

Easy and Compact Motor Starting Solutions

Bulletins 140MP, 100-K, and 193-K

Overview

Bulletin 140MP Motor Protection Circuit Breakers (MPCBs) or Motor Protective Switching Devices (MPSDs) provide magnetic short circuit and thermal overload protection up to 32 A. They are tested in combination with Allen-Bradley® Bulletin 100-K contactors to create two-component motor starters.

Our easy and compact motor starting solutions are designed to ensure the smooth operation of your motors, thereby enhancing the overall productivity of your systems. They offer a high degree of flexibility, allowing for precise adjustments to match the specific requirements of your motors. This precision, coupled with the robust protection features, helps prevent motor damage and extends the lifespan of your equipment.

These devices are UL Listed as Manual Motor Controllers (with optional approvals for Suitable as Motor Disconnect and Suitable for use in Group Installation). Group motor installations eliminate the need for individual branch short circuit protective devices for each motor circuit, reducing panel space, installation and wiring time, and costs. There is only one Branch Circuit Protective Device (BCPD) for the "Group".



two-component starter



bimetallic overload relay

Features and Benefits

- Protection and Control Functions:
 - Overload protection
 - High short-circuit protection
 - Disconnect function
 - Phase loss protection
- Adjustable current setting for overload protection
- Suitable for three-phase and single-phase application
- Easy to install, snap-on mounting of accessories and modules
- Modular Accessories
- Ideal for industrial or commercial application where space is at a premium
- Less panel depth requirements than standard IEC contactors
- Budget-friendly motor starting solution

Ratings

- UL group motor and IEC Type 1 and Type 2 ratings
- CE, cULus, CCC, KC, EAC certifications
- Devices meet MPSD requirements per IEC 60947-4-1
- Devices meet circuit breaker standards per IEC 60947-2
- Rated up to 690V AC
- Temperature compensation from -25...+55 °C (-13...+131 °F)
- Suitable for use outside North America
- Provides disconnecting means for motor branch circuit
- Offers short-circuit protection (magnetic protection)
- Provides overload protection (thermal protection)
- Allows manual switching (motor control means)




Quick Motor Starter Selection

The **two-component motor starter** is a simple setup that includes a motor protection circuit breaker with a built-in thermal overload relay and a motor contactor. This combination provides protection and control for the motor. This is the most compact and most popular motor starting configuration.

The **three-component motor starter** offers a more flexible solution. It consists of a motor circuit protector or fuses, a motor contactor, and a motor thermal overload relay. This configuration provides enhanced protection options in the separate thermal motor overload relay. When building a three-component motor starter, you can use either fuses or a motor circuit protector without thermal overload, such as the 140MT motor circuit protector.

The following tables list a popular subset of these devices. More main device features, sizes, and accessory options are available. See publications [140-TD005](#), [100-TD013](#), and [193-TD010](#) at rok.auto/literature.

Step 1: Choose Circuit Breaker and Optional Connection Module

| | Rated Operating Current [A] | Thermal Trip Adjustment Range [A] | MPCB ⁽¹⁾ Cat. No. | Optional Connecting Module Cat. No. | Contactor Cat. No. |
|--|-----------------------------|-----------------------------------|------------------------------|-------------------------------------|--------------------|
|  140MP  140MP-A-PEK12  100-K | 0.16 | 0.1...0.16 | 140MP-A3E-A16 | 140MP-A-PEK12 | 100-K05⊗⊕ |
| | 0.25 | 0.16...0.25 | 140MP-A3E-A25 | | |
| | 0.40 | 0.25...0.40 | 140MP-A3E-A40 | | |
| | 0.63 | 0.40...0.63 | 140MP-A3E-A63 | | |
| | 1 | 0.63...1.0 | 140MP-A3E-B10 | | |
| | 1.6 | 1.0...1.6 | 140MP-A3E-B16 | | |
| | 2.5 | 1.6...2.5 | 140MP-A3E-B25 | | |
| | 4 | 2.5...4.0 | 140MP-A3E-B40 | | |
| | 6.3 | 4.0...6.3 | 140MP-A3E-B63 | | |
| | 10 | 6.3...10.0 | 140MP-A3E-C10 | | |
| | 12 | 8.0...12.0 | 140MP-A3E-C12 | | 100-K12⊗⊕ |
| 16 | 10.0...16.0 | 140MP-A3E-C16 | | | |

(1) 140MP devices have built in Trip Class 10 protection, and do not require a separate motor overload relay unless you change the motor protective device to fuses or a circuit breaker without thermal overload protection.

