SUPPLY OPTIONS
The XP95 Three Channel Input/Output Unit is available in the following options:

- in a plastic enclosure
- in a plastic enclosure and with built in bi-directional short-circuit isolator
- as a printed circuit board (PCB)
- as a PCB and with built-in bi-directional short-circuit isolator

Part numbers for each option are shown in the table on page 3.

FUNCTION
The XP95 Three Channel Input/Output Unit provides three voltage-free, single pole, change-over relay outputs and three monitored switch inputs.

FEATURES
The XP95 Three Channel Input/Output Unit supervises one or more normally-open switches on each of the three inputs. It is set to return an analogue value of 4 in the event of an open or short-circuit fault and 16 during normal operation. The status of the inputs is reported by means of three input bits.

The change-over contacts of each relay are operated by three command bits.

If the model is ordered with a short-circuit isolator the Input/Output Unit will be unaffected by loop short-circuits on either loop input or output.

ELECTRICAL CONSIDERATIONS
The XP95 Three Channel Input/Output Unit is loop powered and operates at 17–28V DC with protocol voltage pulses of 5–9V.

PROTOCOL COMPATIBILITY
The unit will operate only with control equipment using Apollo XP95 or Discovery protocol. It may also be used to replace earlier Series 90 Three Channel Input/Output Units.
MECHANICAL CONSTRUCTION

The Input/Output Unit is supplied in an enclosure for surface mounting or as a PCB.

The enclosure is moulded from self-extinguishing, glass-filled ABS. Ten 16mm/21mm and six 22mm/38mm dual diameter cable entry knockouts are provided.

Ten LEDs, six red and four yellow, are fitted to the PCB. All LEDs except the isolator LED can be disabled to conserve loop current.

For each channel, one red LED is illuminated to indicate that the relay is set; a second red LED is illuminated to indicate that the switch input is closed and a yellow LED is illuminated to indicate an open or short-circuit fault.

A separate yellow LED is illuminated whenever the built-in isolator has sensed a short-circuit loop fault.

**Dimensions and weight of Input/Output Unit:**

- 250 x 175 x 75mm 621g (in enclosure)
- 140 x 160 x 18mm 111g (PCB only)

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Minimum loop operating voltage in normal conditions</th>
<th>17V DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum loop operating voltage</td>
<td>28V DC</td>
</tr>
<tr>
<td>Maximum current consumption at 24V DC, no protocol LED enabled</td>
<td></td>
</tr>
<tr>
<td>Switch-on surge, max 150ms</td>
<td>6.5mA</td>
</tr>
<tr>
<td>Quiescent, 20kΩ EOL fitted</td>
<td>3mA</td>
</tr>
<tr>
<td>Switch inputs closed</td>
<td>6mA</td>
</tr>
<tr>
<td>Relays operated</td>
<td>5.5mA</td>
</tr>
<tr>
<td>‘Worst case’ ie 3 switch inputs closed, 3 relays operated, 6 LEDs on</td>
<td>7.5mA</td>
</tr>
</tbody>
</table>

**LED disabled**

- Switch-on surge, max 150ms 6.5mA
- Quiescent, 20kΩ EOL fitted 3mA
- Switch inputs closed 4mA
- Relays operated 3.5mA

- Switch input monitoring voltage (open-circuit condition) 9–11V DC
- Maximum cable resistance 50Ω
- Relay output contact rating at 30V AC or DC (inductive or resistive) 1A
- Relay output wetting current at 10mV DC 10μA

**Isolator rating**

- On resistance 0.2Ω
- Maximum continuous current 1A
- Maximum switching current 3A
- Maximum load 20 XP95 or Discovery detectors

ENVIRONMENTAL DATA

- Operating temperature -20° to +70°C
- Humidity (no condensation) 0–95%

<table>
<thead>
<tr>
<th>Shock</th>
<th>Vibration</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>to GEI 1-052</td>
</tr>
</tbody>
</table>

| IP rating | 54 |

LOW VOLTAGE DIRECTIVE 73/23/EEC

No electrical supply greater than 50V AC rms or 75V DC should be connected to any terminal of this 3-Channel Input/Output Unit.

EMC DIRECTIVE 89/336/EEC

The 3-Channel Input/Output Unit complies with the essential requirements of this directive, provided that it is used as described in this PIN sheet and that the contact is not operated more than five times a minute or twice in any two seconds.

A copy of the declaration of Conformity is available from Apollo on request.

Conformity of the XP95 Three Channel Input/Output Unit with the EMC directive does not confer compliance with the directive on any apparatus or systems connected to it.

The PCB only versions are sold as components to be used in a professionally designed system or apparatus. It is, therefore, outside the scope of the directive and hence is not CE marked.
<table>
<thead>
<tr>
<th>Product</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three Channel Input/Output Unit</td>
<td>55000-589</td>
</tr>
<tr>
<td>Three Channel Input/Output Unit with Isolator</td>
<td>55000-588</td>
</tr>
<tr>
<td>Three Channel Input/Output Unit PCB only</td>
<td>43781-589</td>
</tr>
<tr>
<td>Three Channel Input/Output Unit with Isolator PCB only</td>
<td>43781-588</td>
</tr>
</tbody>
</table>

Schematic Diagram and Wiring Connections