



MCG[®]

I N D U S T R I A L

INDUSTRIAL CONTROL PRODUCT GUIDE

WWW.MCG-USA.COM



MCG offers a wide variety of Industrial control and automation products as well as custom-built panels, lighting contactors, and motor starters. Our certified UL 508A panel shop allows us to create custom solutions for unique applications. If you require assistance with a custom panel or need further technical information, please reach out to us at info@mcg-usa.com or by phone at 772.408.5211.

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HVAC SOLUTIONS



DEFINITE PURPOSE AUXILIARIES

MDPA SERIES



PART NUMBER	COMPATIBILITY	AUX. CONTACTS (NO)	AUX. CONTACTS (NC)
MDPA-1NC	3P/4P 20-60A	0	1
MDPA-1NC/1NO	3P/4P 20-60A	1	1
MDPA-1NO	3P/4P 20-60A	1	0
MDPA-2NC	3P/4P 20-60A	0	2
MDPA-2NO	3P/4P 20-60A	2	0
MDPA-2SPDT	3P 30-60A / 4P 20-40A	2	2
MDPA-90SPDT	3P 75-90A	1	1
MDPA-SPDT2	3P 20-60A / 4P 20-40A	1	1

AC DISCONNECTS

MAC SERIES



MAC-DNP60



MAC-DNS60



PART NUMBER	DESCRIPTION
MAC-DNP60	PLASTIC ENCLOSURE - 60A NON-FUSED PULLOUT WITH 2 KO'S
MAC-DNS60	METAL ENCLOSURE - 60A NON-FUSED PULLOUT WITH 2 KO'S

RUN CAPACITORS

AMRY SERIES

Run Capacitors are designed to give units extra storage for energy.



FEATURES:

- 370V or 440V available
- Oval case or round case available

PART NUMBER	DESCRIPTION
AMRY040V370-151	4(MFD) 370V OVAL CASE RUN CAP
AMRY050R370-151	5(MFD) 370V ROUND CASE RUN CAP
AMRY050R440-151	5(MFD) 440V ROUND CASE RUN CAP
AMRY050V370-151	5(MFD) 370V OVAL CASE RUN CAP
AMRY050V440-151	5(MFD) 440V OVAL CASE RUN CAP
AMRY060V370-151	6(MFD) 370V OVAL CASE RUN CAP
AMRY075R370-151	7.5(MFD) 370V ROUND CASE RUN CAP
AMRY075R440-151	7.5(MFD) 440V ROUND CASE RUN CAP
AMRY075V370-151	7.5(MFD) 370V OVAL CASE RUN CAP
AMRY075V440-151	7.5(MFD) 440V OVAL CASE RUN CAP
AMRY100R370-151	10(MFD) 370V ROUND CASE RUN CAP
AMRY100R440-151	10(MFD) 440V ROUND CASE RUN CAP
AMRY100V370-151	10(MFD) 370V OVAL CASE RUN CAP
AMRY100V440-151	10(MFD) 440V OVAL CASE RUN CAP
AMRY125R370-151	12.5(MFD) 370V ROUND CASE RUN CAP
AMRY125R440-151	12.5(MFD) 440V ROUND CASE RUN CAP

RUN CAPACITORS

AMRY SERIES

Run Capacitors are designed to give units extra storage for energy.



FEATURES:

- 370V or 440V available
- Oval case or round case available

PART NUMBER	DESCRIPTION
AMRY125V370-151	12.5(MFD) 370V OVAL CASE RUN CAP
AMRY150R370-151	15(MFD) 370V ROUND CASE RUN CAP
AMRY150R440-151	15(MFD) 440V ROUND CASE RUN CAP
AMRY150V370-151	15(MFD) 370V OVAL CASE RUN CAP
AMRY150V440-151	15(MFD) 440V OVAL CASE RUN CAP
AMRY200R370-151	20(MFD) 370V ROUND CASE RUN CAP
AMRY200R440-151	20(MFD) 440V ROUND CASE RUN CAP
AMRY200V370-151	20(MFD) 370V OVAL CASE RUN CAP
AMRY200V440-151	20(MFD) 440V OVAL CASE RUN CAP
AMRY250R370-151	25(MFD) 370V ROUND CASE RUN CAP
AMRY250R440-151	25(MFD) 440V ROUND CASE RUN CAP
AMRY250V370-151	25(MFD) 370V OVAL CASE RUN CAP
AMRY250V440-151	25(MFD) 440V OVAL CASE RUN CAP
AMRY300R370-151	30(MFD) 370V ROUND CASE RUN CAP
AMRY300R440-151	30(MFD) 440V ROUND CASE RUN CAP
AMRY300V370-151	30(MFD) 370V OVAL CASE RUN CAP

START CAPACITORS

AMSY SERIES

Start Capacitors are used to briefly increase motor starting torque. These run capacitors are offered in a wide variety of options.

FEATURES:

- Voltage: 125-330V Available
- MFD Ranges from 161-850MFD

PART NUMBER	IMS CODE	VOLTAGE	HERTZ	MFD RATING	TEMP RATING	CASE MATERIAL	# OF TERMINALS	MAX POWER FACTOR
AMSY108/125-252	0576-5985	125	50/60	108-130 MFD	(-40-60 DEGREES °C)	PHENOLIC	FOUR .25" QC'S	LOSS VALUE TAN Ø≤ 0.2 (100HZ)
AMSY108/250-252	0576-5964	250	50/60	108-130 MFD	(-40-60 DEGREES °C)	PHENOLIC	FOUR .25" QC'S	LOSS VALUE TAN Ø≤ 0.2 (100HZ)
AMSY124/250-252	0576-5976	250	50/60	124-149 MFD	(-40-60 DEGREES °C)	PHENOLIC	FOUR .25" QC'S	LOSS VALUE TAN Ø≤ 0.2 (100HZ)
AMSY161/125-252	0576-5958	125	50/60	161-193 MFD	(-40-60 DEGREES °C)	PHENOLIC	FOUR .25" QC'S	LOSS VALUE TAN Ø≤ 0.2 (100HZ)
AMSY161/330-252	0576-5961	330	50/60	161-193 MFD	(-40-60 DEGREES °C)	PHENOLIC	FOUR .25" QC'S	LOSS VALUE TAN Ø≤ 0.2 (100HZ)
AMSY216/250-252	0576-5973	250	50/60	216-259 MFD	(-40-60 DEGREES °C)	PHENOLIC	FOUR .25" QC'S	LOSS VALUE TAN Ø≤ 0.2 (100HZ)
AMSY270/250-252	0576-5988	250	50/60	270-324 MFD	(-40-60 DEGREES °C)	PHENOLIC	FOUR .25" QC'S	LOSS VALUE TAN Ø≤ 0.2 (100HZ)
AMSY270/330-252	0576-5982	330	50/60	270-324 MFD	(-40-60 DEGREES °C)	PHENOLIC	FOUR .25" QC'S	LOSS VALUE TAN Ø≤ 0.2 (100HZ)
AMSY708/125-252	0576-5991	125	50/60	708-850 MFD	(-40-60 DEGREES °C)	PHENOLIC	FOUR .25" QC'S	LOSS VALUE TAN Ø≤ 0.2 (100HZ)



AC MOTORS

ACM SERIES

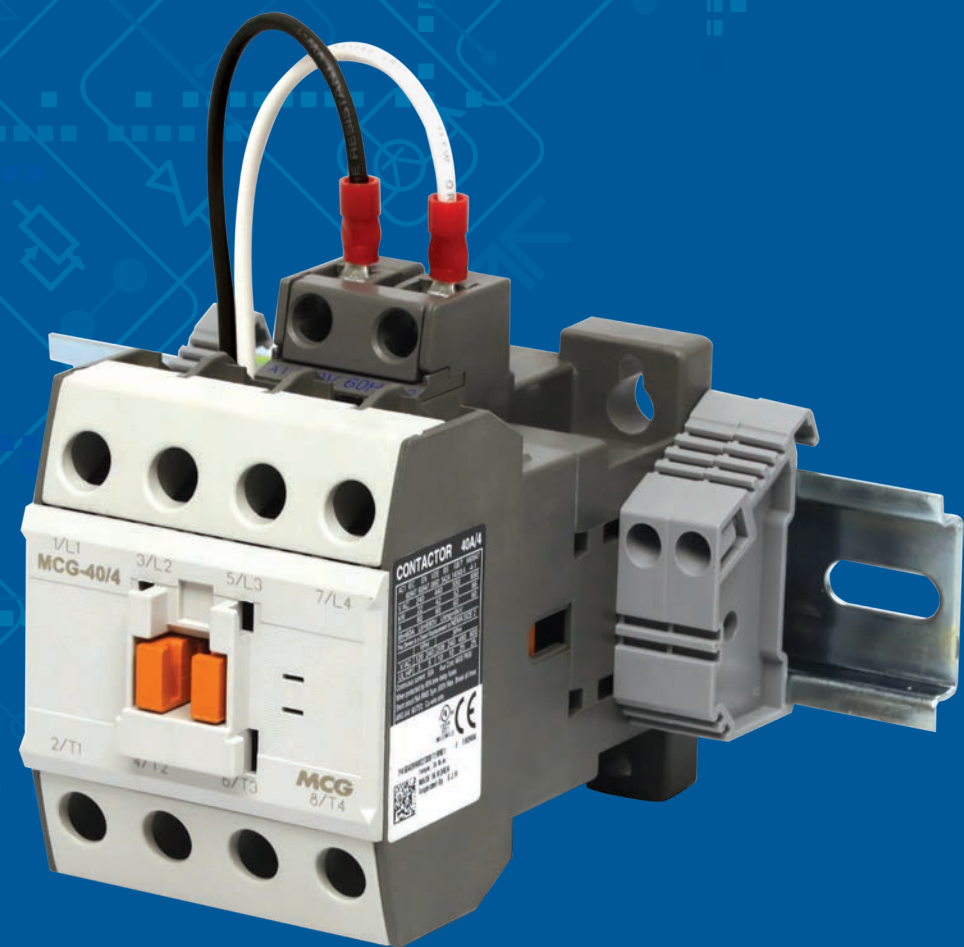
AC motors are a power source for a wide variety of applications due to their flexibility, efficiency, and noiseless operation. They are used on pumps, water heaters, garden equipment, ovens, off road equipment and are commonly found in many appliances, equipment, and tools.



PART NUMBER	IMS CODE	H.P.	RPM	AMPS.	SPEEDS	SHAFT DIMENSION	MOTOR TYPE	BEARING	MOUNTING	CAPACITOR
ACM1/3CF	0582-4227	1/3, 1/4, 1/5, 1/6	825	2.2- 1.9	2	1/2" X 5"	PSC	BALL	THRU BOLT, BAND MOUNTING	10MFD/370V
ACM1/3CF-208/230	0582-4200	1/3	1075	2.4	1	1/2" X 6 1/2"	PSL	SLEEVE	DRILLED & TAPPED FOR RHEEM MOUNTING	7.5MFD/ 370V
ACM1/3CF-MAX	0582-4203	1/3	1075	1.95- 1.8	1	1/2" X 6 13/16"	PSC	BALL	DRILLED & TAPPED FOR RHEEM MOUNTING	7.5MFD/ 370V
ACM1/4CF-1075	0582-4197	1/4	1075	1.7	1	1/2" X 6 1/2"	PSC	SLEEVE	DRILLED & TAPPED FOR RHEEM MOUNTING	5MFD/370V



PART NUMBER	IMS CODE	HP	AMPS	SPEEDS	SHAFT DIMENSION	MOUNTING	CAPACITOR
ACM1/2DDB-MAX	0582-4206	1/2, 1/3, 1/4, 1/5, 1/6	2.85- 2.65	4	1/2" X 5"	MOUNTING RINGS, THRU BOLTS AND HOLES IN SHELL	10MFD/370V
ACM1/3DDB-208/230	0582-4212	1/3	2.29	3	1/2" X 4 1/2"	MOUNTING RINGS, THRU BOLTS	5MFD/370V



LIGHTING CONTACTORS



LIGHTING CONTACTORS

MCGLC SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
MCGLCEE-4P-120V

MCGLC E E - 4P - 120V

SERIES

OPEN OR
ENCLOSED

OF POLES

COIL VOLTAGE

ELECTRICALLY OR
MECHANICALLY HELD

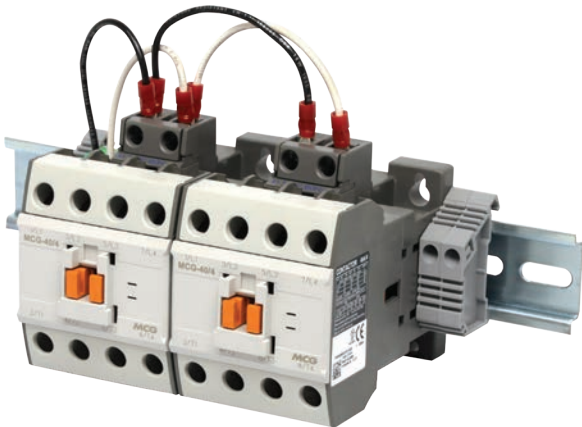
LIGHTING CONTACTORS

MCGLC SERIES

Electrically Held Lighting Contactors are designed to provide a safe, convenient way for local or remote switching of lighting loads or multiple lighting circuits. Enclosed versions are NEMA 4 rated steel. MCGLC contactors are all N/O contacts and rated up to 40 Amps.



4 POLE



8 POLE

SAMPLE PART NUMBER: MCGLCEE-4P-120V									
MCGLC		O		E		4		120V	
PRODUCT MATRIX									
SERIES		OPEN OR ENCLOSED		ELECTRICALLY OR MECHANICALLY HELD		# OF POLES		COIL VOLTAGE	
MCGLC	O	OPEN	E	ELECTRICALLY HELD	4P	4	24V	24 VOLT	
	E	ENCLOSED (N4)	M	MECHANICALLY HELD	8P	8	120V	120 VOLT	
					12P	12	208V	208 VOLT	
					16P	16	240V	240 VOLT	
							277V	277 VOLT	
							480V	480 VOLT	



IEC CONTACTORS & OVERLOADS



IEC CONTACTORS & OVERLOADS

MCG SERIES

Contactors are used to switch voltage and current to an electric motor or other high-power loads. All MCG series contactors are N/O contacts.



PRODUCT MATRIX

SAMPLE PART NUMBER
MCG-22/11-120V

MCG- 22 / 11 - 120V

SERIES

AMPERAGE

AUXILIARY

COIL VOLTAGE

SAMPLE PART NUMBER: MCG-22/11-120V					
MCG-	22	11	120V		
PRODUCT MATRIX					
SERIES	AMPERAGE		AUXILIARY	COIL VOLTAGE	
MCG-	09	09 AMP	11 1 N.O., 1 N.C.	24V	24 VOLT AC
	12	12 AMP		120V	120 VOLT AC
	18	18 AMP		208V	208 VOLT AC
	22	22 AMP		240V	240 VOLT AC
	32	32 AMP		277V	277 VOLT AC
	40	40 AMP		480V	480 VOLT AC
	50	50 AMP		12VDC	12 VOLT DC
	65	65 AMP		24VDC	24 VOLT DC
	75	75 AMP		24VACDC	24 VOLT AC/DC
	85	85 AMP		100MV	100-240VAC
	100	100 AMP		440MV	380-450VAC
	130	130 AMP			
	150	150 AMP			
SERIES	AMPERAGE		AUXILIARY	COIL VOLTAGE	
MCG-	225	225 AMP	22 2 N.O., 2 N.C.	24VACDC	24 VOLT AC/DC
	265	265 AMP		100MV	100-240VAC
	330	330 AMP		440MV	380-450VAC
	440	440 AMP			

THERMAL OVERLOAD RELAYS

OLH SERIES

Motors can be protected from overcurrent damage through the use of Overload Relays.



PRODUCT MATRIX

SAMPLE PART NUMBER
OLH-32/3H-0.16

OLH- 32 / 3H - 0.16

SERIES

CONTACTOR
AMPERAGE

OF POLES

CURRENT MAX.

SAMPLE PART NUMBER: OLH-32/3H-0.16								
OLH-	32		3H		0.16			
PRODUCT MATRIX								
SERIES	CONTACTOR AMPERAGE		# POLES		CURRENT MAX.			
OLH-	32	9 - 40A	3H	3 POLE	0.16	0.1 - 0.16	50	34 - 50
	63	50 - 65A			0.25	0.16 - 0.25	65	45 - 65
	95	75 - 100A			0.4	0.25 - 0.4	75	54 - 75
	150	130 - 150A			0.63	0.4 - 0.63	85	63 - 85
	225	225A			1	0.63 - 1	95	70 - 95
	400	265 - 440A			1.6	1 - 1.6	100	80 - 100
	If needed, use color in chart to match a compatible relay				2.5	1.6 - 2.5	105	80 - 105
					4	2.5 - 4	125	85 - 125
					6	4 - 6	130	95 - 130
					8	5 - 8	160	100 - 160
					9	6 - 9	185	120 - 185
					10	7 - 10	240	160 - 240
					13	9 - 13	330	200 - 330
					18	12 - 18	400	260 - 400
					22	16 - 22	If FLA not known use chart on page 152	
					25	18 - 25		
					32	22 - 32		
					36	24 - 36		
					40	28 - 40		

IEC CONTACTORS & OVERLOADS

MCG SERIES

Contactors are used to switch voltage and current to an electric motor or other high-power loads. All MCG series contactors are N/O contacts.



PRODUCT MATRIX

SAMPLE PART NUMBER
MCG-18/1A-24V

MCG- 18 / 1A - 24V

SERIES

AMPERAGE

AUXILIARY

COIL VOLTAGE

SAMPLE PART NUMBER: MCG-18/1A-24V			
MCG-	18	1A	24V
PRODUCT MATRIX			
SERIES	AMPERAGE	AUXILIARY	COIL VOLTAGE
MCG-	18 ● 18 AMP	1A 1 N.O.	24V 24 VOLT AC
			120V 120 VOLT AC
			208V 208 VOLT AC
			240V 240 VOLT AC
			480V 480 VOLT AC

THERMAL OVERLOAD RELAYS

OLH SERIES

Motors can be protected from overcurrent damage through the use of Overload Relays.



PRODUCT MATRIX

SAMPLE PART NUMBER
OLH-12/3H-0.16

OLH- 12 / 3H - 0.16

SERIES

CONTACTOR
AMPERAGE

OF POLES

CURRENT MAX.

SAMPLE PART NUMBER: OLH-12/3H-0.16			
OLH-	12	3H	0.16
PRODUCT MATRIX			
SERIES	CONTACTOR AMPERAGE	# POLES	CURRENT MAX.
OLH-	12 ● 12 AMP If needed, use color in chart to match a compatible relay	3H 3 POLE	0.16 ● 0.1 - 0.16
			0.25 ● 0.16 - 0.25
			0.4 ● 0.25 - 0.4
			0.63 ● 0.4 - 0.63
			1 ● 0.63 - 1
			1.6 ● 1 - 1.6
			2.5 ● 1.6 - 2.5
			4 ● 2.5 - 4
			6 ● 4 - 6
			8 ● 5 - 8
			9 ● 6 - 9
			10 ● 7 - 10
			13 ● 9 - 13
			18 ● 12 - 18
			If FLA not known use chart on page 152

3 POLE REVERSING CONTACTORS

IEC CONTACTORS & OVERLOADS
MCG SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
MCG-32RV-240V

MCG- 32 RV - 240V

SERIES

AMPERAGE

REVERSING

COIL VOLTAGE

3 POLE REVERSING CONTACTORS

IEC CONTACTORS & OVERLOADS
MCG SERIES

Reversing contactors are used to reverse the rotation of a motor.
MCG series contactors are all N/O contacts.



