



## The Brad® HarshIO IP67 I/O modules provide a reliable solution for connecting industrial controllers to I/O devices in harsh 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 short-circuit detection, and visible diagnostic LEDs offer easy-of-use and operation simple. Following traditional industrial fieldbus practices, standard M8 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 CAN network is created using the M12 Ultra-Lock® connection system which is built into the Brad HarshIO module.

### Features and Benefits

- Rated IP67 for harsh environments
- Compact 30mm design allows space savings for direct machine mount applications
- Tested to vibrations and shocks
- Overmolded module electronics
- Metallic connectors
- Standard hole housing pattern allows for interchangeability with popular I/O modules
- Several I/O configurations to choose including fixed, universal and user configurable versions
- Module power supply via CAN bus
- Supports PNP and NPN input devices
- Choose from several I/O configuration module versions
- Visible diagnostic LEDs provide maintenance personnel with the ability to easily determine I/O, module and network status
- Advanced diagnostics
- Short-circuit diagnostics per I/O channel
- Complete module and channel diagnostics supported via PROFIBUS
- Supports CANopen DS401 profile
- Bus speed up to 1 Mbps

### Applications

- Machine tool industry
- Material handling systems
- Filling and packaging machines
- Steel industry

### LED Indicators

#### Module and Input Power (I):

- Green - power present
- Off - power not connected

#### Digital Input/Output (Ix/Ox):

- Green - input/output on
- Red - input/output fault
- Off - input/output off

#### Output Power (O):

- Green - power present
- Off - power not connected

#### CANopen Network Status (NET)

- Green - operational
- Blinking - pre-operational
- Single flash - stopped

## Brad® HarshIO 300 sCO

Compact 30mm  
CANopen Digital I/O  
Modules



CANopen Certified Compact 30mm HarshIO Module

Module addressing: 1 – 99 by rotary switches or 1 – 125 by Set\_Slave\_Address command

Built-in 2-port CAN for bus wiring topology



#### Diagnostics Error (MOD)

- Green - no error
- Single flash - warning limit reached
- Double flash - error control event
- Triple flash - sync error
- Red - bus off

### Specifications

#### TECHNICAL INFORMATION

##### I/O Configurations:

8 digital channels, fully configurable through ESD file

##### I/O Connectors:

Female, M8, 3-pole

##### Bus Connectors:

Bus In: Male, M12, A-Coded, 5-pole  
Bus Out: Female, M12, A-Coded, 5-pole

##### Power Connectors:

NO - Power supply via CAN bus

##### Power Requirements:

Module input power: 24V DC  
Module output power: 24V DC (16 to 28V), 4.0A max per module

##### Communication Rate:

Auto baud,  
All CAN baud rates up to 1 Mbaud

##### Address Settings:

1 – 99 by 2 rotary switches

##### Fieldbus Specifications:

CANopen Slave, DS401 profile  
I/O data access method according Synchronous Acyclic, Synchronous (Sync) and Asynchronous

##### Input Type:

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

##### Input Delay:

2.5 ms default or configurable through CANopen object parameter

##### Input Device Supply:

200mA per port at 25°C

##### Output Load Current:

Maximum 2A per channel,  
max 4 A per module  
Electronic short circuit protection

##### Maximum Switching Frequency: 300 Hz

##### Housing Dimensions:

30x 175 x 20mm

##### Mounting Dimensions:

23mm horizontal on centers  
168mm vertical on centers  
Center hole

##### Operating Temperature: -25 to +70°C

##### Storage Temperature: -25 to +85°C

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

##### EMC: IEC 61000-6-2

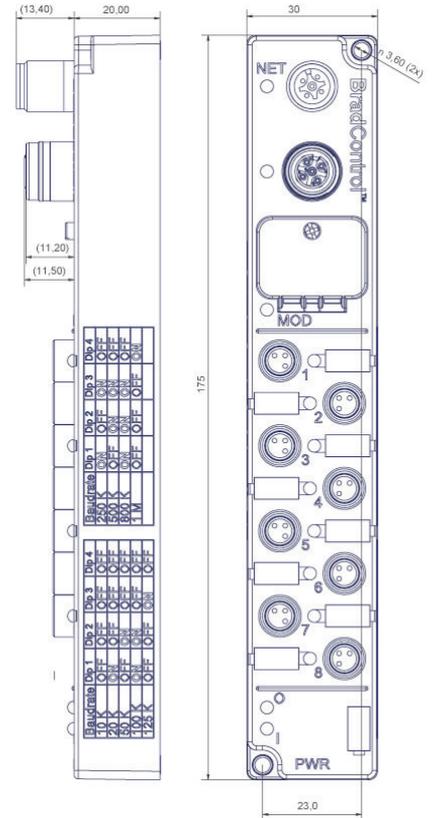
##### Protection: IP67 according to IEC 60529

##### Vibration: IEC 60068-2-6 conformance

##### Mechanical Shock: 10G, 11ms, 3 axis

##### Approvals:

CE, UL, cUL, CANopen Certification



### Ordering Information

Order No.	Engineering No.	No. of Ports	I/O Connectors	I/O Configurations	I/O Channels	I/O Channels
				Input	Output	
TBDCO-880N-804	112098-5006	8	M8	8	0	NPN
TBDCO-862N-804	112098-5004			6	2	NPN
TBDCO-844N-804	112098-5002			4	4	NPN
TBDCO-880P-804	112098-5007			8	0	PNP
TBDCO-862P-804	112098-5005			6	2	PNP
TBDCO-844P-804	112098-5003			4	4	PNP
TBDCO-808P-804	112098-5001			0	8	PNP
TBDCO-8YYX-804	112098-5008			8 I/O universal or user configurable		Configurable

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