eBox I/O

eBox GPI Interface



Users Manual

JLCooper Electronics

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Introduction

The eBox I/O is a companion product to the eBox general purpose interface box that converts the GPI (General Purpose Interface) inputs and outputs on the eBox to completely isolated inputs and outputs. There are 8 optically isolated inputs and 8 relay isolated inputs on the eBox I/O. Up to 3 eBox I/Os can be connected to an eBox to accommodate all 24 GPI inputs and outputs of the eBox.

Setup

Unpacking

The eBox package will contain the following items:

- eBox I/O
- 2 – 25 pin jumper cables
- 4 – 8 pin terminal blocks (attached to unit)
- Power Supply
- This Users Manual
- Four rubber feet

Connections

The eBox connections are straightforward:

1. Plug the power supply into the eBox I/O.
2. Connect one 25 pin jumper cable from the GPI OUT connector on the rear panel of the eBox to the TO eBox GPI OUT connector on the rear panel of the eBox I/O.
3. Connect one 25 pin jumper cable from the GPI IN connector on the rear panel of the eBox to the TO eBox GPI IN connector on the rear panel of the eBox I/O.
4. Connect your equipment to the optoisolated inputs and relay outputs of the eBox I/O.

Configuration

Configuration of the eBox I/O is straight forward. Just select the group of 8 GPI inputs and outputs that you want the eBox I/O to accommodate.

Unit ID Switch				Terminal Inputs and Outputs
1	2	3	4	
On	Off	Off	Off	1 – 8
Off	On	Off	Off	9 – 16
Off	Off	On	Off	17 – 24
Off	Off	Off	On	None
Off	Off	Off	Off	None
Unit ID and Terminal Assignments				

	Unit ID Switch Setting		
Terminal	1=On	2=On	3=On
1	GPI 1 Anode	GPI 9 Anode	GPI 17 Anode
2	GPI 1 Cathode	GPI 9 Cathode	GPI 17 Cathode
3	GPI 2 Anode	GPI 10 Anode	GPI 18 Anode
4	GPI 2 Cathode	GPI 10 Cathode	GPI 18 Cathode
5	GPI 3 Anode	GPI 11 Anode	GPI 19 Anode
6	GPI 3 Cathode	GPI 11 Cathode	GPI 19 Cathode
7	GPI 4 Anode	GPI 12 Anode	GPI 20 Anode
8	GPI 4 Cathode	GPI 12 Cathode	GPI 20 Cathode
9	GPI 5 Anode	GPI 13 Anode	GPI 21 Anode
10	GPI 5 Cathode	GPI 13 Cathode	GPI 21 Cathode
11	GPI 6 Anode	GPI 14 Anode	GPI 22 Anode
12	GPI 6 Cathode	GPI 14 Cathode	GPI 22 Cathode
13	GPI 7 Anode	GPI 15 Anode	GPI 23 Anode
14	GPI 7 Cathode	GPI 15 Cathode	GPI 23 Cathode
15	GPI 8 Anode	GPI 16 Anode	GPI 24 Anode
16	GPI 8 Cathode	GPI 16 Cathode	GPI 24 Cathode
GPI Optoisolator Input Terminal Pinout			

The optoisolators have a maximum input current of 25 milliamps.

	Unit ID Switch Setting		
Terminal	1=On	2=On	3=On
17	GPI 1 Relay	GPI 9 Relay	GPI 17 Relay
18	GPI 1 Relay	GPI 9 Relay	GPI 17 Relay
19	GPI 2 Relay	GPI 10 Relay	GPI 18 Relay
20	GPI 2 Relay	GPI 10 Relay	GPI 18 Relay
21	GPI 3 Relay	GPI 11 Relay	GPI 19 Relay
22	GPI 3 Relay	GPI 11 Relay	GPI 19 Relay
23	GPI 4 Relay	GPI 12 Relay	GPI 20 Relay
24	GPI 4 Relay	GPI 12 Relay	GPI 20 Relay
25	GPI 5 Relay	GPI 13 Relay	GPI 21 Relay
26	GPI 5 Relay	GPI 13 Relay	GPI 21 Relay
27	GPI 6 Relay	GPI 14 Relay	GPI 22 Relay
28	GPI 6 Relay	GPI 14 Relay	GPI 22 Relay
29	GPI 7 Relay	GPI 15 Relay	GPI 23 Relay
30	GPI 7 Relay	GPI 15 Relay	GPI 23 Relay
31	GPI 8 Relay	GPI 16 Relay	GPI 24 Relay
32	GPI 8 Relay	GPI 16 Relay	GPI 24 Relay
GPI Relay Output Terminal Pinout			

The relay outputs can withstand 50 volts maximum DC/peak AC (resistive load) and can switch 500 milliamps.

