

CR72 Manual Motor Controllers—Open Type

Single-Phase and Polyphase
25 Horsepower Maximum
600 Volts
50-60 Hertz

Individual Motor Installations

Adjustment Range	Three-Phase Horsepower Motor Voltage				Single-Phase Horsepower Motor Voltage			Short Circuit Rating	Max. Fuse Size	Max. Circuit Breaker Size	Catalog Number	List Price, GO-10A2
	200-208	220-240	440-480	575-600	115	200	230					
0.1 - 0.16	—	—	—	—	—	—	—	5,000	1	15	CR72AMA	\$ 88.00
0.16 - 0.25	—	—	—	—	—	—	—	5,000	1	15	CR72AMB	88.00
0.25 - 0.40	—	—	—	—	—	—	—	5,000	1	15	CR72AMC	88.00
0.40 - 0.63	—	—	—	—	—	—	—	5,000	1	15	CR72AMD	88.00
0.63 - 1.0	—	—	—	—	—	—	—	5,000	3	15	CR72AMF	100.00
1.0 - 1.6	1/4	1/3	3/4	1	—	1/10	1/10	5,000	6	15	CR72AMG	100.00
1.6 - 2.5	1/2	1/2	1	1 1/2	—	1/8	1/8	5,000	10	15	CR72AMH	100.00
2.5 - 4.0	3/4	1	2	3	1/8	1/4	1/4	5,000	15	15	CR72AMJ	100.00
4.0 - 6.3	1 1/2	1 1/2	3	5	1/4	1/2	1/2	5,000	25	—	CR72AMK	100.00
6.3 - 10.0	2	3	5	7 1/2	1/2	1	1 1/2	5,000	40	—	CR72AML	100.00
10.0 - 15.0	3	3	10	10	3/4	2	2	5,000	60	—	CR72AMN	125.00
15.0 - 22.0	5	7 1/2	15	20	1 1/2	3	3	5,000	80	—	CR72AMP	125.00
22.0 - 27.0	7 1/2	7 1/2	20	25	2	3	3	5,000	100	—	CR72AMR	160.00

Group Motor Installations

Adjustment Range	Three-Phase Horsepower Motor Voltage				Single-Phase Horsepower Motor Voltage			Short Circuit Rating	Max. Fuse Size	Max. Circuit Breaker Size	Catalog Number	List Price, GO-10A2
	200-208	220-240	440-480	575-600	115	200	230					
0.1 - 0.16	—	—	—	—	—	—	—	50,000	1200	1000	CR72AMA	\$ 88.00
0.16 - 0.25	—	—	—	—	—	—	—	50,000	1200	1000	CR72AMB	88.00
0.25 - 0.40	—	—	—	—	—	—	—	50,000	1200	1000	CR72AMC	88.00
0.40 - 0.63	—	—	—	—	—	—	—	50,000	1200	1000	CR72AMD	88.00
0.63 - 1.0	—	—	—	—	—	—	—	50,000	1200	1000	CR72AMF	100.00
1.0 - 1.6	1/4	1/3	3/4	1	—	1/10	1/10	50,000	1200	1000	CR72AMG	100.00
1.6 - 2.5	1/2	1/2	1	1 1/2	—	1/8	1/8	5,000	100	100	CR72AMH	100.00
2.5 - 4.0	3/4	1	2	3	1/8	1/4	1/4	5,000	45	25	CR72AMJ	100.00
4.0 - 6.3	1 1/2	1 1/2	3	5	1/4	1/2	1/2	5,000	45	25	CR72AMK	100.00
6.3 - 10.0	2	3	5	7 1/2	1/2	1	1 1/2	5,000	80	60	CR72AML	100.00
10.0 - 15.0	3	3	10	10	3/4	2	2	5,000	60	80	CR72AMN	125.00
15.0 - 22.0	5	7 1/2	15	20	1 1/2	3	3	5,000	100	100	CR72AMP	125.00
22.0 - 27.0	7 1/2	7 1/2	20	25	2	3	3	5,000	100	150	CR72AMR	160.00

Use 75°C copper wire only, tightening torque 20 lb./in. — wire size 14-10 AWG

Extended Group Motor Installations ①

The C-2000 Line of CL 00-04 Contactors is now UL listed for group installation using the CR72 manual motor controller. The table below lists the maximum size GE circuit breaker and fuse size for group installation at various available fault currents and voltages.

The circuit breaker and fuse sizes may also be applied in group installations using only CR72 manual motor starters.

