

IronHorse

HMC Series Contactors


IRONHORSE®

Overview

The IronHorse HMC Series contactors feature advanced technology combined with straightforward design. They are ideal for situations where peripheral devices are used. These units offer an economical solution where compact size and easy connection are important.

Their sealed structure means that no arc flash is exposed.

These environmentally friendly products comply with international RoHS environmental standards.








The series includes multiple models in a number of different frames, as described in the table below. AF refers to the amp frame size. For example, 22AF indicates a 22 amp frame size.








See FAQ at AutomationDirect.com for the IEC utilization categories tables

Features

- Compact design
- DIN rail or screw mountable (up to 150AF)
- Overload relays can be directly mounted to contactors
- Finger-proof design
- Easy to combine with manual motor starters
- Wide range of accessories
- Conforms to IEC and UL standards



| IronHorse HMC Series Contactors Selection Guide | | | | | | | |
|---|--|--|--|--|---|--|--|
| | 22AF | 40AF | 65AF | 100AF | 150AF | 225AF | 400AF |
| |  |  |  |  |  |  |  |
| | HMC-9 HMC-22 | HMC-32 HMC-40 | HMC-50 HMC-65 | HMC-75 HMC-100 | HMC-130 HMC-150 | HMC-185 HMC-225 | HMC-265 HMC-330 HMC-400 |
| Rated Current (Amps) | 9 12 18 22 | 32 40 | 50 65 | 75 85 100 | 130 150 | 185 225 | 265 330 400 |
| Insulation Rating (Volts) | 690 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |

| IronHorse HTOR Series Overload Relays Selection Guide | | | | | | | |
|---|---|---|---|---|--|---|---|
| | 22AF | 40AF | 65AF | 100AF | 150AF | 225AF | 400AF |
| |  |  |  |  |  |  |  |
| | HTOR32 | HTOR2 | HTOR63 | HTOR95 | HTOR150 | HTOR225 | HTOR400 |
| Current Range (Amps) | 0.1 - 40 | 0.1 - 40 | 34 - 65 | 54 - 100 | 80 - 150 | 100 - 240 | 160 - 400 |
| Trip Class | 10A | 10A | 10A | 10A | 10A | 10A | 10A |

IronHorse HMC Series Contactors



HMC Series Contactor Catalog Number Sequence

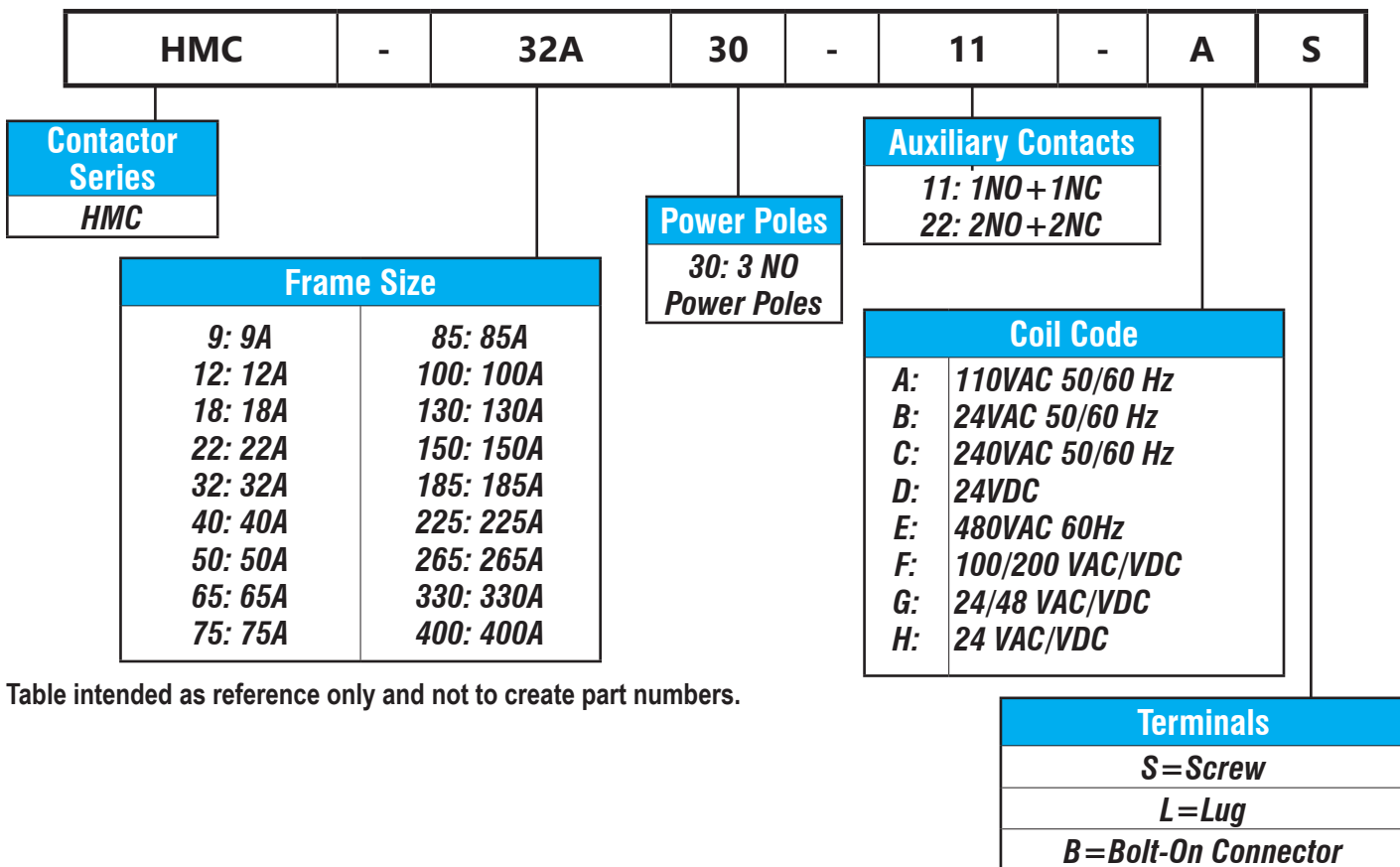
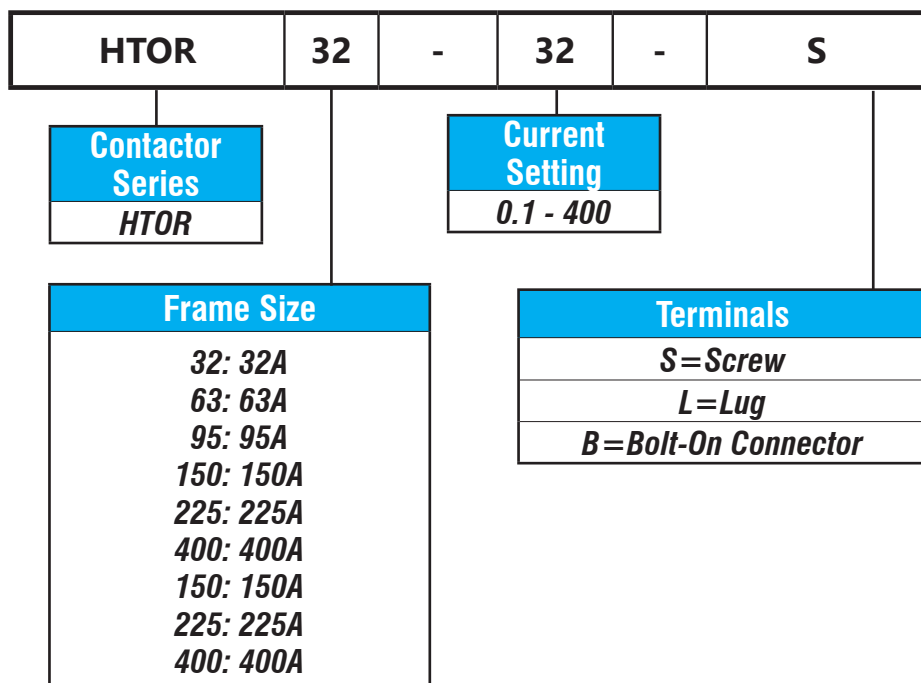


Table intended as reference only and not to create part numbers.

HTOR Series Thermal Overload Relay Catalog Number Sequence



IronHorse HMC Series Contactors (22AF)



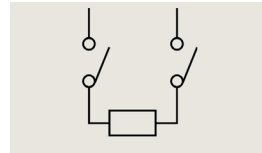
IRONHORSE®



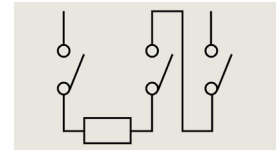
HMC-22B30-11-BS

Description

- 3-pole (NO) main contact
- Finger-proof design
- DIN rail or screw mountable
- AC or DC load ratings in different physical sizes
- Front/side mountable accessories available
- Direct-mountable overload relay
- 1NO/1NC auxiliary contact built-in
- Degree of protection: IP20



DC loads (2-pole)



DC loads (3-pole)

Certifications

CE(IEC), UL508, CCC

IronHorse HMC Series Three-Pole Contactors (22AF) Selection Guide

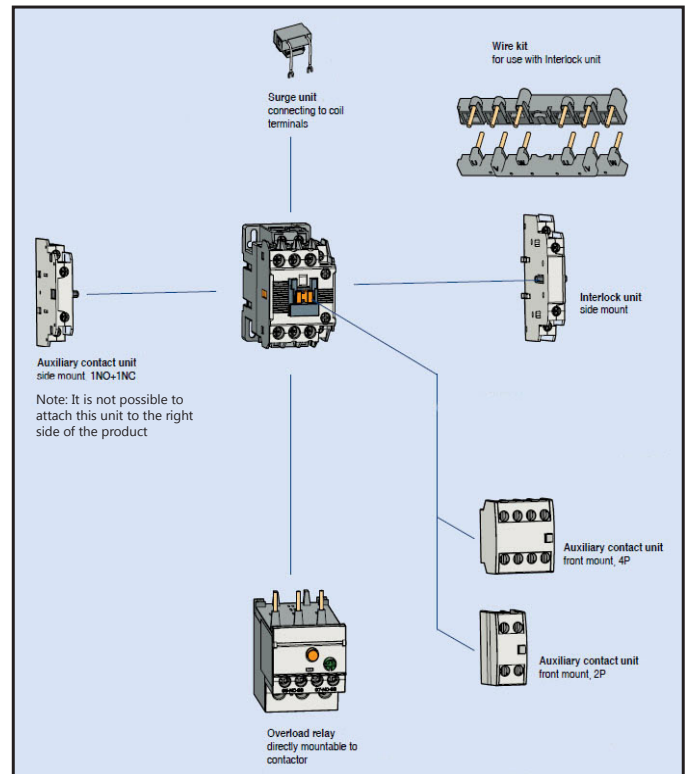
| Part Number | Price | AC-3 Amps (380/440 V) | Main Contact Poles | Coil Voltage | Coil Frequency | Auxiliary Contacts | Drawings |
|---------------------------------|---------|-----------------------|--------------------|--------------|----------------|--------------------|---------------------|
| HMC-9B30-11-BS | \$18.50 | 9 | 3 NO | 24VAC | 50/60 Hz | 1 NO and 1 NC | PDF |
| HMC-9B30-11-AS | \$18.50 | | | 120VAC | 50/60 Hz | | PDF |
| HMC-9B30-11-CS | \$18.50 | | | 230VAC | 50/60 Hz | | PDF |
| HMC-9B30-11-ES | \$18.50 | | | 480VAC | 60 Hz | | PDF |
| HMC-12B30-11-BS | \$21.00 | 12 | | 24VAC | 50/60 Hz | | PDF |
| HMC-12B30-11-AS | \$21.00 | | | 120VAC | 50/60 Hz | | PDF |
| HMC-12B30-11-CS | \$21.00 | | | 230VAC | 50/60 Hz | | PDF |
| HMC-12B30-11-ES | \$21.00 | | | 480VAC | 60 Hz | | PDF |
| HMC-18B30-11-BS | \$29.00 | 18 | | 24VAC | 50/60 Hz | | PDF |
| HMC-18B30-11-AS | \$29.00 | | | 120VAC | 50/60 Hz | | PDF |
| HMC-18B30-11-CS | \$29.00 | | | 230VAC | 50/60 Hz | | PDF |
| HMC-18B30-11-ES | \$29.00 | | | 480VAC | 60 Hz | | PDF |
| HMC-22B30-11-BS | \$34.50 | 22 | | 24VAC | 50/60 Hz | | PDF |
| HMC-22B30-11-AS | \$34.50 | | | 120VAC | 50/60 Hz | | PDF |
| HMC-22B30-11-CS | \$34.50 | | | 230VAC | 50/60 Hz | | PDF |
| HMC-22B30-11-ES | \$34.50 | | | 480VAC | 60 Hz | | PDF |
| HMC-9B30-11-DS | \$22.50 | 9 | | 24VDC | - | | PDF |
| HMC-12B30-11-DS | \$26.00 | 12 | | 24VDC | - | | PDF |
| HMC-18B30-11-DS | \$36.00 | 18 | | 24VDC | - | | PDF |
| HMC-22B30-11-DS | \$40.50 | 22 | | 24VDC | - | | PDF |

22AF Contactors Description

| Contactor Type | | HMC-9B | | HMC-12B | | HMC-18B | | HMC-22B | | |
|---|------------------|----------------------|-------|---------|--------|---------|--------|---------|--------|----|
| | | kW | A | kW | A | kW | A | kW | A | |
| AC Duty | AC3 | 200/240V | 2.5 | 11 | 3.5 | 13 | 4.5 | 18 | 5.5 | 22 |
| | | 380/440V | 4 | 9 | 5.5 | 12 | 7.5 | 18 | 11 | 22 |
| | | 500/550V | 4 | 7 | 7.5 | 12 | 7.5 | 13 | 15 | 20 |
| | | 690V | 4 | 6 | 7.5 | 9 | 7.5 | 9 | 15 | 18 |
| | AC4 | 200/240V | 1.5 | 8 | 2.2 | 11 | 3.7 | 16 | 3.7 | 18 |
| | | 380/440V | 2.2 | 6 | 4 | 9 | 4 | 11 | 5.5 | 13 |
| AC1 | | - | 25 | - | 27 | - | 40 | - | 45 | |
| DC1 Duty (L/R= 1ms) | 2-pole in series | 24V | - | 10 | - | 12 | - | 18 | - | 20 |
| | | 48V | - | 10 | - | 12 | - | 18 | - | 20 |
| | | 110V | - | 6 | - | 10 | - | 13 | - | 15 |
| | 3-pole in series | 24V | - | 10 | - | 12 | - | 18 | - | 20 |
| | | 48V | - | 10 | - | 12 | - | 18 | - | 20 |
| | | 110V | - | 8 | - | 12 | - | 18 | - | 20 |
| DC3,5 Duty (L/R= 15ms) | 2-pole in series | 24V | - | 8 | - | 12 | - | 12 | - | 20 |
| | | 48V | - | 4 | - | 6 | - | 6 | - | 15 |
| | | 110V | - | 2.5 | - | 4 | - | 4 | - | 8 |
| | 3-pole in series | 24V | - | 8 | - | 12 | - | 12 | - | 20 |
| | | 48V | - | 6 | - | 10 | - | 10 | - | 20 |
| | | 110V | - | 4 | - | 8 | - | 8 | - | 15 |
| Directly Mountable Overload Relay | | HTOR-32 | | | | | | | | |
| Conductor Size (Solid, Stranded) 2 conductors max | | AWG | 16-10 | | 16-8 | | 14-8 | | 14-8 | |
| | | mm ² | 1.5-4 | | 1.5-10 | | 2.5-10 | | 2.5-10 | |
| Conductor Type | | 65/75°C CU wire only | | | | | | | | |