Technical Reference

Electrical Connections

Power

The eBox I/O requires a 9 volt DC supply capable of delivering at least 500 milliamps. The unit comes with a power supply appropriate for the country in which the unit was sold. If you need a power supply specific to your location, please contact your local distributor or JLCooper Electronics.

Location	JLCooper Part Number
North America	PSDC117
Europe	PSDC230

Approved Power Supplies

Warning: Using a power supply other than the units specified in the above table can result in damage to the eBox and/or other equipment which is not covered by the JLCooper Factory Warranty.

Troubleshooting

If for some reason the eBox I/O does not give you the expected results, take a moment to do some investigating. The most important concept is that you have your eBox I/O connected properly as outlined in *Installation and Use*. Take a moment to double check your setup.

A common problem is forgetting to turn the power switch on or turning the unit on after the software application has launched.

In addition, the JLCooper website (www.jlcooper.com) will contain up to date information on drivers, applications and troubleshooting.

If all else fails, you can contact the JLCooper Service Department at: service@jlcooper.com.

Care and Service

If properly cared for, your eBox I/O should provide years of troublefree performance. While the eBox I/O is built in a rugged metal enclosure, please avoid dropping the eBox I/O.

Clean with a soft, damp cloth. Do not allow liquids, dust or other foreign matter to get inside the unit.

There are no user-serviceable parts in the eBox I/O. Please refer to the JLCooper Electronics Limited Factory Warranty on the following page for detailed warranty and service information.

JLCooper Electronics Limited Factory Warranty

JLCooper Electronics ("JLCooper") warrants this product to be free of defects in materials or workmanship for a period of 12 months from the date of purchase. This warranty is non-transferable and the benefits apply only to the original owner. Proof of purchase in the form of an itemized sales receipt is required for warranty coverage. To receive service under this warranty, customers in the United States should contact the JLCooper factory at (310) 322-9990 and talk to a service technician. If necessary, a Return Authorization number may be issued. For our customers outside the United States, it is recommended that you first contact your Dealer or Distributor, since they may offer their own service or support policy. If local support is not obtainable, please send a FAX to JLCooper's Service Department at +1 310 335 0110 with a detailed description of the service required. Upon issuance of return authorization, the product should be packed in the original shipping materials and shipped prepaid and insured to: Service Department, JLCooper Electronics, 142 Arena Street, El Segundo, CA 90245. Please include the following: copy of the sales receipt, your name and address (no P.O. Boxes, please), a brief description of the problem, and any other related items discussed with the service department and considered necessary to evaluate the product or effect a repair. The return authorization number must be clearly written on the outside of the package. JLCooper will at its option, without charge for parts or labor, either repair or replace the defective part(s) or unit. Shipping costs are not covered by this warranty. JLCooper's normal repair turn around time at the factory is approximately 15 business days from receipt of product to shipping. Your actual turn around time will include return shipping. Actual turn around time will vary depending upon many factors including the repeatability of the customer's reported complaint, the availability of parts required for repair, the availability of related products needed to evaluate the product if necessary. Priority services are available at additional cost. These should be discussed with the service technician at the time the return authorization is issued. This warranty provides only the benefits specified and does not cover defects or repairs needed as result of acts beyond the control of JLCooper including but not limited to: abuse, damage by accident/negligence, damage from using incorrect power supply, modification, alteration, improper use, unauthorized servicing, tampering, or failure to operate in accordance with the procedures outlined in the owner's manual; nor for natural or man-made events such as, but not limited to flooding, lightning, tornadoes, earthquake, fire, civil unrest, war, terrorism, etc.

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