SAMPLE PART NUMBER: MCG-32RV-240V

MCG-	32	RV	240V
PRODUCT MATRIX			
SERIES	AMPERAGE	REVERSING	COIL VOLTAGE
MCG-	09  09 AMP	RV REVERSING	24V 24 VOLT AC
	12  12 AMP		120V 120 VOLT AC
	18  18 AMP		208V 208 VOLT AC
	22  22 AMP		240V 240 VOLT AC
	32  32 AMP		277V 277 VOLT AC
	40  40 AMP		480V 480 VOLT AC
	50  50 AMP		12VDC 12 VOLT DC
	65  65 AMP		24VDC 24 VOLT DC
	75  75 AMP		
	85  85 AMP		
	100  100 AMP		
	If needed, use color in chart to match a compatible relay page 18		

4 POLE CONTACTORS

IEC CONTACTORS & OVERLOADS

MCG SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
MCG-40/4P-240V

MCG- 40 / 4P - 240V

SERIES

AMPERAGE

POLES

COIL VOLTAGE

4 POLE CONTACTORS

IEC CONTACTORS & OVERLOADS

MCG SERIES

MCG 4 pole contactors are IEC-rated for motor and lighting loads.
All 4 pole contactors come standard with 4 normally open contacts.
MCG series contactors are all N/O contacts.



SAMPLE PART NUMBER: MCG-40/4P-240V						
MCG-	40		4P		240V	
PRODUCT MATRIX						
SERIES	AMPERAGE		# OF POLES		COIL VOLTAGE	
MCG-	22	22 AMP	4P	4 POLE	24V	24 VOLT AC
	40	40 AMP			120V	120 VOLT AC
					208V	208 VOLT AC
					240V	240 VOLT AC
					277V	277 VOLT AC
					480V	480 VOLT AC
					12VDC	12 VOLT DC
					24VDC	24 VOLT DC

ELECTRONIC OVERLOAD RELAYS

IEC CONTACTORS & OVERLOADS

EOL SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
EOL22-3S-5

EOL 22 - 3S - 5

SERIES

CONTACTOR
AMPERAGE

TYPE

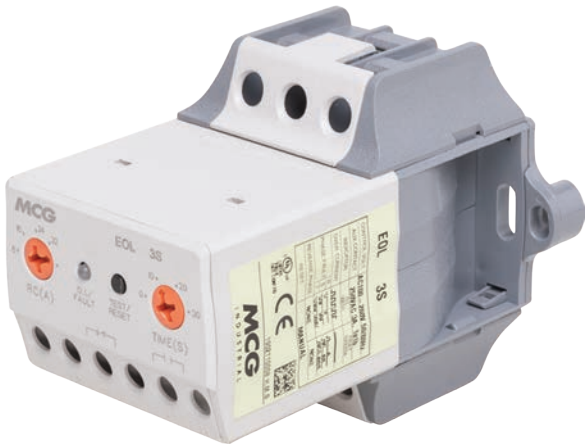
CURRENT MAX.

ELECTRONIC OVERLOAD RELAYS

IEC CONTACTORS & OVERLOADS

EOL SERIES

Electronic overload relays offer reliable and precise protection for motors in the event of overload or phase failure.



SAMPLE PART NUMBER: EOL22-3S-5							
EOL	22			3S		5	
PRODUCT MATRIX							
SERIES	CONTACTOR AMPERAGE			TYPE		CURRENT MAX.	
EOL	1.5	● 0.3 - 1.5A		3S	SCREW	1.5	0 - 1.5
	5	● 1 - 5A		3T	TUNNEL	5	1 - 5
	20	● 4 - 20A		3P	PIN	20	4 - 20
	22	● 4.4 - 22A				22	4 - 22
	40	● 8 - 40A				40	8 - 40
	80	● 16 - 80A				80	16 - 80

MINI CONTACTORS

MCL SERIES

Mini Contactors are used in the machine manufacturing sector where mass production is made. Mini Contactors applications include garage doors, elevators, industrial kitchens, air conditioning systems, conveyors, pumps, and washing machines.



PRODUCT MATRIX

SAMPLE PART NUMBER
MCL-12/10-120V

MCL- 12 - 10 - 120V

SERIES

AMPERAGE

AUXILIARY

COIL VOLTAGE

SAMPLE PART NUMBER: MCL-12/10-120V						
MCL-	12		10		120V	
PRODUCT MATRIX						
SERIES	AMPERAGE		AUXILIARY		COIL VOLTAGE	
MCL-	12	12 AMP	10	1 N.O.	24V	24 VOLT
					120V	120 VOLT
					208V	208 VOLT
					240V	240 VOLT
					277V	277 VOLT
					480V	480 VOLT

MINI OVERLOAD RELAYS

MCOL SERIES

Motors can be protected from overcurrent damage through the use of Overload Relays.



PRODUCT MATRIX

SAMPLE PART NUMBER
MCOL-12/3-0.16

MCOL- 12 / 3 - 0.16

SERIES

CONTACTOR
AMPERAGE

OF POLES

CURRENT MAX.

SAMPLE PART NUMBER: MCOL-12/3-0.16					
MCOL-	12		3		0.16
PRODUCT MATRIX					
SERIES	CONTACTOR AMPERAGE		# POLES		CURRENT MAX.
MCOL-	12	12 AMP	3	3 POLE	0.16
					0.25
					0.4
					0.63
					1
					1.6
					2.5
					4
					6
					8
					9
					10



MANUAL MOTOR STARTERS



MANUAL MOTOR STARTERS

MMP SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
MMP-32H-1.6

MMP- 32H - 1.6

SERIES

AMPERAGE

CURRENT MAX.

MANUAL MOTOR STARTERS

MMP SERIES

Manual motor starters, also known as motor protection circuit breakers (MPCBs) or manual motor protectors (MMPs), are electromechanical protection devices used to switch motors ON/OFF manually and to provide fuseless protection against short-circuit, overload, and phase failures.



SAMPLE PART NUMBER: MMP-32H-1.6					
MMP-	32H		1.6		
PRODUCT MATRIX					
SERIES	AMPERAGE		CURRENT MAX.		
MMP-	32H	● 0.1 - 40A	0.16	● 0.1 - 0.16	18 ● 12 - 18
	63H	● 28 - 65A	0.25	● 0.16 - 0.25	22 ● 16 - 22
	100H	● 45 - 100A	0.4	● 0.25 - 0.4	25 ● 18 - 25
			0.63	● 0.4 - 0.63	32 ● 22 - 32
			1	● 0.63 - 1	40 ● 28 - 40
			1.6	● 1 - 1.6	50 ● 34 - 50
			2.5	● 1.6 - 2.5	63 ● 45 - 63
			4	● 2.5 - 4	75 ● 55-75
			6	● 4 - 6	90 ● 70-90
			8	● 5 - 8	100 ● 80-100
			9	● 6 - 9	
			10	● 7 - 10	
			13	● 9 - 13	



ENCLOSURE FOR MMP

PART NUMBER	DESCRIPTION
CI-EPH32-65S	N4X MMS ENCLOSURE ROTARY 32H

MANUAL MOTOR STARTER

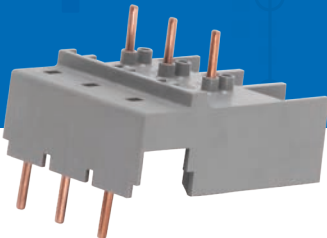
DOOR DISCONNECTS



PART NUMBER	DESCRIPTION	SIZE (IN/MM)
MEH32-115	DISCONNECT HANDLE FOR MMP 32H	4.5/115
MEH32-315	DISCONNECT HANDLE FOR MMP 32H	12/115
MEH63-115	DISCONNECT HANDLE FOR MMP 63H	4.5/115
MEH63-315	DISCONNECT HANDLE FOR MMP 63H	12/315
MEH100-315	DISCONNECT HANDLE FOR MMP 100H	12/315

MANUAL MOTOR STARTER

DIRECT ADAPTERS



MCG-DA32H



MMP-32H



MMP-63H

PART NUMBER	COMPATIBILITY (MANUAL MOTOR STARTERS)	COMPATIBILITY (CONTACTOR SIZE)	COMPATIBILITY (COIL (V))
MCG-DA32H-12AC	MMP-32H	MCG-12	AC
MCG-DA32H-12DC	MMP-32H	MCG-12	DC
MCG-DA32H-22AC	MMP-32H	MCG-22	AC
MCG-DA32H-22DC	MMP-32H	MCG-22	DC
MCG-DA32H-40AC	MMP-32H	MCG-40	AC
MCG-DA32H-40DC	MMP-32H	MCG-40	DC
MCG-DA63H-65AC	MMP-63H	MCG-65	AC

CONTACTORS AND OVERLOADS ACCESSORIES

Perfect combination of peripheral devices and various accessories

OFFERING DIVERSE SOLUTIONS WITH COMPACT SIZE & EASY CONNECTION

Perfect your system with other devices and accessories

One-touch connection

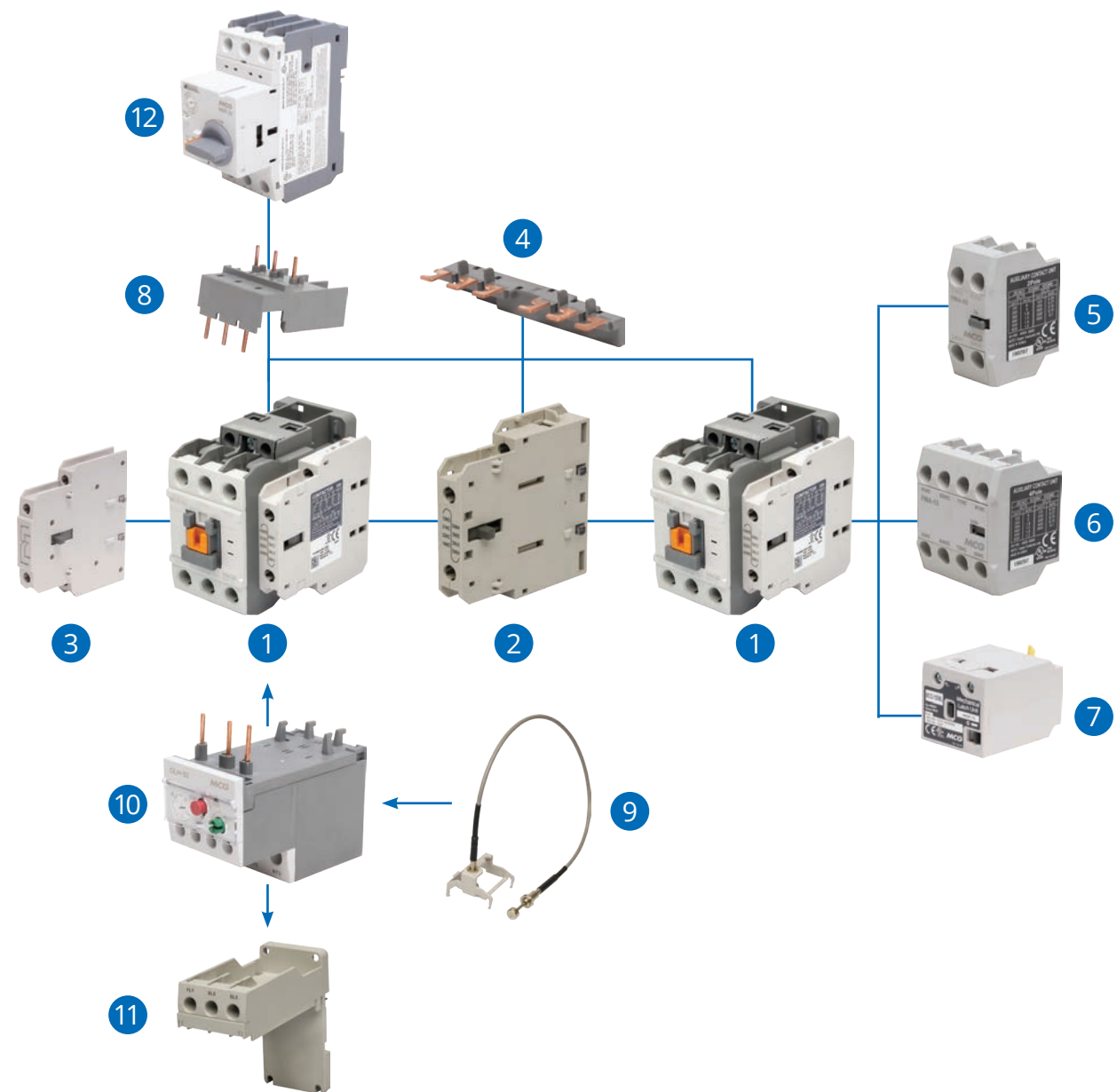
- DIN rail connection without any special tools
- Direct combine a surge unit

Simple wiring

- Mounting unit, Adapter
- Reversing wire set

Easy maintenance

- 4-terminal type: Easy wiring of operation coil
- Module type of Screw terminal
- Interlock unit with built-in auxiliary contacts (2 NO built-in)



CONTACTORS & OVERLOADS ACCESSORIES CHART

The chart above illustrates a configuration of contactor accessories.

1. Contactor
2. Interlock unit
3. Auxiliary contact unit side mount
4. Reversing Wire Kits
5. Auxiliary contact unit front mount (2 pole)
6. Auxiliary contact unit front mount (4 pole)
7. Mechanical latch unit
8. Direct adapter to MMS
9. Remote reset unit
10. Overload relay
11. Separate mounting unit
12. Manual motor starter

CONTACTORS AND OVERLOADS

MOUNTING UNITS



PART NUMBER	DESCRIPTION
UZ-32	OVERLOAD SEPARATE MOUNTING UNIT FOR OLH-32
UZ-63	OVERLOAD SEPARATE MOUNTING UNIT FOR OLH-63
UZ-95	OVERLOAD SEPARATE MOUNTING UNIT FOR OLH-95
UZ-150	OVERLOAD SEPARATE MOUNTING UNIT FOR OLH-150

CONTACTORS AND OVERLOADS

SPARE COILS



PART NUMBER	DESCRIPTION
LS22-SC-120V	120V SPARE COIL FOR MCG-09/11-MCG-22/11
LS22-SC-208V	208V SPARE COIL FOR MCG-09/11-MCG-22/11
LS22-SC-240V	240V SPARE COIL FOR MCG-09/11-MCG-22/11
LS22-SC-24V	24VAC SPARE COIL FOR MCG-09/11-MCG-22/11
LS22-SC-277V	277V SPARE COIL FOR MCG-09/11-MCG-22/11
LS22-SC-480V	480V SPARE COIL FOR MCG-09/11-MCG-22/11
LS40-SC-120V	120V SPARE COIL FOR MCG-32/11-MCG-40/11
LS40-SC-208V	208V SPARE COIL FOR MCG-32/11-MCG-40/11
LS40-SC-240V	240V SPARE COIL FOR MCG-32/11-MCG-40/11
LS40-SC-24V	24VAC SPARE COIL FOR MCG-32/11-MCG-40/11
LS40-SC-277V	277V SPARE COIL FOR MCG-32/11-MCG-40/11
LS40-SC-480V	480V SPARE COIL FOR MCG-32/11-MCG-40/11
LS65-SC-120V	120V SPARE COIL FOR MCG-50/11-MCG-65/11
LS65-SC-208V	208V SPARE COIL FOR MCG-50/11-MCG-65/11
LS65-SC-240V	240V SPARE COIL FOR MCG-50/11-MCG-65/11
LS65-SC-24V	24VAC SPARE COIL FOR MCG-50/11-MCG-65/11
LS65-SC-440V	440V SPARE COIL FOR MCG-50/11-MCG-65/11
LS100-SC-120V	120V SPARE COIL FOR MCG-75/11-MCG-100/11
LS100-SC-240V	240V SPARE COIL FOR MCG-75/11-MCG-100/11
LS100-SC-277V	277V SPARE COIL FOR MCG-75/11-MCG-100/11
LS100-SC-480V	480V SPARE COIL FOR MCG-75/11-MCG-100/11

CONTACTORS AND OVERLOADS

MECHANICAL LATCHING BLOCKS



PART NUMBER	VOLTAGE	COMPATIBILITY
MCG-65ML-24VACDC	24VAC/ 24V DC	MCG-09-MCG-65
MCG-65ML-120V	110-120VAC	MCG-09-MCG-65
MCG-65ML-240V	220-240VAC	MCG-09-MCG-65
MCG-65ML-440V	380-440VAC	MCG-09-MCG-65
MCG-150ML-24VACDC	24VAC / 24VDC	MCG-75-MCG-150
MCG-150ML-120V	110-120VAC	MCG-75-MCG-150
MCG-150ML-240V	220-240VAC	MCG-75-MCG-150
MCG-150ML-440V	380-440VAC	MCG-75-MCG-150
MCG-225ML-100V	100-127VAC	MCG-185-MCG-225
MCG-225ML-200V	200-240VAC	MCG-185-MCG-225
MCG-400ML-100V	100-127VAC	MCG-265-MCG-400
MCG-400ML-200V	200-240VAC	MCG-265-MCG-400

CONTACTORS AND OVERLOADS

AUXILIARY CONTACTS



MMP-FMA-13

MCG-150/FMA-11

MCG-150/FMA-31

PART NUMBER	MOUNTING POSITION	COMPATIBILITY	AUX. CONTACTS (NO)	AUX. CONTACTS (NC)
MMP-FMA-02	FRONT	MANUAL MOTOR STARTERS	0	2
MMP-SMA-02	SIDE	MANUAL MOTOR STARTERS	0	2
MMP-FMA-11	FRONT	MANUAL MOTOR STARTERS	1	1
MMP-SMA-11	SIDE	MANUAL MOTOR STARTERS	1	1
MMP-FMA-20	FRONT	MANUAL MOTOR STARTERS	2	0
MMP-SMA-20	SIDE	MANUAL MOTOR STARTERS	2	0
MCG-150/FMA-02	FRONT	MCG-09-MCG-150	0	2
MCG-150/FMA-04	FRONT	MCG-09-MCG-150	0	4
MCG-150/FMA-11	FRONT	MCG-09-MCG-150	1	1
MCG-150/SMA-11	SIDE	MCG-09-MCG-150	1	1
MCG-150/FMA-13	FRONT	MCG-09-MCG-150	1	3
MCG-150/FMA-20	FRONT	MCG-09-MCG-150	2	0
MCG-150/FMA-22	FRONT	MCG-09-MCG-150	2	2
MCG-150/FMA-31	FRONT	MCG-09-MCG-150	3	1
MCG-150/FMA-40	FRONT	MCG-09-MCG-150	4	0

CONTACTORS AND OVERLOADS

CONTACTOR ACCESSORIES



PART NUMBER	DESCRIPTION
MCG-BAR-185-400-4P	BARRIER UNIT 4 PACK FOR USE WITH MCG-185-MCG-400
MCG-LK-185-225	LUG KIT FOR MCG-185 & MCG-225
MCG-TSC-185-225	TERMINAL COVERS FOR MCG-185 & MCG-225
MSG-LK-265-400	LUG KIT FOR MCG-265, MCG-330 & MCG-400
MSG-TSC-265-400	TERMINAL COVERS FOR MCG-265, MCG-330 & MCG-400

