

OS808Uv2.0.doc

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PRODUCT OS808
8 CHANNEL CONTACT ECHO CARD
USER MANUAL
11 May 2006

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1.0 Description

The OS808 is an 8-channel contact echo card that operates over fibre. Each unit has 8 opto-isolated inputs, and 8 potential-free relay output contacts. The unit operates in full duplex mode, echoing the local inputs on the remote unit relay outputs, and the remote inputs on the local unit relay outputs.

The card is a Euro card sized pcb (160 x 100mm).

Features

- 8 Contacts on 1 fibre pair (Bi-Directional)
- Secure fibre optic encoded signal
- Range up to 12km (Multimode Fibre), or 40km (Single Mode Fibre)
- Immune to EMI and RFI

2.0 Operation

Inputs: Each of the 8 opto-isolated inputs has an LED that will light up when it is activated. The status of all the inputs are sampled and then encoded into a serial data bit stream which is then sent to a fibre optic module where it is converted into an optical signal for transmission over fibre optic cable. The encoded data can also be sent to an RS232 port if requested.

Outputs: The valid optical signal received from the fibre cable is converted back into a serial data bit stream, and is then decoded into the 8 separate channels, which are then used to drive the relevant relay outputs. Each output relay has an LED that will light up when it is activated.

Indications:

The POWER LED's light up when the unit is powered.

The 'Link OK' LED will indicate the status of the link on both the local and remote units.

- | | |
|---|-------------|
| • No valid optic signal, or corrupted receive optic data: | LED OFF |
| • Valid incoming optic data, but remote unit has receive error: | LED Flashes |
| • Valid incoming optic data, local and remote units: | LED ON |

Alarm Relay:

The alarm relay contacts will indicate Power fail or Receive Optic data fail.

The output relays will switch off when:

- no valid data is received (100mS after data link breaks)
- a local error condition is detected for longer than 100mS

Power supply:

The Shelf top unit has a built-in power supply and various power options are available.

The Rack mount unit can be slotted into an OS800 sub-rack.

3.0 Preparation For Use

When the box is opened, make sure of the contents by checking it using the Order Number. Also check for any damage caused during shipping. The manufacturer checked all equipment before packing, and packed it in protective packaging, and thus cannot be held responsible for damage during shipment.

Power Connection

Ensure the correct power supply voltage before connecting any power to the shelf top unit. The rack mount card can simply be slotted into the rack. The Power Indicators should light up when there is power connected.

Fibre Optic Connection

First ensure that the fibre is of good quality, and that the loss across the length of fibre is within the power budget specification of the equipment. When mounting the fibres, make sure not to bend the fibre too sharply. Connect one fibre from the local unit TX Optic Port to the remote unit RX Optic Port, and then vice versa with the other fibre. The green “LINK OK” LED’s on both units should light constantly when this connection is made.

Input Connection

The opto-isolated inputs must be supplied with power for proper operation (see Annexure A and B). The power can be supplied from an external source (for complete isolation) or from the internal power supply (for simple operation). The inputs have a common bus connected to IN GND (shelf) or COMMON GND (rack) on the connector. To activate an input, it must be shorted to the IN GND or COMMON GND connection. The inputs can sense a relay contact closure. The relay contact must be connected between the relevant input and IN GND or COMMON GND.

Output Connection

The outputs consist of 8 normally open relay contacts. They are potential free contacts and are not polarity sensitive. Connection is via miniature PHOENIX connectors. See Annexure A and B for connection examples.

The ALARM Contact is a potential-free normally open relay contact when no alarm exists.

3.0 Specifications

Inputs	Number:	8 Inputs
	Type:	Optically Isolated,
	Isolation:	2500V Isolation Voltage
	Connector:	Miniature Phoenix Screw Terminals
Outputs	Number:	8 Outputs
	Type:	Relay Contacts (potential-free normally open)
	Rating:	220VAC, 5A
	Switch Time:	10mS ON, 10mS OFF (worst case)
Power	Controller	+12 Vdc @ 500mA max (all relays ON) -12 Vdc @ 50mA.
	Opto-Isolated Inputs	10 - 24Vdc @ 5mA
	Connectors	Miniature Phoenix Screw Terminals

* When External power supply is used, Controller & Relay connections are kept separate from Opto isolated input section.