Note: Observe polarity when wiring the control power cable

Accessories



IronHorse HMC Series Contactors (40AF)



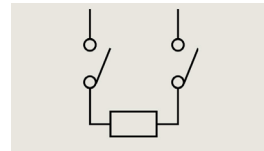
IRONHORSE



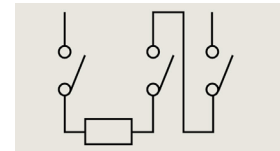
HMC-40A30-22-ES

Description

- 3-pole (NO) main contact
- Finger-proof design
- DIN rail or screw mountable
- AC or DC load ratings in different physical sizes
- Front/side mountable accessories available
- Direct-mountable overload relay
- 2NO/2NC auxiliary contact built-in
- Degree of protection: IP20



DC loads (2-pole)



DC loads (3-pole)

Certifications

CE(IEC), UL508, CCC

IronHorse HMC Series Three-Pole Contactors (40AF) Selection Guide

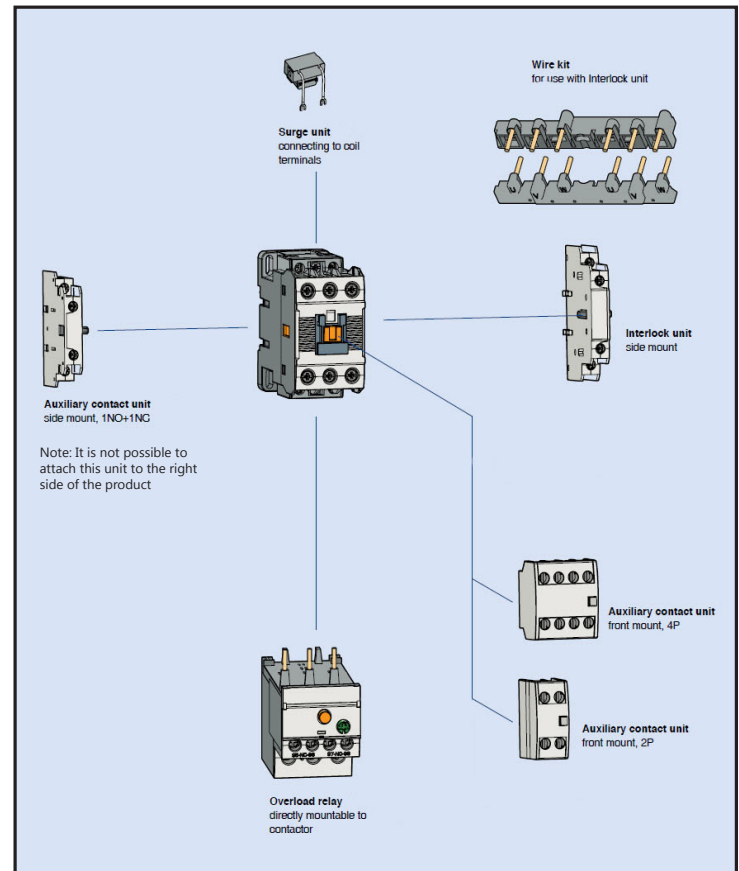
| Part Number | Price | AC-3 Amps (380/440 V) | Main Contact Poles | Coil Voltage | Coil Frequency | Auxiliary Contacts | Drawings |
|---------------------------------|---------|-----------------------|--------------------|--------------|----------------|--------------------|----------|
| HMC-32A30-22-BS | \$44.50 | 32 | 3 NO | 24VAC | 50/60 Hz | 2 NO and 2 NC | PDF |
| HMC-32A30-22-AS | \$44.50 | | | 120VAC | 50/60 Hz | | PDF |
| HMC-32A30-22-CS | \$44.50 | | | 230VAC | 50/60 Hz | | PDF |
| HMC-32A30-22-ES | \$44.50 | | | 480VAC | 60 Hz | | PDF |
| HMC-40A30-22-BS | \$56.00 | 40 | | 24VAC | 50/60 Hz | | PDF |
| HMC-40A30-22-AS | \$56.00 | | | 120VAC | 50/60 Hz | | PDF |
| HMC-40A30-22-CS | \$56.00 | | | 230VAC | 50/60 Hz | | PDF |
| HMC-40A30-22-ES | \$56.00 | | | 480VAC | 60 Hz | | PDF |
| HMC-32A30-22-DS | \$52.00 | 32 | | 24VDC | - | | PDF |
| HMC-40A30-22-DS | \$66.00 | 40 | | 24VDC | - | | PDF |

40AF Contactors Description

| Contactor Type | HMC-32A | | HMC-40A | | | |
|-----------------------------------|------------------|----------------------|---------|-------|------|----|
| | kW | A | kW | A | | |
| AC Duty | AC3 | 200/240V | 7.5 | 32 | 11 | 40 |
| | | 380/440V | 15 | 32 | 18.5 | 40 |
| | | 500/550V | 18.5 | 28 | 22 | 32 |
| | | 690V | 18.5 | 20 | 22 | 23 |
| | | 1000V | 22 | 17 | 22 | 17 |
| | AC4 | 200/240V | 4.5 | 20 | 5.5 | 25 |
| | | 380/440V | 7.5 | 17 | 11 | 24 |
| | AC1 | - | 55 | - | 60 | |
| DC1 Duty (L/R=1ms) | 2-pole in series | 24V | - | 25 | - | 35 |
| | | 48V | - | 25 | - | 35 |
| | | 110V | - | 25 | - | 25 |
| | 3-pole in series | 24V | - | 25 | - | 35 |
| | | 48V | - | 25 | - | 35 |
| | | 110V | - | 25 | - | 35 |
| DC3,5 Duty (L/R=15ms) | 2-pole in series | 24V | - | 25 | - | 35 |
| | | 48V | - | 20 | - | 20 |
| | | 110V | - | 10 | - | 10 |
| | 3-pole in series | 24V | - | 25 | - | 35 |
| | | 48V | - | 25 | - | 30 |
| | | 110V | - | 20 | - | 20 |
| Directly Mountable Overload Relay | | HTOR-32 | | | | |
| Conductor Size (Solid, Stranded) | | AWG | 12-8 | 8-6 | | |
| Maximum number of conductors: 2 | | mm ² | 2.5-10 | 10-16 | | |
| Conductor Type | | 65/75°C CU wire only | | | | |

Note: Observe polarity when wiring the control power cable

Accessories



IronHorse HMC Series Contactors (65AF)



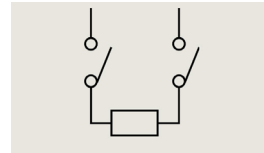
IRONHORSE®



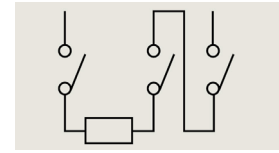
HMC-65A30-22-EL

Description

- 3-pole (NO) main contact
- Finger-proof design
- DIN rail or screw mountable
- AC or DC load ratings in different physical sizes
- Front/side mountable accessories available
- Direct-mountable overload relay
- 2NO/2NC auxiliary contact built-in
- Degree of protection: IP20



DC loads (2-pole)



DC loads (3-pole)

Certifications

CE(IEC), UL508, CCC

IronHorse HMC Series Three-Pole Contactors (65AF) Selection Guide

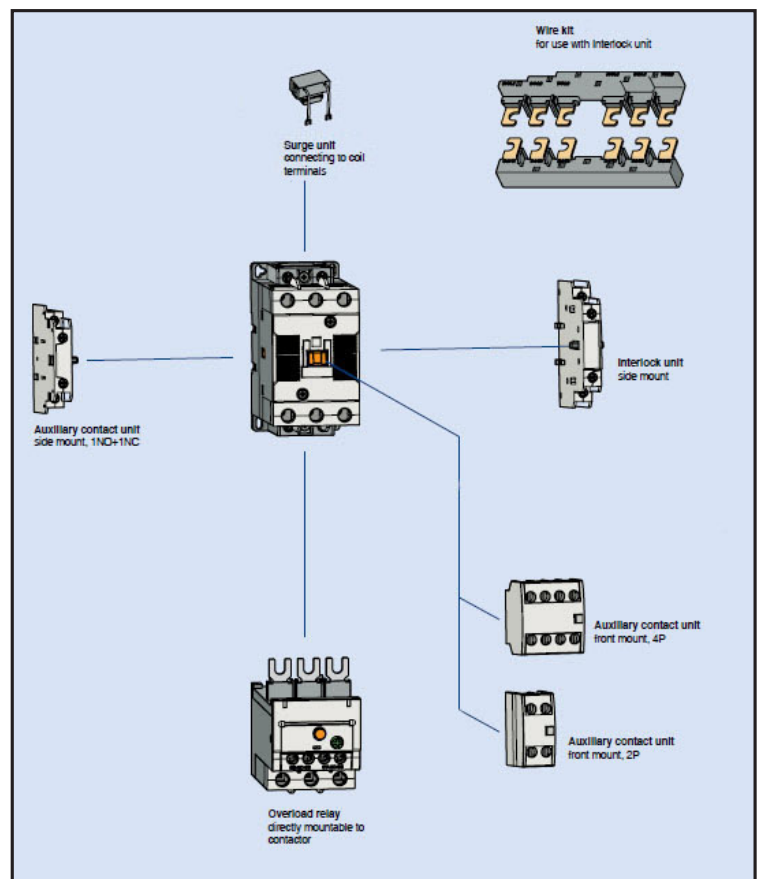
| Part Number | Price | AC-3 Amps (380/440 V) | Main Contact Poles | Coil Voltage | Coil Frequency | Auxiliary Contacts | Drawings |
|---------------------------------|----------|-----------------------|--------------------|--------------|----------------|--------------------|---------------------|
| HMC-50A30-22-BL | \$78.00 | 50 | 3 NO | 24VAC | 50/60 Hz | 2 NO and 2 NC | PDF |
| HMC-50A30-22-AL | \$78.00 | | | 120VAC | 50/60 Hz | | PDF |
| HMC-50A30-22-CL | \$78.00 | | | 230VAC | 50/60 Hz | | PDF |
| HMC-50A30-22-EL | \$78.00 | | | 480VAC | 60 Hz | | PDF |
| HMC-65A30-22-BL | \$90.00 | 65 | | 24VAC | 50/60 Hz | | PDF |
| HMC-65A30-22-AL | \$90.00 | | | 120VAC | 50/60 Hz | | PDF |
| HMC-65A30-22-CL | \$90.00 | | | 230VAC | 50/60 Hz | | PDF |
| HMC-65A30-22-EL | \$90.00 | | | 480VAC | 60 Hz | | PDF |
| HMC-50A30-22-DL | \$84.00 | 50 | | 24VDC | - | | PDF |
| HMC-65A30-22-DL | \$103.00 | 65 | | 24VDC | - | | PDF |

65AF Contactors Description

| Contactor Type | | HMC-50A | | HMC-65A | | |
|-----------------------------------|------------------|----------------------|------|---------|------|----|
| | | kW | A | kW | A | |
| AC Duty | AC3 | 200/240V | 15 | 55 | 18.5 | 65 |
| | | 380/440V | 22 | 50 | 30 | 65 |
| | | 500/550V | 30 | 43 | 33 | 60 |
| | | 690V | 30 | 28 | 33 | 35 |
| | | 1000V | 30 | 23 | 30 | 23 |
| | AC4 | 200/240V | 7.5 | 35 | 11 | 50 |
| | | 380/440V | 15 | 32 | 22 | 47 |
| | AC1 | - | 100 | - | 11 | |
| DC1 Duty (L/R=1ms) | 2-pole in series | 24V | - | 50 | - | 40 |
| | | 48V | - | 40 | - | 40 |
| | | 110V | - | 35 | - | 35 |
| | 3-pole in series | 24V | - | 50 | - | 65 |
| | | 48V | - | 50 | - | 65 |
| | | 110V | - | 50 | - | 65 |
| DC3,5 Duty (L/R=15ms) | 2-pole in series | 24V | - | 45 | - | 45 |
| | | 48V | - | 25 | - | 25 |
| | | 110V | - | 15 | - | 15 |
| | 3-pole in series | 24V | - | 50 | - | 50 |
| | | 48V | - | 35 | - | 35 |
| | | 110V | - | 30 | - | 30 |
| Directly Mountable Overload Relay | | HTOR-63 | | | | |
| Conductor Size (Solid, Stranded) | | AWG | 10-4 | 8-3 | | |
| Maximum number of conductors: 2 | | mm ² | 6-25 | 10-35 | | |
| Conductor Type | | 65/75°C CU wire only | | | | |

Note: Observe polarity when wiring the control power cable

Accessories



IronHorse HMC Series Contactors (100AF)



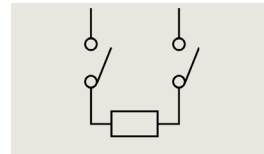
IRONHORSE®



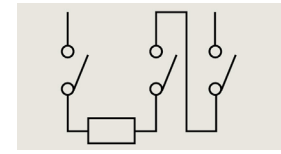
HMC-100A30-22-EL

Description

- 3-pole (NO) main contact
- Finger-proof design
- DIN rail or screw mountable
- AC or DC load ratings in different physical sizes
- Front/side mountable accessories available
- Direct-mountable overload relay
- 2NO/2NC auxiliary contact built-in
- Degree of protection: IP20



DC loads (2 pole)



DC loads (3 pole)