Available Fault Current	Voltage	Motor Controller Catalog No.	C-2000 Contactor Size	Circuit Breaker Max. Amps					Fuse Class Max. Amps		
				TED	THCL	SE	SF	SG	J	RK-5	L
5KA	240	CR72AMA-MP	CL00-04	150	400	150	250	600	600	600	1200
	480	CR72AMA-MP	CL00-04	150	400	150	250	600	600	600	1200
25KA	240	CR72AMA-MP	CL00-04	150	400	150	250	600	600	600	1200
	480	CR72AMA-MJ	CL00-00	150	400	150	250	600	600	600	1200
42KA	240	CR72AMK-MP	CL00-04	N/A	225	150	250	N/A	200	60	N/A
		CR72AMA-MP	CL00-04	N/A	400	150	250	600	600	600	1200
	480	CR72AMA-MJ	CL00-04	N/A	400	150	250	600	600	600	1200
		CR72AMK-MP	CL00-04	N/A	N/A	N/A	N/A	N/A	100	N/A	N/A

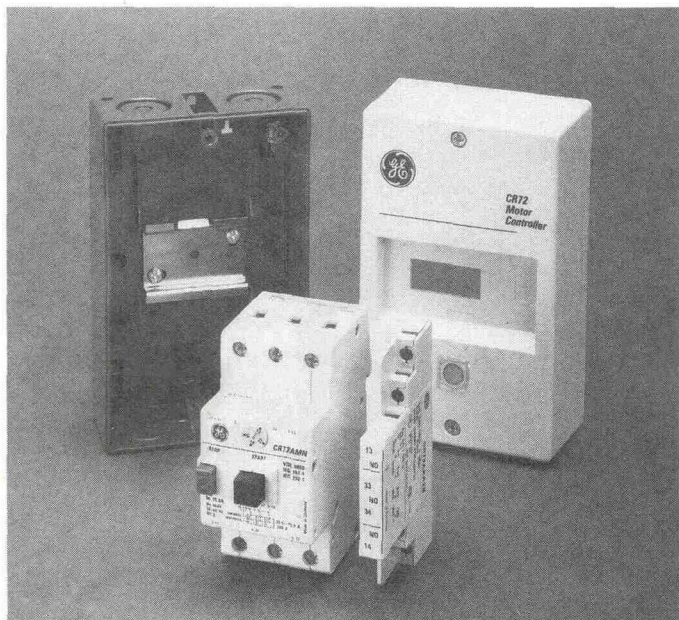
- ① Do not exceed maximum current rating of contactor. Fuses tested at 50KA available.
- ② Shown below is a table for Type 2 coordination of the combination of the CR72 manual motor starter and C-2000 contactors using Class J, CC and RK-5 fuses. These ratings were tested and certified by UL in the GE labs.

Type 2 Coordination Group Installation CR72 Manual Motor Controllers

Available Fault Current	Voltage	Motor Controller Catalog No.	C-2000 Contactor Size	Fuse Class Max. Amps		
				J	RK-5	CC
42KA	480	CR72AMA-MP	CL00-04	100	30	30

CR72 Manual Motor Controllers

Single-Phase and Polyphase
25 Horsepower Maximum
600 Volts
50-60 Hertz



Description

The CR72 series is a line of compact manual motor controllers that provides protection to either individual motors or group installations.

These motor controllers meet IEC international standards allowing shipment into export applications. They also meet UL requirements and are listed for use as manual motor starters under UL 508.

Each manual motor controller incorporates Class 10 thermal overload protection, easy current adjustment, a start-stop push button, plus convenient, easy to wire, self-lifting box lug terminals.

Applications

The CR72 manual motor controllers may be used for a wide variety of applications, from single-motor installations (including pumps, fans, compressors and conveyors) to packaging, textile, food processing and other multi-motor machinery.

These motor controllers are ideal for installations where size is a constraint. They may be used on either three-phase or single-phase circuits. Ratings are available in 13 current ranges from 0.1 to 27 amps.

Individual Installation

Installation of each CR72 manual motor controller is easy: simply snap it on a standard 35mm DIN rail, or snap it into the plastic

Reference:

Instructions GEH-5470

enclosure kit. Enclosure kits have been designed to meet U.S. market needs. They feature 1/2" knockouts, and the Type 1 and Type 12/3R enclosures are UL listed.

Group Installations

Group installation allows multiple motor controllers to be used with one branch circuit protection device.

In accordance with NEC (National Electric Code) article 430-53, two or more motors—or one or more motors and other loads—may be connected on the same branch circuit under specific conditions outlined in the code.

Under the guidelines listed in the NEC, the branch circuit may be protected by a branch circuit protective device (either fuse or circuit breaker), and several loads may then be supplied from this protective device. (See Figure 1 on page 3-82.) This allows the elimination of individual circuit protective devices for each motor control circuit, thereby saving cost and panel space.

Every CR72 series motor controller has a start-stop manual push button that allows each motor circuit to have individual manual control in the group installation. Should an overload or short circuit occur, the trip mechanism will remove the motor circuit from the system. The tripped motor controller is easily identified by the position of the start-stop push button.

