

DSP & CONTROLLER COMPONENTS

XRI RELAY-INTERFACE BOARD

24/I2-CHANNEL I/O BOARD WITH ELECTRONIC RELAY CONTACTS AND OPTO-COUPLED INPUTS

- Signalling and remote-start distribution
- Control of selected NEXUS functions via switches
- Switching of external loads or machines
- 24 galvanically isolated I/Os, freely configurable ports
- Contacts configured as pairs isolated galvanically, or with common potential

The XRI relay-interface board allows external switches and current consumers to be connected and can also be used for controlling external machines.

The module board provides a maximum of 24 optically isolated inputs with minimal input current plus the same number of solid-state relay outputs that can handle AC or DC current. All inputs and outputs share a common reference potential, which is galvanically isolated from all other NEXUS components and the inputs or outputs.

The XRI also offers the possibility of creating entirely potential-free contacts by combining adjacent ports. This halves the number of available channels, i.e. two contacts with common potential become one potential-free contact. This configuration can be selected via jumpers per contact pair.

The output function can be controlled from the corresponding inputs or by the system software. Furthermore, the inputs may be used for controlling routing functions on the NEXUS system such as setting crosspoints.

DIFFERENCES TO THE PREVIOUS MODEL (XRI03)

- Different number of contacts
- Only available as a 4-HP version
- Female D-sub output ports
- Integrated input filters for fixed inputs
- Opto-couplers are now hardwired rather than socketed
- Inputs can be controlled using positive as well as negative voltages

PORTS

The board provides a 4-HP front panel featuring two 25-pole D-sub ports.

One D-sub port provides all the outputs while the other handles all the input signals. The pin assignment of the respective D-sub connector is the channel number. If used, the common potential is on pin 25 of each connector, either with or without auxiliary power.

The I/O contacts feature filters using a 10-ms time constant in order to prevent noise and crosstalk.

The board also includes a serial EEPROM which stores the serial number.

SWITCHING VOLTAGE

The board features two internal power sources for querying external switching contacts and for the outputs. The output power is sufficient to control loads directly:

- 5 V/20 mA per output
- Total power of all outputs (max.): 2 W
- The connector pins are rated for currents of up to 2 A

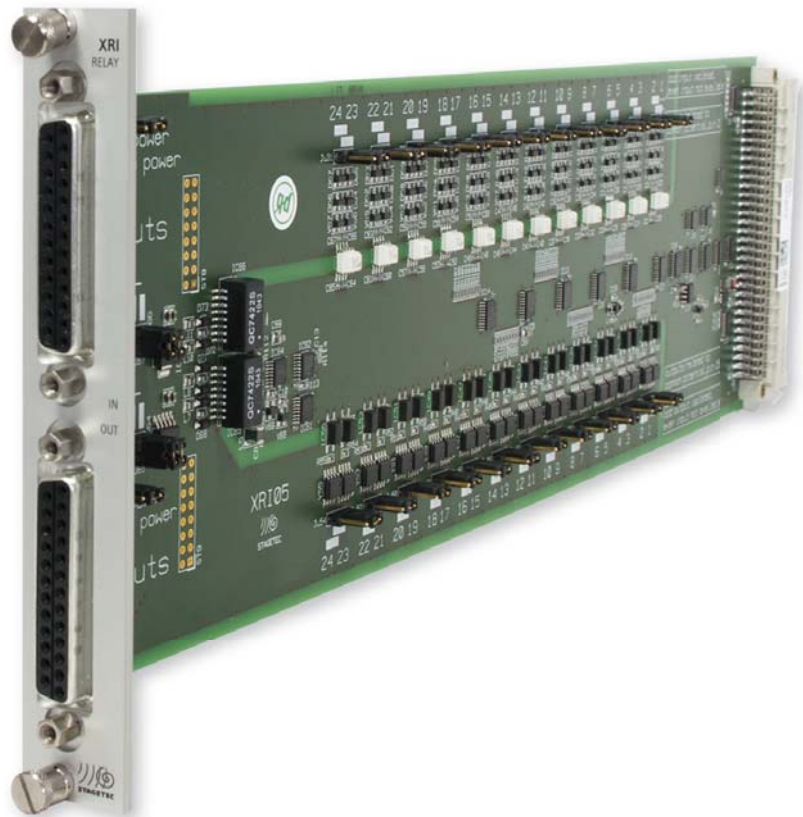
I/O APPLICATIONS

The inputs can be triggered by control voltages and be used to query switching contacts. The following modes of operation are supported:

- Querying external switching contacts using the internal voltage source.
- Querying external switching contacts using an external voltage source.
- Querying external control voltages.

Thanks to the optional integrated voltage source, loads can be triggered directly such as LEDs or power relays. The outputs of the board can also be used simply as switching outputs. For example, this allows external power sources to be used. The outputs of the XRI can be configured for the following applications:

- Controlling external loads using the internal voltage source.
- Controlling external loads with common potential.
- Controlling external loads via an external voltage source.





XRI05 SPECIFICATIONS		
Features	24 optically isolated inputs max.	
	24 solid-state relay outputs max.	
	The number of usable inputs and outputs depends on the connectors used and their configuration.	
Inputs	Input voltage	40 V (max.) DC
	Input current	3 mA (max., limited internally)
	Input current ON	1 to 1.6 mA
	Input current OFF	< 0.3 mA
	LED-forward voltage ON	4 V @ $I_F = 2.9 \text{ mA}$
	INTERNAL power source 1	
	Voltage	5 V, galvanically isolated
	Power	sufficient current for all inputs
Outputs	Output impedance ON	0.2 to 0.4 ohm (typ.)
	Output impedance OFF	0.5 G ohm (typ.)
	Switching voltage max.	60 V (AC/DC) (max.)
	Switching current max.	2 A per output
		2 A (max.) per group/port (24 outputs)
	INTERNAL power source 2	
	Output voltage	5 V, galvanically isolated
	Output current	400 mA (max.)
	Output power	2 W (max.) for all outputs
Power supply	Voltage	+4.75 to 5.25 V
	Power consumption	max. 50 mA with no load
Operating conditions	Temperature range	0 to +50°C / 32 to 122°F
	Humidity	90 % (max.), non-condensing
Storage conditions	Temperature range	-35°C to +70°C / -31°F to 158°F
	Humidity	90 % (max.), non-condensing
Physical specifications	General	board for 19" module frame; 3 U, 340 mm/ 13.39"
	Front panel	4 HP (20.02 mm × 128.5 mm), version-specific
	Required space	1 slot
	Weight	0.19 kg