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

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Brad® HarshIO 600 sCO

Compact 30mm
CANopen Digital I/O Modules

BradControl™ HarshIO CANopen modules provide a reliable solution for connecting industrial controllers to I/O devices in harsh duty environments. Contained in an IP67 rated housing, BradControl 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 BradControl HarshIO module.

CANopen
CANopen Certified

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 & 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 & 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
- Module addressing: 1 – 99 by rotary switches or 1 – 125 by Set_Slave_Address command
- Built-in 2-port CAN for bus wiring topology

APPLICATIONS

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

LED Indicators

Module & Input Power (I):
Green - power present
Off - power not connected

Output Power (O):
Green - power present
Off - power not connected

Digital Input/Output (Ix/Ox):
Green - input/output on
Red - input/output fault
Off - input/output off

CANopen Network Status (NET)
Green - operational
Blinking - pre-operational
Single flash - stopped

Diagnostics Error (MOD)
Green - no error
Single flash - warning limit reached
Double flash - error control event
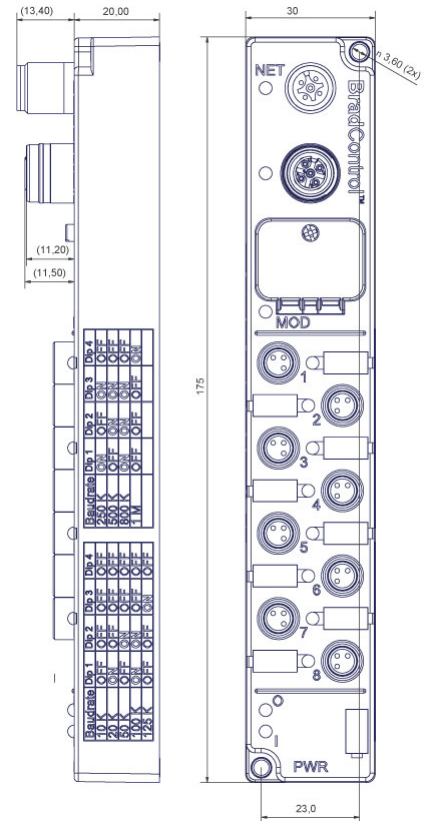Triple flash - sync error
Red - bus off

SPECIFICATIONS

Brad® HarshIO 600 sCO

**Compact 30mm
CANopen Digital I/O Modules**

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 (13 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 profil
I/O data acces 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 (1.18"x6.89"x0.78")

Mounting Dimensions:
23mm (0.91") horizontal on centers
168mm (6.61") 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 Pins	No. of Ports	I/O Connectors	I/O Configurations		I/O Channels
					Input	Output	
TBDCO-880N-804	112098-5006	-	8	M8	8	0	NPN
TBDCO-862N-804	112098-5004	-	8	M8	6	2	NPN
TBDCO-844N-804	112098-5002	-	8	M8	4	4	NPN
TBDCO-880P-804	112098-5007	-	8	M8	8	0	PNP
TBDCO-862P-804	112098-5005	-	8	M8	6	2	PNP
TBDCO-844P-804	112098-5003	-	8	M8	4	4	PNP
TBDCO-808P-804	112098-5001	-	8	M8	0	8	PNP
TBDCO-8YYX-804	112098-5008	-	8	M8	16 I/O universal or user configurable		Configurable

www.molex.com/link/harshiomodules.html

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