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The experts in residual current protection technology



DATA SHEET

installation contactors HS 1-024AC/20-11 with coil voltage 24 V AC Article number 09980403



Installation contactors are electromagnetically operated switches. When a control current flows through the magnetic coil, the magnetic pull closes a main circuit. The switch-on position is maintained as long as the control current is flowing. If the control current is interrupted, a spring forces the contacts to return to their initial position. This construction makes it possible for contactors to ensure galvanic isolation between the control circuit and the switched circuit whilst simultaneously allowing high currents to be switched. Installation contactors are only partly intended for disconnection from the mains, they must be protected against overload and short circuits by upstream protective devices. The HS low-noise version for installation in distributor boards are characterised by low-noise switching operations, by versatility due to their utilization categories and by their long mechanical and electrical service life. The magnetic coil of this series is suitable for continuous operation (100% duty cycle). This low-noise version is suitable for use in industry and workshops. This low-noise design is suitable for use in workshop and industrial applications.

Features

wide range of different contacts, high electrical and mechanical endurance, suitable auxiliary switch and seal cap available

Mounting

quick fastening to mounting rail, installation position: see drawing

Applications

Installation contactors can be used in a variety of ways. The low-noise version is suitable for industry and workshops, whilst the nonoise version is suitable for hotels, offices and residential areas. They take on the switching of incandescent lamps, fluorescent lamps, transformers for halogen low-voltage lamps, mercury vapour high-pressure lamps (HQL, HPL), metal halide lamps (HQI, HPI), sodium vapour, low and high-pressure lamps, storage heaters and drives (motors).

Notes

The names of devices in this family contain both the rated current (first pair of digits) and the contact variant (last pair of digits): For example, a HS 25-31 has a rated current of 25 A, three NOCs and one NCC, At ambient temperatures of 40°C and higher, using the DHDS spacer is recommended, The HS 1 contact is 1 module width wide, and thus the HS 2 and HS 3 are 2 and 3 module widths wide.

Accessories

spacers DHDS

Technical Data

| Technical Data | HS 1-024AC/20-11 | |
|-------------------------|-------------------|--|
| Series | HS 1 | |
| | control input | |
| Rated voltage (AC) | 24 V | |
| Rated frequency | 50 Hz/60 Hz | |
| Rated power (switch on) | 7 VA 9 VA | |
| Rated power (retaining) | 2.2 VA 4.2 VA | |
| | load circuit | |
| Specification | switching contact | |
| min. Contact opening | 3 mm | |
| Contact assignment | 1 NC/1 NO | |
| Rated voltage (AC) | 400 V | |
| Rated current (AC) | 20 A | |

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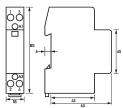
| Technical Data | HS 1-024AC/20-11 |
|---|--|
| Rated insulation voltage | 440 V |
| Switching frequency | max. 300 / h |
| Allowed utilization category | AC-1, AC-2, AC-3 |
| Power dissipation per pole AC-1 | 2 W |
| Dvervoltage class | |
| Rated short-circuit current "r" | 3 kA |
| Rated short-circuit current "Iq" | 3kA |
| Rated voltage AC-1 (fix) | 230 V |
| max. Rated power AC-1 230 V | 4.6 kW |
| • – – – – – – – – – – – – – – – – – – – | |
| Rated voltage AC-3 one-phase fixed) | 230 V |
| nax. Rated power glow lamps | 2160 VA |
| nax. Rated power fluorescent amp compensated | 1020 VA |
| nax. Rated power fluorescent amp not compensated | 935 VA |
| nax. Rated power fluorescent amps duo-switching | 2320 VA |
| nax. Inrush current LED | 195 A |
| Contact endurance AC-1 | 100000 switching cycles |
| Contact endurance AC-3 | 150000 switching cycles |
| Duration of light arcs | 10 ms 15 ms |
| Switching delay, open | 6 ms 12 ms |
| witching delay, close | 7 ms 16 ms |
| quiet design | false |
| | screw-type terminal M3.5 top and bottom (load circuit) |
| Allowed types of wires | aluminium conductor, copper conductor, solid conductor, flexible conductor |
| Connection C1 Maximum number of conductors per terminal | 1 |
| Cross section solid | 1-wire: 1.5 mm ² 10 mm ² |
| Connecting capacity flexible | 1-wire: 1.5 mm ² 6 mm ² |
| Cross section flexible with ferrule | 0.5 mm ² 1.5 mm ² |
| Cross section stranded | 1-wire: 1.5 mm ² 10 mm ² |
| | |
| Fightening torque | 0.8 Nm 1.4 Nm |
| | screw-type terminal M3 top and bottom (control input) |
| Allowed types of wires | aluminium conductor, copper conductor, solid conductor, flexible conductor |
| Connection C2 Maximum number of conductors per terminal | 1 |
| Cross section solid | 1-wire: 0.75 mm ² 2.5 mm ² |
| Connecting capacity flexible | 1-wire: 0.5 mm ² 2.5 mm ² |
| Cross section flexible with ferrule | 0.5 mm ² 1.5 mm ² |
| Cross section stranded | 1-wire: 0.75 mm ² 2.5 mm ² |
| Fightening torque | 0.6 Nm 1.2 Nm |
| | General data |
| Duty cycle | continuous operation (Duty cycle \leq 100 %) |
| Derating position | optional |
| | • |
| Mechanical endurance | min. 10 · 10 ⁶ switching cycles |
| Electrical endurance | min. 1 · 10 ⁶ switching cycles |
| Ambient temperature | -40 °C 40 °C |
| Ambient temperature | Max. 60°C with spacer |
| | |

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| Technical Data | HS 1-024AC/20-11 |
|-------------------------------|--------------------------------------|
| Housing type | distribution board housing |
| Installation type | Mounting rail (35 mm) |
| Housing material | thermoplastic |
| Protection class | IP20 |
| Width | 18 mm |
| Height | 85 mm |
| Depth | 65 mm |
| Installation depth | 60 mm |
| Module widths | 1 |
| Weight | 0.12 kg |
| Design requirements/Standards | EN 60715, EN 60947-4-1, VDE 0660-102 |
| Degree of pollution | 3 |

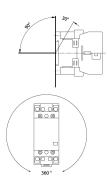
Dimensions



Wiring example



Wiring diagram



Dimensional drawing Group view

Drawing Installation position