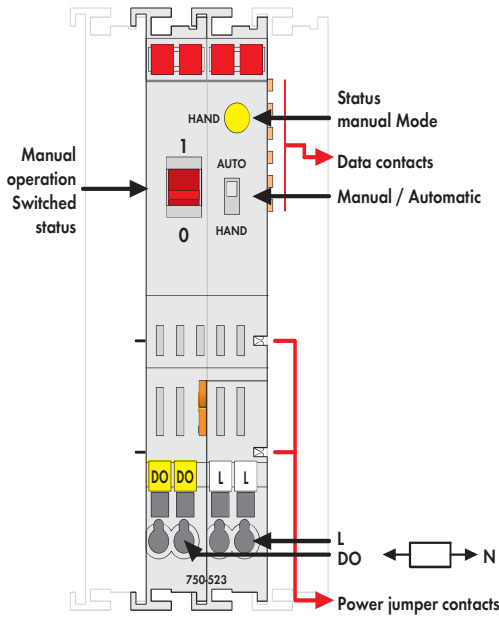
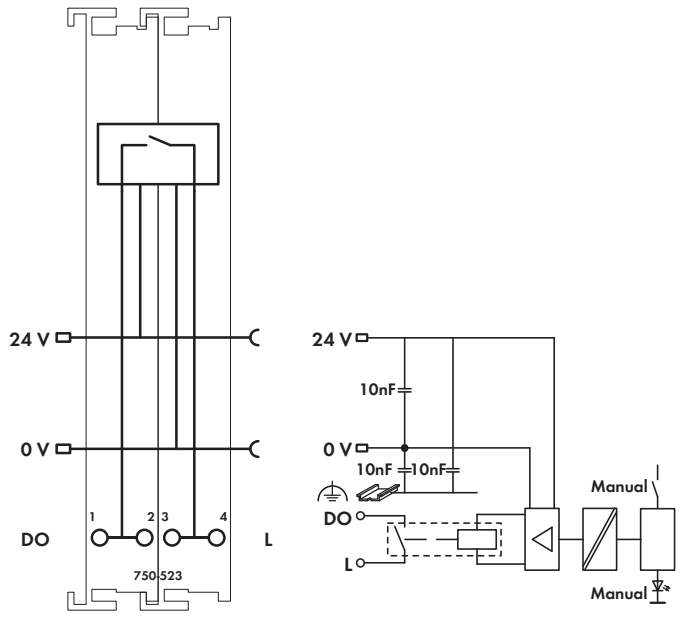


1-Channel Relay Output Module 230 V AC, 16 A

Isolated output; 1 make contact; bistable; manual operation

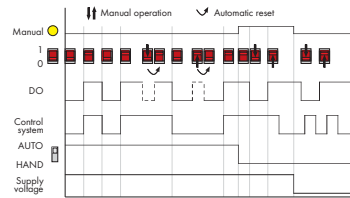


Delivered without miniature WSB markers



A connected actuator or load is switched via the relay output module. The 24VDC supply is derived from the power jumper contacts to trigger the relays. The switched status of the relay is shown by the manual switch (1/0). The operating mode can be set using a manual/automatic selector switch. The mode status is indicated by an LED and via status bits in the process image.
Manual: Coil triggering is interrupted. Actuation only via the red manual operating switches.
Auto: The relay is operated via the control system. Manual status changeover via manual operating switch is canceled by the control system in less than 500ms.
 The manual switch can also be used without 24V supply to switch the output ON.

The relay meets both international standards of IEC and DIN EN 61810 part 1 /VDE 0435 part 201 as well as overload and short circuit requirements of IEC and DIN EN 61036 /61037.

