



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

24 Mar. 10
DW2007208

HarshIO 600 eMB

MODBUS TCP

IP67 Modbus TCP I/O block



Features

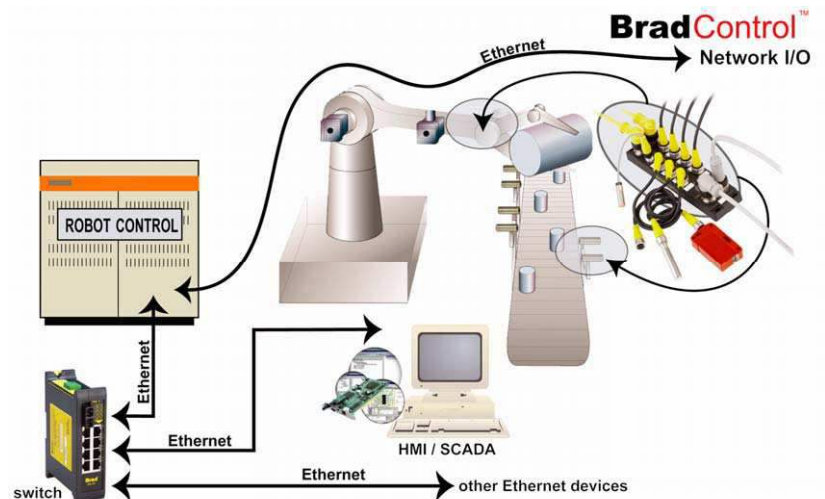
- Supports Modbus TCP (TCP/IP & UDP)
- Accepts M12 threaded connectors or BradConnectivity™ Ultra-Lock™ connection system
- Standard hole pattern allows for interchangeability with popular I/O modules
- Supports PNP & NPN input devices
- Several I/O configurations to choose from
 - TCDEM-8YYX-DIU offers 16 points of configurable I/O where the user can configure each point as either an input, output or input/output
- Visible LEDs provide maintenance personnel with the ability to easily determine I/O, module & network status
- Rated IP67 for harsh environments
- Designed for direct machine mount applications
- IP addressing via Bootp, DHCP or static (through web interface, push button & Modbus commands)
- Scrolling 4 characters status display for IP addressing and module status
- Built-in 3-port Ethernet switch
 - 10/100 Mbps auto-sensing and crossover capability
- Built-in web server for remote monitoring, configuration and diagnostics
- Configurable I/O capability (through web interface & Modbus commands)
- Watchdog

Typical Applications

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

I/O Systems for Harsh Duty Environments

BradControl™ Modbus I/O 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 network features such as 10/100 Mbps auto-sensing, 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 Ultra-Lock™ connection system built into the BradControl Ethernet I/O module.



LED Indicators

Module & Input Power (I):

Green –power present
Off –power not connected

Output Power (O):

Green –power present
Off –power not connected

Display Box:

Inform about Ethernet address, I/O and Watchdog status

Input / Output (Ix / Ox):

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

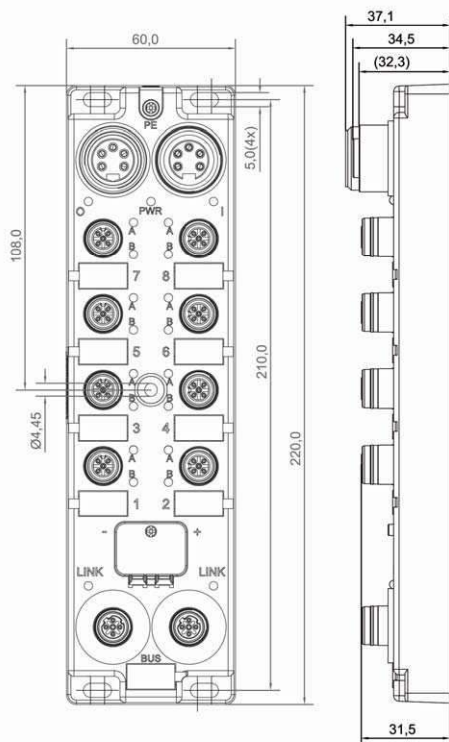
Ethernet Link (LNK 1/2):

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.



