code	Mfr. Model	Item No.			
3-Phase, 3 Pole									
No Enclosure	M1	2510MB02	1H413	N1	2510MC03	2BW31			
1	M2	2510MBG2	1H412	N2	2510MCG3	1H417			
12	M2	2510MBA2	1H410	N2	2510MCA3	2BW25			
4, 4X	M2	2510MBW2	1H414 *	N2	2510MCW3	2BW36 *			
7, 9	M2	2510MBR2	2BW18	N2	2510MCR3	2PYE5			
3-Phase, 3 Pole, Stainless Steel Enclosure									
4, 4X	M2	2510MBW12	2BW21	N2	2510MCW13	2BW35			
Description						Mfr. Model	Item No.		
Internal Lever for use with Type M Integral HP in NEMA 4, 4X, 7, 9, and 12 Enclosures						9998IL1	1H418		
Replacement Contacts For 2- or 3-Pole M-0						9998ML1	1H559		
Replacement Contacts For 2- or 3-Pole M-1 and M-1P						9998ML2	1H560		
* Toggle switch operator.									



11Z488



11Z490



11Z492



11Z496



12M046



## Manual Motor Starters

NEMA manual starters provide control and overload protection to single- and 3-phase motors. Feature straight-through wiring and field-mounted auxiliary contacts. Come standard with a lockout device to lock motor in Off position. NEMA rated 1, 4, 7, 9, and 12.

NEMA Size	HP @ 3-Phase 240V	HP @ 3-Phase 480V	No Enclosure		NEMA 1		NEMA 4		NEMA 7D, 9E, 9F, 9G		NEMA 12			
			Mfr. Model	Item No.	Mfr. Model	Item No.	Mfr. Model	Item No.	Mfr. Model	Item No.	Mfr. Model	Item No.		
Toggle Operator														
M-0	2 hp	5 hp	B100MOC	11Z488	B100SOC	11Z490	B100WOC	11Z492	B100UOC	11Z494	B100JOC	11Z496		
M-1	3 hp	10 hp	B100M1C	11Z489	B100S1C	11Z491	B100W1C	11Z493	B100U1C	11Z495	B100J1C	11Z497		
Push Button Operator														
M-0	2 hp	5 hp	B100MOCA	12M044	B100SOCA	12M046	—	—	—	—	—	—		
M-1	3 hp	10 hp	B100M1CA	12M045	B100S1CA	12M047	—	—	—	—	—	—		
Description	Mfr. Model	Item No.	Full Load Amps	Mfr. Model	Item No.	Full Load Amps	Mfr. Model	Item No.	Full Load Amps	Mfr. Model	Item No.	Full Load Amps	Mfr. Model	Item No.
Accessories			Thermal Units											
Auxiliary Contact, 1NO	B1A	12M048	0.28 to 0.29	FH03	12M053	1.05 to 1.14	FH16	12M066	4.04 to 4.40	FH30	12M080	13.60 to 14.90	FH44	12M094
Auxiliary Contact, 1NC	B1B	12M049	0.30 to 0.33	FH04	12M054	1.15 to 1.25	FH17	12M067	4.41 to 4.81	FH31	12M081	15.00 to 16.00	FH45	12M095
Auxiliary Contact, 1NC	B1B	12M049	0.34 to 0.36	FH05	12M055	1.26 to 1.39	FH18	12M068	4.82 to 5.26	FH32	12M082	16.10 to 17.10	FH46	12M096
Red Pilot Light, 120VAC	LK-21	12M050	0.37 to 0.40	FH06	12M056	1.40 to 1.54	FH19	12M069	5.27 to 5.74	FH33	12M083	17.20 to 18.30	FH47	12M097
Red Pilot Light, 208-240VAC	LK-22	12M051	0.37 to 0.40	FH06	12M056	1.55 to 1.71	FH20	12M070	5.75 to 6.26	FH34	12M084	18.40 to 19.70	FH48	12M098
Red Pilot Light, 480-600VAC	LK-26	12M052	0.41 to 0.45	FH07	12M057	1.72 to 1.89	FH21	12M071	6.27 to 6.83	FH35	12M085	19.80 to 21.20	FH49	12M099
			0.46 to 0.50	FH08	12M058	1.90 to 2.10	FH22	12M072	6.84 to 7.45	FH36	12M086	21.30 to 22.80	FH50	12M101
			0.51 to 0.56	FH09	12M059	2.11 to 2.32	FH23	12M073	7.46 to 8.11	FH37	12M087	22.90 to 24.50	FH51	12M102
			0.57 to 0.63	FH10	12M060	2.33 to 2.54	FH24	12M074	8.12 to 8.81	FH38	12M088	24.60 to 26.40	FH52	12M103
			0.64 to 0.70	FH11	12M061	2.55 to 2.79	FH25	12M075	8.82 to 9.58	FH39	12M089	26.50 to 28.50	FH53	12M104
			0.71 to 0.78	FH12	12M062	2.80 to 3.07	FH26	12M076	9.59 to 10.40	FH40	12M090	28.60 to 30.80	FH54	12M105
			0.79 to 0.86	FH13	12M063	3.08 to 3.36	FH27	12M077	10.41 to 11.30	FH41	12M091	30.90 to 33.30	FH55	12M106
			0.87 to 0.95	FH14	12M064	3.37 to 3.68	FH28	12M078	11.40 to 12.20	FH42	12M092	33.40 to 36.00	FH56	12M107
			0.96 to 1.04	FH15	12M065	3.69 to 4.03	FH29	12M079	12.30 to 13.50	FH43	12M093	36.10 to 38.90	FH57	12M108