CONTACTORS AND OVERLOADS

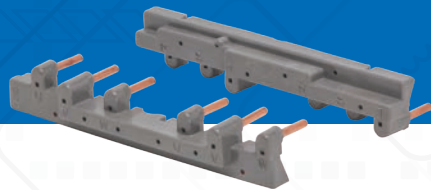
MECHANICAL INTERLOCKS



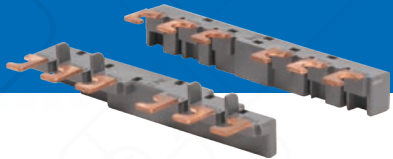
PART NUMBER	COMPATIBILITY
MCL-MILU	MCL-12
MCG-MILU-11	MCG-09-MCG-150

CONTACTORS AND OVERLOADS

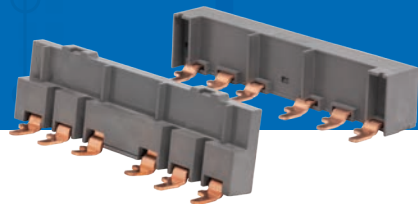
POWER REVERSING WIRE SETS



MCG-RWK/32-40



MCG-RWK/50-65



MCG-RWK/75-100

PART NUMBER	COMPATIBILITY
MCG-RWK/9-22	MCG-09, MCG-12, MCG-18 & MCG-22
MCG-RWK/32-40	MCG-32 & MCG-40
MCG-RWK/50-65	MCG-50 & MCG-65
MCG-RWK/75-100	MCG-75, MCG-85 & MCG-100

CONTACTORS AND OVERLOADS

OVERLOAD ACCESSORIES



RRU-MT95-400



RRU-MT95-600

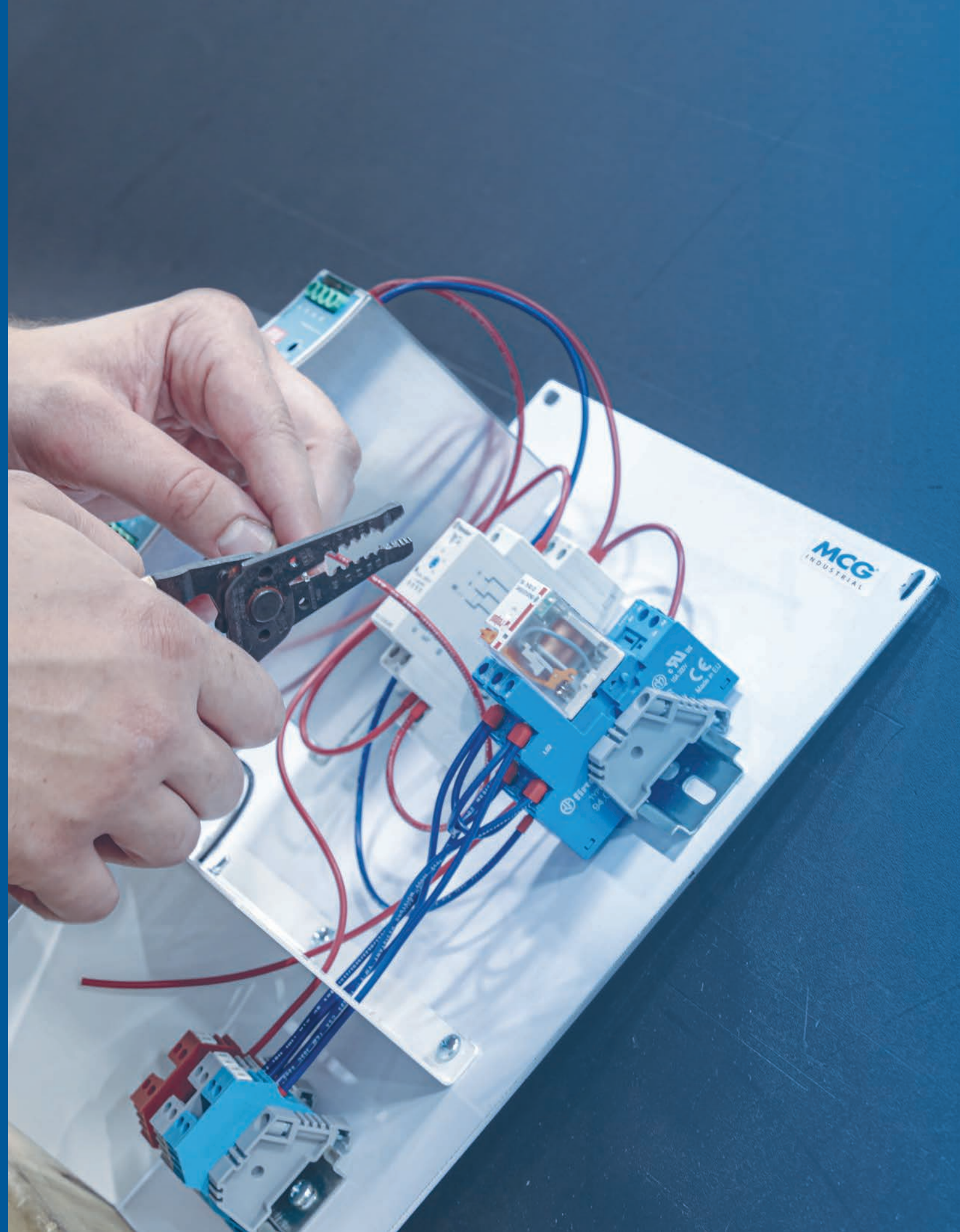


RRU-MT95-900

PART NUMBER	DESCRIPTION	LENGTH (IN/MM)
RRU-MT95-400	REMOTE RESET UNIT FOR OL UP TO 95A	15.75/400
RRU-MT95-500	REMOTE RESET UNIT FOR OL UP TO 95A	19.66/500
RRU-MT95-600	REMOTE RESET UNIT FOR OL UP TO 95A	23.66/600
RRU-MT95-700	REMOTE RESET UNIT FOR OL UP TO 95A	27.5/700
RRU-MT95-900	REMOTE RESET UNIT FOR OL UP TO 95A	35.43/900



ENCLOSED MOTOR STARTERS



ENCLOSED MOTOR STARTERS

COMPACT NEMA 4X POLY-ENCLOSED MOTOR STARTERS

MSP SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
MSP32/22-120-SS

MSP 32 / 22 - 120 - SS

SERIES AMPERAGE CURRENT MAX. COIL VOLTAGE CONFIGURATION

ENCLOSED MOTOR STARTERS

COMPACT NEMA 4X POLY-ENCLOSED MOTOR STARTERS

MSP SERIES

IP65-rated enclosed starters are designed for both indoor and outdoor applications to provide a measure of protection from splashing water, hose-directed water, and wind-blown dust or rain. Constructed of sheet steel or poly with a gasket cover, they meet tests for hose-down, external icing, and corrosion protection. NEMA 4X are designed to meet the same standards as Type 4, except the enclosure must also pass a 200-hour salt spray corrosion resistance test.



MSP32-18-120-SS



MSP32-22-120-HOA



SAMPLE PART NUMBER: MSP32/22-120-SS										
MSP	32		22		120		SS		(OPTIONAL)	
PRODUCT MATRIX										
SERIES	AMPERAGE		CURRENT MAX.		COIL VOLTAGE		CONFIGURATION		PILOT LIGHT (OPTIONAL)	
MSP	09	09 AMP	0.16	0.1 - 0.16	24V	24 VAC	HOA	 HAND / OFF / AUTO	RPL  RED	
	12	12 AMP	0.25	0.16 - 0.25	120V	120 VAC	SS		GPL  GREEN	
	18	18 AMP	0.4	0.25 - 0.4	208V	208 VAC			APL  AMBER	
	22	22 AMP	0.63	0.4 - 0.63	240V	240 VAC	SES			
	32	32 AMP	1	0.63 - 1	277V	277 VAC				I/O
	40	40 AMP	1.6	1 - 1.6	480V	480 VAC	ES			
			2.5	1.6 - 2.5						*Refer to page 154 for list of symbols
			4	2.5 - 4						
			6	4 - 6						
			8	5 - 8						
			9	6 - 9						
			10	7 - 10						
			13	9 - 13						
			18	12 - 18						
			22	16 - 22						
			25	18 - 25						
			32	22 - 32						
			40	28 - 40						

ENCLOSED MOTOR STARTERS

NEMA4/4X ENCLOSED MOTOR STARTERS

ME4 SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
ME4D22/13-480-SS

ME4 D 22 / 13 - 480 - SS

SERIES

ENCLOSURE
MATERIAL

AMPERAGE

CURRENT MAX.

COIL VOLTAGE

CONFIGURATION
(OPTIONAL)

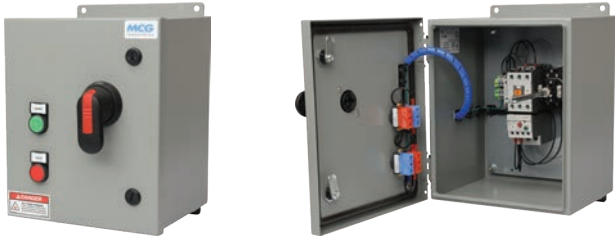
ENCLOSED MOTOR STARTERS

NEMA4/4X ENCLOSED MOTOR STARTERS

ME4 SERIES

The ME4 series of enclosed motor starters are engineered for global industrial and hazardous applications up to 400 Amps. Used for manual and magnetic across-the-line starting of motors, the ME4 series includes combination and non-combination starters within NEMA rated 4-12 poly and metal enclosures with a variety of control configurations.

 If a custom solution is needed, please contact us info@mcg-usa.com or call us at 772.408.5211



SAMPLE PART NUMBER: ME4D22/13-480-SS											
ME4		D	22		13		480		SS	(OPTIONAL)	
PRODUCT MATRIX											
SERIES	ENCLOSURE MATERIAL		AMPERAGE		CURRENT MAX.		COIL VOLTAGE		CONFIGURATION (OPTIONAL)		PILOT LIGHT (OPTIONAL)
ME4	D	METAL (NEMA 4)	09	09 AMP	0.16	0.1 - 0.16	24	24 VAC	HOA HAND / OFF / AUTO	RPL RED GPL GREEN APL AMBER	
			12	12 AMP	0.25	0.16 - 0.25	120	120 VAC			
			18	18 AMP	0.4	0.25 - 0.4	208	208 VAC			
	P	PLASTIC (NEMA 4X)	22	22 AMP	0.63	0.4 - 0.63	240	240 VAC	SS START / STOP		
			32	32 AMP	1	0.63 - 1	277	277 VAC	SES START / EMERGENCY STOP		
			40	40 AMP	1.6	1 - 1.6	480	480 VAC			
	XSS	N4X STAINLESS STEEL	50	50 AMP	2.5	1.6 - 2.5					I/O ON / OFF
			65	65 AMP	4	2.5 - 4					
			75	75 AMP	6	4 - 6			ES EMERGENCY STOP		
			85	85 AMP	8	5 - 8					
			100	100 AMP	9	6 - 9					
			130	130 AMP	10	7 - 10			*Refer to page 154 for list of symbols		
			150	150 AMP	13	9 - 13			**If reset button is needed, add “-WR” to end of part #		
			225	225 AMP	18	12 - 18			** If door disconnect is needed, add “-D” to end of part #. Amperage will be sized to contactor unless otherwise specified		
			265	265 AMP	22	16 - 22					
			330	330 AMP	25	18 - 25					
			400	400 AMP	32	22 - 32					
					36	24 - 36					
					40	28 - 40					
					50	34 - 50					
					65	45 - 65					
					75	54 - 75					
					85	63 - 85					
					95	70 - 95					
					100	80 - 100					
					105	80 - 105					
					125	85 - 125					
					130	95 - 130					
					160	100 - 160					
					185	120 - 185					
					240	160 - 240					
					330	200 - 330					
					400	260 - 400					



DISCONNECTS



3 POLE DISCONNECTS

ENCLOSED DISCONNECTS

NEMA 4X Lockable

Disconnect switches are used to ensure that an electrical circuit is completely de-energized for service or maintenance. starting torque. These run capacitors are offered in a wide variety of options.



PART NUMBER	AMPERAGE	POLES	HANDLE TYPE	MAX.
MRD1253PSH	125A	3 POLE	LONG PISTOL GRIP	600V
MRD633P	63A	3 POLE	ROUND	600V

OPEN DISCONNECTS

OPEN

Door Interlocked Disconnects provide a safe means of disconnect inside an enclosure without allowing access before power has been removed.



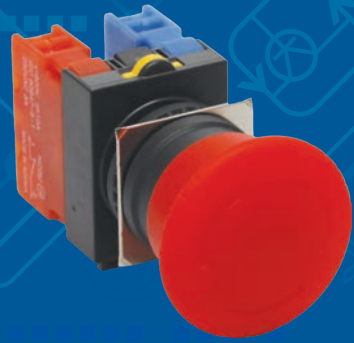
PART NUMBER	AMPERAGE	POLES	HANDLE TYPE	MAX.
MBD1323P	32A	3 POLE	ROUND	600V
MBD1323PSH	32A	3 POLE	SHORT PISTOL GRIP	600V
MBD1633P	63A	3 POLE	ROUND	600V
MBD1633PSH	63A	3 POLE	SHORT PISTOL GRIP	600V
MBD1803P	80A	3 POLE	ROUND	600V
MBD1803PSH	80A	3 POLE	SHORT PISTOL GRIP	600V
MBD11253P	125A	3 POLE	ROUND	600V
MBD11253PSH	125A	3 POLE	SHORT PISTOL GRIP	600V

PART NUMBER	AMPERAGE	POLES	HANDLE TYPE	MAX.
MBPM323P	32A	3 POLE	ROUND	600V
MBPM633P	63A	3 POLE	ROUND	600V
MBPM1003P	100A	3 POLE	ROUND	600V

BUTTONS & SWITCHES

Our portfolio of modular push buttons includes illuminated and non-illuminated push buttons, indicator lights, selector switches, key-operated actuators, emergency stops, control stations, and accessories. All options are IP66 rated as dust-tight and protected against jets of water.

TYPES OF PUSH BUTTONS



Push buttons are offered as maintained or momentary and can be either illuminated or non-illuminated. There is also an option for the mushroom head style used in emergency stop applications.



2 position rocker switches are off and on and have an optional membrane cover to achieve an IP66 rating.



Key switches are available in 2 and 3 position versions. The key can be removed in any position.



Selector switches are available in 2 and 3 position versions, maintained or momentary and illuminated or non-illuminated.



BUTTON & SWITCHES

22MM NON-ILLUMINATED

NS22 SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
NS22-PM-G1A01B

NS22 - P M - G 1A01B

SERIES

BUTTON
TYPE

ACTUATOR

COLOR

CODE

BUTTONS & SWITCHES

22MM NON-ILLUMINATED

NS22 SERIES

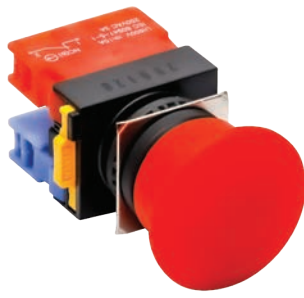
Push buttons are rated NEMA 4 and IP66 and are offered as maintained or momentary. Includes 1 NO and 1 NC contact block. Contact rating: 125VAC 6A, 250VAC 3A (Resistant Load). Additional contact blocks are available (Sold separately).



EM-R



EM-G



ER-R

SAMPLE PART NUMBER: NS22-PM-G1A01B				
NS22-	P	M	G	1A01B
PRODUCT MATRIX				
SERIES	BUTTON TYPE		ACTUATOR	COLOR
NS22-	P	NON-ILLUMINATED PUSH BUTTON	M MOMENTARY A MAINTAINED EM MOMENTARY MUSHROOM HEAD ER TWIST RELEASE MUSHROOM HEAD (AVAILABLE IN RED ONLY) MAINTAINED	R RED G GREEN Y YELLOW B BLUE W WHITE O ORANGE (AMBER) BK BLACK
				1A01B 1 N.O., 1 N.C.

*IF ADDITIONAL CONTACT BLOCKS ARE REQUIRED, SEE ACCESSORIES SECTION ON PAGE 71

BUTTONS & SWITCHES

22MM ILLUMINATED

NS22 SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
NS22-BM-L1ALB1A1B

NS22- B M - L 1AL B 1A1B

SERIES

BUTTON
TYPE

ACTUATOR

ILLUMINATED

INPUT
VOLTAGE

COLOR

CONTACT
CONFIGURATION

BUTTONS & SWITCHES

22MM ILLUMINATED

NS22 SERIES

Illuminated switches include an LED bulb. If wiring the switch and the bulb to the same circuit, the circuit voltage must not exceed bulb voltage. Includes 1 NO and 1 NC contact block. Contact rating: 125VAC 6A, 250VAC 3A (Resistant Load). Additional contact blocks are available (Sold separately).



BM



BM



BA



BER

SAMPLE PART NUMBER: NS22-BM-L1ALB1A1B

NS22-	B	M	L	1AL	B	1A1B
PRODUCT MATRIX						
SERIES	BUTTON TYPE	ACTUATOR	ILLUMINATED	INPUT VOLTAGE	COLOR	CONTACT CONFIGURATION
NS22-	B ILLUMINATED PUSH BUTTON	M MOMENTARY A MAINTAINED ER TWIST RELEASE MUSHROOM HEAD (AVAILABLE IN RED ONLY)	L LED ILLUMINATED	1AL 110V (LED ILLUMINATED) 2AL 220V (LED ILLUMINATED)	R RED G GREEN Y YELLOW B BLUE W WHITE O ORANGE (AMBER)	1A1B 1 N.O.,1 N.C.

