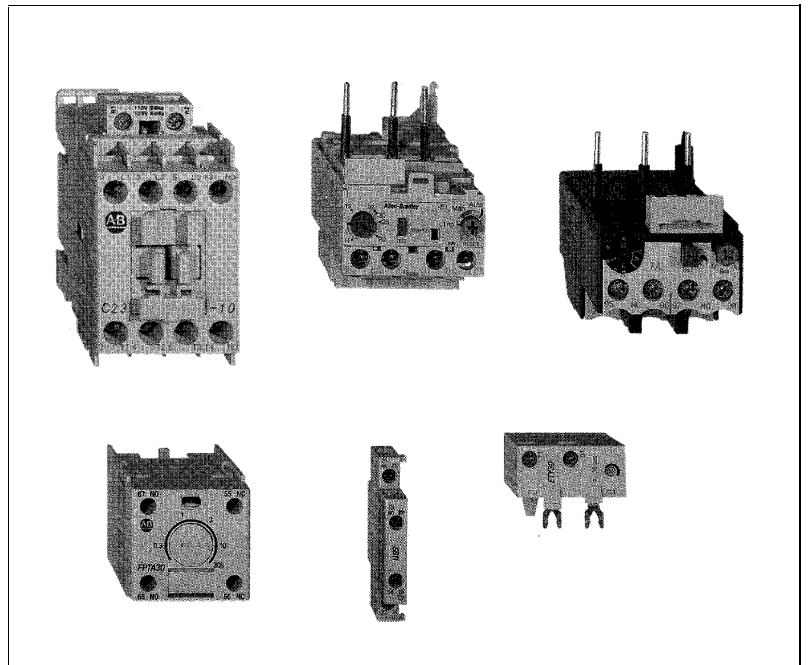




Allen-Bradley MCS Components: Contactors, Overload Relays and Accessories

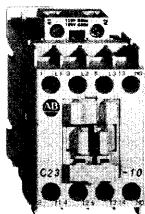


Paragraph	Description
1.0	General
2.0	MCS-C Contactors (9-85A)
3.0	MCS -E1 Solid-State Overload Relays
4.0	MCS -E2 Solid-State Overload Relays
5.0	MCS-T Bimetallic Overload Relays
6.0	MCS Accessories

1. General

- 1.1 The component must meet the following product standards, listings and certifications:
 - 1.1.1 IEC 947-4
 - 1.1.2 IEC 947-4-1 "Type 2" requirements for all starters
 - 1.1.2.1 When using UL/CSA Class J & CC fuses at 600V, 100,000A available fault current.
 - 1.1.2.2 When using BS88 fuses at 400V, 80,000A available fault current.
 - 1.1.2.3 When using DIN gG fuses at 400V, 100,000A available fault current.
 - 1.1.3 UL 508
 - 1.1.4 CSA 22.2 No. 14
 - 1.1.5 CE compliance with "Declaration of Conformity" available
 - 1.1.6 British Lloyd's shipping
 - 1.1.7 German Lloyd's shipping
 - 1.1.8 RINA
 - 1.1.9 Bureau Veritas
 - 1.1.10 Reg. d. UdSSR/GVS
 - 1.1.11 NFF
 - 1.1.12 ZH1
 - 1.1.13 SUVA Safety Standard
- 1.2 CAD drawings available for all contactors, overload relays and accessories

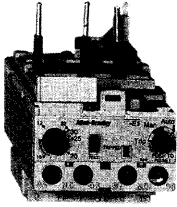
2. MCS-C Contactors 9...85A



- 2.1 45mm wide construction on devices 9...37A.
- 2.2 Global AC coil voltages in 50, 60, & 50/60 Hz, 12...690V.
- 2.3 Global DC coil voltages in 6...250V in all sizes:
 - 2.3.1 Pure DC coils 9...43A.
 - 2.3.2 Economized dual wound coils 60...85A.
- 2.4 35mm DIN rail mounting for all AC and DC devices, 9...85A.
- 2.5 Reversible coils on all sizes.

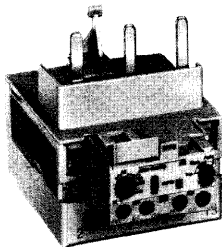
- 2.6 IP 2LX Finger protection for all contactors.
- 2.7 Terminal markings in both CENELEC and NEMA.
- 2.8 Cadmium free contacts.
- 2.9 Coil terminal screws to accept slotted, Phillips (cross) and Pozi-drive Drivers.
- 2.10 Power terminal screws for contactor sizes 9...43A to accept slotted, Phillips (cross) and Pozi-drive Drivers.
- 2.11 Power terminal screws for contactor sizes 60...85A to utilize 4mm (5/32") Allen Head type drivers.
- 2.12 Four pole contactors (4 N.O., 3 N.O./1 N.C. and 2 N.O./2 N.C.) available for sizes 9...23A.
- 2.13 Factory assembled reversing contactors (Bulletin 104) available for all AC and DC sizes.
- 2.14 24V DC coils with built-in surge protection.
- 2.15 Panel mounting for all sizes.
- 2.16 Marking system adapter with write-on surface.
- 2.17 Coil identification external to contactor.
- 2.18 Coil replaced without removing contactor from mounting.
- 2.19 Contactor status indicator on front cover as standard.
- 2.20 Nameplate shall contain complete Horsepower and kW ratings.
- 2.21 Devices for DIN Rail mounting shall incorporate an anti-slide feature.
- 2.22 One normally open hold-in contact shall be provided as standard.
- 2.23 Contactor furnished with captive and backed out terminal screws.
- 2.24 Terminal markings shall be clearly visible when front mounted accessories are installed.
- 2.25 Dual power terminations to all power poles.
- 2.26 Multiple frame interlocking between all frame sizes with use of standard components.
- 2.27 Positive-guided auxiliary contacts.