Certifications

CE(IEC), UL508, CCC

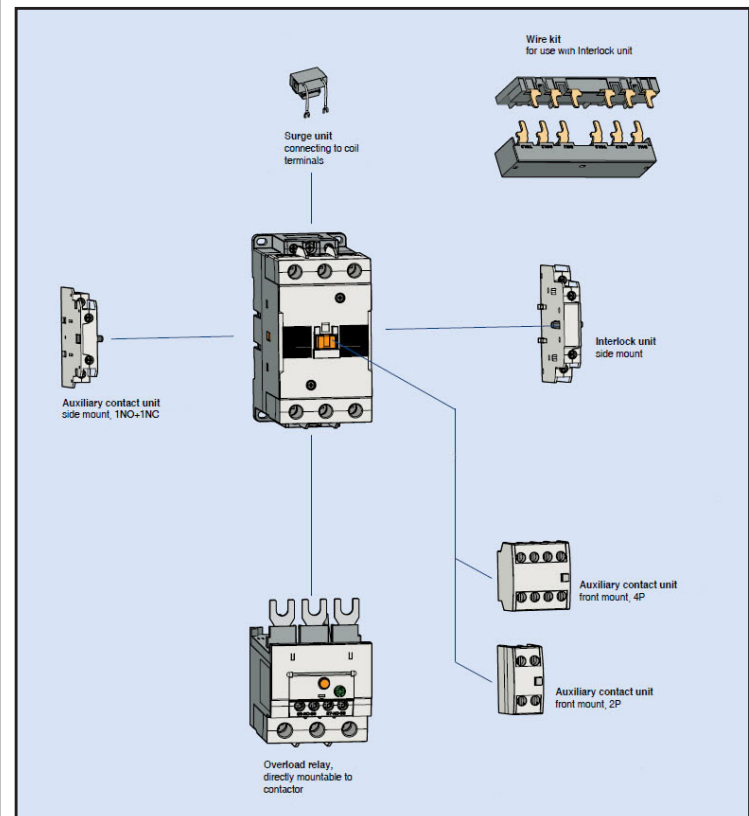
IronHorse HMC Series Three-Pole Contactors (100AF) Selection Guide

| Part Number | Price | AC-3 Amps (380/440 V) | Main Contact Poles | Coil Voltage | Coil Frequency | Auxiliary Contacts | Drawings |
|----------------------------------|----------|-----------------------|--------------------|--------------|----------------|--------------------|----------|
| HMC-75A30-22-BL | \$103.00 | 75 | 3 NO | 24VAC | 50/60 Hz | 2 NO and 2 NC | PDF |
| HMC-75A30-22-AL | \$103.00 | | | 120VAC | 50/60 Hz | | PDF |
| HMC-75A30-22-CL | \$103.00 | | | 230VAC | 50/60 Hz | | PDF |
| HMC-75A30-22-EL | \$103.00 | | | 480VAC | 60 Hz | | PDF |
| HMC-85A30-22-BL | \$118.00 | 85 | | 24VAC | 50/60 Hz | | PDF |
| HMC-85A30-22-AL | \$118.00 | | | 120VAC | 50/60 Hz | | PDF |
| HMC-85A30-22-CL | \$118.00 | | | 230VAC | 50/60 Hz | | PDF |
| HMC-85A30-22-EL | \$118.00 | | | 480VAC | 60 Hz | | PDF |
| HMC-100A30-22-BL | \$163.00 | 100 | | 24VAC | 50/60 Hz | | PDF |
| HMC-100A30-22-AL | \$163.00 | | | 120VAC | 50/60 Hz | | PDF |
| HMC-100A30-22-CL | \$163.00 | | | 230VAC | 50/60 Hz | | PDF |
| HMC-100A30-22-EL | \$163.00 | | | 480VAC | 60 Hz | | PDF |
| HMC-75A30-22-DL | \$128.00 | 75 | | 24VDC | - | | PDF |
| HMC-85A30-22-DL | \$151.00 | 85 | | 24VDC | - | | PDF |
| HMC-100A30-22-DL | \$188.00 | 100 | | 24VDC | - | | PDF |

100AF Contactors Description

| Contactor Type | | HMC-75A | | HMC-85A | | HMC-100A | | |
|-----------------------------------|------------------|----------------------|-------|---------|-------|----------|-----|-----|
| | | kW | A | kW | A | kW | A | |
| AC Duty | AC3 | 200/240V | 22 | 75 | 25 | 85 | 30 | 105 |
| | | 380/440V | 37 | 75 | 45 | 85 | 55 | 105 |
| | | 500/550V | 37 | 64 | 45 | 75 | 55 | 85 |
| | | 690V | 37 | 42 | 45 | 45 | 45 | 65 |
| | | 1000V | 37 | 28 | 37 | 28 | 37 | 28 |
| | AC4 | 200/240V | 13 | 55 | 15 | 65 | 19 | 80 |
| | 380/440V | 25 | 52 | 30 | 62 | 37 | 75 | |
| | AC1 | - | 12 | - | 135 | - | 160 | |
| DC1 Duty (L/R= 1ms) | 2-pole in series | 24V | - | 75 | - | 80 | - | 100 |
| | | 48V | - | 65 | - | 65 | - | 100 |
| | | 110V | - | 50 | - | 50 | - | 80 |
| | 3-pole in series | 24V | - | 75 | - | 80 | - | 100 |
| | | 48V | - | 75 | - | 80 | - | 100 |
| | | 110V | - | 75 | - | 80 | - | 100 |
| DC3,5 Duty (L/R= 15ms) | 2-pole in series | 24V | - | 65 | - | 65 | - | 100 |
| | | 48V | - | 40 | - | 40 | - | 60 |
| | | 110V | - | 20 | - | 20 | - | 40 |
| | 3-pole in series | 24V | - | 80 | - | 80 | - | 100 |
| | | 48V | - | 60 | - | 60 | - | 90 |
| | | 110V | - | 50 | - | 50 | - | 80 |
| Directly Mountable Overload Relay | | HTOR-95 | | | | | | |
| Conductor Size (Solid, Stranded) | | AWG | 8-2 | 8-0 | 8-00 | | | |
| Maximum number of conductors: 2 | | mm ² | 10-35 | 10-50 | 10-70 | | | |
| Conductor Type | | 65/75°C CU wire only | | | | | | |

Accessories



Note: Observe polarity when wiring the control power cable

IronHorse HMC Series Contactors (150AF)



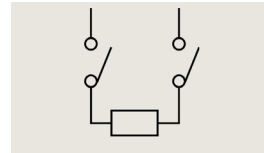
IRONHORSE®



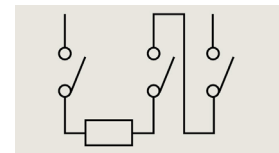
HMC-150A30-22-GL

Description

- 3-pole (NO) main contact
- Finger-proof design
- DIN rail or screw mountable
- AC or DC load ratings in different physical sizes
- Front/side mountable accessories available
- Direct-mountable overload relay
- 2NO/2NC auxiliary contact built-in
- Degree of protection: IP20



DC loads (2-pole)



DC loads (3-pole)

Certifications

CE(IEC), UL508, CCC

IronHorse HMC Series Three-Pole Contactors (150AF) Selection Guide

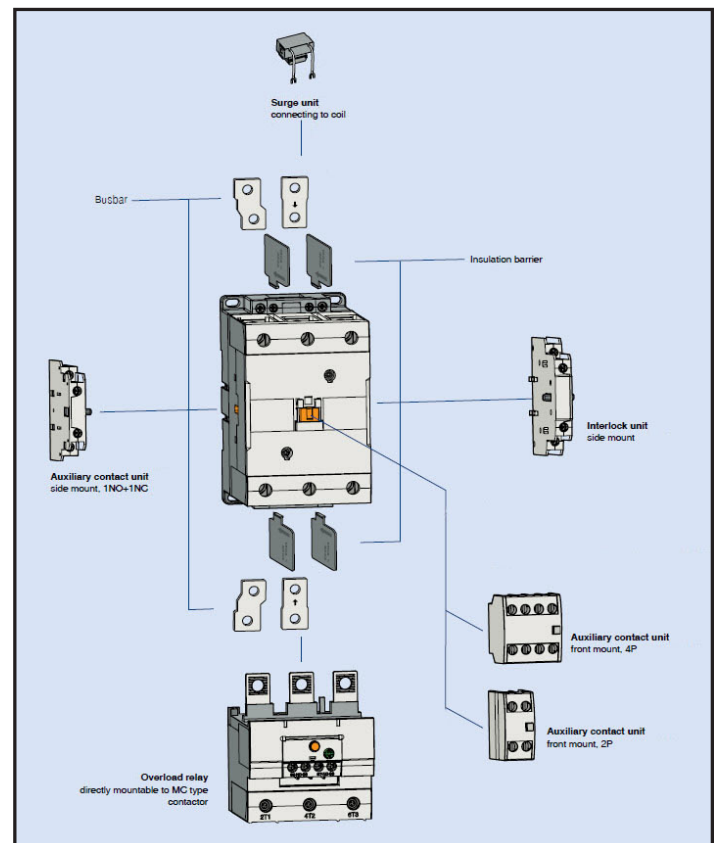
| Part Number | Price | AC-3 Amps (380/440 V) | Main Contact Poles | Coil Voltage | Coil Frequency | Auxiliary Contacts | Drawings |
|----------------------------------|----------|-----------------------|--------------------|---|----------------|--------------------|----------|
| HMC-130A30-22-DL | \$226.00 | 130 | 3 NO | 24VDC | – | 2 NO and 2 NC | PDF |
| HMC-150A30-22-DL | \$277.00 | 150 | | 24VDC | – | | PDF |
| HMC-130A30-22-FL | \$193.00 | 130 | | 100-240 VAC / 100-200 VDC low consumption electronic | 50/60 Hz | | PDF |
| HMC-130A30-22-GL | \$193.00 | | | 24-48 VAC/24-48 VDC coil voltage, low consumption electronic | | | PDF |
| HMC-150A30-22-FL | \$248.00 | 150 | | 100-240 VAC / 100-200 VDC low consumption electronic | | | PDF |
| HMC-150A30-22-GL | \$248.00 | | | 24-48VAC / 24-48 VDC coil voltage, low consumption electronic | | | PDF |

150AF Contactors Description

| Contactor Type | | HMC-130A | | HMC-150A | | |
|-----------------------------------|------------------|----------------------|-------|----------|----|-----|
| | | kW | A | kW | A | |
| AC Duty | AC3 | 200/240V | 37 | 130 | 45 | 150 |
| | | 380/440V | 60 | 130 | 75 | 150 |
| | | 500/550V | 60 | 90 | 70 | 100 |
| | | 690V | 55 | 60 | 55 | 60 |
| | | 1000V | 75 | 50 | 75 | 50 |
| | AC4 | 200/240V | 22 | 93 | 30 | 120 |
| | | 380/440V | 45 | 90 | 55 | 110 |
| | AC1 | | - | 200 | - | 250 |
| DC1 Duty (L/R=1ms) | 2-pole in series | 24V | - | 120 | - | 150 |
| | | 48V | - | 100 | - | 120 |
| | | 110V | - | 80 | - | 100 |
| | 3-pole in series | 24V | - | 120 | - | 150 |
| | | 48V | - | 120 | - | 150 |
| | | 110V | - | 100 | - | 150 |
| DC3,5 Duty (L/R=15ms) | 2-pole in series | 24V | - | 120 | - | 150 |
| | | 48V | - | 60 | - | 100 |
| | | 110V | - | 40 | - | 80 |
| | 3-pole in series | 24V | - | 120 | - | 150 |
| | | 48V | - | 90 | - | 130 |
| | | 110V | - | 80 | - | 120 |
| Directly Mountable Overload Relay | | HTOR-150 | | | | |
| Conductor Size (Solid, Stranded) | | AWG | 3-00 | 3-4/0 | | |
| Maximum number of conductors: 2 | | mm ² | 35-70 | 35-95 | | |
| Conductor Type | | 65/75°C CU wire only | | | | |

Note: Observe polarity when wiring the control power cable

Accessories



IronHorse HMC Series Contactors (225AF)



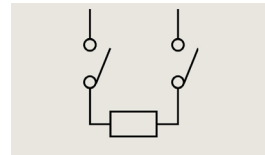
IRONHORSE®



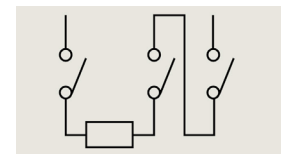
HMC-185A30-22-FB

Description

- 3-pole (NO) main contact
- Finger-proof design
- DIN rail or screw mountable
- AC or DC load ratings in different physical sizes
- Direct-mountable overload relay
- 2NO/2NC auxiliary contact built-in
- Degree of protection: IP00



DC loads (2-pole)



DC loads (3-pole)

Certifications

CE(IEC), UL508, CCC

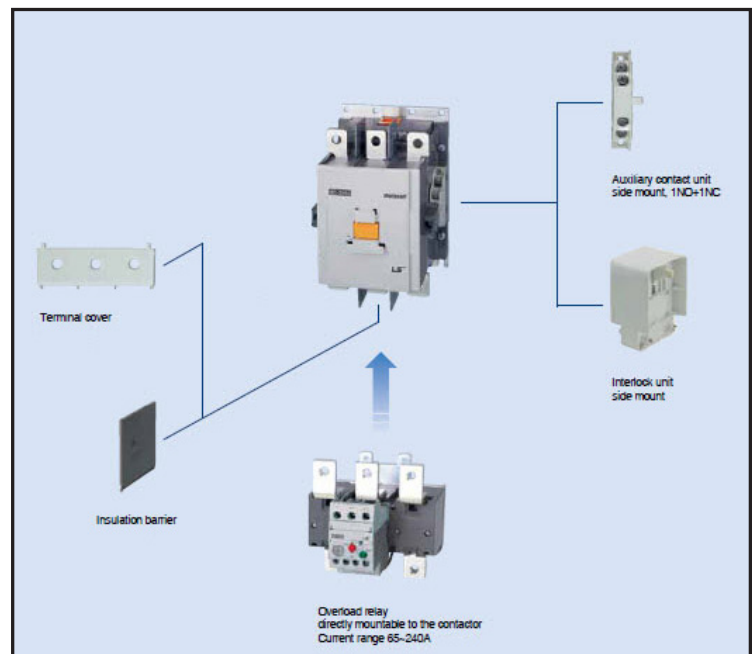
IronHorse HMC Series Three-Pole Contactors (225AF) Selection Guide

| Part Number | Price | AC-3 Amps (380/440 V) | Main Contact Poles | Coil Voltage | Coil Frequency | Auxiliary Contacts | Drawings |
|----------------------------------|----------|-----------------------|--------------------|--|----------------|--------------------|----------|
| HMC-185A30-22-FB | \$313.00 | 185 | 3 NO | 100-240 VAC / 100-200 VDC low consumption electronic | 50/60 Hz | 2 NO and 2 NC | PDF |
| HMC-185A30-22-HB | \$313.00 | | | 24-25 VAC / 24 VDC low consumption electronic | | | PDF |
| HMC-225A30-22-FB | \$377.00 | 225 | | 100-240 VAC / 100-200 VDC low consumption electronic | | | PDF |
| HMC-225A30-22-HB | \$377.00 | | | 24-25 VAC / 24 VDC low consumption electronic | | | PDF |