*IF ADDITIONAL CONTACT BLOCKS ARE REQUIRED, SEE ACCESSORIES SECTION ON PAGE 71

PILOT LIGHT

22MM BUTTONS & SWITCHES

NS22 SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
NS22-L-L2ALB

NS22- L - L 2AL B

SERIES

BUTTON TYPE

ILLUMINATED

INPUT VOLTAGE

COLOR

PILOT LIGHT

22MM BUTTONS & SWITCHES

NS22 SERIES

Pilot Lights are LED indicator lamps. Protection degree: IP66



SAMPLE PART NUMBER: NS22-L-L2ALB				
NS22-	L	L	2AL	B
PRODUCT MATRIX				
SERIES	BUTTON TYPE	ILLUMINATED	INPUT VOLTAGE	COLOR
NS22-	L PILOT LIGHT	L LED ILLUMINATED	1AL 110V (LED ILLUMINATED) 2AL 220V (LED ILLUMINATED) 1C 6V AC/DC (LED ILLUMINATED) 2C 12V AC/DC (LED ILLUMINATED) 3C 24V AC/DC (LED ILLUMINATED)	R RED G GREEN Y YELLOW B BLUE W WHITE O ORANGE (AMBER)

SELECTOR SWITCHES NON-ILLUMINATED

22MM BUTTONS & SWITCHES

NS22 SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
NS22-S2-1A01B

NS22-S 2 - 1A01B

SERIES

BUTTON
TYPE

ACTUATOR

CONTACT
CONFIGURATION

SELECTOR SWITCHES NON-ILLUMINATED

22MM BUTTONS & SWITCHES

NS22 SERIES

Available in short knob, long knob, keyed NO + NC (Can be changed to your requirement) Contact rating: 125VAC 6A, 250VAC 3A (Resistant Load) Electrical durability: Min. 500,000 operations. Mechanical durability: 500,000 operations. Protection degree: IP66



SAMPLE PART NUMBER: NS22-S2-1A01B							
NS22-		S		2		1A01B	
PRODUCT MATRIX							
SERIES		BUTTON TYPE		ACTUATOR		CONTACT CONFIGURATION	
NS22-		S	STANDARD KNOB SELECTOR	2	2 POSITION MAINTAINED	1A01B	1 N.O., 1 N.C
		SL	LONG KNOB SELECTOR	3	3 POSITION MAINTAINED		2 N.O.
		K	KEYED SELECTOR	A2	2 POSITION MOMENTARY		
				A3	3 POSITION MOMENTARY		
				3R	3 POSITION, LEFT MAINTAINED, RIGHT MOMENTARY		

*IF ADDITIONAL CONTACT BLOCKS ARE REQUIRED, SEE ACCESSORIES SECTION ON [PAGE 71](#)
***REPLACEMENT KEY NS22-K

SELECTOR SWITCHES ILLUMINATED

22MM BUTTONS & SWITCHES
NS22 SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
NS22-S2-L2ALR1A1B

NS22-S 2 - L 2AL R 1A1B

SERIES

BUTTON
TYPE

ACTUATOR

ILLUMINATED

INPUT
VOLTAGE

COLOR

CONTACT
CONFIGURATION

SELECTOR SWITCHES ILLUMINATED

22MM BUTTONS & SWITCHES
NS22 SERIES

Available in both short and long knob. Includes 1 NO and 1 NC contact block.
(Can be changed to your requirement). Contact rating: 125VAC 6A, 250VAC 3A
(Resistant Load). Additional attachable contact blocks are available (Sold separately).

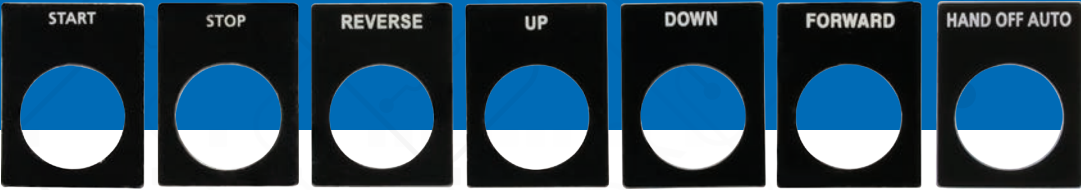


SAMPLE PART NUMBER: NS22-S2-L2ALR1A1B													
NS22		S		2		L		2AL		R		1A1B	
PRODUCT MATRIX													
SERIES		BUTTON TYPE		ACTUATOR		ILLUMINATED		INPUT VOLTAGE		COLOR		CONTACT CONFIGURATION	
NS22-		S STANDARD KNOB SELECTOR		2 2 POSITION MAINTAINED		L LED ILLUMINATED		1AL 110V (LED ILLUMINATED)		R ● RED G ● GREEN Y ● YELLOW B ● BLUE W ○ WHITE O ● ORANGE (AMBER)		1A1B 1 N.O., 1N.C.	
		SL LONG KNOB SELECTOR		3 3 POSITION MAINTAINED				2AL 220V (LED ILLUMINATED)					
				A2 2 POSITION MOMENTARY				1C 6V AC/DC (LED ILLUMINATED)					
				A3 3 POSITION MOMENTARY				2C 12V AC/DC (LED ILLUMINATED)					
				3R 3 POSITION, LEFT MAINTAINED, RIGHT MOMENTARY				3C 24V AC/DC (LED ILLUMINATED)					

*IF ADDITIONAL CONTACT BLOCKS ARE REQUIRED, SEE ACCESSORIES SECTION ON PAGE 71

BUTTON & SWITCHES

ACCESSORIES



LEGEND PLATE



EMERGENCY STOP
LEGEND PLATE

PART NUMBER	DESCRIPTION
MB2BY2301	BLANK
MB2BY2303	START
MB2BY2304	STOP
MB2BY2305	FORWARD
MB2BY2306	REVERSE
MB2BY2307	UP
MB2BY2308	DOWN
MB2BY2311	ON
MB2BY2312	OFF
MB2BY2313	OPEN
MB2BY2314	CLOSE
MB2BY2315	AUTO
MB2BY2316	HAND
MB2BY2321	INCH
MB2BYCUSTOM	CUSTOM LEGEND PLATE
LP22-CUSTOM	CUSTOM E-STOP LEGEND PLATE

PART NUMBER	DESCRIPTION
MB2BY2323	RESET
MB2BY2327	SLOW
MB2BY2328	FAST
MB2BY2330	EMERGENCY STOP
MB2BY2333	PLOW
MB2BY2334	HIGH
MB2BY2335	HIGH LOW
MB2BY2336	OFF ON
MB2BY2337	STOP START
MB2BY2338	UP DOWN
MB2BY2364	AUTO-HAND
MB2BY2385	AUTO-O-HAND
MB2BY2387	HAND OFF AUTO
LP22-1	EMERGENCY STOP 60MM YELLOW

BUTTON & SWITCHES

ACCESSORIES



NS22-A



NS22-B

PART NUMBER	DESCRIPTION
NS22-A CONTACT	NORMALLY OPEN CONTACT BLOCK FOR NS22 SERIES
NS22-B CONTACT	NORMALLY CLOSED CONTACT BLOCK FOR NS22 SERIES



PART NUMBER	DESCRIPTION
NS22-A-M30A	30MM TO 22MM KNOCK OUT ADAPTER



PART NUMBER	DESCRIPTION
NS22-P-RESET	22MM RESET BUTTON

BUTTON & SWITCHES ACCS.

NS22 ESTOPS



PART NUMBER	DESCRIPTION
KEPB22ER-02	22MM ESTOP MUCH (40MM) MOM 2NC
KEPB22ERK-02	22MM ESTOP MUCH (40MM) KEY REL 2NC
KEPB22ERK-11	22MM ESTOP MUCH (40MM) KEY REL 1NO/1NC
KEPB22ERS-02	22MM ESTOP MUCH (40MM) TWIST REL 2NC
KEPB22ERS-11	22MM ESTOP MUCH (40MM) TWIST REL 1NO/1NC



NEMA CONTROL STATIONS



NEMA4 EMERGENCY STOP

N4 SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
N4PY-ESTOP

N4 PY- ESTOP

SERIES

ENCLOSURE MATERIAL

CONFIGURATION

NEMA4 EMERGENCY STOP

N4 SERIES

Emergency Stop Stations are offered enclosed or open. With a round yellow Emergency Stop label for quick identification, they immediately cut power with a single push.

If a custom solution is needed please contact us at info@mcg-usa.com or call us at 772.408.5211



SAMPLE PART NUMBER: N4PY-ESTOP		
N4	PY	ESTOP
PRODUCT MATRIX		
SERIES	ENCLOSURE MATERIAL	CONFIGURATION
N4	(NONE) STEEL	SESTOP START / EMERGENCY STOP
	P POLY	ESTOP EMERGENCY STOP
	XP NEMA 4X (CLEAR LID)	
	XPY YELLOW NEMA 4X (CLEAR LID)	
	PY YELLOW POLY	ESTOPK EMERGENCY STOP W/ KEY
	SS STAINLESS STEEL	

*Refer to [page 154](#) for list of symbols

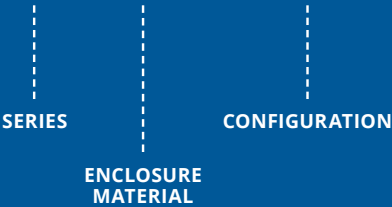
NEMA4(X) CONTROL STATIONS

N4 SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
N4P-SS

N4 P - SS



NEMA4(X) CONTROL STATIONS

N4 SERIES

Pre-built control stations are available in a wide variety of configurable options to suit specific application needs. NEMA4X is rated for indoor and outdoor use with protection from splashing water, hose-directed water, and wind-blown dust or rain. Available up to 4 hole configurations.

If a custom solution is needed please contact us
info@mcg-usa.com or call us at 772.408.5211



SAMPLE PART NUMBER: N4P-SS					
N4	(NONE)	P	SS		
PRODUCT MATRIX					
SERIES	ENCLOSURE MATERIAL		ENCLOSURE MATERIAL	CONFIGURATION	
N4	(NONE)	OPEN	(NONE)	STEEL	HOA  HAND / OFF / AUTO
	N4X	ENCLOSED (CLEAR LID)	P	POLY	SS  START / STOP
			PY	YELLOW POLY (E-STOP ONLY)	I/O  ON / OFF
			SS	STAINLESS STEEL	UD  UP / DOWN
					OC  OPEN / CLOSE
					OCS  OPEN / CLOSE / STOP
					FR  FORWARD / REVERSE
					FRS  FORWARD / REVERSE / STOP
					RPB  RED MOMENTARY PUSH BUTTON
					BLKPB  BLACK MOMENTARY PUSH BUTTON
					GPB  GREEN MOMENTARY PUSH BUTTON
	<i>*Refer to page 154 for list of symbols</i>				



MINI CIRCUIT BREAKERS



MINI CIRCUIT BREAKERS

DIN MOUNTABLE C CURVE

MCSMB SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
MCSMB2C25

MCSMB 2C 25

SERIES # POLES AMP RATING

MINI CIRCUIT BREAKERS

DIN MOUNTABLE C CURVE

MCSMB SERIES

Mini Circuit Breakers are automatically operated electrical switches designed to protect an electrical circuit from damage caused by excess current from an overload or short circuit.



1C



2C



3C

SAMPLE PART NUMBER: MCSMB2C25				
MCSMB	2C		25	
PRODUCT MATRIX				
SERIES	# POLES		AMP RATING	
MCSMB	1C	1 POLE	0.5	0.5A (SINGLE POLE ONLY)
	2C	2 POLES	1	1A
	3C	3 POLES	2	2A (SINGLE POLE ONLY)
			3	3A
			5	5A
			6	6A
			10	10A
			16	16A
			20	20A
			25	25A
			32	32A
			40	40A

MINI CIRCUIT BREAKERS

DIN MOUNTABLE C CURVE



PART NUMBER	SERIES NAME	NO. OF POLES	TRIP CURVE	RATED CURRENT	BREAKING CAPACITY	OPERATING VOLTAGE	STANDARD
BK63H-1P-C1A	BK63H	1P	C	1A	10KA	120/240VAC	UL1077
BK63H-1P-C2A	BK63H	1P	C	2A	10KA	120/240VAC	UL1077
BK63H-1P-C3A	BK63H	1P	C	3A	10KA	120/240VAC	UL1077
BK63H-1P-C4A	BK63H	1P	C	4A	10KA	120/240VAC	UL1077
BK63H-1P-C5A	BK63H	1P	C	5A	10KA	120/240VAC	UL1077
BK63H-1P-C6A	BK63H	1P	C	6A	10KA	120/240VAC	UL1077
BK63H-1P-C8A	BK63H	1P	C	8A	10KA	120/240VAC	UL1077
BK63H-1P-C10A	BK63H	1P	C	10A	10KA	120/240VAC	UL1077
BK63H-1P-C15A	BK63H	1P	C	15A	10KA	120/240VAC	UL1077
BK63H-1P-C16A	BK63H	1P	C	16A	10KA	120/240VAC	UL1077
BK63H-1P-C20A	BK63H	1P	C	20A	10KA	120/240VAC	UL1077
BK63H-1P-C25A	BK63H	1P	C	25A	10KA	120/240VAC	UL1077
BK63H-1P-C30A	BK63H	1P	C	30A	10KA	120/240VAC	UL1077
BK63H-1P-C32A	BK63H	1P	C	32A	10KA	120/240VAC	UL1077
BK63H-1P-C40A	BK63H	1P	C	40A	10KA	120/240VAC	UL1077
BK63H-1P-C50A	BK63H	1P	C	50A	10KA	120/240VAC	UL1077
BK63H-1P-C63A	BK63H	1P	C	63A	10KA	120/240VAC	UL1077
BK63H-2P-C1A	BK63H	2P	C	1A	10KA	240VAC	UL1077
BK63H-2P-C2A	BK63H	2P	C	2A	10KA	240VAC	UL1077
BK63H-2P-C3A	BK63H	2P	C	3A	10KA	240VAC	UL1077
BK63H-2P-C4A	BK63H	2P	C	4A	10KA	240VAC	UL1077
BK63H-2P-C5A	BK63H	2P	C	5A	10KA	240VAC	UL1077
BK63H-2P-C6A	BK63H	2P	C	6A	10KA	240VAC	UL1077
BK63H-2P-C8A	BK63H	2P	C	8A	10KA	240VAC	UL1077
BK63H-2P-C10A	BK63H	2P	C	10A	10KA	240VAC	UL1077
BK63H-2P-C15A	BK63H	2P	C	15A	10KA	240VAC	UL1077
BK63H-2P-C16A	BK63H	2P	C	16A	10KA	240VAC	UL1077
BK63H-2P-C20A	BK63H	2P	C	20A	10KA	240VAC	UL1077
BK63H-2P-C25A	BK63H	2P	C	25A	10KA	240VAC	UL1077
BK63H-2P-C30A	BK63H	2P	C	30A	10KA	240VAC	UL1077
BK63H-2P-C32A	BK63H	2P	C	32A	10KA	240VAC	UL1077
BK63H-2P-C40A	BK63H	2P	C	40A	10KA	240VAC	UL1077
BK63H-2P-C50A	BK63H	2P	C	50A	10KA	240VAC	UL1077
BK63H-2P-C63A	BK63H	2P	C	63A	10KA	240VAC	UL1077
BK63H-3P-C1A	BK63H	3P	C	1A	10KA	240VAC	UL1077
BK63H-3P-C2A	BK63H	3P	C	2A	10KA	240VAC	UL1077
BK63H-3P-C3A	BK63H	3P	C	3A	10KA	240VAC	UL1077

MINI CIRCUIT BREAKERS

DIN MOUNTABLE C CURVE



PART NUMBER	SERIES NAME	NO. OF POLES	TRIP CURVE	RATED CURRENT	BREAKING CAPACITY	OPERATING VOLTAGE	STANDARD
BK63H-3P-C4A	BK63H	3P	C	4A	10KA	240VAC	UL1077
BK63H-3P-C5A	BK63H	3P	C	5A	10KA	240VAC	UL1077
BK63H-3P-C6A	BK63H	3P	C	6A	10KA	240VAC	UL1077
BK63H-3P-C8A	BK63H	3P	C	8A	10KA	240VAC	UL1077
BK63H-3P-C10A	BK63H	3P	C	10A	10KA	240VAC	UL1077
BK63H-3P-C15A	BK63H	3P	C	15A	10KA	240VAC	UL1077
BK63H-3P-C16A	BK63H	3P	C	16A	10KA	240VAC	UL1077
BK63H-3P-C20A	BK63H	3P	C	20A	10KA	240VAC	UL1077
BK63H-3P-C25A	BK63H	3P	C	25A	10KA	240VAC	UL1077
BK63H-3P-C30A	BK63H	3P	C	30A	10KA	240VAC	UL1077
BK63H-3P-C32A	BK63H	3P	C	32A	10KA	240VAC	UL1077
BK63H-3P-C40A	BK63H	3P	C	40A	10KA	240VAC	UL1077
BK63H-3P-C50A	BK63H	3P	C	50A	10KA	240VAC	UL1077
BK63H-3P-C63A	BK63H	3P	C	63A	10KA	240VAC	UL1077
BK63H-4P-C1A	BK63H	4P	C	1A	10KA	240VAC	UL1077
BK63H-4P-C2A	BK63H	4P	C	2A	10KA	240VAC	UL1077
BK63H-4P-C3A	BK63H	4P	C	3A	10KA	240VAC	UL1077
BK63H-4P-C4A	BK63H	4P	C	4A	10KA	240VAC	UL1077
BK63H-4P-C5A	BK63H	4P	C	5A	10KA	240VAC	UL1077
BK63H-4P-C6A	BK63H	4P	C	6A	10KA	240VAC	UL1077
BK63H-4P-C8A	BK63H	4P	C	8A	10KA	240VAC	UL1077
BK63H-4P-C10A	BK63H	4P	C	10A	10KA	240VAC	UL1077
BK63H-4P-C15A	BK63H	4P	C	15A	10KA	240VAC	UL1077
BK63H-4P-C16A	BK63H	4P	C	16A	10KA	240VAC	UL1077
BK63H-4P-C20A	BK63H	4P	C	20A	10KA	240VAC	UL1077
BK63H-4P-C25A	BK63H	4P	C	25A	10KA	240VAC	UL1077
BK63H-4P-C30A	BK63H	4P	C	30A	10KA	240VAC	UL1077
BK63H-4P-C32A	BK63H	4P	C	32A	10KA	240VAC	UL1077
BK63H-4P-C40A	BK63H	4P	C	40A	10KA	240VAC	UL1077
BK63H-4P-C50A	BK63H	4P	C	50A	10KA	240VAC	UL1077
BK63H-4P-C63A	BK63H	4P	C	63A	10KA	240VAC	UL1077
BK63HU-1P-C30A	BK63HU	1P	C	30A	10KA	120/240VAC	UL489
BK63HU-1P-C32A	BK63HU	1P	C	32A	10KA	120/240VAC	UL489
BK63HU-1P-C40A	BK63HU	1P	C	40A	10KA	120/240VAC	UL489
BK63HU-1P-C50A	BK63HU	1P	C	50A	10KA	120/240VAC	UL489
BK63HU-1P-C63A	BK63HU	1P	C	63A	10KA	120/240VAC	UL489
BK63HU-1P-C1A	BK63HU	1P	C	1A	10KA	277VAC	UL489

