# Product datasheet

Specifications



## Contactor, HFUC5-12，3P (3NO), DC Coil

## Main

| | |
|---|---|
| Product Series | HFUC5 |
| Product or Component Type | Contactor |
| Device short name | HFUC5-12 |
| Contactor application | Motor control<br>Resistive load |
| Utilisation category | AC-3<br>AC-4<br>AC-1 |
| Poles description | 3P |
| [Ue] Rated operational voltage | Power circuit: ≤ 690 V AC 50/60Hz |
| [Ie] Rated operational current | 12 A (at ≤60 °C) at ≤ 400 V AC AC-3 for power circuit<br>25 A (at ≤60 °C) at ≤ 690 V AC AC-1 for power circuit |
| [Us] Control circuit voltage (DC Coil) | Voltage: 12 24 36 48 60 72 110 125 220 250 |
| | Code : JD BD CD ED ND SD FD GD MD UD |
| [Us] Control circuit voltage (DC Coil – Low Consumption) | Voltage: 12 24 48 110 220 250 |
| | Code : JL BL EL FL ML UL |

## Complementary

| | |
|---|---|
| Motor power kW | 3 kW at 220/230 V AC 50/60 Hz (AC-3)<br>5.5 kW at 380/400 V AC 50/60 Hz (AC-3)<br>7.5 kW at 660/690 V AC 50/60 Hz (AC-3) |
| Motor power hp | 1 hp at 110...120 V AC 50/60 Hz for 1 phase motors<br>2 hp at 200...208 V AC 50/60 Hz for 1 phase motors<br>2 hp at 220...240 V AC 50/60 Hz for 1 phase motors<br>3 hp at 200...208 V AC 50/60 Hz for 3 phases motors<br>3 hp at 220...240 V AC 50/60 Hz for 3 phases motors<br>7.5 hp at 440...480 V AC 50/60 Hz for 3 phases motors<br>10 hp at 550...600 V AC 50/60 Hz for 3 phases motors |

| | |
|---|---|
| Pole contact composition | 3 NO |
| [Ith] Conventional free air thermal current | 25 A (at ≤60 °C) for power circuit<br>10 A (at ≤60 °C) for signalling circuit |
| [Icw] Rated short-time withstand current | 105 A ≤40 °C - 10 s for power circuit<br>210 A ≤40 °C - 1 s for power circuit<br>30 A ≤40 °C - 10 min for power circuit<br>61 A ≤40 °C - 1 min for power circuit |
| Associated fuse rating | 10 A gG for signalling circuit conforming to IEC 60947-5-1<br>25 A gG at ≤ 690 V coordination type 2 for power circuit |
| Average impedance | 2.7 mΩ - Ith 50 Hz for power circuit |
| [Ui] Rated insulation voltage | Power circuit: 690 V conforming to IEC 60947-4-1<br>Power circuit: 600 V UL Certified<br>Signalling circuit: 690 V conforming to IEC 60947-5-1<br>Signalling circuit: 600 V UL Certified |
| Overvoltage category | III |
| Pollution degree | 3 |
| [Uimp] Rated impulse withstand voltage | 6 kV conforming to IEC 60947 |
| Mechanical durability | 10 M cycles |
| Electrical durability | 1.2 M cycles 12 A AC-3 at Ue ≤ 400 V for DC Coil<br>1.1 M cycles 12 A AC-3 at Ue ≤ 400 V for DC Coil-Low Consumption |
| Control circuit type | DC |
| Coil technology | Without built-in suppressor module |
| Control circuit voltage limits | 0.8...1.1 Us (-40...+60 °C): operational for DC Coil<br>0.1...0.6 Us (-40...+60 °C): drop-out for DC Coil |
| Inrush power in W | 7W (at 25 °C) for DC Coil |
| Hold-in power consumption in W | 7W (at 25 °C) for DC Coil |
| Control circuit voltage limits | 0.8...1.25 Us (-40...60 °C): operational for DC Coil-Low Consumption<br>0.1...0.3 Us (-40...60 °C): drop-out for DC Coil-Low Consumption |
| Inrush power in W | 3.5W (at 25 °C) for DC Coil-Low Consumption |
| Hold-in power consumption in W | 3.5W (at 25 °C) for DC Coil-Low Consumption |
| Operating time | Power circuit: 52...72 ms closing, 10...20 ms opening<br>Signalling circuit (NO): 52...72 ms closing, 10...20 ms opening<br>Signalling circuit (NC): 44...68 ms opening, 10...30 ms closing |
| Maximum operating rate | Electrical: 750 cycs/h<br>Mechanical: 3600 cycs/h |
| Connections - terminals | Power circuit: screw clamp terminals 1 1...6 mm² (AWG 18...10)- cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 2 1...6 mm² (AWG 18...10)- cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 1 1...6 mm² (AWG 18...10)- cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 2 1...4 mm² (AWG 18...12)- cable stiffness: flexible with cable end |