225AF Contactors Description

| Contactor Type | | HMC-185A | | HMC-225A | | |
|-----------------------------------|------------------|-----------------|-------|----------|-----|-----|
| | | kW | A | kW | A | |
| AC Duty | AC3 | 200/240V | 55 | 185 | 75 | 225 |
| | | 380/440V | 90 | 185 | 132 | 225 |
| | | 500/550V | 110 | 180 | 132 | 200 |
| | | 690V | 110 | 120 | 140 | 150 |
| | | 1000V | 132 | 90 | 132 | 90 |
| | AC4 | 200/240V | 37 | 150 | 45 | 180 |
| | | 380/440V | 75 | 150 | 90 | 180 |
| | AC1 | - | 300 | - | 350 | |
| DC1 Duty (L/R=1ms) | 2-pole in series | 24V | - | 180 | - | 220 |
| | | 48V | - | 180 | - | 180 |
| | | 110V | - | 150 | - | 150 |
| | 3-pole in series | 24V | - | 180 | - | 220 |
| | | 48V | - | 180 | - | 220 |
| | | 110V | - | 180 | - | 220 |
| DC3,5 Duty (L/R=15ms) | 2-pole in series | 24V | - | 180 | - | 220 |
| | | 48V | - | 150 | - | 150 |
| | | 110V | - | 120 | - | 120 |
| | 3-pole in series | 24V | - | 180 | - | 220 |
| | | 48V | - | 180 | - | 220 |
| | | 110V | - | 150 | - | 150 |
| Directly Mountable Overload Relay | | HTOR-225 | | | | |
| Conductor Size (Solid, Stranded) | | AWG | 1-4/0 | 0-300 | | |
| Maximum number of conductors: 2 | | mm ² | 50-95 | 50-150 | | |
| Conductor Type | | 75°C CU wire | | | | |

Accessories



IronHorse HMC Series Contactors (400AF)



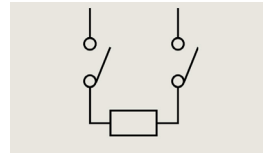
IRONHORSE®



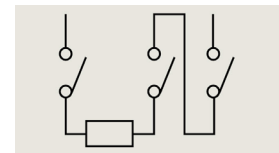
HMC-265A30-22-FB

Description

- 3-pole main contact
- AC/DC common use coil
- Wide coil operation voltage
- Screw mountable
- 2NO/2NC auxiliary contacts built-in
- Direct mountable overload relays
- Degree of protection: IP00



DC loads (2-pole)



DC loads (3-pole)

Certifications

CE(IEC), UL508, CCC

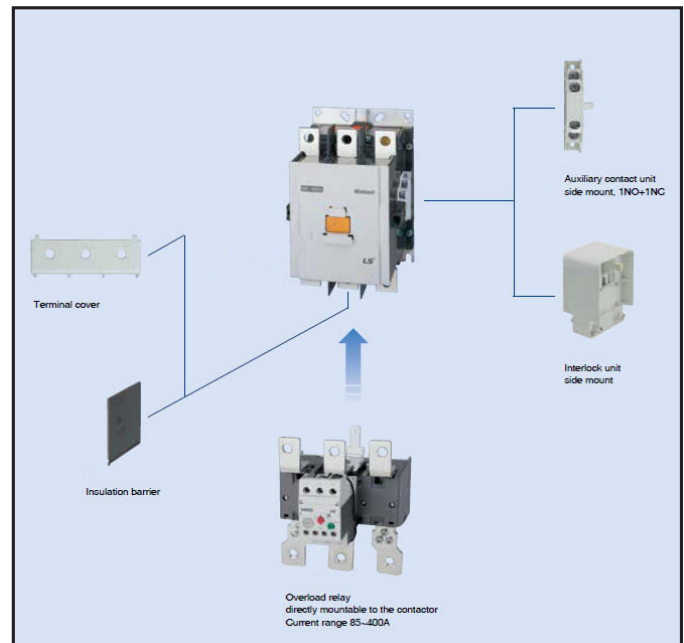
IronHorse HMC Series Three-Pole Contactors (400AF) Selection Guide

| Part Number | Price | AC-3 Amps (380/440 V) | Main Contact Poles | Coil Voltage | Coil Frequency | Auxiliary Contacts | Drawings |
|----------------------------------|----------|-----------------------|--------------------|--|----------------|--------------------|----------|
| HMC-265A30-22-FB | \$546.00 | 265 | 3 NO | 100-240 VAC / 100-200 VDC low consumption electronic | 50/60 Hz | 2 NO and 2 NC | PDF |
| HMC-330A30-22-FB | \$620.00 | 330 | | 100-240 VAC / 100-200 VDC low consumption electronic | | | PDF |
| HMC-400A30-22-FB | \$677.00 | 400 | | 100-240 VAC / 100-200 VDC low consumption electronic | | | PDF |

400AF Contactors Description

| Contactor Type | | HMC-265A | | HMC-330A | | HMC-400A | | |
|-----------------------------------|------------------|-------------------|---------|----------|---------|----------|---------|-----|
| | | kW | A | kW | A | kW | A | |
| AC Duty | AC3 | 200/240V | 80 | 265 | 90 | 330 | 125 | 400 |
| | | 380/440V | 147 | 265 | 160 | 330 | 200 | 400 |
| | | 500/550V | 147 | 225 | 160 | 28 | 225 | 350 |
| | | 690V | 160 | 185 | 200 | 220 | 250 | 300 |
| | AC4 | 200/240V | 50 | 200 | 55 | 220 | 75 | 300 |
| | | 380/440V | 102 | 200 | 110 | 220 | 150 | 300 |
| AC1 | | - | 400 | - | 500 | - | 520 | |
| DC1 Duty (L/R= 1ms) | 2-pole in series | 24V | - | 220 | - | 300 | - | 400 |
| | | 48V | - | 180 | - | 240 | - | 240 |
| | | 110V | - | 150 | - | 200 | - | 200 |
| | 3-pole in series | 24V | - | 220 | - | 300 | - | 400 |
| | | 48V | - | 220 | - | 300 | - | 400 |
| | | 110V | - | 220 | - | 300 | - | 400 |
| DC3,5 Duty (L/R= 15ms) | 2-pole in series | 24V | - | 220 | - | 300 | - | 400 |
| | | 48V | - | 150 | - | 200 | - | 200 |
| | | 110V | - | 120 | - | 150 | - | 150 |
| | 3-pole in series | 24V | - | 220 | - | 300 | - | 400 |
| | | 48V | - | 220 | - | 280 | - | 280 |
| | | 110V | - | 150 | - | 200 | - | 200 |
| Directly Mountable Overload Relay | | HTOR-400 | | | | | | |
| Conductor Size (Solid, Stranded) | | AWG | 3/0-500 | | 4/0-500 | | 350-700 | |
| Maximum number of conductors: 2 | | mm ² | 95-240 | | 95-240 | | 185-370 | |
| Conductor Type | | 75°C CU wire only | | | | | | |

Accessories



IronHorse HMC Series Contactors



IRONHORSE®

| HMC Series Three-Pole Contactors – Environmental | |
|---|---|
| Standards | IEC/EN 60947-1, IEC/EN 60947-4-1, UL508, K60947 |
| Certifications | CE, UL, CCC |
| Rated Insulation Voltage U_i | 1000V (6A-22A: 690V) (32A-800A: 1000V) |
| Rated Impulse Withstand Voltage U_{imp} | 8kV (6A-22A: 6kV) (32A-800A: 8kV) |
| Degree of Protection | IP20 (Conforming to IEC60529) |
| Ambient Air Temperature | <p>Storage: -30°C to 65°C [-22°F to 149°F]</p> <p>Operation: -5°C to 55°C [23°F to 131°F] (AC Type) -5°C to 40°C [23°F to 104°F] (MT, DC Type) -25°C to 60°C [-13°F to 140°F] (MT refer to graph)</p> |
| Operating Altitude | 3000m [8900ft] |
| Operating Positions | |
| Shock Resistance (1/2 sine wave = 11ms) | Opened: 8G Closed: 10G |
| Vibration Resistance (Conforming to IEC68-2-6) (5 to 300 Hz) | Opened: 2G Closed: 4G |
| Flame Resistance | Conforming to UL 94:V0 Conforming to IEC 695-2-1: 960°C |

IronHorse HMC Series Contactors

| HMC Series Magnetic Contactors Specifications | | | | | | | | | | | | | | | | | | | | | |
|---|----------------------|--------------------------|-------------|---------|---------|---------|-------------|--------------------------|-------------|---------|-------------|----------|----------|------------|----------|--------------|----------|-------------|----------|------|-----|
| Frame Size | | 22AF | | | | 40AF | | 65AF | | 100AF | | | 150AF | | 225AF | | 400AF | | | | |
| Type | | HMC-9B | HMC-12B | HMC-18B | HMC-22B | HMC-32A | HMC-40A | HMC-50A | HMC-65A | HMC-75A | HMC-85A | HMC-100A | HMC-130A | HMC-150A | HMC-185A | HMC-225A | HMC-265A | HMC-330A | HMC-400A | | |
| Screw Clamp Terminals | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | | |
| Lug Clamp Terminals | | | | | | | | • | • | • | • | • | • | • | • | • | | | | | |
| Number of Poles | | 3 | | | | | | | | | | | | | | | | | | | |
| Rated Operational Voltage U_e | | 690V | | | | | | 1000V | | | | | | | | | | | | | |
| Rated Insulation Voltage U_j | | 690V | | | | | | 1000V | | | | | | | | | | | | | |
| Rated Frequency | | 50/60 Hz | | | | | | | | | | | | | | | | | | | |
| Rated Impulse Withstand Voltage U_{imp} | | 6kV | | | | | | 8kV | | | | | | | | | | | | | |
| Maximum Operating Rate in Operating Cycles Per Hour (AC3) | | 1800 operations per hour | | | | | | 1200 operations per hour | | | | | | | | | | | | | |
| Mechanical Durability (millions of operations) | | 15 | | | | 12 | | | | | | 5 | | | | | | 2.5 | | | |
| Electrical Durability (millions of operations) | | 2.5 | | | | 2 | | | | | | 1 | | | | | | 0.5 | | | |
| Current and Power | AC1, Thermal Current | A | 25 | 25 | 40 | 40 | 50 | 60 | 70 | 100 | 110 | 135 | 160 | 200 | 250 | 300 | 350 | 400 | 500 | 520 | |
| | | kW | 2.5 | 3.5 | 4.5 | 5.5 | 7.5 | 11 | 15 | 18.5 | 22 | 25 | 30 | 37 | 45 | 55 | 75 | 80 | 90 | 125 | |
| | 200/240 V | A | 11 | 13 | 18 | 22 | 32 | 40 | 55 | 65 | 75 | 85 | 105 | 130 | 150 | 185 | 225 | 265 | 330 | 400 | |
| | | kW | 4 | 5.5 | 7.5 | 11 | 15 | 18.5 | 22 | 30 | 37 | 45 | 55 | 60 | 75 | 90 | 132 | 147 | 160 | 200 | |
| | 380/440 V | A | 9 | 12 | 18 | 22 | 32 | 40 | 50 | 65 | 75 | 85 | 105 | 130 | 150 | 185 | 225 | 265 | 330 | 400 | |
| | | kW | 4 | 7.5 | 7.5 | 15 | 18.5 | 22 | 30 | 33 | 37 | 45 | 55 | 60 | 70 | 110 | 132 | 147 | 160 | 225 | |
| | 500/550 V | A | 7 | 12 | 13 | 20 | 28 | 32 | 43 | 60 | 64 | 75 | 85 | 90 | 100 | 180 | 200 | 225 | 250 | 350 | |
| | | kW | 4 | 7.5 | 7.5 | 15 | 18.5 | 22 | 30 | 33 | 37 | 45 | 55 | 55 | 55 | 110 | 140 | 160 | 200 | 250 | |
| | 690V | A | 6 | 9 | 9 | 18 | 20 | 23 | 28 | 35 | 42 | 45 | 65 | 60 | 60 | 120 | 150 | 185 | 220 | 300 | |
| | | kW | - | - | - | - | 22 | 22 | 30 | 30 | 37 | 37 | 37 | 75 | 75 | 132 | 132 | 147 | 147 | 147 | |
| Rated Short-Time Withstand Current (IEC 80947) | 1s | A | 250 | 280 | 300 | 400 | 600 | 700 | 1000 | 1050 | 1100 | 1200 | 1320 | 1350 | 1800 | 2000 | 2500 | 3500 | 4000 | 4600 | |
| | 10s | A | 110 | 120 | 154 | 186 | 260 | 300 | 550 | 700 | 750 | 800 | 900 | 950 | 1200 | 1500 | 1700 | 2400 | 3000 | 4400 | |
| | 30s | A | 70 | 80 | 100 | 130 | 160 | 160 | 330 | 380 | 400 | 450 | 500 | 700 | 800 | 1000 | 1200 | 1500 | 2500 | 2974 | |
| | 1min | A | 61 | 61 | 84 | 90 | 100 | 100 | 250 | 270 | 300 | 350 | 400 | 550 | 600 | 800 | 1000 | 1100 | 1700 | 1846 | |
| | 3min | A | 45 | 50 | 60 | 60 | 70 | 70 | 150 | 200 | 220 | 270 | 270 | 350 | 450 | 520 | 700 | 800 | 1000 | 1313 | |
| | 10min | A | 30 | 30 | 40 | 50 | 55 | 55 | 90 | 120 | 140 | 170 | 180 | 200 | 300 | 350 | 500 | 600 | 620 | 760 | |
| | ≥10min | A | 26 | 28 | 40 | 45 | 50 | 50 | 87 | 100 | 114 | 150 | 160 | 175 | 280 | 320 | 400 | 500 | 553 | 699 | |
| UL Rating (50/60 Hz) | Continuous current | A | 25 | 25 | 40 | 40 | 50 | 60 | 70 | 100 | 110 | 135 | 160 | 160 | 210 | 230 | 275 | 300 | 350 | 450 | |
| | Single Phase | 110-120 V | HP | 0.5 | 0.75 | 1 | 2 | 2 | 3 | 5 | 5 | 7.5 | 10 | 10 | 15 | 15 | 15 | - | - | - | |
| | | 220-240 V | HP | 1.5 | 2 | 3 | 3 | 5 | 5 | 10 | 15 | 15 | 15 | 20 | 20 | 25 | 30 | 40 | - | - | - |
| | Three Phase | 200-208 V | HP | 2 | 3 | 7.5 | 7.5 | 7.5 | 15 | 20 | 25 | 25 | 30 | 30 | 40 | 40 | 60 | 60 | 75 | 100 | 125 |
| | | 220-240 V | HP | 3 | 5 | 7.5 | 10 | 10 | 15 | 25 | 30 | 30 | 40 | 40 | 50 | 60 | 75 | 100 | 100 | 150 | 150 |
| | | 440-480 V | HP | 5 | 7.5 | 10 | 15 | 20 | 30 | 40 | 50 | 50 | 60 | 75 | 75 | 100 | 125 | 150 | 200 | 200 | 300 |
| | 550-600 V | HP | 7.5 | 10 | 15 | 20 | 25 | 30 | 50 | 60 | 60 | 75 | 75 | 75 | 75 | 125 | 150 | 200 | 200 | 300 | |
| NEMA Size | | 00 | 0 | 1 | | 1P | 2 | | | | 3 | | | 4 | | | 5 | | | | |
| Weight | AC Control | kg [lb] | 0.34 [0.75] | | | | 0.55 [1.21] | | 1.05 [2.31] | | 1.93 [4.25] | | | 2.4 [5.29] | | 5.4 [11.91] | | 9.2 [20.28] | | | |
| | DC Control | kg [lb] | 0.41 [0.90] | | | | 0.77 [1.70] | | 1.3 [2.87] | | 2.8 [6.17] | | | | | | | | | | |
| Auxiliary (Standard) | | 1a1b | | | | | | 2a2b | | | | | | | | | | | | | |
| Auxiliary Side Mount | | HMX1-AUX11-S | | | | | | | | | | | | | | HMX3-AUX11-S | | | | | |
| Auxiliary Front Mount | | HMX1-AUXxx-F | | | | | | | | | | | | | | | | | | | |


