

2x FIXING HOLES  
SUITABLE FOR M3  
SCREWS

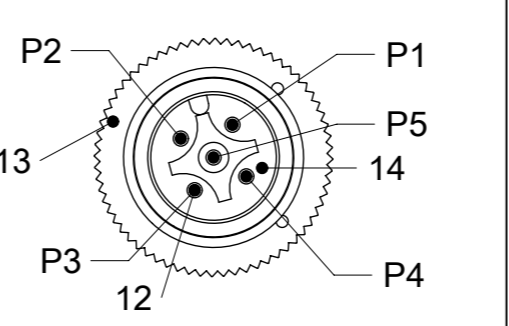
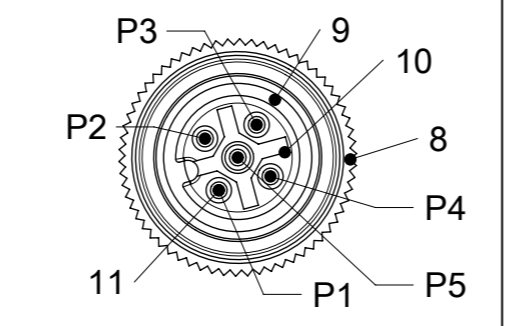
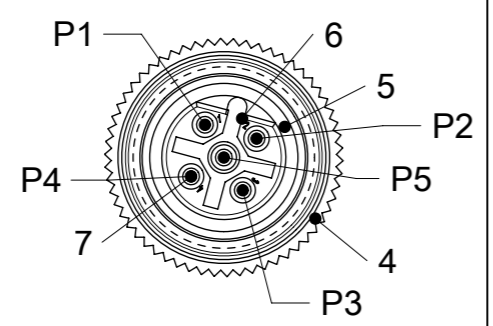
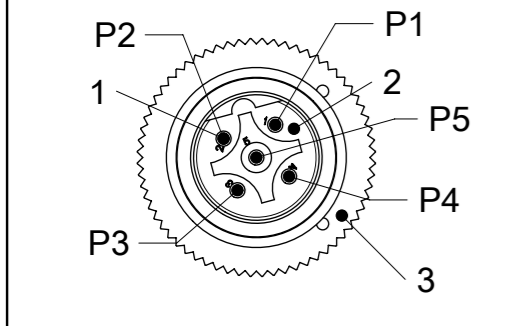
<b>QUALITY SYMBOLS</b> ▽A = 0 ▽E = 0 ▽F = 0 ▼ = 0 ▽C = 0 ⊠ = 0 ■ = 0 ▽ = 0	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION											
	EC NO: 111427	2016/12/13	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION UNITS	SCALE						
	DRWN: ULETTENMEIER	2016/12/14	ANGULAR TOL ± °		MM	1:1						
	CHK'D:		4 PLACES ±	DRWN BY		DATE		DBO PB 30 MM M12 5P MA BC U12 5P FE BC U12 5P 4PT FM AC M12 5P MA AC				
	APPR: RSILLER		3 PLACES ±	ULETTENMEIER		2015/01/26						
			2 PLACES ±	CHK'D BY		DATE		PRODUCT CUSTOMER DRAWING				
			1 PLACE ± 0.3	APPR BY		DATE						
			0 PLACES ± 0.5	RSILLER		2015/05/20		SERIES	MATERIAL NUMBER	CUSTOMER		
			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	DRAWING SIZE		THIRD ANGLE PROJECTION		112038	SEE TABLE 1	GENERAL MARKET		
				A3				DOCUMENT NUMBER		DOC TYPE	DOC PART	SHEET NUMBER
							1120380003		PSD	000	1 OF 3	

**A**  
BUS:  
1x MALE M12 5P B-CODE

**B**  
BUS:  
1x FEMALE M12 5P B-CODE

**C**  
OUTPUT / OUTPUT:  
4X FEMALE M12 5P A-CODE

**D**  
POWER:  
1x MALE M12 5P AC-CODE



WIRING INFORMATION:  
P1 - Power 5 VDC  
P2 - BUS A  
P3 - Ground  
P4 - BUS B  
P5 - Shield/PE