All Installations

The CR72 manual motor controller may be used either on three-phase or single-phase loads. For single-phase loads, all three overload heaters must be connected for proper operation. See Figure 2 on page 3-82 for a typical single-phase wiring diagram.

Operation

Each CR72 series motor controller is provided with a thermal mechanism and a magnetic trip mechanism, which is ambient compensated from -5°C to $+40^{\circ}\text{C}$ to ensure reliable operation.

Under normal operating conditions, the motor controller provides Class 10 overload protection. Under a 600% load condition, the CR72 motor controller will trip within 10 seconds. For motors with a 1.15 service factor or greater, use motor nameplate full load current to select the appropriate current range. For motors with a service factor less than 1.15, multiply the normal full load current by .9 for the current setting.

Under short circuit conditions, the magnetic trip mechanism will trip to remove power from the load. However, branch circuit protection must be provided as noted in the product selection tables.



CR72 Manual Motor Controllers

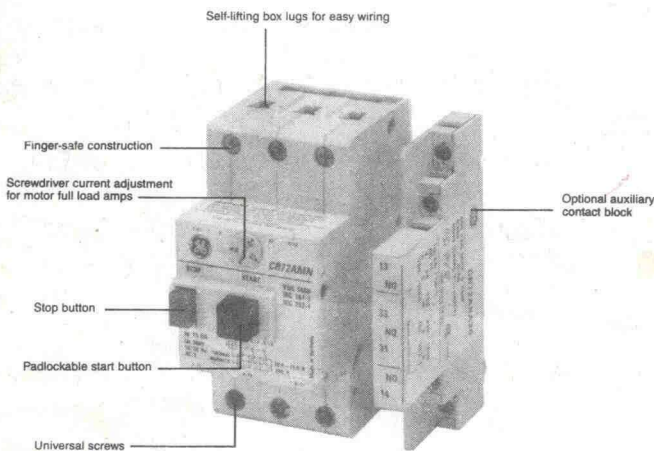
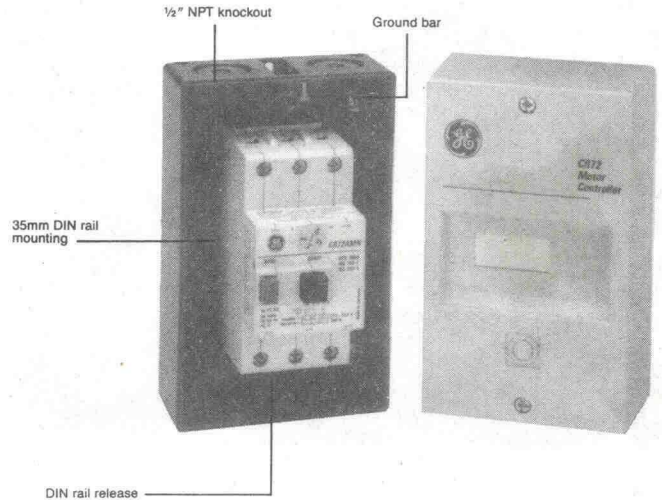
Single-Phase and Polyphase
25 Horsepower Maximum
600 Volts
50-60 Hertz

Features and Benefits

The CR72 manual motor controllers are suitable for either individual or group motor installation. They are listed by Underwriters Laboratory (UL), certified by Canadian Standards Association (CSA), and conform to International Electrotechnical Commission (IEC) standards. Type 1 enclosures are listed by UL and certified by CSA.

- Compact design—only 45mm wide x 94mm high—requires less panel space and saves panel cost.
- 35mm DIN rail mounting allows easy installation and saves time.
- DIN rail section for panel mount is included with each motor controller for additional mounting flexibility.
- UL listing for *either* individual or group installation provides optimum flexibility for control panel design.
- Self-lifting box lug terminals make wiring simple. Wire easily fits into lug, saving installation time.
- Ratings from 0.1 to 27 Amps. Wide selection meets most manual motor controller requirements.
- Single- or three-phase installation to meet wide variety of applications.
- Straight-through wiring ensures efficient installation.
- Finger/back-of-hand protection ensures greater safety from accidental contact with live parts during inspection, installation or servicing.
- Ambient compensation avoids nuisance tripping during periods of high ambient temperature, and assures consistent performance over a wide range of temperatures.
- Easily installed side (right) mount auxiliary contacts available (2NO, 2NC, 1NO-1NC) to meet most signaling contact requirements.
- Ground bar with two ground points, included in enclosure, provides convenient grounding means.

- Plastic, UL listed, Type 1 and Type 12/3R enclosures—tested for safety—meets U.S. market requirements.
- 1/2" NPT knockouts in enclosure assure easy, quick installation with readily available UL listed conduit fittings.



Reference:
Instructions GEH-5470