## NEMA Fractional Horsepower Manual Starters

- 1-pole 277VAC max.; 2-pole 277VAC/230VDC max.
- Required thermal units sold separately

Provide overload protection and manual On/Off control for small motors. Toggle-operated fractional HP starter for single-phase motors up to 1 HP. 2-pole starters can also be used with DC motors to 3/4 HP. Manual reset.

Binder head screw terminals are suitable for #10 or smaller copper wire and are accessible from the front. For use in fans, conveyors, pumps, and small machine tools.



1H385

								1-POLE		2-POLE	
Amps AC	Enclosure NEMA Rating	Operator	Pilot Light	Description/ Special Features	H	W	D	Mfr. Model	Item No.	Mfr. Model	Item No.
Manual Motor Starter											
16 A	1	Toggle	No	—	2.75 in	4.25 in	2.44 in	2510FG1	1H385	2510FG2	1H387
16 A	1	Toggle	Red: On	—	2.75 in	4.25 in	2.44 in	2510FG1P	1H386	2510FG2P	1H388
16 A	No Enclosure	Toggle	No	Stainless Steel Flush Plate	2.34 in	4.12 in	1.06 in	2510FS1	1H396	2510FS2	1H397
16 A	No Enclosure	Toggle	No	—	4.12 in	1.69 in	1.59 in	2510FO1	1H392	2510FO2	1H393
16 A	1	Toggle	No	Handle Guard Lock-Off	2.88 in	4.25 in	2.44 in	2510FG5	1H389	2510FG6	1H390
16 A	4	Rocker	No	Handle Guard Lock-Off	4.56 in	4.25 in	2.75 in	2510FW1	1H398	2510FW2	1H399
16 A	7, 9	Rocker	No	Handle Guard Lock-Off	4.38 in	6.38 in	3.94 in	2510FR1	1H394	2510FR2	1H395
Full Load Amps	Mfr. Model	Item No.	Full Load Amps	Mfr. Model	Item No.	Full Load Amps	Mfr. Model	Item No.	Full Load Amps	Mfr. Model	Item No.
Thermal Units, 1 Required											
0.41 to 0.44	A.49	5B619	1.30 to 1.37	A1.54	5B631	3.07 to 3.45	A4.32	5B652	8.16 to 8.98	A11.9	5B637
0.50 to 0.53	A.59	5B621	1.38 to 1.47	A1.63	5B632	3.46 to 3.70	A4.79	5B653	8.99 to 9.67	A13.2	5B638
0.59 to 0.65	A.71	5B623	1.48 to 1.56	A1.75	5B633	3.71 to 4.07	A5.30	5B654	9.68 to 9.95	A14.1	5B639
0.66 to 0.71	A.78	5B624	1.57 to 1.65	A1.86	5B634	4.08 to 4.32	A5.78	5B655	9.96 to 10.80	A14.8	5B640
0.72 to 0.78	A.86	5B625	1.66 to 1.79	A1.99	5B635	4.33 to 4.90	A6.20	5B656	10.90 to 12.10	A16.2	5B641
0.79 to 0.85	A.95	5B626	1.80 to 1.95	A2.15	5B644	4.91 to 5.35	A6.99	5B657	12.20 to 13.10	A17.9	5B642
0.86 to 0.96	A1.02	5B627	1.96 to 2.15	A2.31	5B645	5.36 to 5.85	A7.65	5B658	13.20 to 13.90	A19.8	5B643
0.97 to 1.04	A1.16	5B628	2.16 to 2.38	A2.57	5B646	5.86 to 6.41	A8.38	5B659	14.00 to 15.00	A21.3	5B644
1.05 to 1.16	A1.25	5B629	2.39 to 2.75	A2.81	5B647	6.42 to 6.79	A9.25	5B660	15.10 to 16.00	A25.2	5B649
1.17 to 1.29	A1.39	5B630	2.76 to 2.84	A3.61	5B650	6.80 to 7.57	A9.85	5B661			
			2.85 to 3.06	A3.95	5B651	7.58 to 8.15	A11.0	5B636			