
NLRV.E14841

Motor Controllers, Manual

Motor Controllers, Manual

See General Information for Motor Controllers, Manual

**ROCKWELL AUTOMATION/
ALLEN-BRADLEY**
1201 S 2ND ST
MILWAUKEE, WI 53204 USA

E14841

Across-the-line starters: Enclosed, Cat. No. 600-T followed by C, followed by A7, A712, D7, D712, Series B; Cat. No. 600-T followed by C followed by X4, X5, X9, X10, X411, X412, X511, X512, X912, X1012, Series A; Cat. No. 600-T followed by C, followed by A7, D7, X4, X5, X9, X10, X412 or X512, Series C; Cat. No. 600-T followed by C, followed by A7, D7, X5, X512 or X10 Series D; Cat. No. 600-T followed by C, followed by A7, D7, X9 or X10, Series E; Cat. Nos. 600-TAX followed by 4, 5, 9, 10, 48, 49, 53, 55, 109, 110, 142, 144, 145, 147, 148, 149, 216, 217, 218, 219, Series A; Cat. Nos. 600-TAX followed by 293, 295, 297, 298, Series B; Cat. Nos. 600-TAX followed by 294, 296, 299 or 300, Series C; Cat. No. 600-TAX-5X427, Series A; Cat. Nos. 609-ACWX2, -BCWX2, Series J or K; Cat. Nos. 609, 609T followed by A, B or X, followed by A, C, J, L or Q, followed by X or W, with or without suffix A4, B4, C4 or D4, X6, 21 or 22, Series E, F, G, H, J or K; Cat. Nos. 609TU, -U followed by A, B or X, followed by A, C, J, L or Q, followed by one or two suffix letters, with or without suffix 4, Series E, F, G, H or J; Cat. Nos. 609-BAWX6, -BJWX6, Series G or H; Cat. No. 609-NX1, -NX2, -NX3, -NX4, -NX5, -NX6, -NX7 or -Series H; Cat. No. 600-NX2, Series D.

Cat. Nos. 609-U, -NX1, -NX2, -NX3, -NX4, -NX6 .

Cat. No. 194E followed by A16 or E16, followed by 1756.

Open, Cat. Nos. 609, 609T followed by A, B or X, followed by O, followed by X or W, with or without suffix A4, B4, C4 or D4, X6, 21 or 22, Series E, F, G, H, J or K ; Cat. Nos. 609TU, -U followed by A, B or X, followed by O followed by one or two suffix letters, with or without suffix 4, Series E, F, G, H, J or H; Cat. No. 600-TAX followed by 4, 5, 9, 10, 48, 49, 53, 55, 109, 110, 142, 144, 145, 149 or 216, Series B.

Cat. No. 600-TAX followed by 294, 296, 299 or 300, Series C.

Reversing starters: Enclosed, Bulletin 609RS, Cat. Nos. 609T-AAW21, -BAW21 Series F or G.

Open, Bulletin 609RS Cat. Nos. 609T-AOW21, -BOW21, Series F, G, H or J.

Two speed starters: Enclosed, Bulletin 609TS, Cat. Nos. 609T-AAW22, -BAW22 Series F or G.

Open, Bulletin 609TS Cat. Nos. 609T-AOW22, -BOW22, Series F or G.

Across-the-line starter, for use as disconnect switches in motor circuits, Type 194E followed by A or E, followed by -125, -160, -250 or -315.

Auxiliary switch, Cat. No. 190 followed by A11, A11/11, A11C, A22, A22C.

Busbar system and adaptors, Cat. Nos. 140-L1, -L2, -L11, -L12, -L13.

Combination manual motor controller and across the line starter, Cat. No. 194E followed by A or E, followed by 25, 32, 40, 63, 80 or 100, with or without additional suffixes.

Contactoer feeder, Cat. No. 190-PW1; reversing unit, Cat. No. 190-PW1L.

