The BradControl™ HarshIO IP67 I/O modules provide a reliable solution for connecting industrial controllers to I/O devices in harsh environments.

**Features and Benefits**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP67 Housing</td>
<td>To use directly on the machine</td>
</tr>
<tr>
<td></td>
<td>Dust, water and vibration resistant</td>
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<tr>
<td></td>
<td>Large temperature range</td>
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<tr>
<td></td>
<td>No need of protective cabinet</td>
</tr>
<tr>
<td>Configurable I/O channels</td>
<td>Allow the PROFINET controller to configure (via GSD file) each port as Input, Output or Universal digital channel</td>
</tr>
<tr>
<td></td>
<td>Allow to buy a single part to cover all customer needs</td>
</tr>
<tr>
<td>Diagnostics</td>
<td>Diagnostic capabilities via fieldbus messaging</td>
</tr>
<tr>
<td></td>
<td>Visible diagnostic LEDs provide maintenance personnel with the ability to easily determine I/O, module and network status</td>
</tr>
<tr>
<td>Integrated 2-port Ethernet switch</td>
<td>Flexible network structures such as bus and/or star</td>
</tr>
<tr>
<td></td>
<td>100 Mbit/s full duplex data transmission</td>
</tr>
<tr>
<td></td>
<td>Wire the entire application without switches</td>
</tr>
<tr>
<td></td>
<td>Cost savings for the customer using bus wiring topology</td>
</tr>
<tr>
<td>M12 Ultra-Lock connection</td>
<td>Allow fast connections and change-overs</td>
</tr>
<tr>
<td></td>
<td>Reduce time to connect the cordsets to the module</td>
</tr>
<tr>
<td>Quick Commissioning</td>
<td>No software tool to do the commissioning</td>
</tr>
<tr>
<td></td>
<td>3x rotary switches for setting IP address</td>
</tr>
<tr>
<td></td>
<td>Support PROFINET Easy Replacement</td>
</tr>
</tbody>
</table>

**Applications**

- Complex machine builders
  - Compact machines
  - High speed machines
  - CNC machines
  - Food processing
  - Filling / Bottling
  - Plastic injection
- Factory automation
  - Automotive
  - Robotic + Tool maker
  - Material Handling
  - Packaging
  - Automatic Guided Vehicles

**Typical System Architecture**

- Typical System Architecture
  - CNC Machines
  - Robotics
  - Conveying
BradControl™ IP67 HarshIO
300 ePN for PROFINET
IP67 Digital I/O Modules

Specifications

HARDWARE
Compact size:
  30 x 175 x 20mm (1.18” x 6.89” x 0.78”)
Operating Temperature:
  -25°C (-4°F) up to +70°C (158°F)
Storage Temperature:
  -40°C (-40°F) up to +90°C (185°F)
Housing material: PBT VALOX 420 SEO Black 7701
Flammability Standard: UL 94 V-0

POWER
Power connector:
  M12, A-Coded, 5-pole, male, stainless steel
Module & Input power: 24 VDC, -15/+20%
  (protected against power crossing)
Output power: 24 VDC, -15/+20%
  (protected against power crossing)
2x Diagnostic leds (Logic/Input + Output) with
detection of low voltage operation

INPUT CHANNEL(S)
Connector: Ultra-Lock™M12 5-pin A-Coded Female
  or M8 3-pole Female
Input type: PNP, Sinking, 2/3-wire sensors
Sensor power supply: 250 mA
Input channel voltage (“1”): 10V … 25V
Input channel voltage (“0”): -0.2V … 5V
Electronic short circuit protection
Diagnostic Led
Input filter: 0.5 to 3ms (filter step 0.5)

OUTPUT CHANNEL(S)
Connector: Ultra-Lock™ M12 5-pin A-Coded Female
  or M8 3-pole Female
Output type: PNP, Sourcing
Output current: 0.5A per channel
Maximum output current: 4.0A at 25°C
Electronic short circuit protection
Switching frequency: 200Hz

FIELDBUS
Network IN connector:
  M12, 4-pole, female, D-Coded, stainless steel
Network OUT connector:
  M12, 4-pole, female, D-Coded, stainless steel
Diagnostic led per port (Link / Speed / Activity)
3x Rotary switches (Static IP, DHCP, DCP…)
Protocol: PROFINET IO-Device spec v2.3 Class-B
Support of I/O and acyclic communications
Ethernet Packet: Manage up to 3000 packet/sec
Min refresh I/O Interval: 1ms
Description file: Yes (GSD)
Pi certification

SHOCK AND VIBRATION
MIL-STD-202F, method 204D, condition A (Vibration)
MIL-STD-202F, method 213B, condition B
(Mechanical Shock)
MIL-STD-1344A (Thermal Shock)

REGULATORY APPROVALS
CE, UL, cUL
RoHS, REACH

Ordering Information

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Engineering No.</th>
<th>Power Connector</th>
<th>I/O Connectors</th>
<th>I/O Configurations</th>
<th>I/O Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Input</td>
<td>Output</td>
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<tr>
<td>112095-5064</td>
<td>TBDEP-880P-D84-G</td>
<td>M12 Ultra-Lock</td>
<td>8x M8</td>
<td>8</td>
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<tr>
<td>112095-5065</td>
<td>TBDEP-844P-D84-G</td>
<td>M12 Ultra-Lock</td>
<td>4x M8</td>
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<td>TBDEP-808P-D84-G</td>
<td>M12 Ultra-Lock</td>
<td>0</td>
<td>0</td>
<td>8</td>
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<tr>
<td>112095-5067</td>
<td>TBDEP-8YYP-D84</td>
<td>M12 Ultra-Lock</td>
<td>4x M12 Ultra-Lock</td>
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<td>112095-5076</td>
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<td>M12 Ultra-Lock</td>
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<td>112095-5077</td>
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<td>112095-5078</td>
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<td>M12 Ultra-Lock</td>
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<td>TBDEP-4YYP-D8J</td>
<td>M12 Ultra-Lock</td>
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<td>8</td>
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</table>

www.molex.com/link/harshio.html