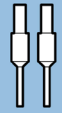

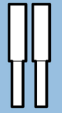

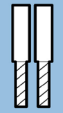








Note: Minimum conduct current of Auxiliary contactor is DC 17V, 5mA

| HMC Series Thermal Overload Relays Specifications | | | | | | | | | |
|---|---------|-------------|---------|---------------|-----------------------|----------------------|-------------|------------|------------|
| Type | | HTOR-32 | HTOR-32 | HTOR-63 | HTOR-95 | HTOR-150 | HTOR-225 | HTOR-400 | |
| Screw Clamp Terminals | | • | | • | | • | | • | |
| Lug Clamp Terminals | | | | • | | • | | • | |
| Rated Operational Voltage U_e | | 690V | | | | | | | |
| Rated Insulation Voltage U_j | | 690V | | | | | | | |
| Rated Impulse Withstand Voltage U_{imp} | | 6kV | | | | | | | |
| Trip Class | | 10A | | | | | | | |
| Setting Range | | 0.1 - 40 A | | 0.1 - 40 A | 42-65 A | 70-100 A | 80-150 A | 100-240 A | 160-400 A |
| Weight | kg [lb] | 0.17 [0.37] | | 0.0.17 [0.37] | 0.31-0.33 [0.68-0.73] | 0.48-0.5 [1.06-1.10] | 0.67 [1.48] | 2.5 [5.51] | 2.6 [5.73] |

Note: The safety cover of magnetic contactor and thermal overload relay is optional.

IronHorse HMC Series Contactors Connections


IRONHORSE®

| HMC Series Three-Pole Contactors – Connections | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|-------------|
| | Main Terminal Size |  |  |  |  |  |  |  | Torque |
| | | AWG / mm ² | | | | | | mm [in] (max) | lb·in [N·m] |
| HMC-9B |  | M4 | 18-10 / 1-4 | 18-10 / 1-4 | 18-10 / 1-4 | | 9.6 [0.38] | 20 [2.25] | |
| HMC-12B | | | 16-10 / 1.5-6 | 16-10 / 1.5-6 | 16-10 / 1.5-6 | | | | |
| HMC-18B | | | 16-10 / 1.5-6 | 16-10 / 1.5-6 | 16-10 / 1.5-6 | | | | |
| HMC-22B | | | 14-8 / 2.5-10 | 14-8 / 2.5-10 | 14-8 / 2.5-10 | | | | |
| HMC-32A |  | M5 | – | 12-6 / 2.5-16 | 12-6 / 2.5-16 | | 12.8 [0.50] | 35 [4] | |
| HMC-40A | | | – | 12-6 / 2.5-16 | 12-6 / 2.5-16 | | | | |
| HMC-50A |  | M6 | – | 10-3 / 4-35 | 10-3 / 4-35 | | 14 [0.55] | 35 [4] | |
| HMC-65A | | | – | 10-2 / 4-35 | 10-2 / 4-35 | | | | |
| HMC-75A |  | M8 | – | 10-1 / 6-50 | 10-1 / 6-50 | | 17 [0.67] | 45 [5.1] | |
| HMC-85A | | | – | 10-1/0 / 6-50 | 10-1/0 / 6-50 | | | | |
| HMC-100A | | | – | 10-2/0 / 6-70 | 10-2/0 / 6-70 | | | | |
| HMC-130A |  | M8 | – | 8-3/0 / 10-95 | 8-3/0 / 10-95 | | 24 [0.94] | 80 [9.1] | |
| HMC-150A | | | – | 8-250kcmil / 10-120 | 8-250kcmil / 10-120 | | | | |
| HMC-185A |  | M10 | – | 3-350kcmil / 35-185 | 3-350kcmil / 35-185 | | 25 [0.98] | 130 [14.7] | |
| HMC-225A | | | – | 3-400kcmil / 35-185 | 3-400kcmil / 35-185 | | | | |
| HMC-265A |  | M12 | – | 2-500kcmil / 35-240 | 2-500kcmil / 35-240 | | 30 [1.18] | 200 [22.6] | |
| HMC-330A | | | – | 2-250kcmil.x2 / 35-150x2 | 2-250kcmil.x2 / 35-150x2 | | | | |
| HMC-400A | | | – | 2-350kcmil.x2 / 35-185x2 | 2-350kcmil.x2 / 35-185x2 | | | | |

IronHorse HMC Series Contactors

Control Coil Characteristics


IRONHORSE®

| HMC Series Three-Pole Contactors – AC and DC Control Coil Characteristics | | | | | | | | | | | |
|---|--|---|---------|------------------------|---------|-------------------------------|-----------|---|-----|------------------------|--|
| Frame Size | | 22AF | | 40AF | | 65AF | | 100AF | | 150AF (A) | |
| Type | | HMC-9B HMC-12B HMC-18B HMC-22B | | HMC-32A HMC-40A | | HMC-50A HMC-65A HMD-30A | | HMC-75A HMC-85A HMC-100A HMD-60A HMD-100A | | HMC-130A HMC-150A | |
| AC Coil | | | | | | | | | | | |
| Control Voltage (U_C) | | 50Hz | (V) | 24, 120, 230 | | | | | | 24/48, 100-240/100-220 | |
| | | 60Hz | (V) | 24, 120, 200, 230, 480 | | | | | | | |
| Voltage Limit (U_C) | | 85 - 110 % | | | | | | | | | |
| Coil Consumption at 20°C [68°F] | | | | | | | | | | | |
| 220VAC** | | Inrush | (VA) | 70 | 90 | 110 | 240 | 320 | | | |
| | | 60Hz | Holding | (VA) | 9 | 9 | 13 | 17 | 10 | | |
| Heat Dissipation | | | | (W) | 2.3 | 2.7 | 2.8 | 5.4 | 4.5 | | |
| Operating Time | | Closing | (ms) | 15 - 30 | 15 - 30 | 15 - 30 | 15 - 30 | 70 | | | |
| | | Opening | (ms) | 4 - 19 | 4 - 19 | 4 - 19 | 10 - 30 | 70 | | | |
| DC Coil | | | | | | | | | | | |
| Control Voltage (U_C) | | 24 | | | | | | | | | |
| Voltage Limit (U_C) | | 85 - 110 % | | | | | | | | | |
| Coil Consumption at 20°C [68°F] | | | | | | | | | | | |
| 24VDC** | | Inrush | (W) | 6 | 9 | 9 | 18 | 213 | | | |
| | | Holding | (W) | 6 | 9 | 9 | 18 | 7.5 | | | |
| Time Constant (L/R) | | | | (ms) | 28 | 28 | 65 | 75 | - | | |
| Operating Time | | Closing | (ms) | 40 - 70* | 50 - 65 | 50 - 65 | 100 - 120 | 70 - 80 | | | |
| | | Opening | (ms) | 4 - 19 | 4 - 19 | 4 - 19 | 10 - 25 | 60 - 70 | | | |

Note: Either semi-electronic coil (A) or electronic coil (B) can be chosen for HMC-130A and HMC-150A.

* The operating time can increase up to 80ms when re-energizing after maintaining the ON state.

** See AutomationDirect.com "IronHorse IEC Contactor Coil Data HMC Series" for other voltages.

| HMC Series Three-Pole Contactors – AC/DC Common Coil Characteristics ¹ | | | | | | | |
|---|--|-------------------------|---------|----------------------|-----|----------------------------------|----|
| Frame Size | | 150AF (B) | | 225AF | | 400AF | |
| Type | | HMC-130A HMC-150A | | HMC-185A HMC-225A | | HMC-265A HMC-330A HMC-400A | |
| AC/DC Common Coil | | | | | | | |
| Control Voltage (U_C) | | AC/DC | (V) | 24/48 | | 24/24 | |
| | | AC/DC | (V) | | | - | |
| | | AC/DC | (V) | 100-240/100-220 | | | |
| | | AC | (V) | - | | - | |
| | | AC | (V) | - | | - | |
| | | AC | (V) | - | | - | |
| Voltage Limit (U_C) | | 85 - 110 % ¹ | | | | | |
| Coil Consumption at 20°C [68°F] | | | | | | | |
| 220VAC** | | Inrush | (VA) | 320 | 380 | 571 | |
| | | 50/60 Hz | Holding | (VA) | 10 | 11.6 | 14 |
| Heat Dissipation | | | | (W) | 4.5 | 4.7 | 5 |
| Operating Time | | Closing | (ms) | 70 | 70 | 55 | |
| | | Opening | (ms) | 70 | 70 | 55 | |

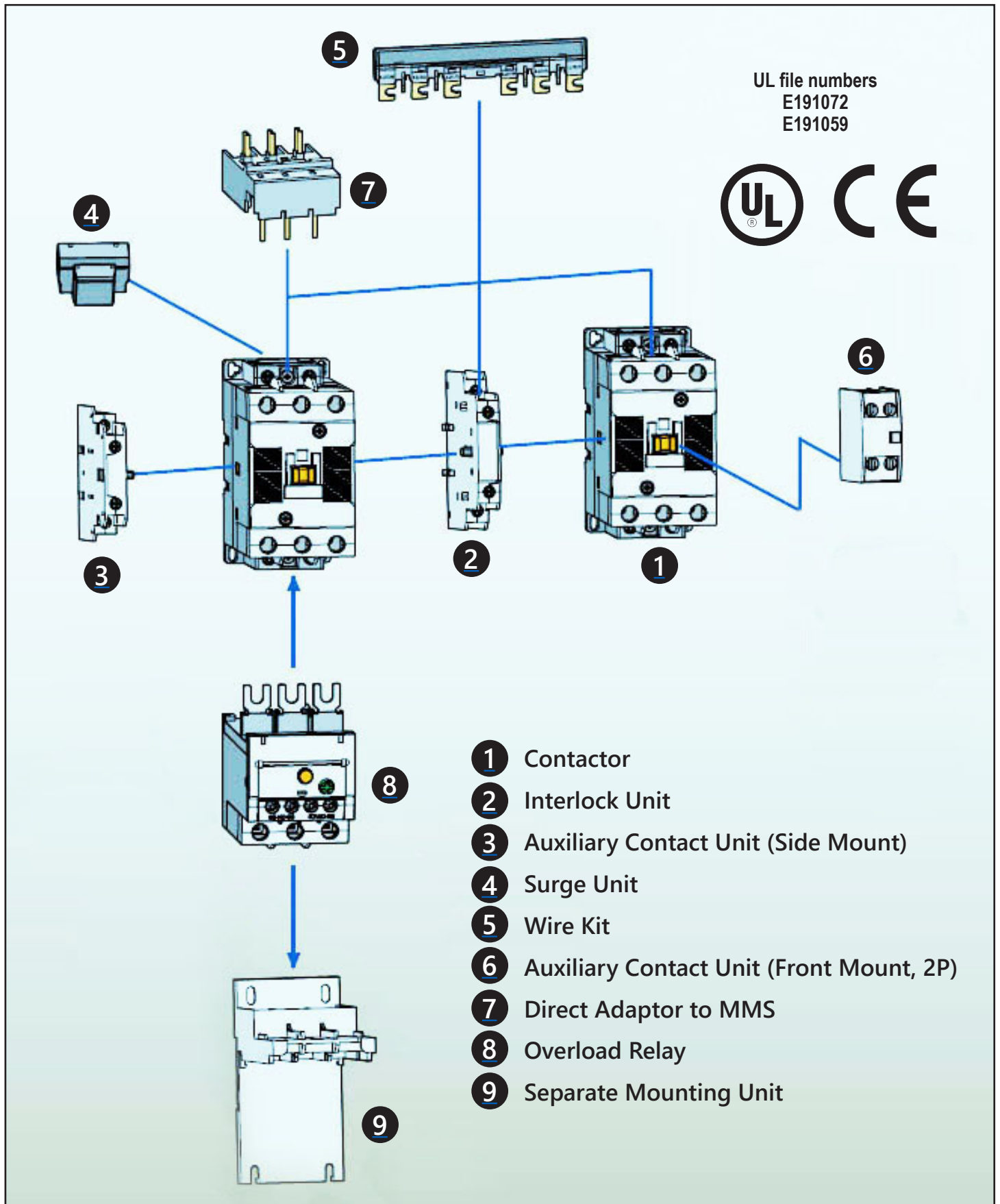
Note 1: Either semi-electronic coil (A) or electronic coil (B) can be chosen for HMC-130A and HMC-150A