Enclosed manual motor controller, Cat. No. 194E followed by A, C, D, F G, or K, followed by A, followed by 16, 20, 32, 40, 63 or 80, or 00, may be followed by E, EX or X, may be followed by NP, P11, PD10, PE, PL11 or TN.

Magnetic drive contractors, Cat. Nos. 190-A40Z, -CPS40Z, 190R-CPS40Z.

Motor controller, Cat. No. 190 followed by A40; Cat. No. 190 followed by MN; Cat. No. 190 followed by P, followed by 006, 010, 016, 024, 040, 060, 100, 160, 250, 320, 400; Bulletin 190 followed by P, followed by 006, 010, 016, 024, 040, 060, 100, 160, 250, 320, 400, followed by R; Cat. No. 194E followed by AB or EF, followed by P21, followed by 160 or 315.

Manual motor controllers, Cat. Nos. beginning with 609, 609T, 609TU, 609U, size 0 and 1 controllers enclosed in Type 1, 4X, 12 enclosures are additionally rated for use in group fusing installations when connected in series with Listed Class J fuses, the amp ratings of which do not exceed the amp rating of the fuses shown on the manufacturers fuse selection table.

The following kits may be installed in the field:

Pilot light Kits. Cat. No. 609-N10, -N20, -N40 or -N60, Series E.

Manual motor controllers, Cat. Nos. 140-CMN-2500, -4000, -6300, -9000, -MN-0016, -0025, -0040, -0063, -0100, -0160, -0250, -0400, -0630, -1000, -1600, -2000, -2500; Cat. No. 194L followed by A12, A16 or E12 or E16; Cat. No. 194L followed by A20, A25, E20 or E25; Cat. No 190-M followed by 1 or 2, followed by A16, A25, A40, A63, B10, B16, B25, B40, B63, C10, C16, C20 or C25, followed by A, B, C, D, E, F, G, H, J, K, KD, KF, KJ, KN, KP, KY, L, M, N, P, Q, R, T, V, W, X OR Y, followed by 01 or 10, followed by A01, A10, T01 or T10.

Cat. No. 140M followed by C2E, C2N, C2T, D8E, D8N or D8T may be followed by A, B or C, may be followed by 10, 16, 20, 25, 40 or 63

Cat. No. 190-M followed by 1 or 2, followed by A16, A25, A40, A63, B10, B16, B25, B40, B63, C10, C16, C20 or C25, followed by A, B, C, D, E, F, G, H, J, K, KD, KF, KJ, KN, KP, KY, L, M, N, P, Q, R, T, V, W, X or Y, followed by 01 or 10, followed by A01, A10, T01 or T10.

Type 1492-CB followed by 1, 2, 3 or 4, followed by suffix letters J, F, G, H, K, DF, DG, DH or SG, followed by numerals, may be followed by N, may be followed by additional suffixes.

Cat. Nos. 1494, followed by F, followed by -FN or -CN, followed by 30, 60, 100, 200 or 400.

Cat. No. 194L followed by A, C or E, followed by -32 or -40, followed by a four digit number.

Manual motor starter, Cat. No. 194E followed by A16 or E16, followed by 1753.

Accessory, for use with manual motor controllers, feeder bus bar assembly: Cat. No. 140-L2.

Accessories, Cat. No. 194E, followed by A16 or E16, followed by NP, PE, PD10, TN, C1 or C3.

Motor controller contact block , Cat. No. 800T or 800TC followed by XD, followed by 1M, 2Mor 4M, Series A.

Manual motor controller , Cat. No. 194E-NX39.

NLRV.GuideInfo Motor Controllers, Manual

[Industrial Control Equipment] (Motor Controllers) Motor Controllers, Manual

See General Information for Motor Controllers

This category covers the following devices:

Across-the-line starters

Autotransformer starters

Reactance type starters

Resistance type starters

Speed Regulators

Combined starters and speed regulators

The basic standard used to investigate products in this category is UL 508, "Industrial Control Equipment".