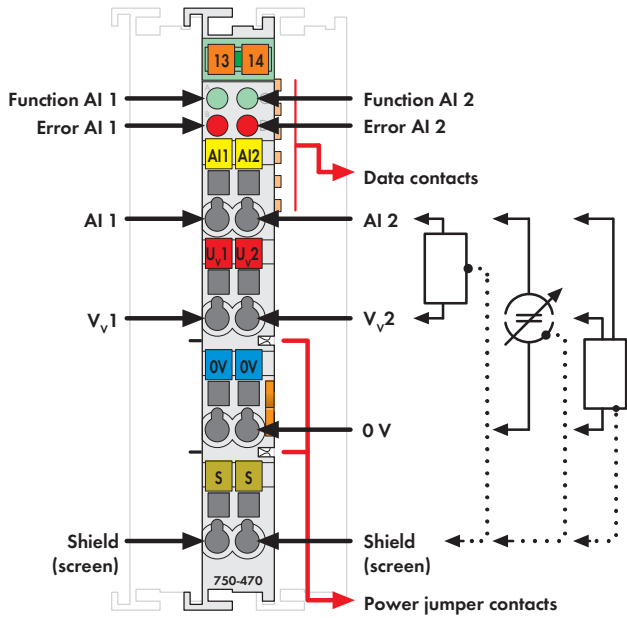


| Description | Item No. | Pack. Unit |
|-------------------------------------------------------------|---------------------------------|------------|
| 1DO 230V AC 16A Relay 1a/ Potential | 750-523 | 1 |
| Free | | |
| Accessories | Item No. | Pack. Unit |
| Miniature WSB Quick marking system | | |
| plain | 248-501 | 5 |
| with marking | see pages 352 ... 353 | |
| Approvals Also see "Approvals Overview" in Section 1 | | |
| Conformity marking | CE | |
| Shipbuilding | ABS, DNV, GL, KR, PRS, RINA | |
| UL 508 | | |
| Technical Data | | |
| Switchable lamp loads 100000 operations / 30000 operations | | |
| Incandescent lamp | 1.25 kW / 2.5 kW | |
| Fluorescent lamp, not compensated | 1.2 kW / 2.5 kW | |
| Fluorescent lamp, parallel compensated | 650 W / 70 µF / 1.3 kW / 140 µF | |
| Fluorescent lamp, dual circuit | 2 x 1.2 kW / 2 x 2.5 kW | |
| Halogen lamp (AC 230 V) | 1.2 kW / 2.5 kW | |
| Low voltage halogen lamp with transf. | 500 VA / 500 VA | |
| Mercury arc/Sodium discharge lamp, not compensated | 1 kW / 2 kW | |
| Mercury arc/Sodium discharge lamp, parallel compensated | 1 kW / 70 µF / 2 kW / 140 µF | |
| Dulux lamp, not compensated | 800 W / 1.6 kW | |
| Dulux lamp, parallel compensated | 560 W / 70 µF / 1.1 kW / 140 µF | |

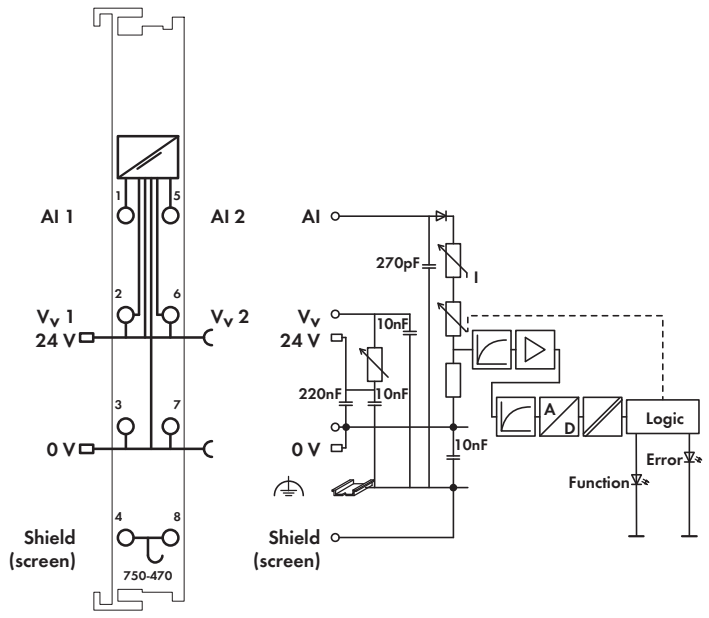
| Technical Data | |
|---------------------------------------|-------------------------------------------------------------------------------------------|
| No. of outputs | 1 make contact |
| Max. current consumption (internal) | 5 mA |
| Max. switching voltage | 440 V AC |
| Switching power | max. 5 kVA |
| Max. switching current | 16 A AC |
| Contact material | AgSnO2 |
| Mechanical life | 10 ⁶ |
| Current consumption max. (field side) | 80 mAs (peak current) |
| Isolation | 1.5 kV eff. (field/system)*; * 2.5 kV rated surge voltage; Overvoltage category III |
| Bit width | 2 bits in (Manual status, -); 2 bits out (DO, -) |
| Wire connection | CAGE CLAMP® |
| Cross sections | 0.08 mm ² ... 2.5 mm ² / AWG 28 ... 14 |
| Stripped lengths | 8 ... 9 mm / 0.33 in |
| Width | 24 mm |
| Weight | 105 g |
| EMC: CE - immunity to interference | acc. to EN 50082-2 (1996) |
| EMC: CE - emission of interference | acc. to EN 50081-1 (1993) |
| EMC: marine applications | |
| - immunity to interference | acc. to Germanischer Lloyd (2003) |
| EMC: marine applications | |
| - emission of interference | acc. to Germanischer Lloyd (2003) |