Step 2: Configure Contactor


After you select your contactor in the preceding table, complete your contactor cat. no. by using the codes below for coil voltage and auxiliary contact configuration.

Example: for a 24V DC contactor with integrated diode and 1 N.O. contact, Cat. No. 100-K09⊗⊕ becomes Cat. No. 100-K09DJ10

| ⊗ Coil Voltage Code ⁽¹⁾ | | ⊕ Auxiliary Contacts | |
|------------------------------------|-----------------------------------|----------------------|-------------|
| Code | Description | Code | Description |
| D | 120V AC, 60 Hz and 110V AC, 50 Hz | 10 | 1 N.O. |
| B | 480V AC, 60 Hz | 01 | 1 N.C. |
| KJ | 24V AC, 50/60 Hz | | |
| KF | 230V AC, 50/60 Hz | | |
| DJ | 24V DC with integrated diode | | |





(1) Additional coil voltages are available. See publication [100-TD013](#).

Step 3 (Optional): Select Motor Overload Relay





| | Thermal Trip Adjustment Range [A] | Overload Relay Cat. No. | For Use With Contactor |
|--|-----------------------------------|-------------------------|------------------------|
|  | 0.1...0.16 | 193-KA16 | 100-K05...-K12 |
| | 0.16...0.25 | 193-KA25 | |
| | 0.25...0.40 | 193-KA40 | |
| | 0.35...0.50 | 193-KA50 | |
| | 0.55...0.80 | 193-KA80 | |
| | 0.75...1.0 | 193-KB10 | |
| | 0.90...1.3 | 193-KB13 | |
| | 1.1...1.6 | 193-KB16 | |
| | 1.4...2.0 | 193-KB20 | |
| | 1.8...2.5 | 193-KB25 | |
| | 2.3...3.2 | 193-KB32 | |
| | 2.9...4.0 | 193-KB40 | |
| | 3.5...4.8 | 193-KB48 | |
| | 4.5...6.3 | 193-KB63 | |
| | 5.5...7.5 | 193-KB75 | |
| | 7.2...10.0 | 193-KC10 | |
| | 9.0...12.5 | 193-KC12 | |

Accessories

Popular Accessories for 140MP MPCBs

| | Description | Cat. No. |
|---|--|---------------|
|  | Front-mounted Auxiliary Contact • 1 N.O.-1.N.C. • No additional space required | 140MP-A-AFA11 |
| | Front-mounted Auxiliary Contact • 1 N.O. • No additional space required | 140MP-A-AFA10 |
|  | Compact Bus Bars • UL: 600V, 60 A; IEC: 690V, 65 A • 45 mm (1.77 in.) spacing • For use with front-mounted auxiliary contact • 2 x 3 connections | 140MP-A-W452 |
|  | Bus Bar Feeder Terminal (Flat) • Supply of compact bus bars • Increases terminal capacity | 140MP-A-WTN |
|  | Enclosure • Up to three padlocks in OFF position • Protection Class: IP65; UL/CSA Type 12 • Red/yellow handle | 140MP-A-ENY65 |

