
# *DATA SHEET*

## *installation contactors*

## *HS 3-230AC/40-31*

***with coil voltage 230 V AC***

***Article number 09980416***

### *Function*

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 no-noise 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, auxiliary switches HSH, seal caps HSP

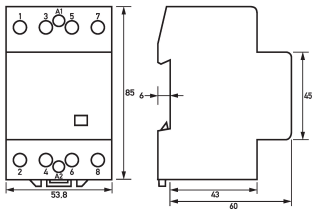
### *Technical Data*

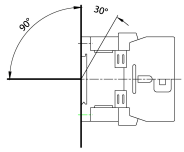
| Technical Data | HS 3-230AC/40-31 |
|---|---|
| Series | HS 3 |
| | **control input** |
| Rated voltage (AC) | 230 V |
| Rated frequency | 50 Hz/60 Hz |
| Rated power (switch on) | 33 VA ... 45 VA |
| Rated power (retaining) | 6 VA ... 8 VA |
| | **load circuit** |
| Specification | switching contact |
| min. Contact opening | 3 mm |
| Contact assignment | 1 NC/3 NO |
| Rated voltage (AC) | 400 V |
| Rated current (AC) | 40 A |

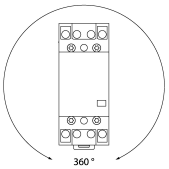
| Technical Data | HS 3-230AC/40-31 |
|---|---|
| Rated insulation voltage | 440 V |
| Switching frequency | max. 600 / h |
| Allowed utilization category | AC-1, AC-2, AC-3 |
| Power dissipation per pole AC-1 | 3 W |
| Overvoltage class | I, II, III |
| Rated short-circuit current "r" | 3 kA |
| Rated short-circuit current "Iq" | 10 kA |
| Rated voltage AC-1 (fix) | 230 V |
| max. Rated power AC-1 230 V | 9 kW |
| max. Rated power AC-1 400 V | 27.5 kW |
| Rated voltage AC-3 one-phase (fixed) | 230 V |
| Rated voltage AC-3 3-phase (fix) | 230 V, 400 V |
| max. Rated current AC-3 | 27 A |
| max. Rated power AC-3 400 V | 12.5 kW |
| max. Rated power glow lamps | 6000 VA |
| max. Rated power fluorescent lamp compensated | 2805 VA |
| max. Rated power fluorescent lamp not compensated | 2975 VA |
| max. Rated power fluorescent lamps duo-switching | 5280 VA |
| max. Inrush current LED | 420 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 ... 13 ms |
| Switching delay, close | 11 ms ... 15 ms |
| quiet design | false |
| | **screw-type terminal M5 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: 2.5 mm² ... 25 mm² |
| Connecting capacity flexible | 1-wire: 2.5 mm² ... 16 mm² |
| Cross section flexible with ferrule | 2.5 mm² ... 16 mm² |
| Cross section stranded | 1-wire: 2.5 mm² ... 25 mm² |
| Tightening torque | 2.5 Nm ... 3 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 mm² ... 2.5 mm² |
| Connecting capacity flexible | 1-wire: 0.5 mm² ... 2.5 mm² |
| Cross section flexible with ferrule | 0.5 mm² ... 1.5 mm² |
| Cross section stranded | 1-wire: 0.75 mm² ... 2.5 mm² |
| Tightening torque | 0.6 Nm ... 1.2 Nm |
| | **General data** |
| Duty cycle | continuous operation (Duty cycle ≤ 100 %) |
| Operating position | optional |

| Technical Data | HS 3-230AC/40-31 |
|---|---|
| Mechanical endurance | min. 10 · 10⁶ switching cycles |
| Electrical endurance | min. 1 · 10⁶ switching cycles |
| Ambient temperature | -40 °C ... 40 °C |
| Ambient temperature | Max. 60°C with spacer |
| Housing type | distribution board housing |
| Installation type | Mounting rail (35 mm) |
| Housing material | thermoplastic |
| Protection class | IP20 |
| Width | 53.8 mm |
| Height | 85 mm |
| Depth | 65 mm |
| Installation depth | 60 mm |
| Module widths | 3 |
| Weight | 0.356 kg |
| Design requirements/Standards | EN 60715, EN 60947-4-1, VDE 0660-102 |
| Degree of pollution | 3 |

## *Dimensions*



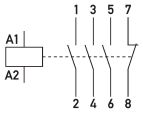




*Dimensional drawing Group view*

*Drawing Installation position*

## *Wiring example*




*Wiring diagram*