MINI CIRCUIT BREAKERS

DIN MOUNTABLE C CURVE



PART NUMBER	SERIES NAME	NO. OF POLES	TRIP CURVE	RATED CURRENT	BREAKING CAPACITY	OPERATING VOLTAGE	STANDARD
BK63HU-1P-C2A	BK63HU	1P	C	2A	10KA	277VAC	UL489
BK63HU-1P-C3A	BK63HU	1P	C	3A	10KA	277VAC	UL489
BK63HU-1P-C4A	BK63HU	1P	C	4A	10KA	277VAC	UL489
BK63HU-1P-C5A	BK63HU	1P	C	5A	10KA	277VAC	UL489
BK63HU-1P-C6A	BK63HU	1P	C	6A	10KA	277VAC	UL489
BK63HU-1P-C8A	BK63HU	1P	C	8A	10KA	277VAC	UL489
BK63HU-1P-C10A	BK63HU	1P	C	10A	10KA	277VAC	UL489
BK63HU-1P-C15A	BK63HU	1P	C	15A	10KA	277VAC	UL489
BK63HU-1P-C16A	BK63HU	1P	C	16A	10KA	277VAC	UL489
BK63HU-1P-C20A	BK63HU	1P	C	20A	10KA	277VAC	UL489
BK63HU-1P-C25A	BK63HU	1P	C	25A	10KA	277VAC	UL489
BK63HU-2P-C30A	BK63HU	2P	C	30A	10KA	240VAC	UL489
BK63HU-2P-C32A	BK63HU	2P	C	32A	10KA	240VAC	UL489
BK63HU-2P-C40A	BK63HU	2P	C	40A	10KA	240VAC	UL489
BK63HU-2P-C50A	BK63HU	2P	C	50A	10KA	240VAC	UL489
BK63HU-2P-C63A	BK63HU	2P	C	63A	10KA	240VAC	UL489
BK63HU-2P-C1A	BK63HU	2P	C	1A	10KA	480Y/277VAC	UL489
BK63HU-2P-C2A	BK63HU	2P	C	2A	10KA	480Y/277VAC	UL489
BK63HU-2P-C3A	BK63HU	2P	C	3A	10KA	480Y/277VAC	UL489
BK63HU-2P-C4A	BK63HU	2P	C	4A	10KA	480Y/277VAC	UL489
BK63HU-2P-C5A	BK63HU	2P	C	5A	10KA	480Y/277VAC	UL489
BK63HU-2P-C6A	BK63HU	2P	C	6A	10KA	480Y/277VAC	UL489
BK63HU-2P-C8A	BK63HU	2P	C	8A	10KA	480Y/277VAC	UL489
BK63HU-2P-C10A	BK63HU	2P	C	10A	10KA	480Y/277VAC	UL489
BK63HU-2P-C15A	BK63HU	2P	C	15A	10KA	480Y/277VAC	UL489
BK63HU-2P-C16A	BK63HU	2P	C	16A	10KA	480Y/277VAC	UL489
BK63HU-2P-C20A	BK63HU	2P	C	20A	10KA	480Y/277VAC	UL489
BK63HU-2P-C25A	BK63HU	2P	C	25A	10KA	480Y/277VAC	UL489
BK63HU-3P-C30A	BK63HU	3P	C	30A	10KA	240VAC	UL489
BK63HU-3P-C32A	BK63HU	3P	C	32A	10KA	240VAC	UL489
BK63HU-3P-C40A	BK63HU	3P	C	40A	10KA	240VAC	UL489
BK63HU-3P-C50A	BK63HU	3P	C	50A	10KA	240VAC	UL489
BK63HU-3P-C63A	BK63HU	3P	C	63A	10KA	240VAC	UL489
BK63HU-3P-C1A	BK63HU	3P	C	1A	10KA	480Y/277VAC	UL489
BK63HU-3P-C2A	BK63HU	3P	C	2A	10KA	480Y/277VAC	UL489
BK63HU-3P-C3A	BK63HU	3P	C	3A	10KA	480Y/277VAC	UL489
BK63HU-3P-C4A	BK63HU	3P	C	4A	10KA	480Y/277VAC	UL489

MINI CIRCUIT BREAKERS

DIN MOUNTABLE C CURVE



PART NUMBER	SERIES NAME	NO. OF POLES	TRIP CURVE	RATED CURRENT	BREAKING CAPACITY	OPERATING VOLTAGE	STANDARD
BK63HU-3P-C5A	BK63HU	3P	C	5A	10KA	480Y/277VAC	UL489
BK63HU-3P-C6A	BK63HU	3P	C	6A	10KA	480Y/277VAC	UL489
BK63HU-3P-C8A	BK63HU	3P	C	8A	10KA	480Y/277VAC	UL489
BK63HU-3P-C10A	BK63HU	3P	C	10A	10KA	480Y/277VAC	UL489
BK63HU-3P-C15A	BK63HU	3P	C	15A	10KA	480Y/277VAC	UL489
BK63HU-3P-C16A	BK63HU	3P	C	16A	10KA	480Y/277VAC	UL489
BK63HU-3P-C20A	BK63HU	3P	C	20A	10KA	480Y/277VAC	UL489
BK63HU-3P-C25A	BK63HU	3P	C	25A	10KA	480Y/277VAC	UL489

*FOR B AND D CURVE OPTIONS PLEASE CONTACT INFO@MCG-USA.COM



MOLDED CASE CIRCUIT BREAKERS



MOLDED CASE CIRCUIT BREAKERS



PRODUCT MATRIX

SAMPLE PART NUMBER
UTE100NT-FMU-100A-3P-LLUL

UTE100				NT		FMU		100A		3P		LL		UL	
SERIES & FRAME: SUSOL 100AF															
PERFORMANCE															
RATING	80%	100%	kA												
120/ 240Vac	E	ET	50												
	N	NT	65											SUFFIX	
	H	HT	100											UL: UL	
240Vac	E	ET	50												
	N	NT	65												
	H	HT	100												
480Vac	E	ET	25												
	N	NT	35												
	H	HT	65												
600V/ 347Vac	E	ET	14												
	N	NT	18												
	H	HT	35												
				TRIP UNIT				AMPERES				TERMINALS			
				FTU: Fixed thermal, Fixed Magnet				15 20				LL: Lugs Line/Load Side			
				FMU: Adj. Thermal, Fixed Magnet				25 30				L: Lugs Line Side			
				MCS: Molded Case Switch				35 40				LO: Lugs Load Side			
								45 50		POLES		--Bolt-On			
								60 70		2: TWO					
								80 90		3: THREE					
								100							

MOLDED CASE CIRCUIT BREAKERS

UTS 250AF



SAMPLE PART NUMBER: UTS250NT-ATU-250A-3P-LLUL													
PERFORMANCE				PRODUCT MATRIX									
RATING	80%	100%	KA	TRIP UNIT		AMPERES		POLES		TERMINALS		SUFFIX	
240VAC	N	NT	65	FTU	FIXED THERMAL,	150A	150 AMP	2P	TWO	L	LUGS LINE /LOAD SIDE	UL	UL
	H	HT	100		FIXED MAGNET	160A	160 AMP						
	L	LT	150			175A	175 AMP						
480VAC	N	NT	35	FMU	ADJ. THERMAL,	200A	200 AMP			L	LUGS LINE SIDE		
	H	HT	65		FIXED MAGNET	225A	225 AMP						
	L	LT	100			250A	250 AMP						
600VAC	N	NT	18	ATU	ADJ THERMAL & MAGNET					LO	LUGS LOAD SIDE		
	H	HT	35	ETS	ELECTRONIC TRIP UNIT STANDARD								
	L	LT	50		MOTOR CIRCUIT PROTECTOR					BOLT ON	BOLT ON		
				MCP									
				MCS	MOLDED CASE SWITCH								

NOTE: More options/accessories available upon request at info@mcg-usa.com. Disconnect options available for all MCCB's.

MOLDED CASE CIRCUIT BREAKERS

UTS 400AF



SAMPLE PART NUMBER: UTS400NT-ATU-400A-3P-LLUL														
PERFORMANCE				PRODUCT MATRIX										
RATING	80%	100%	KA	TRIP UNIT		AMPERES		POLES		TERMINALS		SUFFIX		
240VAC	N	NT	65	FTU	FIXED THERMAL,	250A	250 AMP	2P	TWO	LL	LUGS LINE /LOAD SIDE	UL	UL	
	H	HT	100		FIXED MAGNET	300A	300 AMP							
	L	LT	150			350A	350 AMP							
480VAC	N	NT	35	FMU	ADJ. THERMAL,	400A	400 AMP							
	H	HT	65		FIXED MAGNET									
	L	LT	100											
600VAC	N	NT	18	ATU	ADJ THERMAL & MAGNET					LO	LUGS LOAD SIDE			
	H	HT	35	ETS	ELECTRONIC TRIP UNIT STANDARD									
	L	LT	50			MOTOR CIRCUIT PROTECTOR					BOLT ON	BOLT ON		
				MCP										
				MCS	MOLDED CASE SWITCH									

NOTE: More options/accessories available upon request at info@mcg-usa.com. Disconnect options available for all MCCB's.



CONTROL TRANSFORMERS

Control transformers are essentially an isolation transformer that provides excellent voltage regulation. A control transformer is very often designed to produce a high level of secondary voltage stability during brief periods of condition overload, otherwise typically known as an “inrush current”.



STEP DOWN TRANSFORMER

Step down control transformers are designed to reduce the high incoming primary voltage to a lower outgoing secondary voltage.

FUSED SECONDARY STEP DOWN TRANSFORMER

TMI Series step down control transformers are designed to reduce the high incoming primary voltage to a lower outgoing secondary voltage. These transformers allow for 208V, 230V, or 460V on the primary input and output to a lower fused secondary giving the user either 24VAC, 120VAC, or 24/115VAC. These require CC midget-type fuses (not included).

AC TO DC POWER SUPPLY

DIN mountable power supplies for electrical applications that offer overload and short circuit protection.

CONTROL TRANSFORMERS

MO SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
MO 0100HC

MO 0100 H C

SERIES

VA
RATING

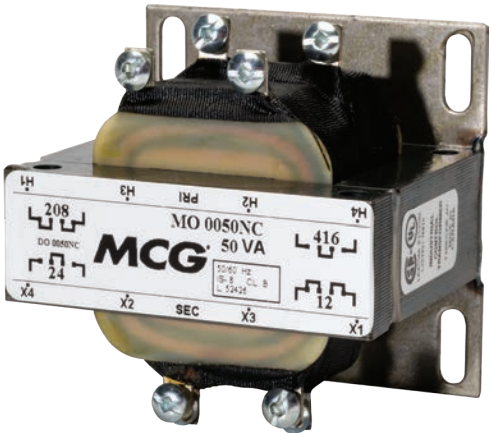
PRIMARY
VOLTAGE

SECONDARY
VOLTAGE

CONTROL TRANSFORMERS

MO SERIES

Step down control transformers are designed to reduce the high incoming primary voltage to a lower outgoing secondary voltage.



SAMPLE PART NUMBER: MO 0100HC					
MO	0100		H		C
PRODUCT MATRIX					
SERIES	VA RATING		PRIMARY VOLTAGE		SECONDARY VOLTAGE
MO	0025	25VA	H	120/240V	C 12/24V
	0050	50VA	N	208/416V	H 120/240V
	0100	100VA	P	240/480V	
	0150	150VA	I	277V	
	0250	250VA	L	347/380V	
	0500	500VA			
	1000	1000VA			
	2000	2000VA			
	5000	5000VA			

CONTROL TRANSFORMER

FUSED SECONDARY STEP DOWN TRANSFORMER

TMI Series step down control transformers are designed to reduce the high incoming primary voltage to a lower outgoing secondary voltage. These transformers allow for 208V, 230V, or 460V on the primary input and output to a lower fused secondary, giving the user either 24VAC, 120VAC, or 24/115VAC. These require CC midget-type fuses (not included).



PART NUMBER	VA RATING	SECONDARY VOLTAGE
TMI00502000XK	50 VA	24/115 VAC
TMI01502003XK	150 VA	24/115 VAC
TMI02502005XK	250 VA	24/115 VAC
TMI05002008XK	500 VA	24/115 VAC
TMI00502000XK	50 VA	24/115 VAC
TMI01002002XK	100 VA	24/115 VAC
TMI0100HBXK	100 VA	24 VAC
TMI0100MQ15XK	100 VA	120 VAC
TMI01502003XK	150 VA	24/115 VAC
TMI0150HBXK	150 VA	24 VAC
TMI0150MQ15XK	150 VA	120 VAC
TMI02002004XK	200 VA	24/115 VAC
TMI02502005XK	250 VA	24/115 VAC
TMI0250HBXK	250 VA	24 VAC
TMI0250MQ15XK	250 VA	120 VAC
TMI03502007XK	350 VA	24/115 VAC
TMI05002008XK	500 VA	24/115 VAC
TMI07502009XK	750 VA	24/115 VAC
TMI1000PEXK	1000 VA	24/115 VAC

CONTROL COMPONENTS

AC TO DC POWER SUPPLY

DIN mountable power supplies for electrical applications that offer overload and short circuit protection.



PART NUMBER	WATTS/VA	ADJUSTABLE OUTPUT VOLTAGE	INPUT VOLTAGE
M78.1B.1.230.2403	120 W	24VDC - 28VDC	120 - 240 VAC
M78.2E.1.230.2414	240 W	24VDC - 28VDC	120 - 240 VAC



CONTROL RELAYS



CONTROL RELAYS

ICE CUBE RELAYS

MCR SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
MCR22012235120WTL

MCR 2201 223 5 120 WTL

SERIES

TYPE

OF
PINS/BLADES

VAC / VDC

COIL
VOLTAGE

END
CODE

CONTROL RELAYS

ICE CUBE RELAYS

MCR SERIES

Control relays are ideal for any application, from controlling smaller loads, to those requiring high current-carrying capacity.



SAMPLE PART NUMBER: MCR22012235120WTL					
MCR	2201	223	5	120	WTL
PRODUCT MATRIX					
SERIES	TYPE	# OF PINS/BLADES	VAC / VDC	COIL VOLTAGE	WTL
MCR	15201 ● 10A PIN	223 ● 8 (2PDT)	5 VAC	012 12V	WTL END CODE
	2201 ● 12A BLADE (ONLY COMPATIBLE WITH 223)	323 ● 11 (3PDT)	1 VDC (ONLY AVAILABLE IN 12V AND 24V)	024 24V	
	3201 ● 10A BLADE (ONLY COMPATIBLE WITH 323)	423 ● 14 (4PDT)		120 120V	
	4201 ● 6A BLADE (ONLY COMPATIBLE WITH 423)			240 240V	



BASES

PART NUMBER	CONFIGURATION
MCRGZT2	8 BLADE BASE
MCRGZT3	11 BLADE BASE
MCRGZT4	14 BLADE BASE
MCRPZ11	11 PIN BASE
MCRPZ8	8 PIN OCTAL BASE

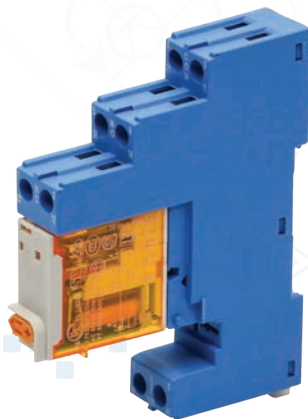
*M90.03 and M90.02 have space for time delay module.

NOTE: All are din mountable.

MINI RELAYS

46 SERIES 5 & 8 BLADE

Miniature industrial relays feature a compact design and an LED indicator light.



5 BLADE

PART NUMBER	DESCRIPTION
M46.61.8.024.0054	16A SPDT 24VAC 5 BLADE MINI RELAY W/ LED
M46.61.8.120.0054	16A SPDT 120VAC 5 BLADE MINI RELAY W/ LED
M46.61.9.024.0074	16A SPDT 24VDC 5 BLADE MINI RELAY W/ LED
M97.01SPA	5 BLADE BASE (DIN MOUNTABLE)

8 BLADE

PART NUMBER	DESCRIPTION
M46.52.8.024.0054	8A DPDT 24VAC 8 BLADE MINI RELAY W/ LED
M46.52.8.120.0054	8A DPDT 24VAC 8 BLADE MINI RELAY W/ LED
M97.02SPA	M46.52 8 BLADE BASE (DIN MOUNTABLE)

MONITORS/TIMER RELAYS

Phase monitors provide protection against phase loss, phase reversal, and phase unbalance due to blown fuses, broken wires or worn contacts. They monitor simultaneous voltage drops/increases and help to prevent damage to machinery and the injury of personnel.



PHASE MONITORS

PART NUMBER	TYPE	DESCRIPTION
MCG-PMDU	PHASE MONITOR	MACRO 10A DPDT 190-500V PHASE RLY
MCG-PMPU	PHASE MONITOR	3 PH MON RELAY 190-500 VAC 8 PIN ADJ
MCG-PMPU-FA8	PHASE MONITOR	3 PH MON RELAY 190-500 VAC, 8 PIN FIXED

TIME RELAY

A Timer Relay is a combination of an electromechanical output relay and a control circuit. The contacts will open or close before or after a pre-selected, timed interval. Timer relays provide simple, cost-effective control of process and machine tools.



PART NUMBER	TYPE	DESCRIPTION
T1-K	TIMER RELAY	MULTIMODE TIMER W/ TRIGGER 24 -300VAC/DC
MCG-TR-6812U	TIME DELAY RELAY	24-240AC 12-125DC/11 PIN OCT TIME DLY OFF RLY .1-100 HRS
MCG-TR-6816U	TIME DELAY RELAY	24VDC/8 PIN 2P OCT TME DLY OFF RLY.1-10
MCG-ARP1210A3R	ALTERNATING RELAY	DUPLEX ATERNATING RELAY 10A 120V CR WIRE



ENCLOSURES

Enclosures made of polycarbonate are resistant to denting, chipping, and cracking. They are rated NEMA 4X for protection from dirt, washdowns, and corrosion. Steel enclosures are rated NEMA 4-12 for protection from dirt and washdowns and also protect from oil/coolant dripping. Stainless steel enclosures are more corrosion resistant than steel and are for use in environments with corrosive liquids.

NOTE: Many more sizes are available upon request and special order items such as double door and free standing are available.

Types of Enclosures

- Push Button Enclosures
- Metal Enclosures
- Non-Metallic Enclosures

DIN Rail

DIN rail provides easy installation and removal of terminal blocks and other devices.

ENCLOSURES

NEMA 4-12 METAL WITH HINGED COVER

S SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
S121206

S 12 12 06

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SERIES	HEIGHT (INCHES)	WIDTH (INCHES)	DEPTH (INCHES)

ENCLOSURES

NEMA 4-12 METAL WITH HINGED COVER

S SERIES

Metal enclosures are rated NEMA 4-12 for protection from dirt and washdowns, and also protect from oil/coolant dripping.



SAMPLE PART NUMBER: S121206							
S	12		12		06		
PRODUCT MATRIX							
SERIES	HEIGHT (INCHES)		WIDTH (INCHES)		DEPTH (INCHES)		
S	10	10	08	8	04	4	
	12	12	10	10	05	5	
	14	14	12	12	06	6	
	16	16	14	14	08	8	
	20	20	16	16	10	10	
	24	24	20	20			

*GALVANIZED STEEL BACK PLATE INCLUDED.

NOTE: Many more sizes are available upon request and special order items such as double door and free standing are available.

ENCLOSURES

NEMA 4X POLY AR SERIES

PRODUCT MATRIX

SAMPLE PART NUMBER
AR242410CHSSL

AR 24 24 10 CHSSL

SERIES

**HEIGHT
(INCHES)**

**WIDTH
(INCHES)**

DEPTH
(INCHES)

CONFIGURATION

ENCLOSURES

NEMA 4X POLY

AR SERIES

Enclosures made of polycarbonate are resistant to denting, chipping, and cracking. They are rated NEMA 4X for protection from dirt, washdowns, and corrosion.



SAMPLE PART NUMBER: AR242410CHSSL									
AR		24		24		10		CHSSL	
PRODUCT MATRIX									
SERIES		HEIGHT (INCHES)		WIDTH (INCHES)		DEPTH (INCHES)		CONFIGURATION	
AR		06	6	06	6	04	4	CHL	NON-METALLIC LATCH, OPAQUE DOOR
		08	8	08	8	06	6	CHSSL	STAINLESS LATCH, OPAQUE DOOR
		10	10	10	10	07	7	CHSSLT	STAINLESS LATCH, CLEAR DOOR
		12	12	12	12	10	10		
		14	14	14	14				
		16	16	16	16				
		18	18	24	24				
		20	20						
24	24								

*COMES WITH MOUNTING FEET AND STAINLESS LATCHES.

*BACKPLATES SOLD SEPARATELY (SCE/SBP SERIES).

ENCLOSURES

SCE SERIES STAINLESS STEEL

Backplate not included.