3. MCS-E1 Solid-State Overload Relays



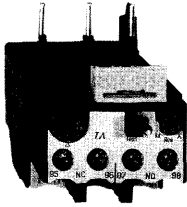
- 3.1 The overload relay is self-powered.
- 3.2 The overload relay is available in fixed tripping classes of 10, 20, or 30.
- 3.3 The overload relay is available in manual reset or automatic/manual reset versions.
- 3.4 The overload relay trips in 3 seconds or less under phase loss conditions when applied to a fully loaded motor.
- 3.5 The overload relay operates on 150mW or less of power.
- 3.6 The overload relay provides a visible trip indicator.
- 3.7 The overload relay provides 1 N.O. and 1 N.C. isolated auxiliary contacts.
- 3.8 The overload relay provides a test button that operates the normally closed contact.
- 3.9 The overload relay provides test trip function that when operated trips both the N.O. and N.C. contacts.
- 3.10 The overload relay has trip-free construction.
- 3.11 The overload relay has a current adjustment range of 3.2:1 or greater.
- 3.12 The overload relay is ambient temperature compensated.
- 3.13 35mm DIN rail panel adapter available for separate mounting.
- 3.14 Anti-tamper shields to protect all settings.
- 3.15 Remote reset available.
- 3.16 Single-phase version available.

4. MCS-E2 Solid-State Overload Relays



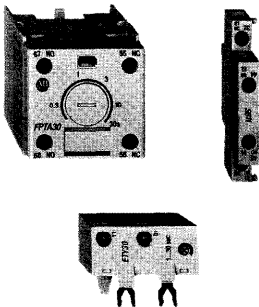
- 4.1 Self-powered
- 4.2 Selectable trip class: 10, 15, or 20
- 4.3 Selectable jam/stall protection
- 4.4 Selectable ground (earth) fault tripping
- 4.5 Anti-tamper shields to protect all settings
- 4.6 35mm DIN rail panel adapter available for separate mounting.
- 4.7 Remote reset available.

5. MCS-T Bimetallic Overload Relays



- 5.1 Adjustable bimetal type with integral heater elements.
- 5.2 Reset options shall include manual and automatic functions.
- 5.3 Class 10 tripping characteristics.
- 5.4 Isolated N.O. and N.C. alarm contacts standard.
- 5.5 Optional clear plastic shield to inhibit tampering of reset and trip settings.
- 5.6 DIN Rail mounting options available through 85A range.
- 5.7 Sensitive to single phase conditions.
- 5.8 Separate test and reset buttons as standard.
- 5.9 Ambient temperature compensation as standard.
- 5.10 Visible trip indicator as standard.
- 5.11 Optional external reset kits and adapters with NEMA Type 4, 4X, 12 and IP66 ingress protection.
- 5.12 Backed-out terminal screws.
- 5.13 Remote reset available.

MCS Accessories



- 6.1 Common accessories for all contactor sizes and control relays.
- 6.2 Common auxiliary contact blocks:
 - 6.2.1 One and two pole side mounted auxiliary contacts.
 - 6.2.2 Two pole front mounted auxiliary contacts.
 - 6.2.3 Four pole front mounted auxiliary contacts.
 - 6.2.4 All auxiliary blocks are available in a variety of N.O., N.C., and N.O. early-make and N.C. late-break configurations.
- 6.3 All terminal markings in both CENELEC and NEMA.
- 6.4 Common surge suppressors, plug-in coil mounting:
 - 6.4.1 RC versions from 12...480V AC.
 - 6.4.2 MOV varistor versions from 12...575V AC and 12...250V DC.
 - 6.4.3 Diode versions from 12...250V DC.
- 6.5 Common pneumatic timers, front mounting:

- 6.5.1** ON-Delay versions in 0.1...3 and 3...180 seconds.
- 6.5.2** OFF-Delay versions in 0.1...3 and 3...180 seconds.
- 6.6** Common electronic timers, plug-in coil mounting:
 - 6.6.1** ON-Delay versions in 0.1...3, 1...30 and 10...180 seconds.
 - 6.6.2** OFF-Delay versions in 0.1...3, 1...30 and 10...180 seconds.
 - 6.6.3** Y-D version in 1...30 seconds.
- 6.7** Common front latch attachment with AC and DC release coils.
- 6.8** SUVA covers for all contactors sizes and front mount accessories.
- 6.9** Dual interlocks with mechanical/electrical interlocking in a single unit.
- 6.10** Option of mechanical only interlock.
- 6.11** Common interlock for contactor sizes 9...85A, AC and DC devices.
- 6.12** Power wiring kits for multiple applications:
 - 6.12.1** Reversing contactors and starters
 - 6.12.2** Star-point connections
 - 6.12.3** Y-D starters
 - 6.12.4** Molded components (9...43A) with retained access to all terminations
- 6.13** 24V DC interface modules for use with all AC contactors.
- 6.14** All accessories install without tools.



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