The Listing Mark of Underwriters Laboratories Inc. on the product is the only method provided by UL to identify products manufactured under its Listing and Follow-Up Service. The Listing Mark for these products includes the UL symbol (as illustrated in the Introduction of this Directory) together with the word "LISTED," a control number, and the product name "Manual Motor Controller" or "Man. Mtr. Cntlr".

Last Updated on 1993-10-06

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NJOT.GuideInfo Motor Controllers

[Industrial Control Equipment] Motor Controllers

See General Information for Industrial Control Equipment

This listing covers the following devices rated 600 v or less, and those rated 701-1500 v:

Auxiliary Devices

Combination Motor Controllers.

Float- and Pressure-Operated Motor Controllers

Magnetic Motor Controllers

Manual Motor Controllers

Miscellaneous Motor Controllers

Power Conversion Equipment

Some Motor Controllers are open type (without enclosures). This means that such devices are for use as parts of Listed equipment where the acceptability of the combination has been determined by Underwriters Laboratories Inc. or where open type devices are acceptable.

This Listing also covers enclosures for housing open type devices. Such enclosures are marked to identify the open type devices which may be suitably installed therein.

Motor Controllers intended for across-the-line starting and for making and breaking the circuit when the motor is stalled are tested at rated voltage and at six times motor full load running current for a-c ratings and at ten times motor full load running current for d-c ratings.

Motor Controllers incorporating thermal cutouts, thermal overload relays or other devices for motor running overcurrent protection are considered to be suitably protected against overcurrent due to short circuits or grounds by motor branch circuit, short circuit and ground fault protective devices selected in accordance with the National Electrical Code and any additional information marked on the product. Motor Controllers may specify that protection is to be provided by fuses or by an inverse time circuit breaker. If there is no marking on protective device type, controllers are considered suitably protected by either type of device. Motor Controllers may specify a maximum rating of protective device. If not marked with a rating, the controllers are considered suitably protected by a protective device of the maximum rating permitted by the National Electrical Code.

Unless otherwise marked, motor controllers incorporating thermal cutouts or overload relays are considered suitable for use on circuits having available fault currents not greater than:

Rating HP (600 V) Max)	Full Load Current Amps (701-1500v)	RMS Symmetrical Amps
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1 or less	—	1,000
1-1/2 to 50	0-50	5,000
51 to 200	51-200	10,000
201 to 400	201-400	18,000
401 to 600	401-600	30,000
601 to 900	601-850	42,000
901 to 1600	851-1500	85,000

Motor Controllers which are marked "Suitable For Use On A Circuit Capable Of Delivering Not More Than _____ RMS Symmetrical Amps, _____ Volts Maximum" have been investigated for the additional rating indicated.

Motor Controllers for group installations are marked with a maximum rating of fuse which is considered to suitably protect the controller for the group installation. Such fuse ratings may be in excess of the values given above.

Controllers for Electric Motor Drive Fire Pumps are listed in the Fire Protection Equipment List under the Pump Controller section.

Last Updated on 1989-03-23

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NIMX.GuideInfo

Industrial Control Equipment

Industrial Control Equipment

Guide Information for Electrical Equipment for Use in Ordinary Locations

The listing covers the following products:

Industrial Control Panels

Motor Control Centers

Motor Controllers

Miscellaneous Apparatus

Programmable Controllers

Industrial Control Switches

Enclosed industrial control equipment identified with an enclosure type designation is intended for use as indicated in the guide information at the front of this directory (AALZ).

Industrial Control Equipment, is for use with copper conductors unless marked to indicate which terminals are suitable for use with aluminum conductors. Such marking is independent of any marking on terminal connectors and is on a wiring diagram or other readily visible location.

Industrial Control Equipment, for which accessory kits are available for the field or distributor modification of the basic product or which may be assembled in many forms from separate components are marked to indicate the suitable accessories or separate components which may be used.