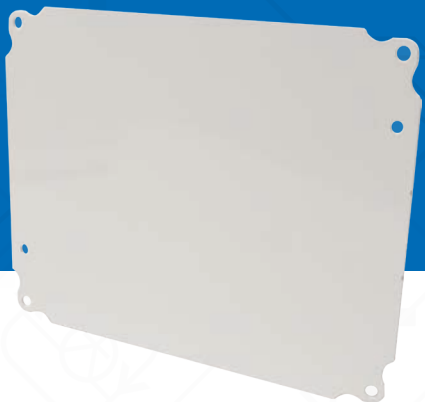


PART NUMBER	DESCRIPTION
SCE-606ELJSS	NEMA 4X STAINLESS ENCL 6X6X4 NO BACKPLATE
SCE-10086ELJSS	NEMA 4X STAINLESS ENCL 10X8X6 NO BACKPLATE
SCE-1008ELJSS	NEMA 4X STAINLESS ENCL 10X8X4 NO BACKPLATE
SCE-12108ELJSS	NEMA 4X STAINLESS ENCL 12X10X8 NO BACKPLATE
SCE-1210ELJSS	NEMA 4X STAINLESS ENCL 12X10X6 NO BACKPLATE
SCE-1212ELJSS	NEMA 4X STAINLESS ENCL 12X12X6 NO BACKPLATE
SCE-1412ELJSS	NEMA 4X STAINLESS ENCL 14X12X6 NO BACKPLATE
SCE-16148ELJSS	NEMA 4X STAINLESS ENCL 16X14X8 NO BACKPLATE
SCE-20EL1606SSLP	NEMA 4X STAINLESS ENCL 20X16X6 NO BACKPLATE
SCE-20EL2008SSLP	NEMA 4X STAINLESS ENCL 20X20X8 NO BACKPLATE
SCE-24EL1608SSLP	NEMA 4X STAINLESS ENCL 24X16X8 NO BACKPLATE
SCE-24EL2010SSLP	NEMA 4X STAINLESS ENCL 24X20X10 NO BACKPLATE
SCE-24EL2410SSLP	NEMA 4X STAINLESS ENCL 24X24X10 NO BACKPLATE
SCE-30EL2410SSLP	NEMA 4X STAINLESS ENCL 30X24X10 NO BACKPLATE
SCE-36EL2410SSLP	NEMA 4X STAINLESS ENCL 36X24X10 NO BACKPLATE
SCE-36EL3010SSLP	NEMA 4X STAINLESS ENCL 36X30X10 NO BACKPLATE
SCE-36EL3012SSLP	NEMA 4X STAINLESS ENCL 36X30X12 NO BACKPLATE
SCE-36EL3016SSLP	NEMA 4X STAINLESS ENCL 36X30X16 NO BACKPLATE
SCE-36EL3612SSLP	NEMA 4X STAINLESS ENCL 36X36X12 NO BACKPLATE

NOTE: Many more sizes are available upon request and special order items such as double door and free standing are available.

ENCLOSURES

SCE SERIES STEEL BACK PLATES



PART NUMBER	DESCRIPTION
SCE-6P6	BACKPLATE FOR 6X6 SCE ENCLOSURES
SCE-10P8	BACKPLATE FOR 10X8 SCE ENCLOSURES
SCE-12P10	BACKPLATE FOR 12X10 SCE ENCLOSURES
SCE-12P12	BACKPLATE FOR 12X12 SCE ENCLOSURES
SCE-16P14	BACKPLATE FOR 16X14 SCE ENCLOSURES
SCE-20P16	BACKPLATE FOR 20X16 SCE ENCLOSURES
SCE-20P20	BACKPLATE FOR 20X20 SCE ENCLOSURES
SCE-24P24	BACKPLATE FOR 24X24 SCE ENCLOSURES
SCE-24P16	BACKPLATE FOR 24X16 SCE ENCLOSURES
SCE-24P20	BACKPLATE FOR 24X20 SCE ENCLOSURES
SCE-30P24	BACKPLATE FOR 30X24 SCE ENCLOSURES
SCE-36P30	BACKPLATE FOR 36X30 SCE ENCLOSURES
SCE-36P36	BACKPLATE FOR 36X36 SCE ENCLOSURES
SCE-36P24	BACKPLATE FOR 36X24 SCE ENCLOSURES

*ALL SCE SERIES BACKPLATES COME POWDER COATED WHITE.

ENCLOSURES

22MM PUSH BUTTON NEMA ENCLOSURES

Push Button Enclosures are designed to house 22mm push buttons, switches, and pilot lights.



NEMA 4 SEAL

PART NUMBER	COMPATIBILITY	HOLES
1PBM	PUSH BUTTONS 22MM	1
2PBM	PUSH BUTTONS 22MM	2
3PBM	PUSH BUTTONS 22MM	3
4PBM	PUSH BUTTONS 22MM	4

NEMA 4X STAINLESS

PART NUMBER	DESCRIPTION
SCE-1PBSSI	N4X STAINLESS 1 HOLE PB STATION 22MM
SCE-2PBSSI	N4X STAINLESS 2 HOLE PB STATION 22MM
SCE-3PBSSI	N4X STAINLESS 3 HOLE PB STATION 22MM

ENCLOSURES

SLOTTED DIN RAIL

DIN rail provides easy installation and removal of terminal blocks and other devices.



PART NUMBER	TYPE	LENGTH
501101M	ANGLED SUPPORT BRACKET	--
DINRAIL A	ALUMINUM	3FT
DINRAIL S	GALVANIZED STEEL	3FT
DINRAIL S2M	GALVANIZED STEEL	6FT



VARIABLE FREQUENCY DRIVES

A variable frequency drive (VFD) is a type of adjustable-speed drive used in electro-mechanical drive systems to control AC motor speed and torque by varying motor input frequency and voltage.

NOTE: For assistance with a VFD package, email us at info@mcg-usa.com or call at 772-408-5211

Types of Variable Frequency Drives

- Micro Drive
- HVAC / Fan & Pump Drive
- Standard Industrial Drive
- Bypass
- Advanced Standard Drive

Applications

The uses for Variable Frequency Drives include oil & gas pump jacks, crane, wind, & winder applications.

VARIABLE FREQUENCY DRIVES

S100

Standard Industrial Drive Compact industrial drive with V/F and sensorless vector control. Advanced features including power loss ride through, PID control, Safe Off Relay, various communication options. Dual rated for CT and VT. NEMA 4X model is also available!

FEATURES:

[Standard Enclosure]

- 1 Phase 230V / 0.5~3HP (0.4~2.2kW)
- 3 Phase 230V / 0.5~20HP (0.4~15kW)
- 3 Phase 480V / 0.5~100HP (0.4~75kW)

[NEMA 4X Enclosure]

- 3 Phase 230V / 0.5~20HP (0.4~15kW)
- 3 Phase 480V / 0.5~30HP (0.4~22kW)

- 1-phase UL Rating for 230V & 480V
- Built-in EMC Filter (Option for 480V)
- Built-in Safety Torque Off
- Side-by-Side Installation
- Heatsink out the Back (Flange Option)
- PM Motor Control
- Compliance with Field Networks
 - Ethernet IP, Modbus TCP/IP, Profinet,
 - EtherCAT, Profibus-DP, CANopen



SINGLE PHASE 200 ~ 240VAC (-15% ~ +10%)

UL THREE PHASE RATINGS				UL SINGLE PHASE RATINGS						MODEL NUMBER
CONSTANT TORQUE 150% FOR 60 SECONDS (HD)		VARIABLE TORQUE 120% FOR 60 SECONDS (ND)		CONSTANT TORQUE (HD) SINGLE PHASE		CONSTANT TORQUE (HD) 3 PHASE OUTPUT	VARIABLE TORQUE (ND) SINGLE PHASE		VARIABLE TORQUE (ND) 3 PHASE OUTPUT	
HP	OUTPUT CURRENT (AMPS)	HP	OUTPUT CURRENT (AMPS)	HP	AMPS	AMPS	HP	AMPS	AMPS	
0.5	2.5	1	3.1	-	-	-	-	-	-	LSLV0004S100-1EONNS
1	5	2	6	-	-	-	-	-	-	LSLV0008S100-1EONNS
2	8	3	10	-	-	-	-	-	-	LSLV0015S100-1EONNS
3	11	5	12	-	-	-	-	-	-	LSLV0022S100-1EONNS

THREE PHASE 200 ~ 240 VAC (-15% ~ +10%)

UL THREE PHASE RATINGS				UL SINGLE PHASE RATINGS						MODEL NUMBER
CONSTANT TORQUE 150% FOR 60 SECONDS (HD)		VARIABLE TORQUE 120% FOR 60 SECONDS (ND)		CONSTANT TORQUE (HD) SINGLE PHASE		CONSTANT TORQUE (HD) 3 PHASE OUTPUT	VARIABLE TORQUE (ND) SINGLE PHASE		VARIABLE TORQUE (ND) 3 PHASE OUTPUT	
HP	OUTPUT CURRENT (AMPS)	HP	OUTPUT CURRENT (AMPS)	HP	AMPS	AMPS	HP	AMPS	AMPS	
0.5	2.5	1	3.1	-	2.2	1.5	-	3	1.8	LSLV0004S100-2EONNS
1	5	2	6	0.5	4.9	2.8	0.75	6.3	3.3	LSLV0008S100-2EONNS
2	8	3	10	1	8.4	4.6	1	10.8	5.7	LSLV0015S100-2EONNS
3	11	5	12	1.5	11.8	6.1	1.5	13.1	6.6	LSLV0022S100-2EONNS
5.4	17	7.5	18	2	18.5	9.3	3	19.4	9.9	LSLV0040S100-2EONNS
7.5	24	10	30	3	25.8	13	5	32.7	16	LSLV0055S100-2EONNS
10	32	15	40	5	34.9	18	7.5	44.2	22	LSLV0075S100-2EONNS
15	46	20	56	7.5	50.8	26	10	62.3	31	LSLV0110S100-2EONNS
20	60	25	69	10	66.7	33	10	77.2	38	LSLV0150S100-2EONNS

THREE PHASE 380 ~ 480 VAC (-15% ~ +10%)

UL THREE PHASE RATINGS				UL SINGLE PHASE RATINGS						MODEL NUMBER
CONSTANT TORQUE 150% FOR 60 SECONDS (HD)		VARIABLE TORQUE 120% FOR 60 SECONDS (ND)		CONSTANT TORQUE (HD) SINGLE PHASE		CONSTANT TORQUE (HD) 3 PHASE OUTPUT	VARIABLE TORQUE (ND) SINGLE PHASE		VARIABLE TORQUE (ND) 3 PHASE OUTPUT	
HP	OUTPUT CURRENT (AMPS)	HP	OUTPUT CURRENT (AMPS)	HP	AMPS	AMPS	HP	AMPS	AMPS	
0.5	1.3	1	2		1.1	0.8	0.5	2	1.3	LSLV0004S100-4EONNS
1	2.5	2	3.1	0.5	2.4	1.5	0.75	3.3	1.9	LSLV0008S100-4EONNS
2	4	3	5.1	0.75	4.2	2.3	1	5.5	3	LSLV0015S100-4EONNS
3	5.5	5	6.9	1	5.9	3.1	2	7.5	3.9	LSLV0022S100-4EONNS
5.4	9	7.5	10	3	9.8	5.4	3	10.8	5.9	LSLV0040S100-4EONNS
7.5	12	10	16	3	12.9	7.1	5	17.5	9.5	LSLV0055S100-4EOFNS
10	16	15	23	5	17.5	9.5	7.5	25.4	14	LSLV0075S100-4EOFNS
15	24	20	30	7.5	26.5	15	10	33.4	18	LSLV0110S100-4EOFNS
20	30	25	38	10	33.4	18	15	42.5	23	LSLV0150S100-4EOFNS
25	39	30	44	10	43.6	23	15	49.5	27	LSLV0185S100-4EOFNS
30	45	40	58	15	50.7	27	20	65.7	35	LSLV0220S100-4EOFNS
40	61	50	75	20	56	32	25	69	39	LSLV0300S100-4CONDNS
50	75	60	91	25	69	39	30	85	47	LSLV0370S100-4CONDNS
60	91	75	107	30	85	47	40	100	55	LSLV0450S100-4CONDNS
75	110	100	142	40	103	57	50	134	73	LSLV0550S100-4CONDNS
100	152	120	169	50	143	78	60	160	87	LSLV0750S100-4CONDNS

VARIABLE FREQUENCY DRIVES

G100

The G100 is the solution for general drives applications because of its high performance sensorless operation, premium quality, and high reliability.

FEATURES:
3 Phase 200~240V 0.4~22kW (0.5~30HP)
3 Phase 380~480V 0.4~22kW (0.5~30HP)

- Meets UL 61800-5-1
- Military (MIL 217Plus) design based methodology
- Enhanced materials and manufacturing processes
- Enhanced motor control-sensorless & V/F performance
- User-friendly-easy tuning sensorless control
- Suitable for most applications
- Easy to install, use, and maintain
- Various options



THREE PHASE 200 ~ 240 VAC (-15% ~ +10%)

UL THREE PHASE RATINGS				UL SINGLE PHASE RATINGS				MODEL NUMBER
CONSTANT TORQUE 150% FOR 60 SECONDS (HD)		VARIABLE TORQUE 120% FOR 60 SECONDS (ND)		CONSTANT TORQUE (HD) SINGLE PHASE		VARIABLE TORQUE (ND) SINGLE PHASE		
HP	OUTPUT CURRENT (AMPS)	HP	OUTPUT CURRENT (AMPS)	HP	OUTPUT CURRENT (AMPS)	HP	OUTPUT CURRENT (AMPS)	
0.5	2.5	1	3.1	N/A	1.5	N/A	2	LSLV0004G100-2EONN
1	5	2	6	0.5	2.8	0.75	3.6	LSLV0008G100-2EONN
2	8	3	9.6	1	4.6	1	5.9	LSLV0015G100-2EONN
3	11	5	12	1.5	6.1	1.5	6.7	LSLV0022G100-2EONN
5	17	7.5	18	2	9.3	3	9.8	LSLV0040G100-2EONN
7.5	24	10	30	3	12.8	5	16.3	LSLV0055G100-2EONN
10	32	15	40	5	17.4	7.5	22	LSLV0075G100-2EONN

THREE PHASE 380 ~ 480 VAC (-15% ~ +10%)

UL THREE PHASE RATINGS				UL SINGLE PHASE RATINGS				MODEL NUMBER
CONSTANT TORQUE 150% FOR 60 SECONDS (HD)		VARIABLE TORQUE 120% FOR 60 SECONDS (ND)		CONSTANT TORQUE (HD) SINGLE PHASE		VARIABLE TORQUE (ND) SINGLE PHASE		
HP	OUTPUT CURRENT (AMPS)	HP	OUTPUT CURRENT (AMPS)	HP	OUTPUT CURRENT (AMPS)	HP	OUTPUT CURRENT (AMPS)	
0.5	1.3	1	2	N/A	0.7	0.5	1.3	LSLV0004G100-4EOFN
1	2.5	2	3.1	0.5	1.4	0.75	1.9	LSLV0008G100-4EOFN
2	4	3	5.1	1	2.1	1	2.8	LSLV0015G100-4EOFN
3	5.5	5	6.9	1	2.8	2	3.6	LSLV0022G100-4EOFN
5	9	7.5	10	3	4.9	3	5.4	LSLV0040G100-4EOFN
7.5	12	10	16	3	6.4	5	8.7	LSLV0055G100-4EOFN
10	16	15	23	5	8.7	7.5	12.6	LSLV0075G100-4EOFN

VARIABLE FREQUENCY DRIVES

M100

Micro Drive

Cost-effective, compact drive with V/F and sensorless vector control. Advanced features including power loss ride through, PID control, Safe Off Relay, and Built-in potentiometer. Dual rated for CT and VT.

FEATURES:

1 Phase 230V / 0.2~3HP (0.1~2.2kW)
3 Phase 230V / 0.2~10HP (0.1~7.5kW)
3 Phase 480V / 0.5~10HP (0.4~7.5kW)

- Built-in EMC Filter (Option for 480V)
- Built-in Potentiometer
- Built-in Safety Torque Off
- Side-by-Side Installation
- Enhanced Size Competitiveness



VARIABLE FREQUENCY DRIVES

H100

HVAC / Fan & Pump Drive Combining air and water into a single VFD. The H100 satisfies two markets with one drive. Some features included are damper control, broken pipe, fire mode, and a payback counter. LCD keypad HOA standard on all H100s.

FEATURES:

3 Phase 230V / 1~25HP (0.75~18.5kW)
3 Phase 480V / 1~125HP (0.75~90kW)

- 1-phase UL Rating for 230V & 480V
- Built-in EMC Filter (Option for 480V)
- BACnet, Modbus-RTU, Metasys N2 Communication Protocol as standard
- UL Plenum Rated
- Side-by-Side Installation
- Heatsink out the Back (Flange Option)
- LCD Keypad designed for HVAC / Fan & Pump Applications
- Specialized function for HVAC
- Fire Mode
- Scheduling function (Real Time Clock)
- Energy Saving Display (Payback Counter)
- LonWorks Communication Protocol available as an option



VARIABLE FREQUENCY DRIVES

H100 BYPASS

The Bypass Solution for HVAC optimizes your HVAC applications with the user-friendly H100 Bypass. This new Bypass from LSIS offers security by avoiding downtime and energy savings using the advanced H100 series VFD.

FEATURES:

3 Phase 230V / 7.5~25HP (5.5~18.5kW)
3 Phase 480V / 7.5~75HP (5.5~55kW)

- 3 Contactor Bypass
- HAND/OFF/AUTO Bypass Switch
- Built-in DC Reactor
(Built-in AC Reactor also available up to 40HP)
- UL Plenum Rated
- NEMA1 Enclosure
- BACnet, Modbus-RTU, Metasys N2 Communication Protocol as standard
- Compact Size
- Easy Wiring and Installation
- Auto Bypass Function - Motor OL Trip Detection
- Easy Maintenance
- KEB, Kinetic Energy Buffering - Fire Mode
- Built-in Five Relay Outputs
- Real Time Clock



VARIABLE FREQUENCY DRIVES

IS7

Advanced Standard Drive

The iS7 is the most powerful and advanced drive in the lineup. Motor control types include V/F, sensorless vector, and vector control. Three option module slots with PLC, synchronous, communication options. Used in oil & gas pump jacks, crane, wind, & winder applications.