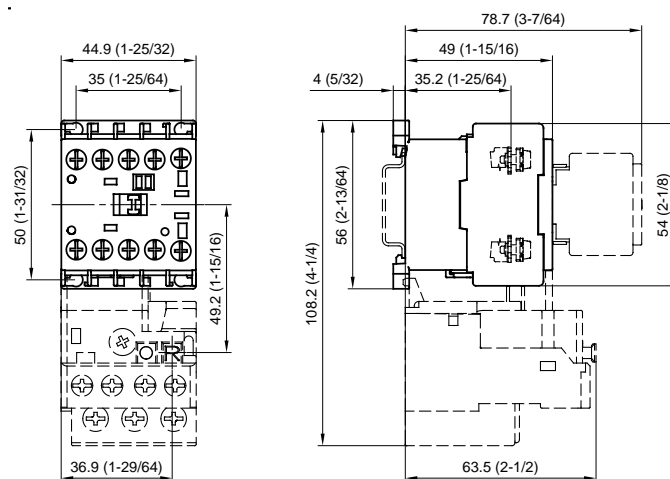
Popular Accessories for 100-K Contactors

| | Description | Cat. No. |
|---|--|-------------|
|  | Front-mounted Auxiliary Contacts • 2 N.O.-2 N.C. • 4-pole version • Mirror Contact performance per IEC 60947-4-1 | 100-KFC22 |
| | Front-mounted Auxiliary Contacts • 1 N.O.-1 N.C. • 2-pole version • Mirror Contact performance per IEC 60947-4-1 | 100-KFC11 |
|  | Power Wiring Kit • For Reversing and Star/Delta combinations. Star-point bridge not included. • Min. interruption time 50 ms | 100-KPR |
|  | DC Diode Suppressor • 12...250V DC • Plug-in type • Limits surge voltage on coil drop-off | 100-KFSD250 |
|  | Mechanical Interlock • For interlocking of two adjacent contactors • No added width to contactor assembly • Front mount plug-in type • Optional auxiliary contact blocks and suppressor modules mount onto the interlock | 100-KMCH |

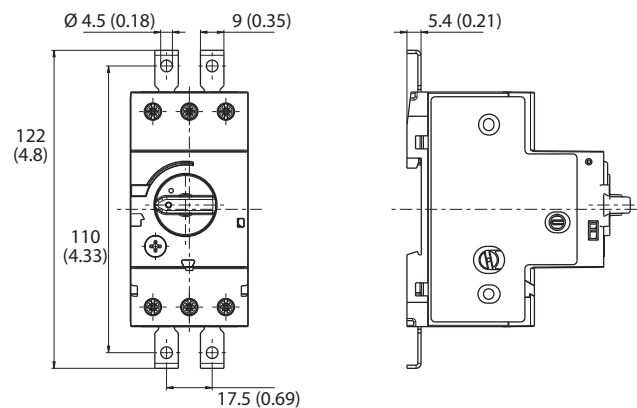
Approximate Dimensions

Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.

100-K Miniature Contactor with 193-K Overload Relay



Cat. No. 140MP-A3E... ≤16 A



Additional Resources

These documents contain additional information concerning related products from Rockwell Automation. You can view or download publications at rok.auto/literature.

| Resource | Description |
|--|---|
| IEC Contactor Specifications, publication 100-TD013 | Provides product selection and specifications for IEC contactors. |
| Motor Protection Circuit Breaker and Motor Circuit Protector Specifications, publication 140-TD005 | Provides product selection and specifications for Bulletin 140MP/MT motor protection circuit breakers and motor circuit protectors. |
| Bimetallic Overload Relay Specifications, publication 193-TD010 | Provides product selection and specifications for 193-K and 193-T1 bimetallic overload relays. |
| Product Certifications website, rok.auto/certifications | Provides declarations of conformity, certificates, and other certification details. |

Rockwell Automation Support

Use these resources to access support information.

| | | |
|---|---|--|
| Technical Support Center | Find help with how-to videos, FAQs, chat, user forums, Knowledgebase, and product notification updates. | rok.auto/support |
| Local Technical Support Phone Numbers | Locate the telephone number for your country. | rok.auto/phonesupport |
| Technical Documentation Center | Quickly access and download technical specifications, installation instructions, and user manuals. | rok.auto/techdocs |
| Literature Library | Find installation instructions, manuals, brochures, and technical data publications. | rok.auto/literature |
| Product Compatibility and Download Center (PCDC) | Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes. | rok.auto/pcdc |

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