| | |
|---|---|
| | Power circuit: screw clamp terminals 1 1...6 mm² (AWG 18...10)- cable stiffness: solid without cable end<br>Power circuit: screw clamp terminals 2 1...6 mm² (AWG 18...10)- cable stiffness: solid without cable end<br>Control circuit: screw clamp terminals 1 1...4 mm² (AWG 18...12)- cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 2 1...4 mm² (AWG 18...12)- cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 1 1...4 mm² (AWG 18...12)- cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 2 1...2.5 mm² (AWG 18...14)- cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 1 1...4 mm² (AWG 18...12)- cable stiffness: solid without cable end<br>Control circuit: screw clamp terminals 2 1...4 mm² (AWG 18...12)- cable stiffness: solid without cable end |
| Tightening torque | Power circuit: 13 lb.in（1.5 N·m）- on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Power circuit: 13 lb.in（1.5 N·m）- on screw clamp terminals - with screwdriver Philips No 2<br>Control circuit: 11 lb.in （1.2 N·m）- on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Control circuit: 11 lb.in （1.2 N·m）- on screw clamp terminals - with screwdriver Philips No 2 |
| Auxiliary contact composition | 1NO1NC，2NO2NC，other combinations can be customized |
| Minimum switching capacity | 24 V，0.1A for C type signalling circuit<br>17V，5mA for CS type signalling circuit |
| Insulation resistance | > 10 MΩ for signalling circuit |
| Mounting support | Screw<br>35mm DIN Rail |

## Environment

| | |
|---|---|
| Standards | GB / T 14048.4, GB/T 14048.5，IEC 60947-4-1, IEC 60947-5-1<br>UL 60947-4-1, UL 60947-5-1，CSA C22.2 No. 60947-4-1, CSA C22.2 No. 60947-5-1<br>EN 60947-4-1 (VDE 0660 Teil 102), EN 60947-5-1 (VDE 0660 Teil 200)<br>BS EN 60947-4-1, BS EN 60947-5-1 |
| Product certifications | CCC，UL(cULus Listed)，VDE，CE，UKCA |
| IP degree of protection | IP20 front face conforming to IEC 60529 |
| Permissible ambient air temperature around the device | -40...+60 °C for normal operating<br>+60...+70 °C with derating (for operation in the range of Us...1.1Us)<br>Storage: -60...+80 °C |
| Operating altitude | 0...3000 m without derating |
| Fire resistance | Current-carrying parts：850 °C conforming to IEC 60695-2-11 |
| Height | 90 mm |
| Width | 45 mm |
| Depth | 103 mm |
| Net Weight | 0.57 kg |

## Packing Units

| | |
|---|---|
| Unit type of package 1 | 1 box |
| Number of Units in Package 1 | 1 pcs |
| Package 1 height | 11.7 cm |
| Package 1 width | 5.2 cm |
| Package 1 length | 9.7 cm |
| Package 1 weight | 0.66 kg |
| Unit type of package 2 | 1 carton |
| Number of Units in Package 2 | 30 pcs |
| Package 2 height | 27.4 cm |
| Package 2 width | 29.3 cm |
| Package 2 length | 33.3 cm |
| Package 2 weight | 18.30 kg |

## Offer Sustainability

| | |
|---|---|
| REACH Regulation | Conforming |
| EU RoHS directive | Conforming |
| Mercury free | Yes |
| China RoHS Regulation | Conforming |
| RoHS exemption information | Yes |

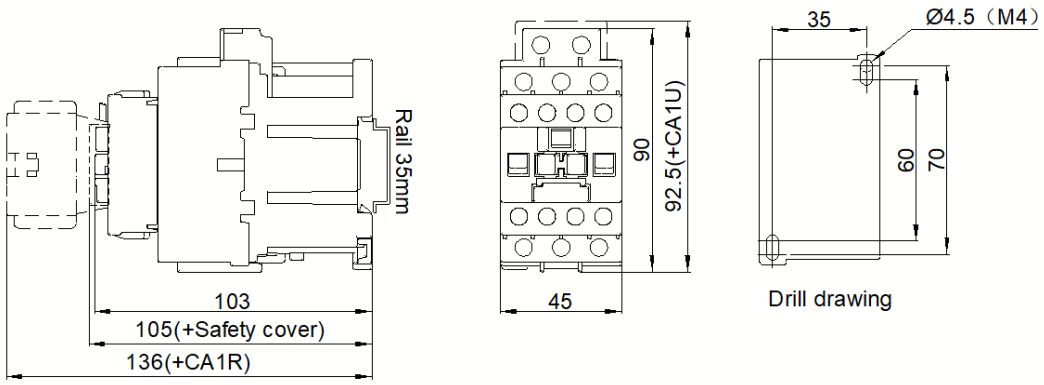
## Contractual warranty

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|---|---|
| Warranty | 18 months |