** See AutomationDirect.com "IronHorse IEC Contactor Coil Data HMC Series" for other voltages.

IronHorse HMC Series Contactors Accessories



IRONHORSE®



IronHorse HMC Series Contactors Auxiliary Contact Units



IRONHORSE®



HMX1-AUX11-S



HMX1-AUX11-F



HMX1-AUX40-F



HMX3-AUX11-S



HMX2-TMC-CR



HMX1-PBR-CR

| IronHorse HMC Series Three-Pole Contactors Accessories Selection Guide | | | |
|--|---------|---|----------------------------|
| Part Number | Price | Description | Drawing |
| <u>HMX1-AUX11-S</u> | \$6.25 | IronHorse field installable auxiliary contact, left or right side mount, (1) NO/(1) NC contact, 10A @600 VAC/5A @ 600 VDC, screw terminal. For use with HMC-9 to HMC-150 contactors. | <u>PDF</u> |
| <u>HMX1-AUX11-F</u> | \$6.25 | IronHorse field installable auxiliary contact, front mount, (1) NO/(1) NC contact, 10A @600 VAC/2.5A @ 600 VDC, screw terminal. For use with HMC-9 to HMC-150 contactors. | <u>PDF</u> |
| <u>HMX1-AUX40-F</u> | \$11.00 | IronHorse field installable auxiliary contact, front mount, (4) NO contacts, 10A @600 VAC/2.5A @ 600 VDC, screw terminal. For use with HMC-9 to HMC-150 contactors. | <u>PDF</u> |
| <u>HMX1-AUX04-F</u> | \$11.00 | IronHorse field installable auxiliary contact, front mount, (4) NC contacts, 10A @600 VAC/2.5A @ 600 VDC, screw terminal. For use with HMC-9 to HMC-150 contactors. | <u>PDF</u> |
| <u>HMX1-AUX13-F</u> | \$11.00 | IronHorse field installable auxiliary contact, front mount, (1) NO/(3) NC contacts, 10A @600 VAC/2.5A @ 600 VDC, screw terminal. For use with HMC-9 to HMC-150 contactors. | <u>PDF</u> |
| <u>HMX1-AUX31-F</u> | \$11.00 | IronHorse field installable auxiliary contact, front mount, (3) NO/(1) NC contact(s), 10A @600 VAC/2.5A @ 600 VDC, screw terminal. For use with HMC-9 to HMC-150 contactors. | <u>PDF</u> |
| <u>HMX3-AUX11-S</u> | \$7.25 | IronHorse field installable auxiliary contact, left or right side mount, (1) NO/(1) NC contacts, 10A @600 VAC/2.5A @ 600 VDC, screw terminal. For use with HMC-185 to HMC-400 contactors. | <u>PDF</u> |
| <u>HMX1-TMC-CR</u> | \$9.00 | IronHorse terminal shroud, line and load side, 3-pole. Package of 2. For use with HMC-185 and HMC-225 contactors. | <u>PDF</u> |
| <u>HMX2-TMC-CR</u> | \$12.50 | IronHorse terminal shroud, line and load side, 3-pole. Package of 2. For use with HMC-265 to HMC-400 contactors. | <u>PDF</u> |
| <u>HMX1-PBR-CR</u> | \$3.25 | IronHorse phase barrier, package of 4. For use with HMC-185 to HMC-400 contactors. | <u>PDF</u> |

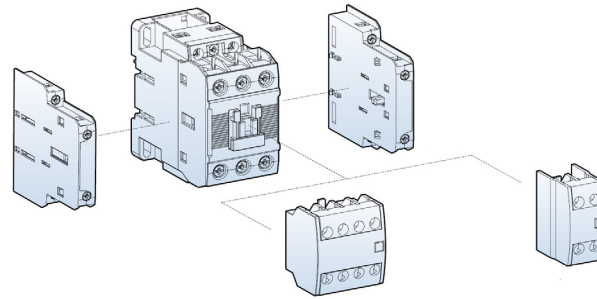
IronHorse HMC Series Contactors Auxiliary Contact Units (HMC-9 to HMC-150)



IRONHORSE®

- 2- and 4-pole
- Side and front mountable
- For use with HMC-9B to HMC-150A contactors
- Auxiliary contacts meet the requirements for mirror contacts in IEC 60947-4-1, Annex F.

(A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.)



| IronHorse HMC Series Three-Pole Contactors Accessories Specifications | | | | | | | |
|---|------------|-------|-------------|-------------|---------------------|----------|-----------------|
| Part Number | Appearance | Poles | Composition | | Contact Arrangement | Mounting | Weight (g [oz]) |
| | | | NO | NC | | | |
| <u>HMX1-AUX11-S</u> | | 2 | 1 | 1 | | Side | 53 [1.87] |
| <u>HMX1-AUX11-F</u> | | 2 | 2 1 - | - 1 2 | | Front | 28 [0.99] |
| <u>HMX1-AUX40-F</u> | | 4 | 4 | - | | Front | 50 [1.76] |
| <u>HMX1-AUX31-F</u> | | | 3 | 1 | | | |
| <u>HMX1-AUX13-F</u> | | | 1 | 3 | | | |
| <u>HMX1-AUX04-F</u> | | | - | 4 | | | |

| Maximum Combination of Contact Units | |
|--|---|
| HMC-9B - 22B (Max 3a3b) | HMC-32A-150A (Max 4a4b) |
| AUX40-F – AUX04-F (on front) + AUX11-S x 1 ea (1ea on left side) | AUX40-F, AUX31-F, AUX13-F, AUX04-F (on front) + AUX11-S x 2 ea (1 ea on both sides) |
| AUX11-F (on front) + HMX1-AUX11-S x 1 ea (1 ea on one side) | AUX11-F (on front) + AUX11-S x 2 ea (1 ea on both sides) |
| AUX11-S x 1 ea (1 ea on left side) | AUX11-S x 4 ea (2 ea on both sides) *For AC coil |
| HMC-9B-22B DC Type can be installed up to 2a2b | - |

* To use HMX1-AUX11-S, HMC-9B-22B Type is available on left side only

IronHorse HMC Series Contactors Auxiliary Contact Units (HMC-185A to HMC-400A)



- 2-pole
- Side mountable
- For use with HMC-185A to HMC-400A contactors
- Auxiliary contacts meet the requirements for mirror contacts in IEC 60947-4-1, Annex F.

(A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.)



| IronHorse HMC Series Three-Pole Contactors Accessories Specifications | | | | | | | |
|---|------------|-------|-------------|----|---------------------|----------|-----------------|
| Part Number | Appearance | Poles | Composition | | Contact Arrangement | Mounting | Weight (g [oz]) |
| | | | NO | NC | | | |
| <u>HMX3-AUX11-S</u> | | 2 | 1 | 1 | | Side | 53 [1.87] |



HMX3-AUX11-S

| Maximum Combination of Contact Units |
|---------------------------------------|
| HMC185 to HMC400 (Max 4a4b) |
| <u>HMX3-AUX11-S (2 per side, max)</u> |

IronHorse HMC Series Contactors Auxiliary Contact Units

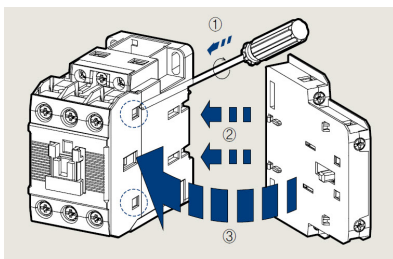


IRONHORSE®

| Iron Horse HMC Series Contactors Specifications | | | | |
|---|----------------------------|---------------------|---|---------------------|
| | | <u>HMX1-AUX11-S</u> | <u>HMX1-AUX11-F</u> <u>HMX1-AUX40-F</u> <u>HMX1-AUX31-F</u> <u>HMX1-AUX13-F</u> <u>HMX1-AUX04-F</u> | <u>HMX3-AUX11-S</u> |
| Rated Operation Voltage (U_e) | | 600V | | |
| Rated Insulation Voltage (U_i) | | 600V | | |
| Rated Impulse Withstand Voltage (U_{imp}) | | 8kV | 6kV | |
| Rated Frequency | | 50/60 Hz | | |
| Contact Sensibility | AC15 Duty (A600) | 120V | 6A | |
| | | 240V | 3A | |
| | | 380V | 1.9 A | |
| | | 480V | 1.5 A | |
| | | 500V | 1.4 A | |
| | | 600V | 1.2 A | |
| DC13 Duty (Q600) | HMX1-AUX11-S (P600) | 125V | 1.1 A | 0.55 A |
| | | 250V | 0.55 A | 0.27 A |
| | | 400V | 0.31 A | 0.15 A |
| | | 500V | 0.27 A | 0.13 A |
| | | 600V | 0.2 A | 0.1 A |
| Rated Short-Time Withstand Current | | 1s | 100A | 100A |
| | | 0.5 s | 125A | 120A |
| | | 0.1 s | 145A | 140A |
| Electrical Lifetime (millions of operations) | AC15 Duty | 220V | 0.25 | 0.25 |
| | | 440V | 0.25 | 0.25 |
| | DC13 Duty | 220V | 0.25 | 0.25 |
| | | 440V | 0.25 | 0.25 |
| Maximum Operating Cycles Per Hour | | 1800 | 1800 | 1200 |
| Conductor Size (Solid, Stranded) (Max number of conductors: 2) | AWG | 18-10 | 18-10 | 18-10 |
| | mm² | 1-2.5 | 1-2.5 | 1-2.5 |

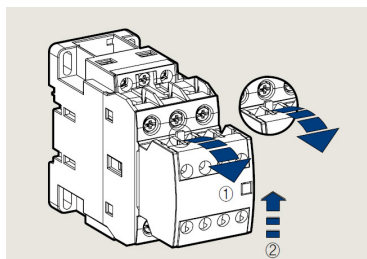
Installation

Side Installation



To install side mounting unit, first remove the indicated parts in the circle as shown in the illustration. Then fit each part as shown. To separate, push forward and pull.

Front Installation



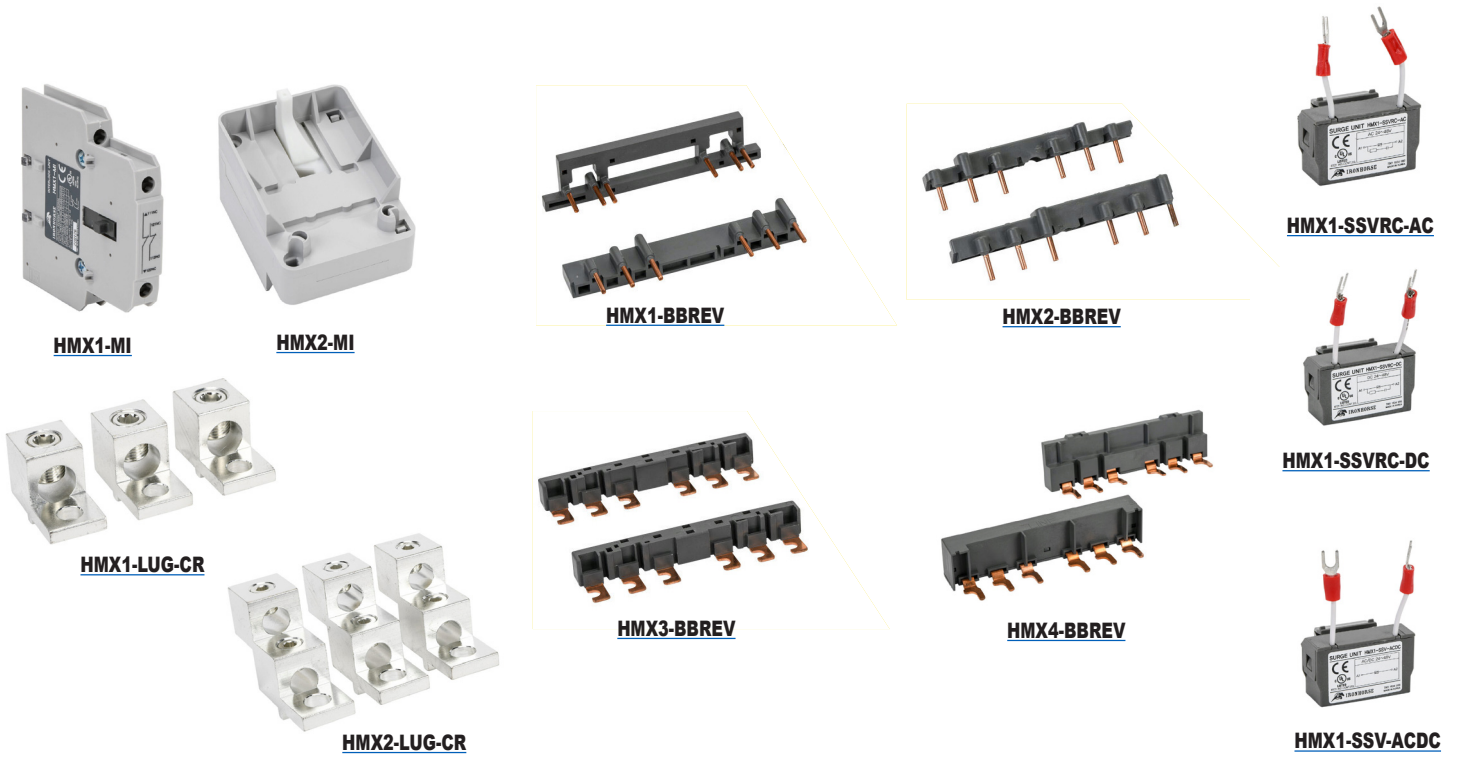
To install front mounting unit, fit it onto the upper part of the front of the contactor and push it down. To separate, pull the lever of the unit and push the unit upward.