FEATURES:

[Standard Enclosure]

3 Phase 230V / 1~100HP (0.75~75kW)
3 Phase 480V / 1~600HP (0.75~375kW)

[NEMA12 Enclosure]

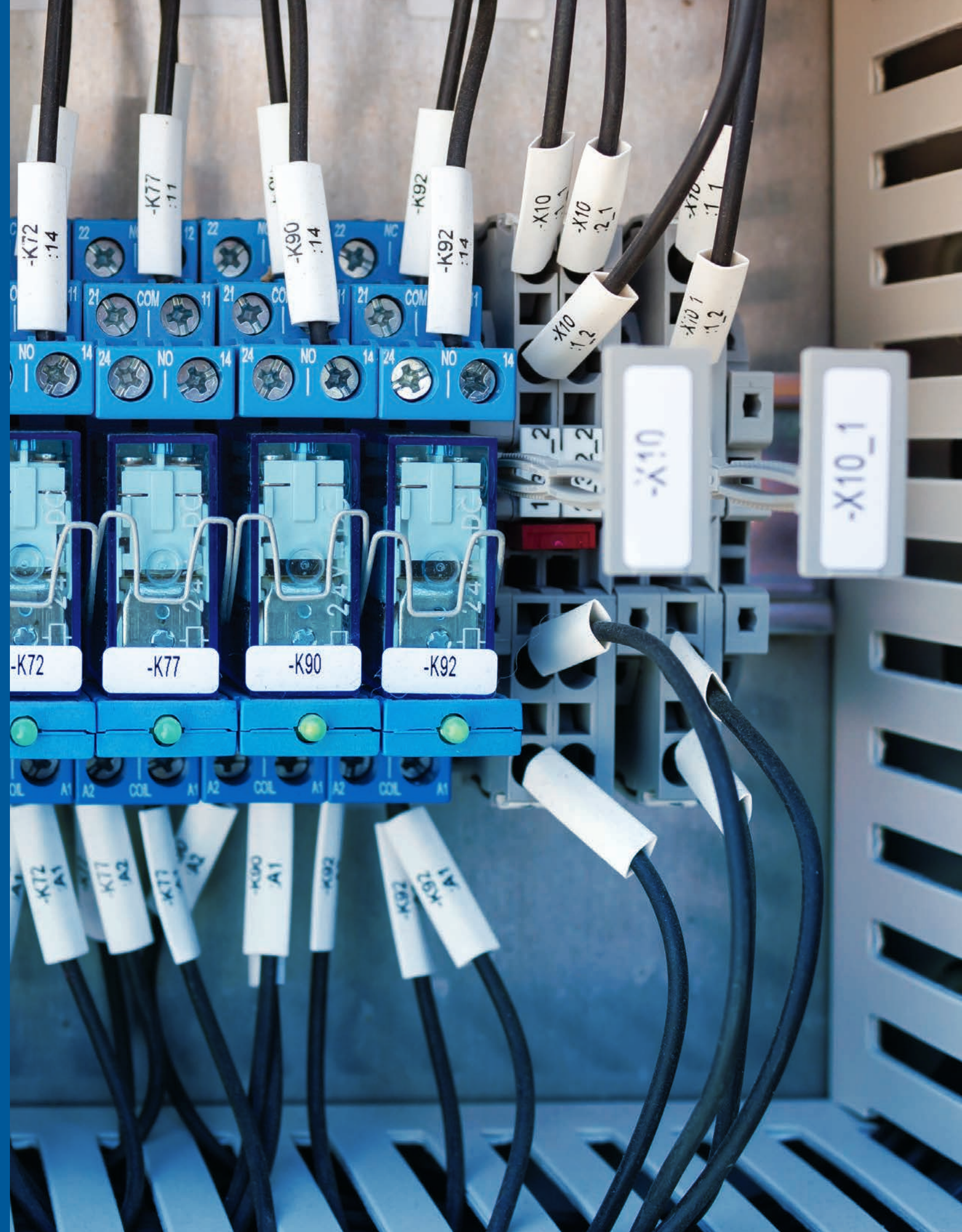
3 Phase 230V / 1~30HP (0.75~22kW)
3 Phase 480V / 1~30HP (0.75~22kW)

- 1-phase UL Rating for 230V & 480V
- Built-in EMC Filter (230V & 480V: ~30HP)
- Built-in DC Reactor (230V: ~30HP, 480V: ~350HP)
- Heatsink out the Back (Flange Option)
- Standard Modbus-RTU communication with various communication available as options
 - Ethernet IP, Modbus TCP, Profibus DP, DeviceNet, CANopen, LonWorks
- User-Friendly Option Cards
 - PLC card, Extension I/O 1&2, Synchronous, Position Control, Encoder, 24V Encoder, Binary, Auxiliary Power





CABLE MANAGEMENT



CABLE GLANDS (CORD GRIPS)

NPT CABLE GLANDS

Cable glands provide watertight strain relief to electrical connections by attaching and securing the end of an electrical cable to the equipment.



PART NUMBER	DESCRIPTION
MBPL01	LOCK NUT NPT 3/8", PA, GRAY
MBPL02	LOCK NUT NPT 1/2", PA, GRAY
MBPL03	LOCK NUT NPT 3/4", PA, GRAY
MBPL04	LOCK NUT NPT 1", PA, GRAY
MBPL21	LOCKNUT NPT 3/8", PA, BLACK
MBPL22	LOCK NUT NPT 1/2", BLACK
MBSP04R	CABLE GLAND NPT 1" PA GRAY, 12-20 MM
MBSPA01R	CABLE GLAND NPT 3/8" PA GRAY, 3-7 MM
MBSPA21R	CABLE GLAND NPT 3/8" PA BLACK, 3-7 MM
MBSPB02R	CABLE GLAND NPT 1/2" PA GRAY, 5-9 MM
MBSPB22R	CABLE GLAND NPT 1/2" 5-9MM, BLACK
MBSPC02R	CABLE GLAND NPT 1/2" PA GRAY, 7-12 MM
MBSPC22R	CABLE GLAND NPT 1/2" 7-12MM, BLACK
MBSPD03R	CABLE GLAND NPT 3/4" PA GRAY 9-16 MM

CABLE GLANDS (CORD GRIPS)

BRASS

Cable glands provide watertight strain relief to electrical connections by attaching and securing the end of an electrical cable to the equipment.



PART NUMBER	DESCRIPTION
MBNBC02S	CABLE GLAND NPT 1/2", BRASS, 10-14 MM
MBNBC03	CABLE GLAND NPT 3/4", BRASS, 14-18 MM

CABLE GLANDS (CORD GRIPS)

METRIC THREADS

Cable glands provide watertight strain relief to electrical connections by attaching and securing the end of an electrical cable to the equipment.



PART NUMBER	DESCRIPTION
MBMEN02RL	CABLE GLAND M20X1.5, PA, GRAY, 5-9 MM
MBMEN13RL	CABLE GLAND M25X1.5, LIGHT GRAY, 9-13 MM
MBML02	LOCK NUT, M20X1.5, PA, GRAY
MBML03	LOCK NUT, M25X1.5, PA, GRAY

CABLE GLANDS (CORD GRIPS)

SPIRAL CABLE GLAND

Spiral Cable Glands provide watertight strain relief to electrical connections by attaching and securing the end of an electrical cable to the equipment. The spiral prevents the cable from kinking or excessive bending.



PART NUMBER	DESCRIPTION
MBISP04	CABLE GLAND SPIRAL, M20X1.5, PA, GRAY, 7-12 MM
MBISP06	CABLE GLAND SPIRAL, M25X1.5, PA, GRAY, 9-16 MM
MBNSPA01R	CABLE GLAND SPIRAL NPT 3/8", PA, GRAY, 3-7 MM
MBNSPC02R	CABLE GLAND SPIRAL NPT 1/2", PA, GRAY, 7-12 MM
MBNSPD03R	CABLE GLAND SPIRAL NPT 3/4", PA, GRAY, 9-16 MM

CABLE MANAGEMENT

TERMINAL STRIPS

Terminal Strips are insulated bars that contain a set of screws to which wires are attached.

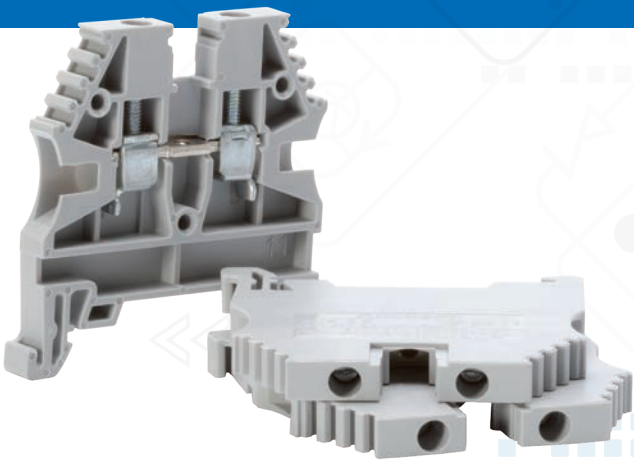


PART NUMBER	NO. OF TERMINALS	LENGTH	AWG	COLOR
430002M	12	3 3/4"	22 - 12	●
430012M	12	4 1/2"	22 - 10	●
430022M	12	5 1/4"	14 - 8	●
430032M	12	7"	10 - 6	●
431002M	12	3 3/4"	22 - 12	○
431012M	12	4 1/2"	22 - 10	○
431022M	12	5 1/4"	14 - 8	○
431032M	12	7"	10 - 6	○

TERMINAL BLOCK

20A SINGLE LEVEL 26-12 AWG

Feed Through/600V Rated AVK 2.5
Terminal Blocks facilitate the connection of panel-mounted electronic components to device power and field wiring.



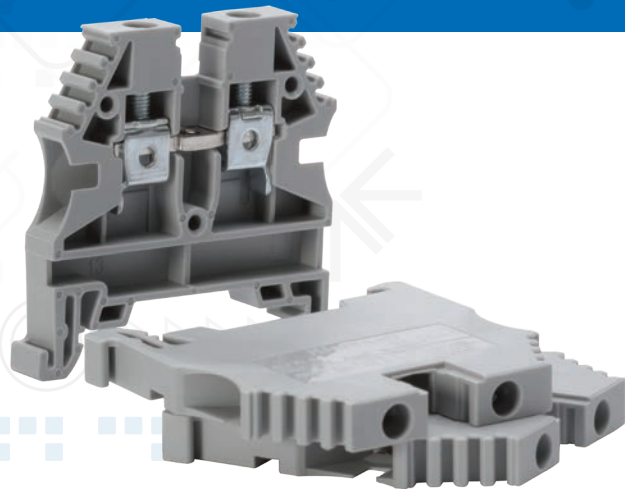
PART NUMBER	COLOR CODE	DESCRIPTION
30412_M	0 1 2 3 4 5 6 7 8	TERMINAL
474122M	--	2 WAY JUMPER
474123M	--	3 WAY JUMPER
474124M	--	4 WAY JUMPER
474129M	--	10 WAY JUMPER
44412_M	0 1 2 3 4 5 6 7 8	END COVER
462120M	--	SEPARATOR
495049M	--	END BRACKET

*REPLACE UNDERSCORE IN PART NUMBER WITH COLOR CODES.

TERMINAL BLOCK

30A SINGLE LEVEL 26-10 AWG

Feed Through/600V Rated AVK 4
Terminal Blocks facilitate the connection of panel-mounted electronic components to device power and field wiring.



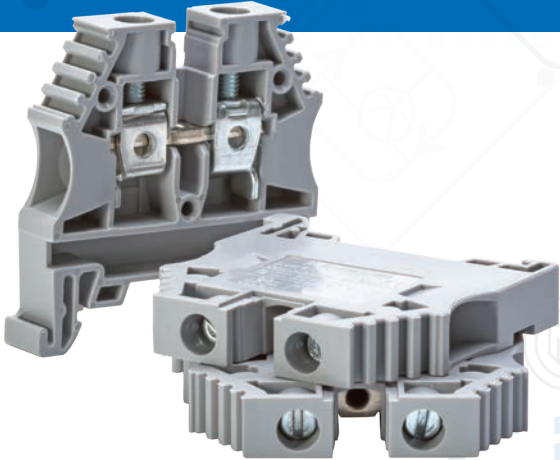
PART NUMBER	COLOR CODE	DESCRIPTION
30413_M	01345678	TERMINAL
474132M	--	2 WAY JUMPER
474133M	--	3 WAY JUMPER
474134M	--	4 WAY JUMPER
474139M	--	10 WAY JUMPER
44412_M	01345678	END COVER
462120M	--	SEPARATOR
495049M	--	END BRACKET

*REPLACE UNDERSCORE IN PART NUMBER WITH COLOR CODES.

TERMINAL BLOCK

50A SINGLE LEVEL 26-8 AWG

Feed Through/600V Rated AVK 6
Terminal Blocks facilitate the connection of panel-mounted electronic components to device power and field wiring.



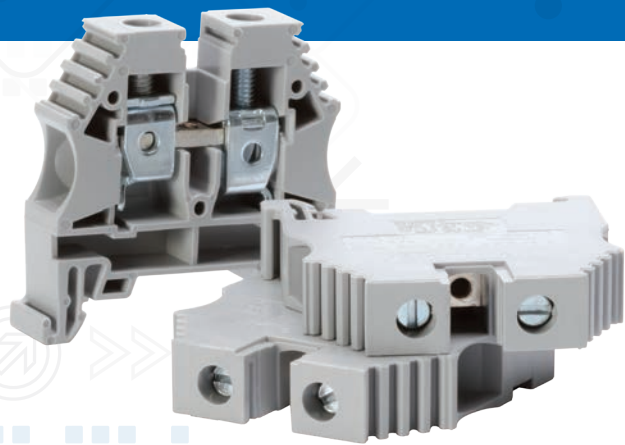
PART NUMBER	COLOR CODE	DESCRIPTION
30414_M	01345678	TERMINAL
474142M	--	2 WAY JUMPER
474143M	--	3 WAY JUMPER
474144M	--	4 WAY JUMPER
474149M	--	10 WAY JUMPER
44412_M	01345678	END COVER
462120M	--	SEPARATOR
495049M	--	END BRACKET

*REPLACE UNDERSCORE IN PART NUMBER WITH COLOR CODES.

TERMINAL BLOCK

65A SINGLE LEVEL 16-6 AWG

Feed Through/600V Rated AVK 10
Terminal Blocks facilitate the connection of panel-mounted electronic components to device power and field wiring.



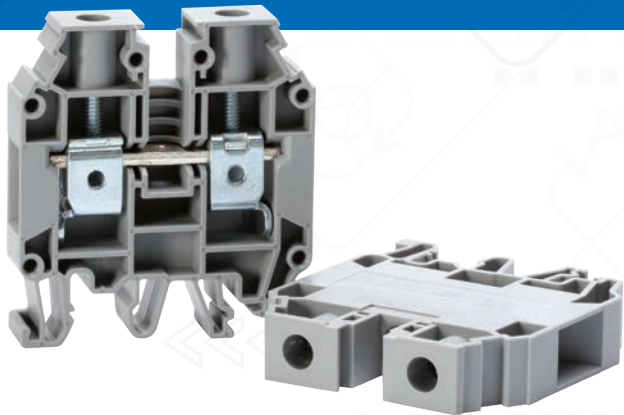
PART NUMBER	COLOR CODE	DESCRIPTION
30415_M	0 1 4	TERMINAL
474152M	--	2 WAY JUMPER
474153M	--	3 WAY JUMPER
474154M	--	4 WAY JUMPER
474159M	--	10 WAY JUMPER
444120M	--	END COVER
462120M	--	SEPARATOR
495049M	--	END BRACKET

*REPLACE UNDERSCORE IN PART NUMBER WITH COLOR CODES.

TERMINAL BLOCK

80A SINGLE LEVEL 12-4 AWG

Feed Through/600V Rated AVK 16
Terminal Blocks facilitate the connection of panel-mounted electronic components to device power and field wiring.



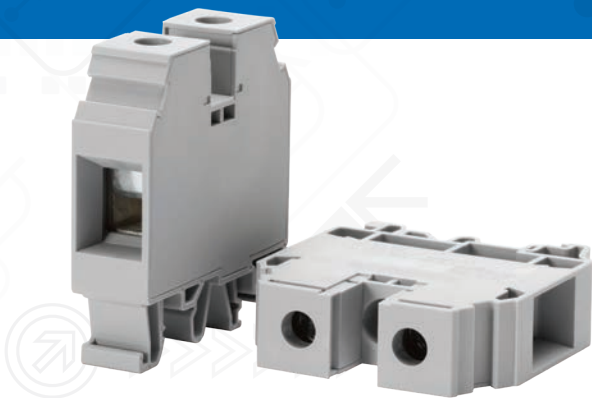
PART NUMBER	COLOR CODE	DESCRIPTION
30424_M	0 1 4	TERMINAL
474162M	--	2 WAY JUMPER
474163M	--	3 WAY JUMPER
474164M	--	4 WAY JUMPER
474169M	--	10 WAY JUMPER
444170M	--	END COVER
495049M	--	END BRACKET

*REPLACE UNDERSCORE IN PART NUMBER WITH COLOR CODES.

TERMINAL BLOCK

115A SINGLE LEVEL 12-2 AWG

Feed Through/600V Rated
Terminal Blocks facilitate the connection of panel-mounted electronic components to device power and field wiring.



PART NUMBER	COLOR CODE	DESCRIPTION
30425_M	0 1 4	TERMINAL
474172M	--	2 WAY JUMPER
474173M	--	3 WAY JUMPER
474174M	--	4 WAY JUMPER
474179M	--	10 WAY JUMPER
495049M	--	END BRACKET

*REPLACE UNDERSCORE IN PART NUMBER WITH COLOR CODES.

TERMINAL BLOCK

175A SINGLE LEVEL 6-2/0 AWG

Feed Through/600V Rated
Terminal Blocks facilitate the connection of panel-mounted electronic components to device power and field wiring.



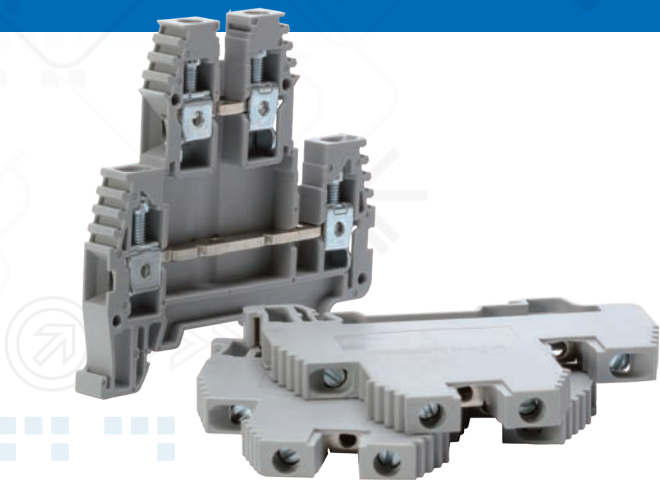
PART NUMBER	COLOR CODE	DESCRIPTION
30419_M	0 1 4	TERMINAL
495049M	--	END BRACKET

*REPLACE UNDERSCORE IN PART NUMBER WITH COLOR CODES.

TERMINAL BLOCK

30A DOUBLE LEVEL 26-10 AWG

Feed Through
Terminal Blocks facilitate the connection of panel-mounted electronic components to device power and field wiring.



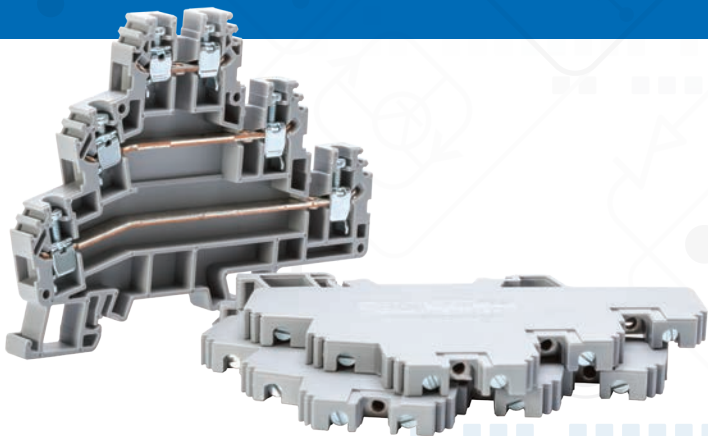
PART NUMBER	COLOR CODE	DESCRIPTION	VOLTAGE
31910_M	0 1 3 4 5 6 7 8	TERMINAL	300V
319119M	--	INTERNALLY JUMPERED	300V
319219M	--	DIODE TERMINAL	300V
319319M	--	LED TERMINAL	24VAC
319329M	--	LED TERMINAL	24VDC
474132M	--	2 WAY JUMPER	--
474133M		3 WAY JUMPER	--
474134M		4 WAY JUMPER	--
474139M		10 WAY JUMPER	--
44901_M	0 1 3 4 5 6 7 8	END COVER	--
495049M		END BRACKET	--

*REPLACE UNDERSCORE IN PART NUMBER WITH COLOR CODES.