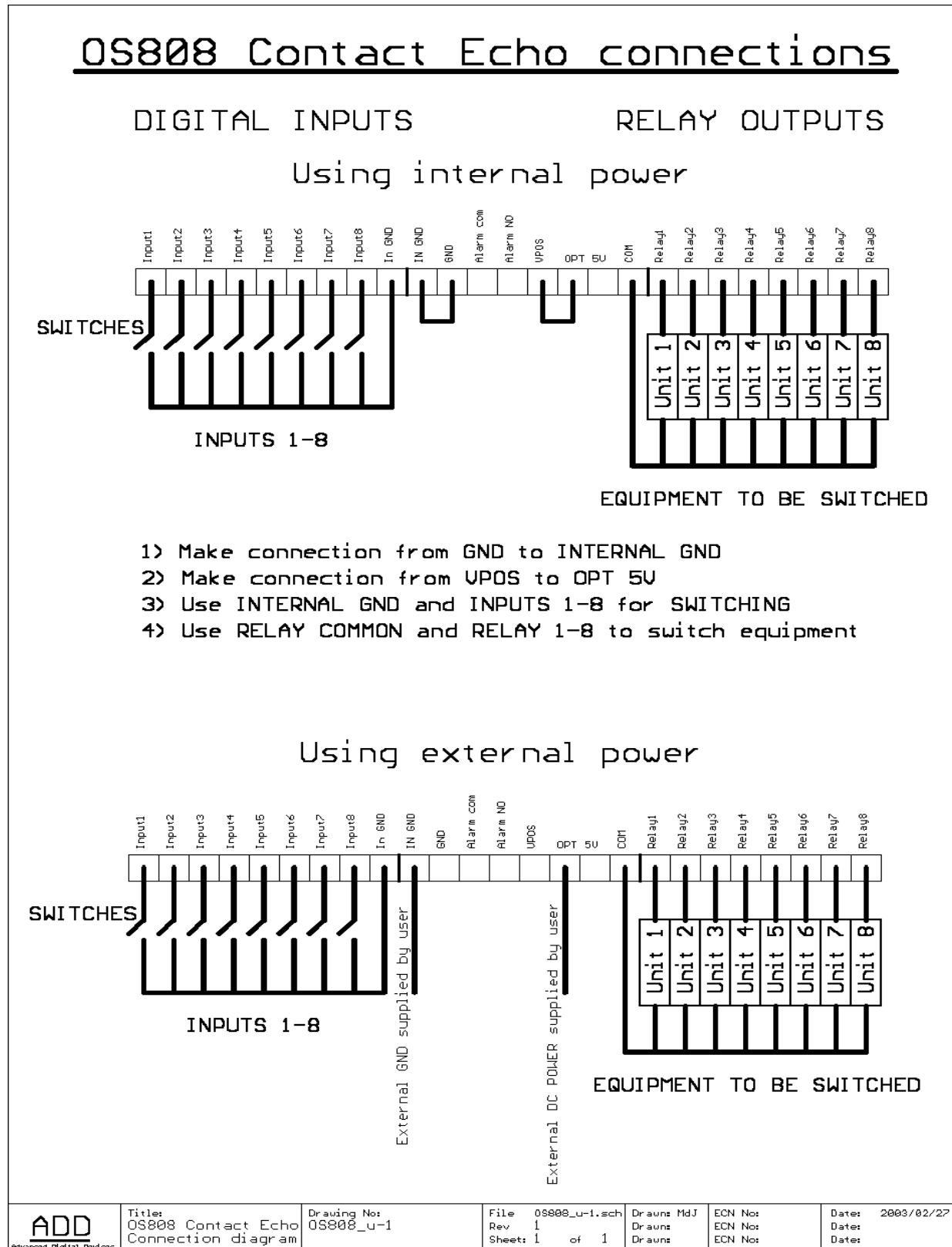
Dimensions

Height:	50mm
Width:	100mm
Length:	160mm

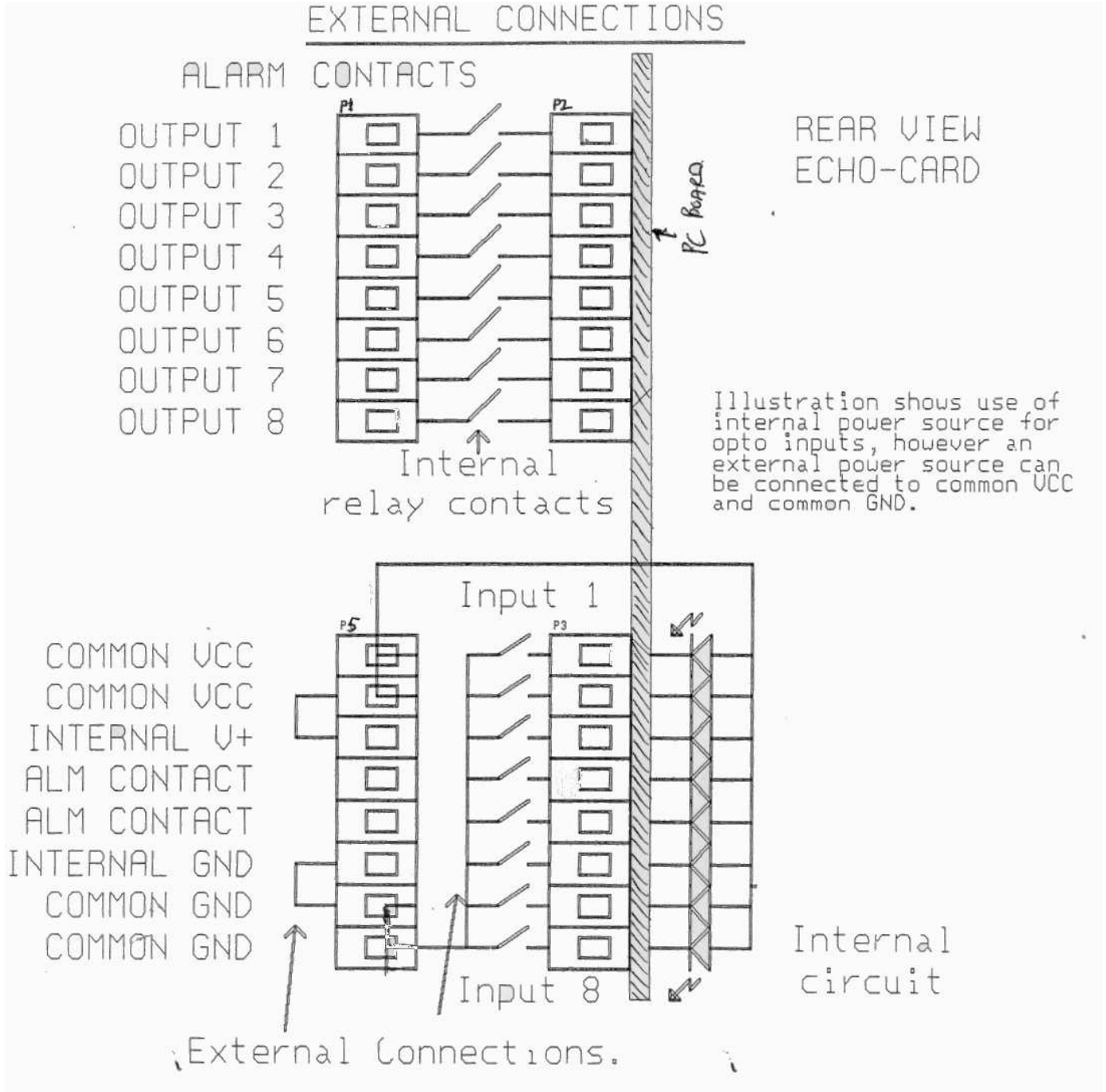
Controller

Type:	80C31
Link Baud Rate:	>80kBps
Sampling time:	2.5milli-seconds.
Response time:	2.5milli-seconds + relay response time

5.0 Annexure ‘A’ Connection Diagram – SHELF MODEL



6.0 Annexure 'B' Connection Diagram – RACK MODEL



7.0 Contact Details

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