

■ INT-DO16-RA

16 channels - isolated discrete output with electromechanical or solid state relays. 24Vdc Power Supply monitoring

Description :

The **INT-DO-16RA** interface unit allows to connect up to 16 discrete outputs to a digital control system or a programmable logic controller. The control signals are connected to the 16 channel I/O card of a DCS or a PLC using a SUBD25 pin male connector.

Each signal controls a 24Vdc relay in order to drive a motor, a valve or a solenoid. Each relay is replaceable and has a 3 pole contact (only electromechanical relay).

A yellow LED indicates the status of each channel.

The 24Vdc relay power supply is provided either by the system (via the cable) or locally by a power supply (connected on the TB2 terminals of the interface unit), in accordance with the jumper positions. A monitoring contact of this 24Vdc Power Supply can be used on TB3 (open in case of faulty power supply).

Product options :

- Option **ST**: INT-DO-16RA-**ST** (Load connected using Screw Terminals)
- Option **ST2.5**: INT-DO-16RA-**ST2.5** (Load connected using Screw Terminals with capacity of 24 to 14AWG (0.22 to 2.5mm²))
- Option **CCT**: INT-DO-16RA-**CCT** (Load connected using Cage Clamp Terminals)
- Option **STD, COR, SLD, SLA**: INT-DO-16RA-**ST-STD** or other Relays option. Refer to page 2 and 3 to choose the right option.
- Option **VSH** : Conformal coating (Tropicalization)

Technical specifications :

Dimensions:

Length : 185mm
Width : 125 mm
Height : 70 mm

Weight:

450 g

Mounting:

Asymmetric or symmetric DIN rail

Conductors section:

ST : Screw Terminals: 26 to 14AWG (0.14 to 1.5mm²)
CCT : Cage Clamp Terminals or spring terminals: 26 to 16AWG (0.14 to 1.5mm²)

Maximum current:

5A per channel

Temperature range:

Operating : -10°C to 60°C
Storage: -20°C to 60°C

Humidity:

Up to 90% (no condensation)

Insulation voltage:

1500 vac between input (control signal) and output (contacts), and 1000 vac between NO and NC terminals.

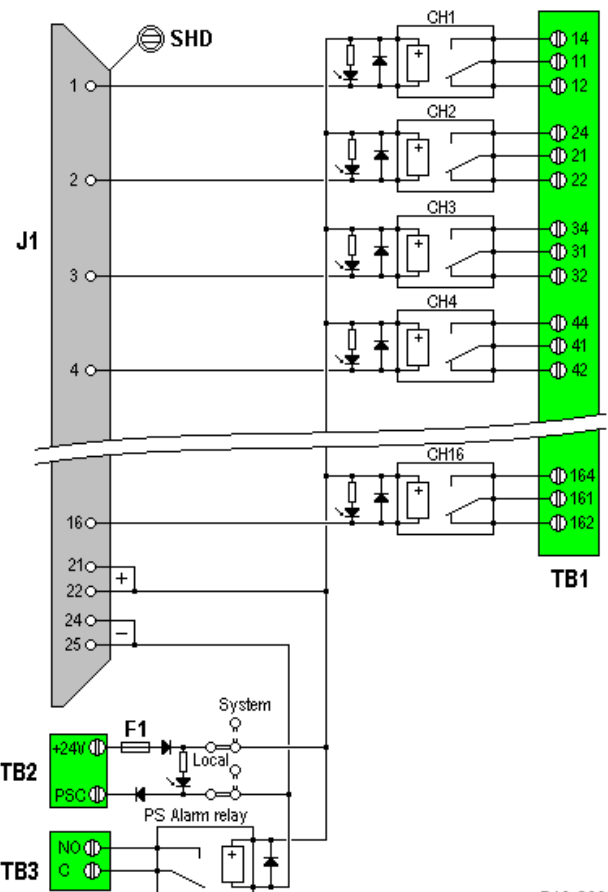
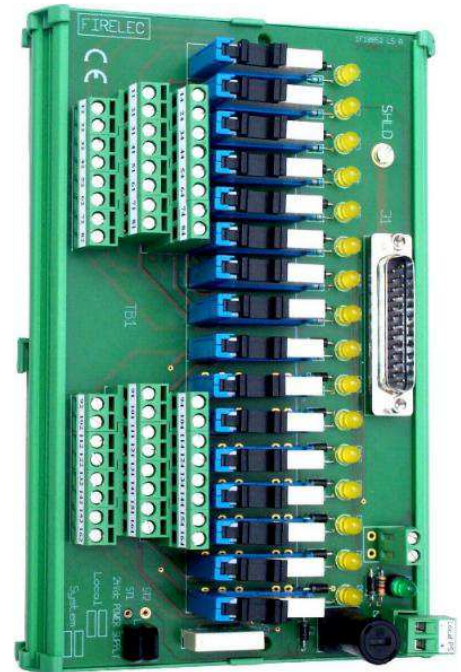
Connection to the DCS or to the PLC:

- One Sub-D 25 pin male connector with UNC 4-40 female lock.
- One Terminal Block (TB2) for the 24Vdc local power supply (jumper position in local position).
- One M3 screw for the shield connection.