2-Channel Analog Input Module 0/4-20 mA

Single-ended (S.E.), short-circuit protected



Delivered without miniature WSB markers



The analog input module processes signals of a standard magnitude 0-20mA.


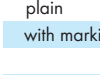
The input signal is electrically isolated and is transmitted with a resolution of 12 bits.

The 24V supply for the field is derived from the module's power jumper contacts.

The shield (screen) is directly connected to the DIN rail.

This module can supply the short-circuit-proof voltage for 2-wire transducers.

A short circuit to power is indicated as an error/fieldbus failure and a message is sent to the supervisory control.

| Description | Item No. | Pack. Unit |
|--------------------------------------------------------------------------------------------------|------------------------------------------|------------|
| 2AI 0-20mA, S.E., S. C. Protec. | 750-470 | 1 |
| 2AI 0-20mA, S.-E., S. C. Protec., 60 Hz | 750-470/005-000 | 1 |
| 2AI 4-20mA, S.-E., S.C.Protec. | 750-473 | 1 |
| 2AI 4-20mA, S.-E., S. C. Protec., 60 Hz | 750-473/005-000 | 1 |
| Accessories | | |
| Miniature WSB Quick marking system | | |
|  plain | 248-501 | 5 |
|  with marking | see pages 352 ... 353 | |
| Approvals | | |
| Also see "Approvals Overview" in Section 1 | | |
| Conformity marking | CE | |
| Shipbuilding (versions upon request) | ABS, BV, DNV, GL, KR, LR, NKK, PRS, RINA | |
| UL 508 | | |
| ANSI/ISA 12.12.01 | Class I, Div. 2, Grp. ABCD, T4 | |
| EN 60079-0, -15 | I M2 / II 3 GD Ex nA IIC T4 | |
| EN 61241-0, -1 | | |

| Technical Data | |
|------------------------------------------|-----------------------------------------------------------------------------------|
| Number of inputs | 2 |
| Power supply | via system voltage DC/DC |
| Current consumption typ. (internal) | 100 mA |
| Signal current | 0 - 20mA (750-470) 4 - 20mA (750-473) |
| Input voltage | non-linear, overload protected $V = 1.2 V + 100 \Omega \times I \text{ meas.}$ |
| Input resistance (typ.) | < 160Ω / 20mA |
| Resolution | 12 bits |
| Conversion time (typ.) | 80 ms |
| Measuring error (25°C) | < ± 0.1 % of the full scale value |
| Temperature coefficient | < ± 0.01 % / K of the full scale value |
| Isolation | 500 V field/system |
| Bit width | 2 x 16 bits data 2 x 8 bits control/status (optional) |
| Input filter | 50Hz (750-470, 750-473) 60Hz (750-470/005-000, 750-473/005-000) |
| Noise rejection at sampling frequency | < -100 dB |
| Noise rejection above sampling frequency | < -40 dB |
| Wire connection | CAGE CLAMP® |
| Cross sections | 0.08 mm² ... 2.5 mm² / AWG 28 ... 14 |
| Stripped lengths | 8 ... 9 mm / 0.33 in |
| Width | 12 mm |
| Weight | 55.5 g |
| EMC: marine applications | |
| - immunity to interference | acc. to Germanischer Lloyd (2003) |
| EMC: marine applications | |
| - emission of interference | acc. to Germanischer Lloyd (2003) |