IronHorse HMC Series Contactors Accessories

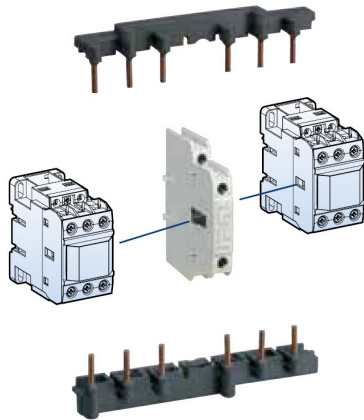


IRONHORSE®

| IronHorse HMC Series Contactors Accessories Selection Guide | | | |
|---|---------|---|----------------------------|
| Part Number | Price | Description | Drawing |
| <u>HMX1-MI</u> | \$12.00 | IronHorse mechanical interlock, side mount. For use with HMC-9 to HMC-150 contactors. Allows for mechanical connection of two contactors to prevent both from being pulled in at the same time. | <u>PDF</u> |
| <u>HMX2-MI</u> | \$34.50 | IronHorse mechanical interlock, side mount. For use with HMC-185 to HMC-400 contactors. Allows for mechanical connection of two contactors to prevent both from being pulled in at the same time. | <u>PDF</u> |
| <u>HMX1-BBREV</u> | \$12.50 | IronHorse reversing connection kit, for use with HMC-9 to HMC-22 contactors, includes line and loadside connection bars. | <u>PDF</u> |
| <u>HMX2-BBREV</u> | \$12.50 | IronHorse reversing connection kit, for use with HMC-32 and HMC-40 contactors, includes line and loadside connection bars. | <u>PDF</u> |
| <u>HMX3-BBREV</u> | \$19.00 | IronHorse reversing connection kit, for use with HMC-50 and HMC-65 Contactors, includes line and loadside connection bars. | <u>PDF</u> |
| <u>HMX4-BBREV</u> | \$40.00 | IronHorse reversing connection kit, for use with HMC-75 to HMC-100 contactors, includes line and loadside connection bars. | <u>PDF</u> |
| <u>HMX1-LUG-CR</u> | \$34.50 | IronHorse box type wiring lug, line or load mount, 1 opening, #1 AWG-300 MCM wire(s). Package of 3. For use with HMC-185 and HMC-225 contactors. | <u>PDF</u> |
| <u>HMX2-LUG-CR</u> | \$68.00 | IronHorse box type wiring lug, line or load mount, 2 openings, #3 AWG-4/0 MCM wire(s). Package of 3. For use with HMC-265 to HMC-400 contactors. | <u>PDF</u> |
| <u>HMX1-SSVRC-AC</u> | \$9.00 | IronHorse surge suppressor, varistor-resistor-capacitor, 24-48 VAC. For use with HMC-9 to HMC-150 contactors. | <u>PDF</u> |
| <u>HMX2-SSVRC-AC</u> | \$9.00 | IronHorse surge suppressor, varistor-resistor-capacitor, 100-125 VAC. For use with HMC-9 to HMC-150 contactors. | <u>PDF</u> |
| <u>HMX3-SSVRC-AC</u> | \$9.00 | IronHorse surge suppressor, varistor-resistor-capacitor, 200-240 VAC. For use with HMC-9 to HMC-150 contactors. | <u>PDF</u> |
| <u>HMX1-SSVRC-DC</u> | \$9.00 | IronHorse surge suppressor, varistor-resistor-capacitor, 24-48 VDC. For use with HMC-9 to HMC-150 contactors. | <u>PDF</u> |
| <u>HMX1-SSV-ACDC</u> | \$7.25 | IronHorse surge suppressor, varistor, 24-48 VAC/VDC. For use with HMC-9 to HMC-150 contactors. | <u>PDF</u> |
| <u>HMX2-SSV-ACDC</u> | \$7.25 | IronHorse surge suppressor, varistor, 100-125 VAC/VDC. For use with HMC-9 to HMC-150 contactors. | <u>PDF</u> |
| <u>HMX3-SSV-ACDC</u> | \$7.25 | IronHorse surge suppressor, varistor, 200-240 VAC/VDC. For use with HMC-9 to HMC-150 contactors. | <u>PDF</u> |



IronHorse HMC Series Contactors Accessories



Interlocks

Component parts for assembly by customer

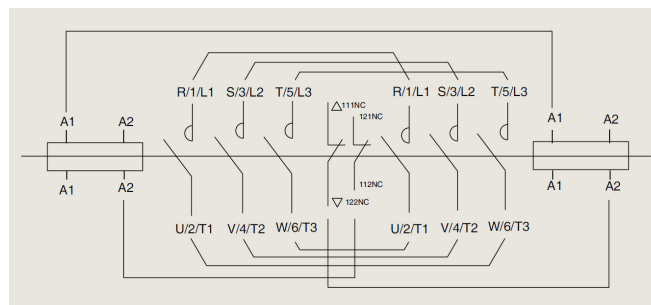
HMX1-MI is a mechanical interlock unit which provides 2 NC contacts for use in electrical interlocking. [HMX1-BBREV](#) is used for making a reversing circuit between two contactors.

Component parts are for assembly by customer.

| IronHorse Interlock Units for Contactors | | | | | | |
|--|------|------------|------------------|-------------------------|------------------|--------------------|
| Contactor Type | Pole | Wire Kit | | Interlock Unit | | Auxiliary Contacts |
| | | Type | Weight (kg [oz]) | Type | Weight (kg [oz]) | |
| HMC-9A - 22B | 3P | HMX1-BBREV | 0.04 [1.41] | HMX1-MI | 0.06 [2.12] | 2 NC |
| HMC-32A - 40A | | HMX2-BBREV | 0.05 [1.76] | | | |
| HMC-50A - 65A | | HMX3-BBREV | 0.12 [4.23] | | | |
| HMC-75A - 100A | | HMX4-BBREV | 0.33 [11.64] | | | |
| HMC-130A - 150A | | - | - | | | |



| Interlock Contact Ratings | | | |
|---------------------------------|------------------|----------|--------|
| Rated Operation Voltage | | 600V | |
| Rated Insulation Voltage | | 600V | |
| Rated Frequency | | 50/60 Hz | |
| Rated Thermal Current | | 15A | |
| Rated Operation Current | AC15 duty (A600) | 120V | 6A |
| | | 240V | 3A |
| | | 380V | 1.9 A |
| | | 480V | 1.5 A |
| | | 500V | 1.4 A |
| | 600V | 1.2 A | |
| | DC13 duty (Q300) | 125V | 0.55 A |
| 250V | | 0.27 A | |



Typical circuit diagram for reversing contactor assembly (HMC-9B - HMC-150A)

IronHorse HMC Series Contactors Accessories

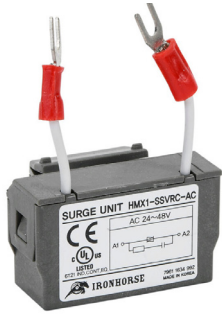


IRONHORSE®

Surge Unit

Surge units are easily installed on the contactor and absorb contactor coil surges.

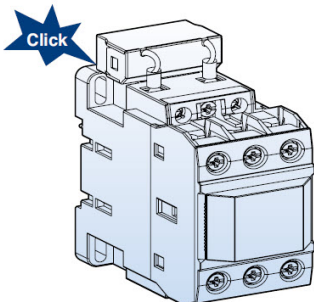
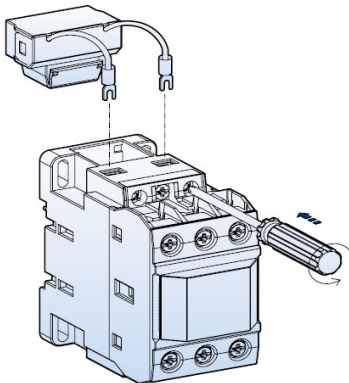
- Rated operation voltage (U_e): AC 24-440V / DC 24-125 V
- Rated insulation voltage (U_i): 1000V
- Rated impulse withstand voltage (U_{imp}): 8kV
- Degree of protection: IP20



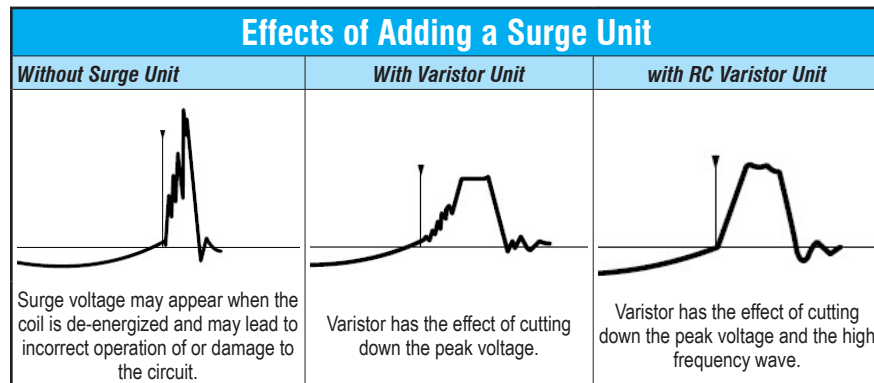
HMX Type
(HMX1-SSVRC-AC shown)

| Surge Unit Selection Guide | | | | | | | |
|-------------------------------|---------------|-----------------|-------------|----------------------------------|------|--------|-----------------------|
| Type | Circuit Type | Rated Voltage | | Internal Elements Specifications | | | Contactor |
| | | | | V | R | C | |
| HMX1-SSVRC-AC | Varistor + RC | AC | 24-48 V | 120V | 100Ω | 0.1 uF | 3 pole HMC-9B-150A |
| HMX2-SSVRC-AC | | | 100-125 V | 270V | 100Ω | 0.1 uF | |
| HMX3-SSVRC-AC | | | 200-240 V | 470V | 100Ω | 0.1 uF | |
| HMX1-SSV-ACDC | Varistor | AC/DC common | 24-48 V | 120V | - | - | |
| HMX2-SSV-ACDC | | | 100-125 V | 270V | - | - | |
| HMX3-SSV-ACDC | | | 200 - 240 V | 470V | - | - | |

Surge Unit Installation



Connect the lead wires to the coil terminals of the contactor first. Then insert the body into the mounting space of the contactor, as shown above.



IronHorse HMC Series Contactors Accessories



IRONHORSE®

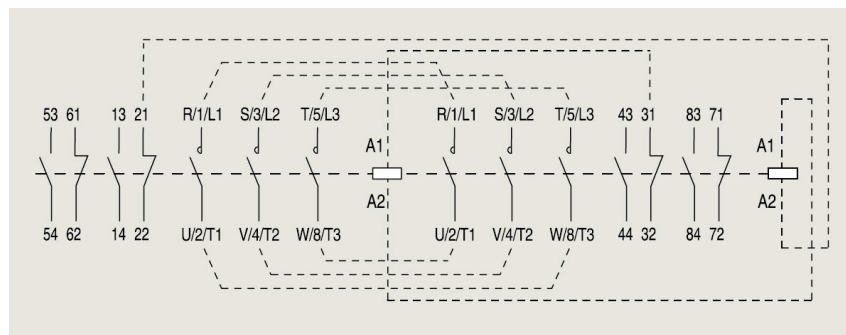
Interlock Unit

Mechanical interlock units do not include electrical contacts for electrical interlocking. Use the auxiliary contacts on the sides of the contactors for that purpose.



HMC-185A30-22-FB

| Interlock Unit Specifications | | | |
|-------------------------------|-----------------|----------------|------------------|
| Contactor Type | Number of Poles | Interlock Unit | |
| | | Type | Weight (kg [oz]) |
| HMC-185A | 3 | HMX2-MI | 0.09 [3.17] |
| HMC-225A | | | |
| HMC-265A | | | |
| HMC-330A | | | |
| HMC-400A | | | |



Typical circuit diagram for reversing contactor assembly

IronHorse HTOR Series Overload Relays



IRONHORSE®

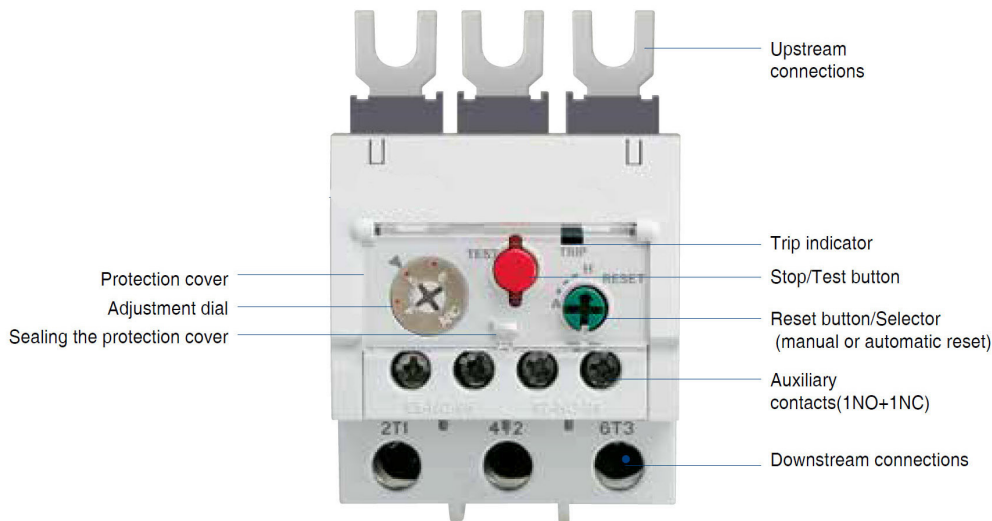
Type HTOR bimetal-style overload relays are designed to protect AC circuits and motors against overloads, phase failure, long starting times, and prolonged stalling of the motor.

Protection Type – Differential: 3 pole-3 bimetal (heater) and trip class 10A

UL file numbers
E191072



Front Configuration



| HTOR32 | HTOR63 | HTOR95 |
|--|--|---|
|  <p>HTOR32-18-S shown</p> |  <p>HTOR63-65-L shown</p> |  <p>HTOR95-95-L shown</p> |