TERMINAL BLOCK

24A TRIPLE LEVEL 24-12 AWG

Feed Through
Terminal Blocks facilitate the connection of panel-mounted electronic components to device power and field wiring.



PART NUMBER	DESCRIPTION	VOLTAGE
324109M	TERMINAL	300V
480132M	2 WAY JUMPER	--
480133M	3 WAY JUMPER	--
480134M	4 WAY JUMPER	--
480139M	10 WAY JUMPER	--
450139M	END COVER	--
495049M	END BRACKET	--

TERMINAL BLOCK

6.3 FUSED 22-8 AWG

Feed Through
Terminal Blocks facilitate the connection of panel-mounted electronic components to device power and field wiring.

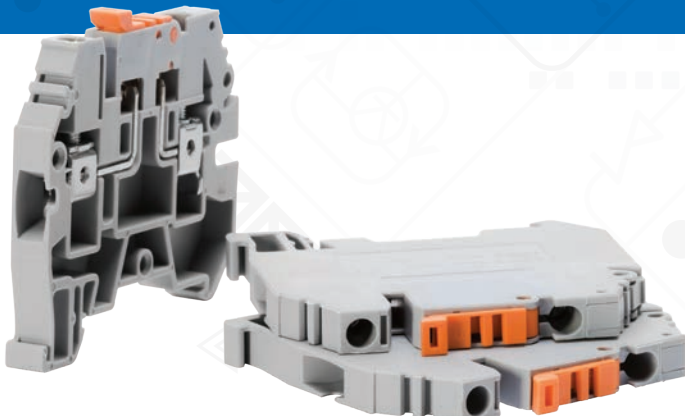


PART NUMBER	DESCRIPTION	VOLTAGE
351129M	TERMINAL	600V
495049M	END BRACKET	--

TERMINAL BLOCK

16A DISCONNECT 26-10 AWG

Feed Through
Terminal Blocks facilitate the connection of panel-mounted electronic components to device power and field wiring.



PART NUMBER	DESCRIPTION	VOLTAGE
353109M	TERMINAL	600V
476234M	4 WAY COMB CONNECTOR	--
450059M	END COVER	--
495049M	END BRACKET	--

CABLE MANAGEMENT

GROUND TERMINAL

Terminal Blocks facilitate the connection of panel-mounted electronic components to device power and field wiring.

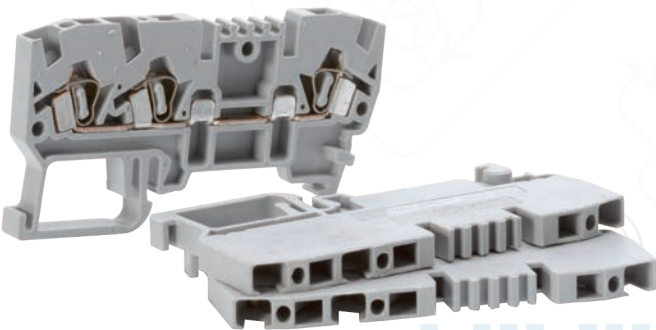


PART NUMBER	WIRE SIZE
334120M	26 - 10 AWG
334140M	16 - 8 AWG
334200M	12 - 4 AWG
334210M	12 - 2 AWG

CABLE MANAGEMENT

SPRING CLAMP TERMINAL 22-12 AWG

Feed Through/600V Rated
Terminal Blocks facilitate the connection of panel-mounted electronic components to device power and field wiring.

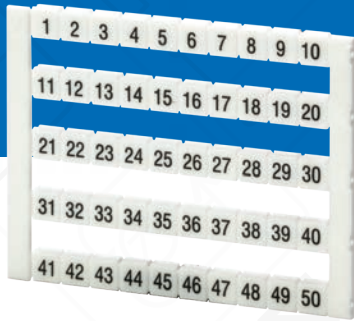


PART NUMBER	DESCRIPTION	AMPERAGE
326059M	GRAY TERMINAL	20A
326051M	BLUE TERMINAL	20A
336110M	GROUND TERMINAL	--
476229M	10 WAY COMB CONNECTOR	--
450139M	END COVER FOR 326059M & 326051M	--
450139M	END COVER FOR 336110M	--
495049M	END BRACKET	--

CABLE MANAGEMENT

MARKERS

Compatible With All MCG Terminals.



PART NUMBER	LABEL	PACK QTY.
505020M	1 - 10	500
505021M	11 - 50	500
505910M	BLANK	500
505040M	1 - 50	500
505041M	51 - 100	500
505042M	101 - 150	500
505043M	151 - 200	500
505073M	N	500
505090M	L1	500
505091M	L2	500
505092M	L3	500
505097M	↓	500

*QTY 1 = 500 QTY MARKERS

CABLE MANAGEMENT

NAB SERIES SLOTTED WIRE DUCT

Sold in 6 foot sections (Cover Included)
Wire Duct efficiently protects and organizes electrical wires and cables.



PART NUMBER	DESCRIPTION
NAB-0510GHD	WIRING DUCT 1/2 X 1 - GRAY
NAB-0510WHD	WIRING DUCT 1/2 X 1 - WHITE
NAB-0522GHD	WIRING DUCT 1/2 X 2 1/4 - GRAY
NAB-0522WHD	WIRING DUCT 1/2 X 2 1/4 - WHITE
NAB-1010GHD	WIRING DUCT 1 X 1 - GRAY
NAB-1010WHD	WIRING DUCT 1 X 1 - WHITE
NAB-1015GHD	WIRING DUCT 1 X 1 1/2 - GRAY
NAB-1015WHD	WIRING DUCT 1 X 1 1/2 - WHITE
NAB-1022GHD	WIRING DUCT 1 X 2 1/4 - GRAY
NAB-1022WHD	WIRING DUCT 1 X 2 1/4 - WHITE
NAB-1030GHD	WIRING DUCT 1 X 3 - GRAY
NAB-1030WHD	WIRING DUCT 1 X 3 - WHITE
NAB-1040GHD	WIRING DUCT 1 X 4 - GRAY
NAB-1040WHD	WIRING DUCT 1 X 4 - WHITE
NAB-1515GHD	WIRING DUCT 1 1/2 X 1 1/2 - GRAY
NAB-1515WHD	WIRING DUCT 1 1/2 X 1 1/2 - WHITE
NAB-1522GHD	WIRING DUCT 1 1/2 X 2 1/4 - GRAY
NAB-1522WHD	WIRING DUCT 1 1/2 X 2 1/4 - WHITE
NAB-1530GHD	WIRING DUCT 1 1/2 X 3 - GRAY
NAB-1530WHD	WIRING DUCT 1 1/2 X 3 -WHITE
NAB-1540GHD	WIRING DUCT 1 1/2 X 4 - GRAY
NAB-1540WHD	WIRING DUCT 1 1/2 X 4 - WHTIE
NAB-2215GHD	WIRING DUCT 2 1/4 X 1 1/2 - GRAY

PART NUMBER	DESCRIPTION
NAB-2215WHD	WIRING DUCT 2 1/4 X 1 1/2 - WHITE
NAB-2222GHD	WIRING DUCT 2 1/4 X 2 1/4 - GRAY
NAB-2222WHD	WIRING DUCT - 2 1/4 X 2 1/4 - WHITE
NAB-2230GHD	WIRING DUCT 2 1/4 X 3 - GRAY
NAB-2230WHD	WIRING DUCT 2 1/4 X 3 - WHITE
NAB-2240GHD	WIRING DUCT 2 1/4 X 4 - GRAY
NAB-2240WHD	WIRING DUCT 2 1/4 X 4 - WHITE
NAB-3015GHD	WIRING DUCT 3 X 1 1/2 - GRAY
NAB-3015WHD	WIRING DUCT 3 X 1 1/2 - WHITE
NAB-3022GHD	WIRING DUCT 3 X 2 1/4 - GRAY
NAB-3022WHD	WIRING DUCT 3 X 2 1/4 - WHITE
NAB-3030GHD	WIRING DUCT 3 X 3 - GRAY
NAB-3030WHD	WIRING DUCT 3 X 3 - WHITE
NAB-3040GHD	WIRING DUCT 3 X 4 - GRAY
NAB-3040WHD	WIRING DUCT 3 X 4 - WHITE
NAB-3050GHD	WIRING DUCT 3 X 5 - GRAY
NAB-3050WHD	WIRING DUCT 3 X 5 - WHITE
NAB-4015GHD	WIRING DUCT 4 X 1 1/2 - GRAY
NAB-4015WHD	WIRING DUCT 4 X 1 1/2 - WHITE
NAB-4022GHD	WIRING DUCT 4 X 2 1/4 - GRAY
NAB-4022WHD	WIRING DUCT 4 X 2 1/4 - WHITE
NAB-4030GHD	WIRING DUCT 4 X 3 - GRAY
NAB-4030WHD	WIRING DUCT 4 X 3 - WHITE
NAB-4040GHD	WIRING DUCT 4 X 4 - GRAY

UL 508A CUSTOM PANEL SHOP

Fast Design-to-Build Industrial Panels



Every job is different, this is especially true for electrical control panels. Each job site has different spatial, load, and component requirements. Therefore, a one size fits all approach is not ideal.

The MCG Custom Panel Shop builds custom-designed electrical panels and enclosures according to unique design specifications submitted by the customer.

That way, every panel is designed to work and install perfectly and can be shipped either to the customer or directly to the job site.

CUSTOM CONTROL PANEL DESIGNS FROM START TO FINISH

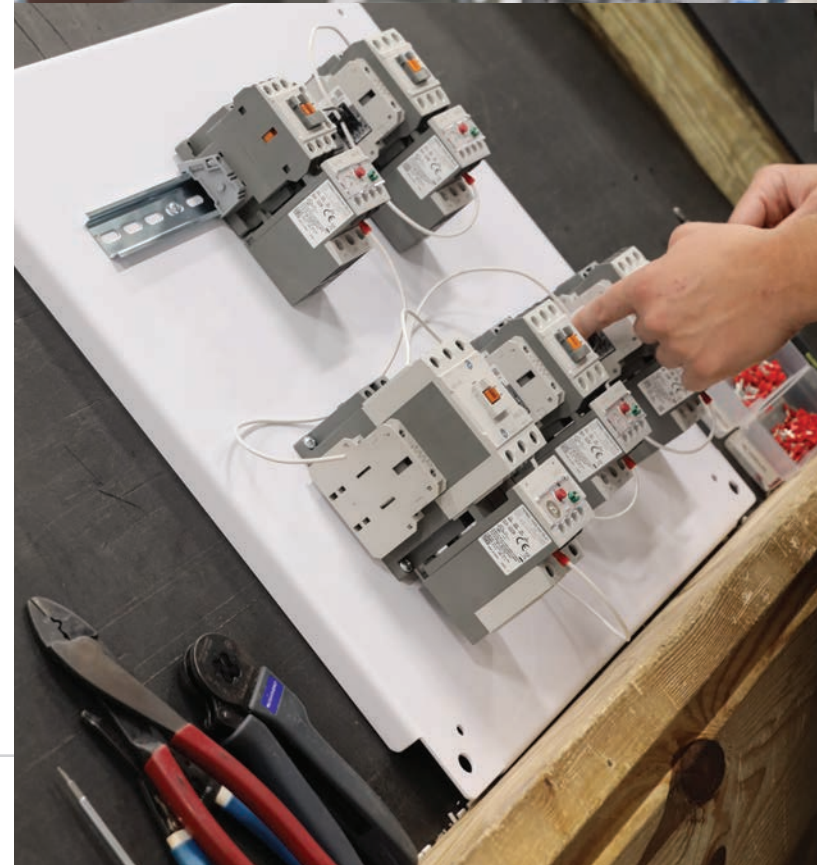
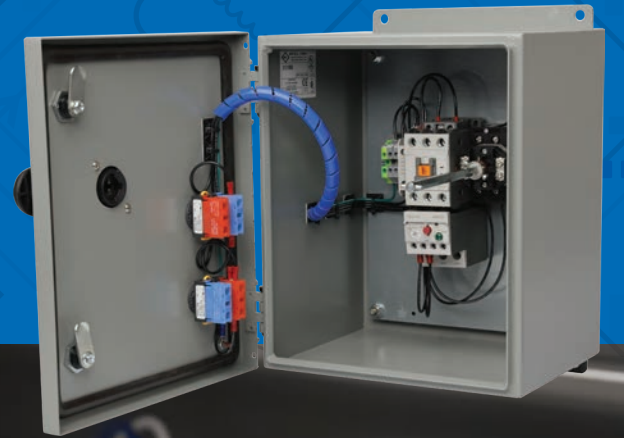
MCG will work with you or directly with the installer to make your custom project easy to manage. Contact us at info@mcg-usa.com or call us at 772.408.5211.

PANEL TYPES INCLUDE:

- NEMA 1, 3R, 4-12 Combo and Non-Combination Motor Starters
- Enclosed Control Transformers
- Multi-Motor Control Panels
- Pump Panels
- Emergency Stops
- Lighting Contactor Panels
- Push Button Control Stations
- Variable Frequency Drives
- Custom Controls



Being UL 508A certified verifies that all control panels comply with the nationally recognized standards.



ADDITIONAL
INFORMATION

NEMA ENCLOSURE TYPES

PROVIDES A DEGREE OF PROTECTION AGAINST THE FOLLOWING CONDITIONS	TYPE OF ENCLOSURE									
	1	2	4	4X	5	6	6P	12	12K	13
Access to hazardous parts	X	X	X	X	X	X	X	X	X	X
Ingress of solid foreign objects (falling dirt)	X	X	X	X	X	X	X	X	X	X
Ingress of water (dripping & light splashing)		X	X	X	X	X	X	X	X	X
Ingress of solid foreign objects (circulating dust, lint, fibers)			X	X		X	X	X	X	X
Ingress of solid foreign objects (settling airborne dust, lint, fibers)			X	X	X	X	X	X	X	X
Ingress of water (hosedown & splashing water)			X	X		X	X			
Oil & coolant seepage								X	X	X
Oil or coolant (spraying & splashing)										X
Corrosive agent				X			X			
Ingress of water (occasional temporary submersion)						X	X			
Ingress of water (occasional prolonged submersion)							X			

COMMON FORMULAS

UNIT	FORMULA
kVA	$\frac{\text{HP} \times 746}{1000 \times \text{PF} \times \text{efficiency}}$
I _L	$\frac{\text{HP} \times 746}{V_L \times 1.73 \times \text{efficiency} \times \text{PF}}$
kW	$\frac{V_L \times I_L \times 1.73 \times \text{PF}}{1000}$
HP	$\frac{\text{kW} \times 1000 \times \text{efficiency}}{746}$
HP	$\frac{\text{kW} \times 1000 \times \text{efficiency} \times \text{PF}}{746}$
HP	$\frac{V_L \times I_L \times 1.73 \times \text{efficiency} \times \text{PF}}{746}$
PF	$\frac{\text{kW} \times 1000}{1.73 \times V_L \times I_L}$

KEY:
V_L = Power Factor I_L = Line Current PF = Power Factor

NEMA SIZE EQUIVALENTS
CONTACTOR RATING COMPARISONS



NEMA SIZE	IEC AMPERAGE
00	9 A
0	18 A
1	32 A
2	50 A
3	90 A
4	150 A
5	300 A
6	630 A
7	800 A

NEMA SIZE EQUIVALENTS
SINGLE PHASE



HORSEPOWER	115V	200V	208V	230V
1/8 HP	4.4 A	2.5 A	2.4 A	2.2 A
1/4 HP	5.8 A	3.3 A	3.2 A	2.9 A
1/3 HP	7.2 A	4.1 A	4 A	3.6 A
1/2 HP	9.8 A	5.6 A	5.4 A	4.9 A
3/4 HP	13.8 A	7.9 A	7.6 A	6.9 A
1 HP	16 A	9.2 A	8.8 A	8 A
1 1/2 HP	20 A	11.5 A	11 A	10 A
2 HP	24 A	13.8 A	13.2 A	12 A
3 HP	34 A	19.6 A	18.7 A	17 A
5 HP	56 A	32.2 A	30.8 A	28 A
7 1/2 HP	80 A	46 A	44 A	40 A
10 HP	100 A	57.5 A	55 A	50 A

NEMA SIZE EQUIVALENTS
THREE PHASE



HORSEPOWER	115V	200V	208V	230V	460V
1/2 HP	4.4 A	2.5 A	2.4 A	2.2 A	1.1 A
3/4 HP	6.4 A	3.7 A	3.5 A	3.2 A	1.6 A
1 HP	8.4 A	4.8 A	4.6 A	4.2 A	2.1 A
1 1/2 HP	12 A	6.9 A	6.6 A	6 A	3 A
2 HP	13.6 A	7.8 A	7.5 A	6.8 A	3.4 A
3 HP		11 A	10.6 A	9.6 A	4.8 A
5 HP		17.5 A	16.7 A	15.2 A	7.6 A
7 1/2 HP		25.3 A	24. 2A	22 A	11 A
10 HP		32.2 A	30.8 A	28 A	14 A
15 HP		48.3 A	46.2 A	42 A	21 A
20 HP		62.1 A	59.4 A	54 A	27 A
25 HP		78.2 A	74.8 A	68 A	34 A
30 HP		92 A	88 A	80 A	40 A
40 HP		120 A	114 A	104 A	52 A
50 HP		150 A	143 A	130 A	65 A
60 HP		177 A	169 A	154 A	77 A
75 HP		221 A	211 A	192 A	96 A
100 HP		285 A	273 A	248 A	124 A
125 HP		359 A	343 A	312 A	156 A
150 HP		414 A	396 A	360 A	180 A
200 HP		552 A	528 A	480 A	240 A
250 HP					302 A
300 HP					361 A
350 HP					414 A
400 HP					477 A
450 HP					515 A
500 HP					590 A

QUESTIONS?

Contact us for help with sizing at info@mcg-usa.com or call us at 772.408.5211

SYMBOL GUIDE

ICON	MEANING
	START / EMERGENCY STOP
	START / STOP
	EMERGENCY STOP
	EMERGENCY STOP W/ KEY
	HAND / OFF / AUTO
	ON / OFF
	UP / DOWN
	OPEN / CLOSE
	FORWARD / REVERSE
	OPEN / CLOSE / STOP
	FORWARD / REVERSE / STOP
	RED MOMENTARY PUSH BUTTON
	BLACK MOMENTARY PUSH BUTTON
	GREEN MOMENTARY PUSH BUTTON
	CUSTOM OPTIONS AVAILABLE UPON INQUIRY

MCG
INDUSTRIAL

www.mcg-usa.com

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P. 772.878.4944

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