

INT-DO32-R

32 channels - Discrete Outputs with electromechanical or solid state relays

Description :

The INT-DO32-R interface unit is a remote termination panel that allows to connect up to 32 Discrete Outputs to a Distributed Control System (DCS), or a Programmable Logic Controller (PLC).

There are two way to connect the control signals from the DCS or the PLC to the INT-DO32-R :

- By a D-SUB 37 connector. Used for the connection to a 32 channel DO card using a cable, with a D-Sub 37 socket female connector at one end, and labeled flying wires or a suitable connector matching with the system Discrete Output card used at the other end.
- By the HE10-10 pins connectors. Used for the connection to several DO cards (up to four 8 channels cards), using cables with a HE10-10 connector at one end, and labeled flying wires or a suitable connector matching with the system Discrete Output card used at the other end. Each cable provides the connections for a group of 8 channels.

Each control signal commands a 24Vdc relay in order to drive a load (motor, a valve, solenoid...)

Each relay is replaceable and SPDT contacts (NO/NC, only for electromechanical relay version) are available on TB1 terminal.

A yellow LED indicates the status of each channel.

Product options :

Option **ST**: INT-DO32-R-ST, Screw terminals for the process signals connection

Option **ST2.5**: INT-DO32-R-ST2.5, Screw terminals with a capacity of 24 to 14AWG (0.22 to 2.5mm²) for the process signals connection

Option **CCT** : INT-DO32-R-CCT, Cage clamp terminals for the process signals connection

Option **STD, COR, SLD, SLA** : INT-DO32-R-ST-STD or other relays option. Refer to page 2 and 3 to choose the right option.

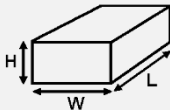
Option **M**: INT-DO32-R-ST-STD-M Special option for installation in environment where vibrations are important

Option **VSH** : INT-DO32-R-ST-STD-VSH, Conformal coating (Tropicalization)

Technical specifications :

Dimensions :

Length : 243 mm
Width : 126 mm
Height : 70 mm



Weight :

730 g

Temperature range :

Operating : 0°C to 50°C
Storage : -10°C to 60°C

Humidity :

Up to 90% (no condensation)

Mounting :

Asymmetric or symmetric DIN rail

Connection to the DCS or to the PLC :

To several 8-channel DO cards :

4 x HE10-10 pin male connectors with locks for female connector, central polarization and strain relief.

To one 32-channel DO card:

1 x D-Sub 37 pin male connector with UNC 4-40 female lock.

1 x screw terminal (TB2) allows an optional connection to the 24Vdc power supply return (-) of the DCS or PLC.

Conductor cross section :

TB1 : Outputs connections

ST : 26 to 14 AWG (0,14 to 1,5mm²)
ST2.5 : 24 to 12 AWG (0,2 to 2,5mm²)

CCT : 24 to 14 AWG (0,2 to 1,5mm²)

TB2 : Optional PSU return (-)

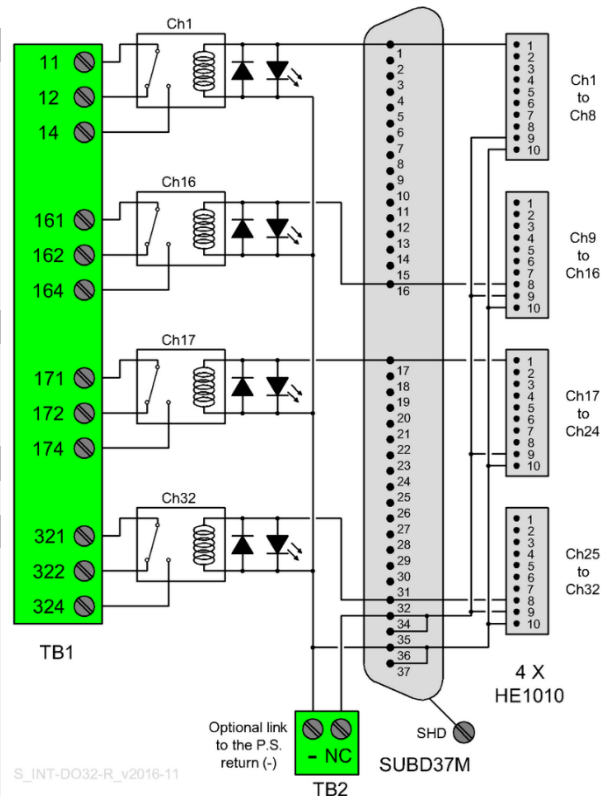
ST : 26 to 14 AWG (0,14 to 1,5mm²)
The NC terminal (Not Connected) is unused

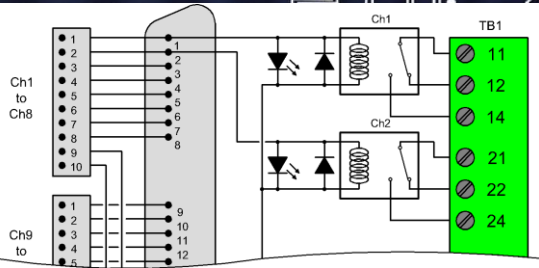
Insulation voltage :