IronHorse HTOR Series Overload Relays


IRONHORSE®

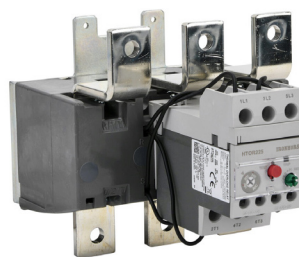
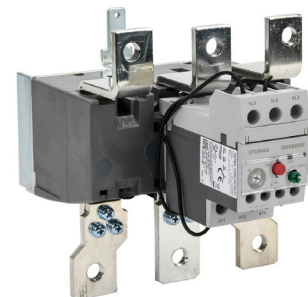
IronHorse HTOR Series Overload Relays Selection Guide

| Part Number | Price | Description | Drawing |
|-------------------------------|----------|--|---------------------|
| HTOR32-0.16-S | \$23.00 | IronHorse thermal overload relay, 0.10-0.16A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-0.25-S | \$23.00 | IronHorse thermal overload relay, 0.16-0.25A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-0.40-S | \$23.00 | IronHorse thermal overload relay, 0.25-0.40A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-0.63-S | \$23.00 | IronHorse thermal overload relay, 0.40-0.63A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-1-S | \$23.00 | IronHorse thermal overload relay, 0.63-1A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-1.6-S | \$23.00 | IronHorse thermal overload relay, 1-1.6A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-2.5-S | \$23.00 | IronHorse thermal overload relay, 1.6-2.5A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-4-S | \$23.00 | IronHorse thermal overload relay, 2.5-4A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-6-S | \$23.00 | IronHorse thermal overload relay, 4-6A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-8-S | \$23.00 | IronHorse thermal overload relay, 5-8A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-10-S | \$23.00 | IronHorse thermal overload relay, 7-10A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-13-S | \$23.00 | IronHorse thermal overload relay, 9-13A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-18-S | \$23.00 | IronHorse thermal overload relay, 12-18A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-22-S | \$23.00 | IronHorse thermal overload relay, 16-22A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-25-S | \$23.00 | IronHorse thermal overload relay, 18-25A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-32-S | \$23.00 | IronHorse thermal overload relay, 22-32A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR32-40-S | \$23.00 | IronHorse thermal overload relay, 28-40A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-9 to HMC-40 contactors. | PDF |
| HTOR63-50-L | \$46.00 | IronHorse thermal overload relay, 34-50A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-50 and HMC-65 contactors. | PDF |
| HTOR63-65-L | \$46.00 | IronHorse thermal overload relay, 45-65A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-50 and HMC-65 contactors. | PDF |
| HTOR95-75-L | \$67.00 | IronHorse thermal overload relay, 54-75A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-75 to HMC-100 contactors. | PDF |
| HTOR95-85-L | \$67.00 | IronHorse thermal overload relay, 63-85A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-75 to HMC-100 contactors. | PDF |
| HTOR95-95-L | \$67.00 | IronHorse thermal overload relay, 70-95A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-75 to HMC-100 contactors. | PDF |
| HTOR95-100-L | \$67.00 | IronHorse thermal overload relay, 80-100A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-75 to HMC-100 contactors. | PDF |
| HTOR150-105-L | \$127.00 | IronHorse thermal overload relay, 80-105A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-130 and HMC-150 contactors. | PDF |
| HTOR150-130-L | \$127.00 | IronHorse thermal overload relay, 95-130A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-130 and HMC-150 contactors. | PDF |
| HTOR150-150-L | \$127.00 | IronHorse thermal overload relay, 110-150A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-130 and HMC-150 contactors. | PDF |
| HTOR225-160-B | \$191.00 | IronHorse thermal overload relay, 100-160A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-185 and HMC-225 contactors. | PDF |
| HTOR225-185-B | \$191.00 | IronHorse thermal overload relay, 120-185A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-185 and HMC-225 contactors. | PDF |
| HTOR225-240-B | \$191.00 | IronHorse thermal overload relay, 160-240A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-185 and HMC-225 contactors. | PDF |
| HTOR400-240-B | \$234.00 | IronHorse thermal overload relay, 160-240A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-265 to HMC-400 contactors. | PDF |
| HTOR400-330-B | \$234.00 | IronHorse thermal overload relay, 200-330A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-265 to HMC-400 contactors. | PDF |
| HTOR400-400-B | \$234.00 | IronHorse thermal overload relay, 260-400A adjustable, bi-metallic, direct mount power connection(s). For use with HMC-265 to HMC-400 contactors. | PDF |

IronHorse HTOR Series Overload Relays


IRONHORSE®

| IronHorse HTOR Series Environment and Auxiliary Circuit Characteristics | | | |
|---|----------------------------------|---------------------------------|---------|
| Environment | | | |
| Standards | IEC/EN 60947-1, IEC/EN 60947-4-1 | | |
| Certifications | CE, CSA, UL, CCC | | |
| Rated Operation Voltage | Max. 690V | | |
| Rated Insulation Voltage | 690V | | |
| Rated Frequency | 50/60 Hz | | |
| Degree of Protection (Conforming to IEC 60 529) | IP 20 | | |
| Ambient Air Temperature | Storage | -30°C to +65°C [-22°F to 149°F] | |
| | Operation | -25°C to +60°C [-13°F to 140°F] | |
| Mounting Position | Vertical plane | | |
| Shock Resistance (Conforming to IEC 68-2-7) | 15gn - 11ms | | |
| Vibration Resistance (Conforming to IEC68-2-6) | 6G | | |
| Insulation Strength (Conforming to IEC 255-5) | 6kV | | |
| Rated Impulse Withstand Voltage (Conforming to IEC 801-5) | 6kV | | |
| Auxiliary Contacts Characteristics | | | |
| Composition | 1 NO + 1 NC | | |
| Rated Thermal Current | 5A | | |
| Rated Operation Current | AC15 Duty (C600) | 120V | 1.5 A |
| | | 240V | 0.75 A |
| | | 380V | 0.47 A |
| | | 480V | 0.375 A |
| | | 500V | 0.35 A |
| | | 600V | 0.3 A |
| | DC13 Duty (R300) | 120V | 0.22 A |
| | | 240V | 0.1 A |
| Connecting Conductor | 18AWG /1mm ² | | |
| Connection to Screw Clamp Terminals | 65/75°C Cu wire | | |


HTOR150-150-L

HTOR225-240-B

HTOR400-400-B

IronHorse HTOR Series Overload Relays


IRONHORSE®

IronHorse HTOR Series Thermal Overload Relays Specifications

| Frame Size | | 40AF | 65AF | 100AF |
|--|------------------------|---|---|---|
| Trip Class | | 10A | 10A | 10A |
| Differential Protection | | Yes | Yes | Yes |
| Terminals | Main Upstream | Screw clamp | Lug clamp | Lug clamp |
| | Main Downstream | Screw clamp | Lug clamp | Lug clamp |
| | Auxiliary | Screw clamp | Screw clamp | Screw clamp |
| Number of Poles | | 3 | 3 | 3 |
| Rated Operational Voltage (U_e) | | 690V | 690V | 690V |
| Rated Insulation Voltage (U_i) | | Up to 690V | Up to 690V | Up to 690V |
| Rated Impulse Voltage (U_{imp}) | | 6kV | 6kV | 6kV |
| Degree of protection (IEC 60 529) | | IP 20 | IP 20 | IP 20 |
| Temperature Compensation ($^{\circ}$ C) | | -5 to +40 $^{\circ}$ C [23 to +40 $^{\circ}$ F] | -5 to +40 $^{\circ}$ C [23 to +40 $^{\circ}$ F] | -5 to +40 $^{\circ}$ C [23 to +40 $^{\circ}$ F] |
| Functions | Trip Indicating | • | • | • |
| | Stop | • | • | • |
| | Test | • | • | • |
| | Manual/Automatic Reset | • | • | • |
| Setting Range | | 0.1-40 A | 34-65 A | 54-100A |

| Nominal Current Rating | Wire Size | | 40AF | 65AF | 100AF |
|------------------------|-----------------|-------|---------------------------------|--------------|--------------------|
| | mm ² | AWG | | | |
| 0.14 | 1 | 18 | 0.1-0.16 | - | - |
| 0.21 | | | 0.16-0.25 | - | - |
| 0.33 | | | 0.25-0.4 | - | - |
| 0.52 | | | 0.4-0.63 | - | - |
| 0.82 | | | 0.63-1 | - | - |
| 1.3 | | | 1-1.6 | - | - |
| 2.1 | | | 1.6-2.5 | - | - |
| 3.3 | | | 2.5-4 | - | - |
| 5 | | | 4-6 | - | - |
| 6.5 | | | 5-8 | - | - |
| 7.5 | 1-1.5 | 18-16 | 6-9 | - | - |
| 8.5 | | | 7-10 | - | - |
| 11 | 1.5-2.5 | 16-14 | 9-13 | - | - |
| 15 | 2.5 | 14-12 | 12-18 | - | - |
| 19 | 2.5-4 | 12-10 | 16-22 | - | - |
| 21.5 | | | 18-25 | - | - |
| 27 | 4-6 | 10 | 22-32 | - | - |
| 30 | 4-10 | 10-8 | - | - | - |
| 34 | 6-10 | 10-8 | 28-40 | - | - |
| 42 | 10 | 8 | - | 34-50 | - |
| 54 | | | - | 45-65 | - |
| 65 | 16-25 | 6-4 | - | - | 54-75 |
| 74 | | | - | - | 63-85 |
| 83 | 25-35 | 4-3 | - | - | 70-95 |
| 90 | | | - | - | 80-100 |
| Applied Contactors | | | HMC-9B, 12B, 18B, 22B, 32A, 40A | HMC-50A, 65A | HMC-75A, 85A, 100A |
| Separate Mounting Unit | | | HMX1-PADT-OR | HMX2-PADT-OR | HMX3-PADT-OR |

Note: Lug types are available for the main terminals of 65AF, 100AF and 150AF relays. Other AF relays provide screw clamp types only.

IronHorse HTOR Series Overload Relays


IRONHORSE®

| IronHorse HTOR Series Thermal Overload Relays Specifications (continued) | | | | |
|--|------------------------|-------------------------------|-------------------------------|-------------------------------|
| Frame Size | | 150AF | 225AF | 400AF |
| Trip Class | | 10A | 10A | 10A |
| Differential Protection | | Yes | Yes | Yes |
| Terminals | Main Upstream | Lug clamp | Screw clamp | Screw clamp |
| | Main Downstream | Lug clamp | Screw clamp | Screw clamp |
| | Auxiliary | Screw clamp | Screw clamp | Screw clamp |
| Number of Poles | | 3 | 3 | 3 |
| Rated Operational Voltage (U_e) | | 690V | 690V | 690V |
| Rated Insulation Voltage (U_i) | | 690V | 690V | 690V |
| Rated Impulse Voltage (U_{imp}) | | 6kV | 6kV | 6kV |
| Degree of protection (IEC 60 529) | | IP 20 | IP 20 | IP 20 |
| Temperature Compensation (°C) | | -5°C to +40°C [23°F to 104°F] | -5°C to +40°C [23°F to 104°F] | -5°C to +40°C [23°F to 104°F] |
| Functions | Trip Indicating | • | • | • |
| | Stop | • | • | • |
| | Test | • | • | • |
| | Manual/Automatic Reset | • | • | • |
| Setting Range | | 80-150 A | 100-240 A | 160-400 A |

| Nominal Current Rating | Wire Size | | 150AF | 225AF | 400AF |
|------------------------|-----------------|--------|----------------|----------------|----------------------|
| | mm ² | AWG | | | |
| 42 | 10 | 8 | - | - | - |
| 55 | 16 | 6 | - | - | - |
| 65 | 25 | 4 | - | - | - |
| 74 | 25 | 4 | - | - | - |
| 80 | 35 | 3 | - | - | - |
| 93 | 35 | 2 | - | - | - |
| 107 | 50 | 1 | 80-150 | - | - |
| 113 | 50 | 1 | 95-130 | - | - |
| 130 | 50 | 0 | 110-150 | - | - |
| 130 | 70 | 00 | - | 100-160 | - |
| 153 | 95 | 000 | - | 120-185 | - |
| 200 | 120 | 250 | - | 160-240 | 160-240 |
| 265 | 185 | 350 | - | - | 200-330 |
| 350 | 240 | 500 | - | - | 260-400 |
| 515 | 185x2n | 350x2n | - | - | - |
| 660 | 240x2n | 300x3n | - | - | - |
| Applied Contactors | | | HMC-130A, 150A | HMC-185A, 225A | HMC-265A, 330A, 400A |
| Separate Mounting Unit | | | HMX4-PADT-OR | - | - |

Note: Lug types are available for the main terminals of 65AF, 100AF and 150AF relays. Other AF relays provide screw clamp types only.

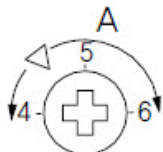
IronHorse HTOR Series Overload Relays



IRONHORSE®

Overload Relay Operation

Adjustment Dial



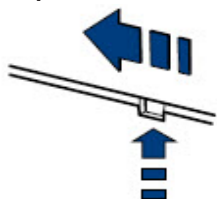
Before adjusting the dial open the protection cover. Current setting can be done easily by using (+) or (-) driver. Do not rotate the dial out of the setting range.

Stop/Test Button



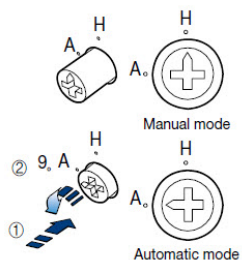
The STOP function is executed by pushing the button, which causes the next sequence. In case of operation test, pull this button.

Trip Indicator



If relay is tripped, the indicator comes out.

Reset Button/Selector



Using a driver, the reset mode can be set. In case of Manual mode (H), push the button to reset relay.

To change to Automatic mode (A) from Manual mode, push the button and rotate as shown in diagram.

Auxiliary Contact Operation

| Terminal no. | Normal | STOP | TEST/TRIP | RESET |
|--------------|--------|------|-----------|-------|
| NC 95-96 | | | | |
| NO 97-98 | | | | |

IronHorse HTOR Series Overload Relays Accessories



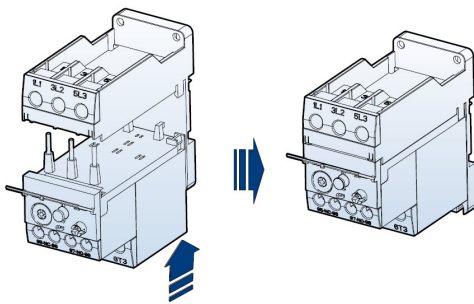
IRONHORSE®

Mounting Adapters

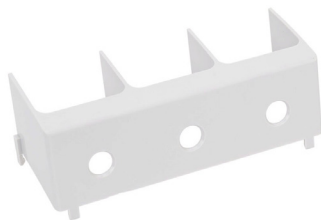
These mounting units are used to mount the relays separately from contactors. If a relay is combined with a unit, it can be mounted on DIN rail or on a panel using screws.



| IronHorse HTOR Series Overload Relays 35mm DIN Rail/Panel Mount Adapter Selection Guide | | | |
|--|---------|---|---------------------|
| Part Number | Price | Description | Drawing |
| HMX1-PADT-OR | \$6.75 | IronHorse 35mm DIN rail/panel mount adapter, for use with HTOR32 thermal overload relays. | PDF |
| HMX2-PADT-OR | \$9.00 | IronHorse 35mm DIN rail/panel mount adapter, for use with HTOR63 thermal overload relays. | PDF |
| HMX3-PADT-OR | \$11.00 | IronHorse 35mm DIN rail/panel mount adapter, for use with HTOR95 thermal overload relays. | PDF |
| HMX4-PADT-OR | \$19.00 | IronHorse 35mm DIN rail/panel mount adapter, for use with HTOR150 thermal overload relays. | PDF |
| HMX1-TMC-OR | \$6.00 | IronHorse terminal shroud, load side, 3-pole. For use with HTOR225 thermal overload relays. | PDF |
| HMX2-TMC-OR | \$7.75 | IronHorse terminal shroud, load side, 3-pole. For use with HTOR400 thermal overload relays. | NA |



| IronHorse HTOR Series Overload Relays Mounting Adapters | | |
|---|------------------------------|-----------------|
| Relay | Unit | |
| | Adapter | Weight (g [oz]) |
| HTOR32 | HMX1-PADT-OR | 68 [2.40] |
| HTOR63 | HMX2-PADT-OR | 134 [4.73] |
| HTOR95 | HMX3-PADT-OR | 230 [8.11] |
| HTOR150 | HMX4-PADT-OR | 284 [10.02] |



| IronHorse HTOR Series Overload Relays Terminal Cover Units | |
|--|----------|
| Relay | Quantity |
| HMX1-TMC-OR | 1 piece |
| HMX2-TMC-OR | |