Control Panels

If the sealed rating of the operating coil circuit of a magnetically operated industrial control device exceeds 125 volt-amperes, the coil circuit rating is marked on the device.

Overload relays or industrial control equipment incorporating overload relays are identified as to their maximum tripping time at 600 per cent of the overload relay current element trip rating. The designations "Class 10, Class 20, and Class 30" are used to identify the maximum tripping times, with the Class number indicating the maximum tripping time in seconds. Overload relays with maximum tripping times of 10 or 30 seconds are marked Class 10 or Class 30 respectively. Overload relays with a maximum tripping time of 20 seconds may be marked Class 20. Overload relays with tripping times in excess of 30 seconds are marked with their maximum tripping times. All unmarked overload relays have a maximum tripping time of 20 seconds.

There are open, across-the-line starters intended for bolt on mounting to panelboards and dead front switchboards and are so restricted by the Listing Mark. They are provided with a cover or door and the remaining portions of the enclosure are provided by the panel or switchboard enclosure.

Some industrial control equipment is suitable for use as service equipment and may be so marked. Such marking is part of the Listing Mark or is an integral part of other required markings.

Some of the equipment listed in this category has also been investigated for use aboard marine vessels over 65 ft. in length as covered by the Electrical Engineering Regulations of the United States Coast Guard, Subchapter J, CG-259, (46 CFR Parts 110-113).

The Electrical Engineering Regulations of the United States Coast Guard classify marine type equipment as "Non-Watertight," "Drip-proof," or "Watertight."

Some industrial control equipment incorporates neutrals factory bonded to the frame or enclosure. Such units are marked "Suitable Only For Use As Service Equipment."

Open type across-the-line starters designed only for use in panelboards or dead front switchboards employ Listing Marks with the product identity "INDUSTRIAL CONTROL EQUIPMENT FOR USE IN PANELBOARDS AND DEAD FRONT SWITCHBOARDS" or "IND. CONT. EQ. FOR USE IN PANELBOARDS AND DEAD FRONT SWITCHBOARDS."

For other than industrial control panels, and unless indicated otherwise in the general information for the following subcategories, enclosed type product Listing Marks contain the product identity "INDUSTRIAL CONTROL EQUIPMENT" or the abbreviation "IND. CONT. EQ." on the enclosure, or the product identity "INDUSTRIAL CONTROL EQUIPMENT ENCLOSED" on the mechanism mounted within the enclosure. In either case, the Listing Mark indicates that the overall product with its enclosure is Listed.

Enclosures for use with open type products employ Listing Marks with the product identification "Enclosure For Industrial Control Equipment" or "Enclosure For Ind. Cont. Eq." and are marked to specify the Listed open type products to be installed within. Look for a Listing Mark on both the enclosure and the open mechanism.

For industrial control panels, one of the following product identities appears on the Listing Mark: "Open Industrial Control Panel", "Industrial Control Panel Enclosure", "Enclosed Industrial Control Panel" .

The "Enclosed Industrial Control Panel" Listing Mark covers both the enclosure and the panel provided with it. Open panels employ the "Open Industrial Control Panel" Listing Mark. The "Industrial Control Panel Enclosure" Listing Mark covers only the enclosure; the compatibility of the enclosure and the installed equipment and associated wiring has not been investigated unless an "Enclosed Industrial Control Panel" Listing Mark is also present.

The Listing Mark of Underwriters Laboratories Inc. on the product is the only method provided by UL to identify products manufactured under its Listing and Follow-Up Service. The Listing Mark for these products includes the UL symbol (as illustrated in the Introduction of this Directory) together with the word "LISTED," a control number, and one of the following product names as appropriate: "Industrial Control Equipment" (or "Ind. Cont. Eq. "); "Marine Industrial Control Equipment For Use Only On Vessels Over 65 Feet" .

Last Updated on 1995-10-19

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