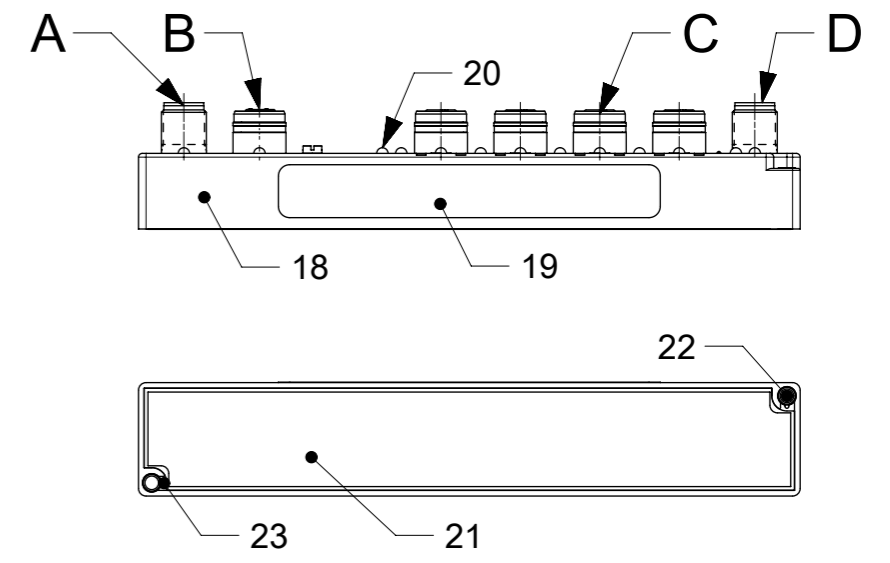
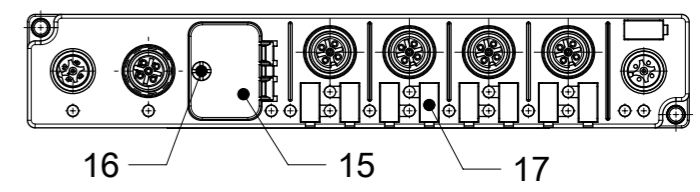
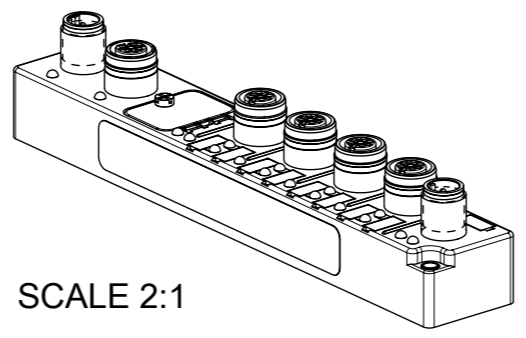
WIRING INFORMATION:  
P1 - Power 5 VDC  
P2 - BUS A  
P3 - Ground  
P4 - BUS B  
P5 - Shield/PE

WIRING INFORMATION:  
P1 - +24VDC  
P2 - B Input or Output  
P3 - Ground  
P4 - A Input or Output  
P5 - Shield/PE

WIRING INFORMATION:  
P1 - Module and Input power  
P2 - Output power  
P3 - Ground  
P4 - Ground  
P5 - Protected Earth

**BILL OF MATERIAL**

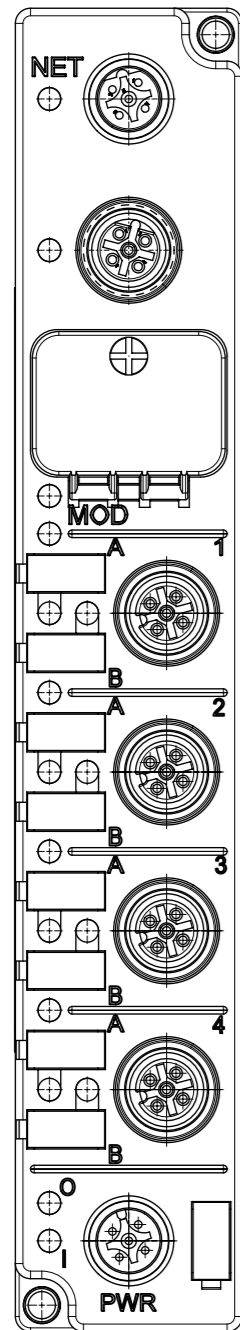
ITEM	DESCRIPTION	MATERIAL	FINISH
1	CONTACT	COPPER ALLOY	GOLD OVER NICKEL
2	INSERT	TPU	BLACK
3	SHELL	BRASS	NICKEL PLATET
4	SHELL	BRASS	NICKEL PLATET
5	GASKET	FPM	RED
6	INSERT	TPU	BLACK
7	CONTACT	COPPER ALLOY	GOLD OVER NICKEL
8	SHELL	BRASS	NICKEL PLATET
9	GASKET	FPM	RED
10	INSERT	PUR	BLACK
11	CONTACT	COPPER ALLOY	GOLD OVER NICKEL
12	CONTACT	COPPER ALLOY	GOLD OVER NICKEL
13	SHELL	BRASS	NICKEL PLATET
14	INSERT	TPU	BLACK
15	WINDOW	PC	TRANSPARENT
16	SCREW	V2A	V2A
17	LABEL	PC	WHITE
18	HOUSING	PBT	BLACK
19	LABEL	PVC	YELLOW
20	LED	PA	TRANSPARENT
21	LABEL	PVC	WHITE
22	SLEEVE	BRASS	NICKEL
23	RESIN	EPOXY	TRANSPARENT



