The Brad® HarshIO IP67 I/O modules provide a reliable solution for connecting industrial controllers to I/O devices in harsh environments. Brad® HarshIO Ethernet modules provide a reliable solution for connecting industrial controllers to I/O devices in harsh duty environments. Contained in an IP67 rated housing, Brad® I/O modules can be machine mounted and are able to withstand areas where liquids, dust or vibration may be present. This makes them ideally suited for many applications including material handling equipment and automated assembly machinery.

Advanced module features such as Built-in 2-port Ethernet switch, web-server capabilities and a flexible IP address setup method, make configuration and operation simple. Following traditional industrial fieldbus practices, standard M12 connectors from sensing devices or actuators plug directly into the I/O module. An environmentally sealed IP67 connection between the I/O module and the Ethernet network is created using the Brad® Ultra-Lock® connection system which is built into the Brad® HarshIO module.

FEATURES AND BENEFITS

- PNO certified
- Rated IP67 for harsh environments
- Designed for direct machine mount applications
- Tested to vibrations and shocks
- Overmolded module electronics
- Metallic connectors
- Accepts standard M12 threaded or Brad® Ultra-Lock® connectors
- Standard hole housing pattern allows for interchangeability with popular I/O modules
- Supports PNP & NPN input devices
- Several I/O configurations to choose including fixed and user configurable versions
- Visible diagnostic LEDs provide maintenance personnel with the ability to easily determine I/O, module & network status
- Supports PROFINET I0 according specification v2.2
- Advanced diagnostics
- Short-circuit diagnostics per I/O channel
- Complete module and channel diagnostics supported via PROFINET
- Scrolling 4 characters status display for IP addressing and modules status
- IP addressing: DCP or static (through web interface, push button, or PROFINET command)
- Built-in 2-port Ethernet switch, 10/100 Mbps auto-sensing and crossover capability
- Built-in web server for remote monitoring, diagnostics and GSD download
- Configurable I/O capability (through PROFINET GSD file)
- Watchdog with output reply state

LED INDICATORS

- Module & Input Power (I):
  Green - power present
  Red - power fault
  Off - power not connected
- Output Power (O):
  Green - power present
  Off - power not connected
- 4-Digit Display:
  Informs about Ethernet address, I/O and Watchdog status
- Input/Output (Ix/Ox):
  Green - input/output on
  Red - input/output fault
  Off - input/output off
- Ethernet Link (Port 1 & 2)
  Solid Green – Ethernet link at 100 Mbit/s without activity
  Flashing Green – Ethernet link at 100 Mbit/s with activity
  Solid Yellow – Ethernet link at 10 Mbit/s without activity
  Flashing Yellow – Ethernet link at 10 Mbit/s with activity

APPLICATIONS

- Machine tool industry
- Material handling systems
- Filling & packaging machines
- Steel industry
### SPECIFICATIONS

**I/O Configurations:**
- 16 inputs
- 14 inputs / 2 outputs
- 12 inputs / 4 outputs
- 8 inputs / 8 outputs
- 16 I/O Universal & User configurable

**I/O Connectors:**
- Female, Ultra-Lock® M12, A-Coded, 5-pole
- Male, M12 Ultra-Lock®, D-Coded, 4-pole

**Bus Connectors:**
- Power In: Male Mini-Change®, 5-pole
- Power Out: Female, Mini-Change®, 5-pole

**Power Requirements:**
- Module input power: 24V DC
- Module output power: 24V DC (16 to 28V), 8.0A max per module

**Communication Rate:**
- 10/100 Mbps auto-sensing, auto detecting, full duplex

**IP Address Capabilities:**
- DCP (default), static address

**Fieldbus Specifications:**
- PROFINET IO-Device (according to specification v2.2)

**Input Type:**
- Compatible with dry contact, PNP or NPN, 2/3-wire sensors
- Electronic short circuit protection

**Input Delay:**
- 2.5ms default or configurable through PROFINET

**Input Device Supply:**
- 200mA per port at 25°C

**Output Load Current:**
- Maximum 2.0A per channel
- Electronic short circuit protection

**Maximum Switching Frequency:** 200Hz

**Housing Dimensions:**
- 60 x 220 x 20mm (2.36"x8.66"x0.78")

**Mounting Dimensions:**
- 37.50mm (1.48") horizontal on centers
- 210mm (8.27") vertical on centers
- Center hole

**Operating Temperature:** -20 to +70°C

**Storage Temperature:** -40 to +85°C

**RH Operating:** 5 to 95% non-condensing

**EMC:** IEC 61000-6-2

**Protection:**
- IP67 according to IEC 60529, NEMA 6P

**Vibration:**
- MIL-STD-202F, method 204D, condition A

**Mechanical Shock:**
- MIL-STD-202F, method 213B, condition B

**Thermal Shock:** MIL-STD-1344A

**Approvals:**
- CE, UL, cUL, PROFINET Conformance tested

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### ORDERING INFORMATION

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