1500 Vac between input (control signals) and output (contacts)
1000Vac between NO & NC terminals

Shield connection :

1 x M3 screw





TYPE	ELECTROMECHANICAL RELAY	ELECTROMECHANICAL RELAY
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REFERENCE	REL24-STD-945144	REL24-COR-945147 (Gold contacts)
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General characteristics :

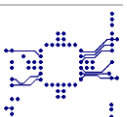
Mechanical expected life	10 000 000 cycles	10 000 000 cycles
Expected life at max load	60 000 cycles	60 000 cycles
Operate time / release time / debounce	5ms / 3ms / 5ms	5ms / 3ms / 5ms
Coil / contacts insulation	6000 Vac	6000 Vac
Dielectric strength between open contacts	1000 Vac	1000 Vac
Ambient temperature	-40°C to 85°C (Socket : -40 / +70)	-40°C to 85°C (Socket : -40 / +70)
Initial insulation resistance	1000MΩ	1000MΩ
Environmental protection	RT II	RT II
Dimensions	L : 28mm / W : 5mm / H : 15mm	L : 28mm / W : 5mm / H : 15mm
Weight	6g	6g

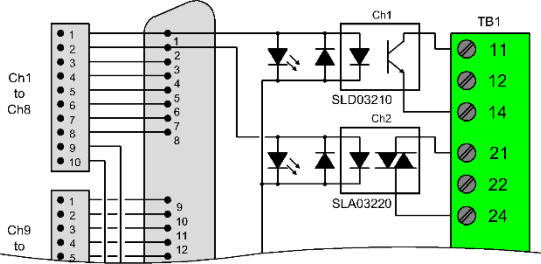
Coil characteristics :

Nominal voltage	24Vcc	24Vcc
Voltage operating range	17 - 36Vdc	17 - 36Vdc
Holding voltage	9,6Vdc	9,6Vdc
Must drop-out voltage	1,2Vdc	1,2Vdc
Nominal operating current	7,1mA	7,1mA
Coil resistance	3300Ω +/-10%	3300Ω +/-10%
Nominal power	0,17W (24Vdc)	0,17W (24Vdc)

Contacts characteristics :

Contact material	AgNi (or AgSnO2)	AgNi (or AgSnO2) + Au (gold plated)
Arrangement	1 contact (SPDT)	1 contact (SPDT)
Rated current / Max peak current	6A / 10A	6A / 10A
Rated voltage / Max switching voltage	250Vac / 400Vac	250Vac / 400Vac
Minimum switching load	500mW (12Vdc / 10mA)	50mW (5Vdc / 2mA)
Breaking capacity in DC	6A (30V). 0,5A (48V).0,12A (220V)	6A (30V). 0,5A (48V).0,12A (220V)
Breaking capacity in AC	6A (250V)	6A (250V)





TYPE :	DC SOLID STATE RELAY	AC SOLID STATE RELAY
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REFERENCE :	SLD03210-945148	SLA03220-945150
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General characteristics :

Operating temperature range	-20 / +60°C	-20 / +60°C
Input-Output isolation	2500Vac	2500Vac
Dielectric strength between open contacts	1000Vac	1000Vac
Dimensions	L : 28mm / W : 5mm / H : 15mm	L : 28mm / W : 5mm / H : 15mm
Weight	8g	8g
Conformity	EN60947-5-1	EN60947-5-1
Environmental protection		RT III
Approved	UL pending	UL pending VDE0805 (EN60950)

Control characteristics

Control voltage	Min:18Vdc Nom:24Vdc Max:32Vdc	Min:18Vdc Nom:24Vdc Max:30Vdc
Control current @ 24V	Min:5.5mA Nom:7.7mA Max:10.2mA	Min:5.6mA Nom: 7mA Max:10.2mA
Max release voltage	8.3Vdc	10Vdc
Internal resistance	3000Ω	3100Ω +/-10%
Rated Power AC/DC		0.17W

Output characteristics

Arrangement	1 contact (SPDT)	1 contact (SPDT)
Typical load voltage	48Vdc	230Vac
Voltage operating range	0-60Vdc	12-275Vac (Socket limit to 250Vac)
Rated current / Max peak current	2.5A / 6A	2A / 40A
Max. "ON state" voltage drop	0.4Vdc @ 2A	1.6Vdc
Max. "OFF State" leakage current	< 1mA	1.5mA
Static output On resistance	200 mΩ	
Minimum switching current	1mA	22mA
Turn On time	50μs	12ms
Turn Off time	600μs	12ms
Operating switching frequency	100 Hz	47 Hz to 400 Hz (range)
Transient voltage suppressor	Yes	
Peak power dissipation	600W	
Repetitive Peak off-state voltage (clamping voltage)	60Vdc	600Vac
Latching voltage		5V
Off State Dv / Dt		500V / μs
Max non repetitive Di / Dt max		100A / μs
Snubber		10nF 100Ω