Technical Information

I/O Configurations	16 inputs 14 inputs / 2 outputs 12 inputs / 4 outputs 8 inputs / 8 outputs 16 Universal & user configurable input / output channels
I/O Connectors	Micro-Change [®] 5-pole M12 female BradConnectivity [™] Ultra-Lock [™] , internally threaded
Ethernet Connectors	2 connectors 4-pole female M12 D-Coded Ultra-Lock Acting as a switch. Crossover capability
Power Connectors	Power in : male Mini-Change 4-pole or 5-pole Power out : female Mini-Change 4-pole or 5-pole
Power Requirements	Module & input power : 24 Vdc, Module output power : 24 Vdc (13 ↔ 28 V), 8A max per bloc
Communications Rate	10/100 Mbps auto-sensing, auto-detecting, full duplex
IP Address Capabilities	BOOTP (default), DHCP, static address
Protocol	Modbus (TCP & UDP) Function code: 01, 02, 03, 04, 05, 06, 15, 16, 23
Input Type	Compatible with dry contact and PNP or NPN 3-wire switches. Electronic short circuit protection
Input Delay	2.5 ms default or Configurable through Modbus messaging
Input Device Supply	200 mA per port at 25°C
Output Load Current	Maximum 2.0 A per channel Electronic short circuit protection
Max. Switching Freq.	200 Hz
Housing Dimensions	60mm x 220mm x 20mm (2.36 x 8.66 x .78 inches)
Mounting Dimensions	37.5 mm (1.48 inches) horizontal on centers 210 mm (8.27 inches) vertical on centers Center hole
Operating Temperature	-20°C to 70°C (-4°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Protection	IP67 according to IEC 60529
Vibration	IEC 60068-2-6
Mechanical Shock	10G, 11ms, 3 axis
Approvals	CE, UL, cUL

Ordering Information

	Part Number	SAP number	Product Description
4-pin Power	TCDEM-8D0N-DYU	112095-5021	8-port, M12 Ultra-Lock, 16 input, NPN
	TCDEM-8C2N-DYU	112095-5022	8-port, M12 Ultra-Lock, 14 input, 2 output, NPN
	TCDEM-8B4N-DYU	112095-5023	8-port, M12 Ultra-Lock, 12 input, 4 output, NPN
	TCDEM-888N-DYU	112095-5024	8-port, M12 Ultra-Lock, 8 input, 8 output, NPN
	TCDEM-8D0P-DYU	112095-5025	8-port, M12 Ultra-Lock, 16 input, PNP
	TCDEM-8C2P-DYU	112095-5026	8-port, M12 Ultra-Lock, 14 input, 2 output, PNP
	TCDEM-8B4P-DYU	112095-5027	8-port, M12 Ultra-Lock, 12 input, 4 output, PNP
	TCDEM-888P-DYU	112095-5028	8-port, M12 Ultra-Lock, 8 input, 8 output, PNP
	TCDEM-8YXX-DYU	112095-5038	8-port, M12 Ultra-Lock, 16 I/O user configurable
5-pin Power	TCDEM-8D0N-D1U	112095-0007	8-port, M12 Ultra-Lock, 16 input, NPN
	TCDEM-8C2N-D1U	112095-0005	8-port, M12 Ultra-Lock, 14 input, 2 output, NPN
	TCDEM-8B4N-D1U	112095-0003	8-port, M12 Ultra-Lock, 12 input, 4 output, NPN
	TCDEM-888N-D1U	112095-0001	8-port, M12 Ultra-Lock, 8 input, 8 output, NPN
	TCDEM-8D0P-D1U	112095-0008	8-port, M12 Ultra-Lock, 16 input, PNP
	TCDEM-8C2P-D1U	112095-0006	8-port, M12 Ultra-Lock, 14 input, 2 output, PNP
	TCDEM-8B4P-D1U	112095-0004	8-port, M12 Ultra-Lock, 12 input, 4 output, PNP
	TCDEM-888P-D1U	112095-0002	8-port, M12 Ultra-Lock, 8 input, 8 output, PNP
	TCDEM-8YXX-D1U	112095-0009	8-port, M12 Ultra-Lock, 16 I/O user configurable