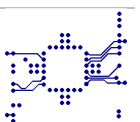
Relays to be plugged:

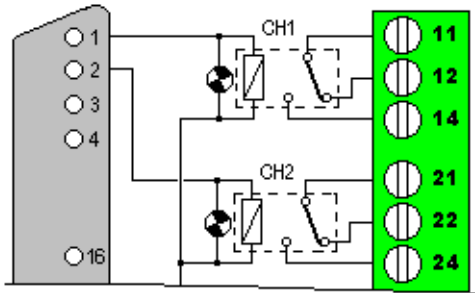
Electromechanical or solid state relays can be plugged and mixed on the same interface unit.

See the characteristics on sheet 2 and 3.

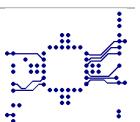


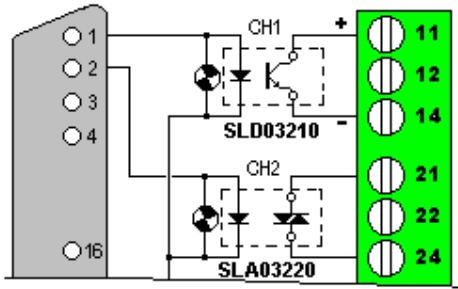
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TYPE	ELECTROMECHANICAL RELAY	ELECTROMECHANICAL RELAY
REFERENCE	REL24-STD-945144	REL24-COR-945147 (Gold contacts)
General characteristics		
Mechanical expected life	10.000.000 cycle	10.000.000 cycle
Expected life at max load	60000 cycle	60000 cycle
Operate time / release time / debounce	5 ms / 3 ms / 5 ms	5 ms / 3 ms / 5 ms
Coil / contacts insulation	4000 Vac	4000 Vac
Dielectric strength between open contacts	1000 Vac	1000Vca
Ambient temperature	-40°C to 85°C	-40°C to 85°C
Initial insulation resistance	1000 MΩ	1000 MΩ
Environmental protection	RT II	RT II
Dimensions	L : 28mm / W : 5mm / H : 15mm	L : 29mm / W : 6mm / H : 16mm
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	7,1 mA	7, 1 mA.
Coil resistance	3300 ohms +/-10%	3300 ohms +/-10%
Nominal power	0,2W (24Vdc)	0,2W (24Vdc)
Contacts characteristics :		
Contact material	AgNi (or AgSnO ₂)	AgNi (or AgSnO ₂) + Au (gold plated)
Arrangement	1 contact (SPDT)	1 contact (SPDT)
Rated current / Max peak current	6A / 10A	6A / 10A
Rated voltage / Max switching voltage	250 Vac / 400Vac	250 Vac / 400Vac
Minimum load	500 mW (12Vdc / 10mA)	500 mW / 5Vdc / 5mA
Switching power in DC	6A (30V). 0,5A (48V).0,15A (220V)	6A (30V). 0,5A (48V).0,15A (220V)
Switching power 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 / +80°C	-20 / +80°C
Storage temperature range	-25 / +80°C	-40 / +100°C
Input-Output isolation	2500 VRMS	4000 VRMS
Dimensions	L : 28mm / W : 5mm / H : 15mm	L : 28mm / W : 5mm / H : 15mm
Weight	8g	8g
Conformity	EN60947-5-1	EN60947-5-1
Approved	UL pending	UL pending VDE0805(EN60950)

Control characteristics		
Control voltage	Min:18Vdc Nom:24Vdc Max:32Vdc	Min:18Vdc Nom:24Vdc Max:32Vdc
Control current @ 24V	Min:5.5mA Nom:7.7mA Max:10.2mA	Min:5.6mA Nom:7.7mA Max:10.2mA
Max release voltage	8.3Vdc	1Vdc
Internal resistance	3000 Ω	3000 Ω

Output characteristics		
Typical load voltage	48Vdc	230Vrms
Voltage operating range	0-60Vdc	12-275Vrms
Nominal current	2.5A	2A rms
Non repetitive overload current	6A	80A
On state voltage drop	0.4Vdc @ 2A	1.2Vcc
Static output On resistance	200 mΩ	
Off State leakage current	< 1mA	< 1.5mA
Minimum load current	1mA	5mA
Turn On time	50 μs	10 μs
Turn Off time	600μs	10ms
Operating switching frequency	100 Hz	47 Hz to 400 Hz (range)
Transient voltage suppressor	Yes	Yes
Peak power dissipation	600W	
Peak voltage (clamping voltage)	60Vdc	600Vac
Synchronizing level		25Vac
Latching voltage		5Vac
Off State Dv / Dt		500V / μs
Max non repetitive Di / Dt max		100A / μs
Snubber		10nF 100Ω