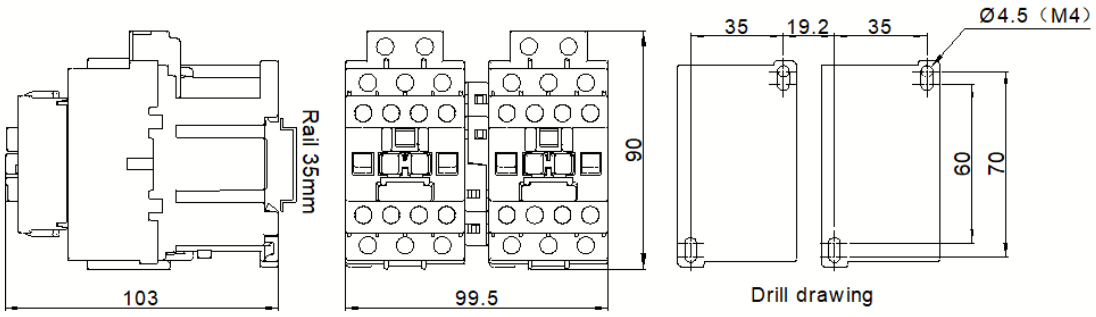
## Dimensions

HFUC5-09~18 (3P, DC coil)

AC contactor:

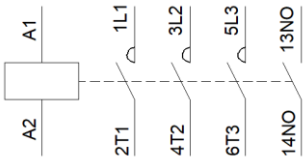
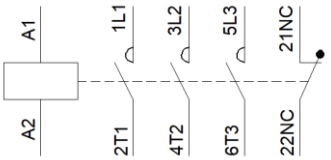
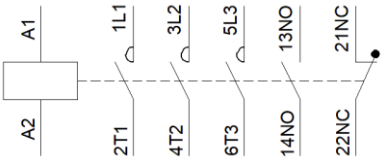
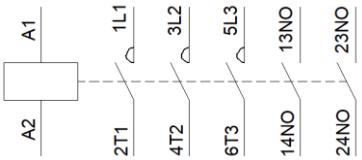
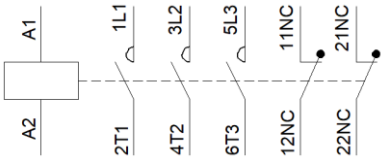
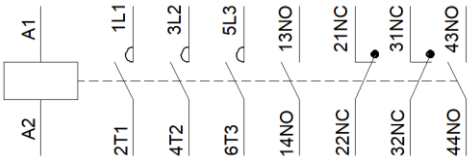
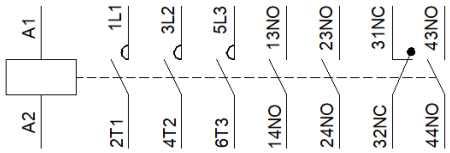
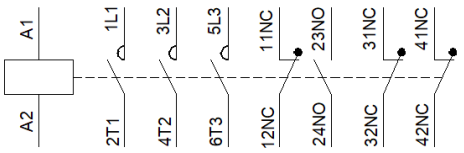
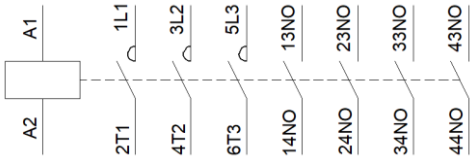
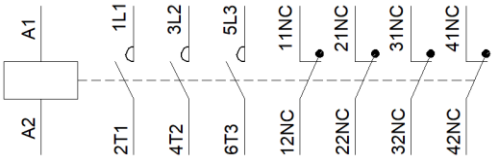



Interlock contactor:

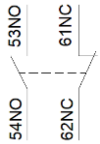
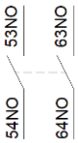
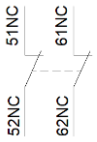
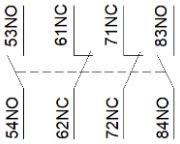
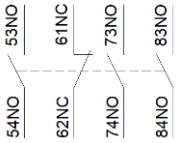
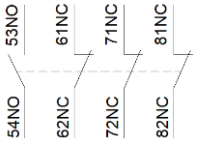
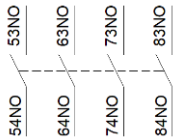
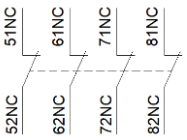



Note: The unit is mm. The tolerance for mounting holes: ± 0.5; for other external dimensions: ± 1.5, unless otherwise specified.

## Wiring diagram

| AC contactor | |
|---|---|
| 3P+1NO | 3P+1NC |
|  |  |
| 3P+1NO1NC | 3P+2NO |
|  |  |
| 3P+2NC | 3P+2NO2NC |
|  |  |
| 3P+3NO1NC | 3P+1NO3NC |
|  |  |
| 3P+4NO | 3P+4NC |
|  |  |

Note：The DC coil product has positive and negative polarity (positive pole A1, negative pole A2). If the positive and negative poles are connected inversely, the product will not be able to operate.

| Top mounting auxiliary contact block (instantaneous auxiliary contact) | | |
|---|---|---|
| CA1R11 (1NO1NC) | CA1R20 (2NO) | CA1R02 (2NC) |
|  |  |  |
| CA1R22 (2NO2NC) | CA1R31 (3NO1NC) | CA1R13 (1NO3NC) |
|  |  |  |
| CA1R40 (4NO) | CA1R04 (4NC) | |
|  |  | |