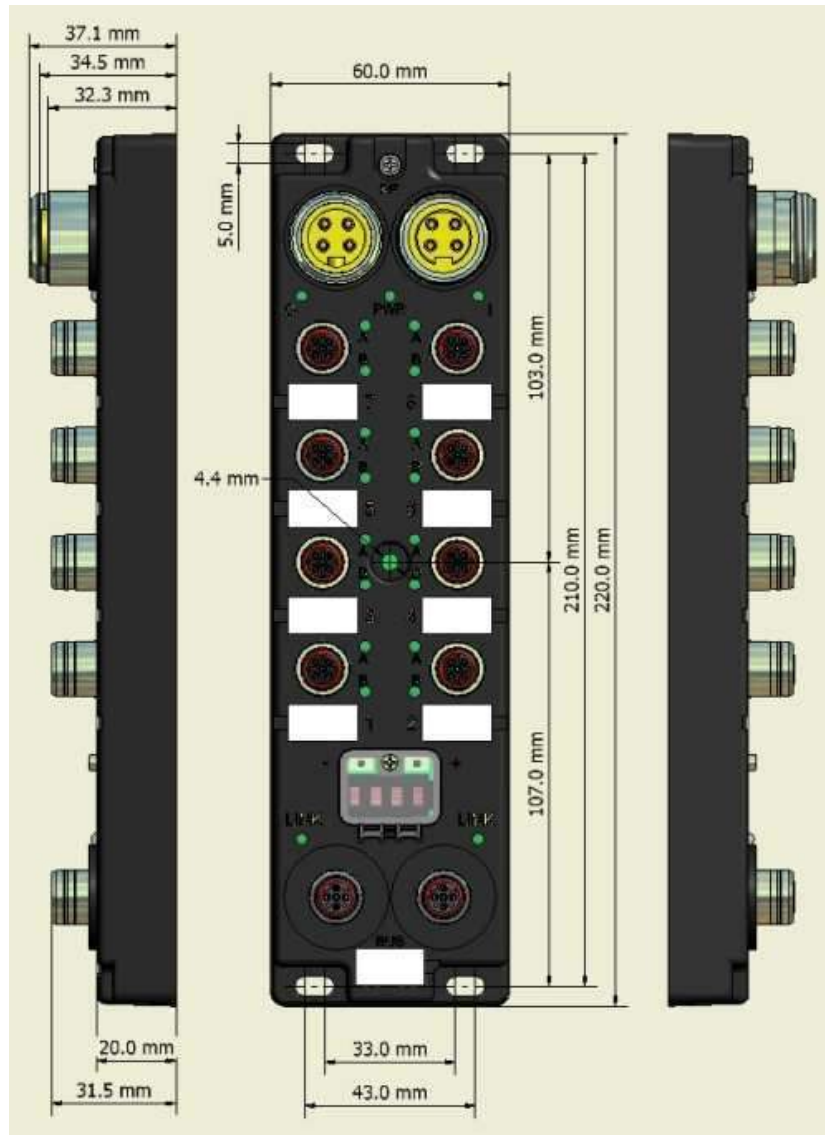
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Part Number	Description
TCDEM-8D0N-DYU	IO:MDB/TCP:IP67:60MM:8P4:16DI:NPN
TCDEM-8C2N-DYU	IO:MDB/TCP:IP67:60MM:8P4:14DI/2DO:NPN
TCDEM-8B4N-DYU	IO:MDB/TCP:IP67:60MM:8P4:12DI/4DO:NPN
TCDEM-888N-DYU	IO:MDB/TCP:IP67:60MM:8P4:8DI/8DO:NPN
TCDEM-8D0P-DYU	IO:MDB/TCP:IP67:60MM:8P4:16DI:PNP
TCDEM-8C2P-DYU	IO:MDB/TCP:IP67:60MM:8P4:14DI/2DO:PNP
TCDEM-8B4P-DYU	IO:MDB/TCP:IP67:60MM:8P4:12DI/4DO:PNP
TCDEM-888P-DYU	IO:MDB/TCP:IP67:60MM:8P4:8DI/8DO:PNP
TCDEM-8YYX-DYU	IO:MDB/TCP:IP67:60MM:8P4:16 DCONFIG

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