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	EC NO: 111427 DRWN: ULETTENMEIER CHK'D: APPR: RSILLER	GENERAL TOLERANCES (UNLESS SPECIFIED) ANGULAR TOL ± °	DRWN BY: ULETTENMEIER DATE: 2015/01/26	DATE: 2016/12/14		SERIES: 112038 MATERIAL NUMBER: SEE TABLE 1 CUSTOMER: GENERAL MARKET
		4 PLACES ± 3 PLACES ± 2 PLACES ± 1 PLACE ± 0.3 0 PLACES ± 0.5	CHK'D BY: RSILLER DATE: 2015/05/20	DRAWING SIZE: A3 THIRD ANGLE PROJECTION		DOCUMENT NUMBER: 1120380003 DOC TYPE: PSD DOC PART: 000 SHEET NUMBER: 2 OF 3
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				

TABLE 1 UNIVERSAL PRINTING

POWER TYPE	INPUT / OUTPUT	PROFIBUS			
		ENG.NO.	MOLEX P/N	3D MODEL NO.	
M12 MALE 5P	NPN	8I	TBDPB-480N-B8U	1120380009	1120380003 (PDM)
		6I/2O	TBDPB-462N-B8U	1120380007	
		4I/4O	TBDPB-444N-B8U	1120380005	
	PNP	8I	TBDPB-480P-B8U	1120380011	
		6I/2O	TBDPB-462P-B8U	1120380008	
		4I/4O	TBDPB-444P-B8U	1120380006	
	8O	TBDPB-408P-B8U	1120380003		



UNIVERSAL PRINTING

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	EC NO: 111427 DRWN: ULETTENMEIER CHK'D: APPR: RSILLER	2016/12/13 2016/12/14	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION UNITS	SCALE						
			ANGULAR TOL ± °		MM	1:1						
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			3 PLACES ±	ULETTENMEIER		2015/01/26						
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	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		DRAWING SIZE	THIRD ANGLE PROJECTION			112038	SEE TABLE 1	GENERAL MARKET			
			A3				DOCUMENT NUMBER	DOC TYPE	DOC PART	SHEET NUMBER		
						1120380003	PSD	000	3 OF 3			



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

## PROFIBUS® Discrete I/O Modules

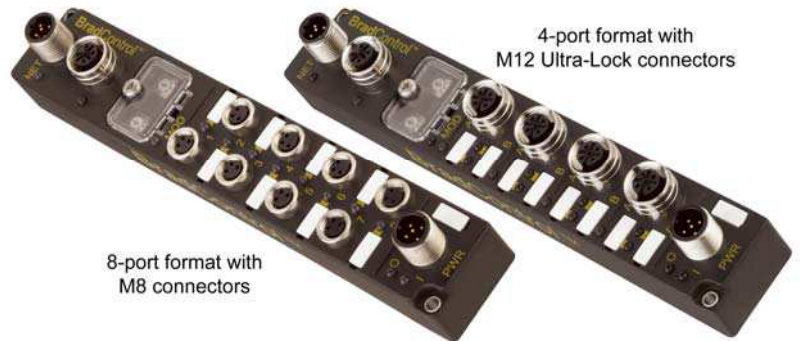
### IP67 Compact 30mm Format

#### Features

- Compact design allows space savings for direct machine mount applications
- 4 port format uses standard M12 threaded connectors or BradConnectivity Ultra-Lock connection system
- Standard hole pattern allows for interchangeability with popular I/O modules
- Supports PNP and NPN inputs
- Choose from several I/O configurations
- Visible diagnostics through status LEDs
- Module and channel diagnostics supported through PROFIBUS
- Supports PROFIBUS Slave DP-V0 in accordance with EN 50170

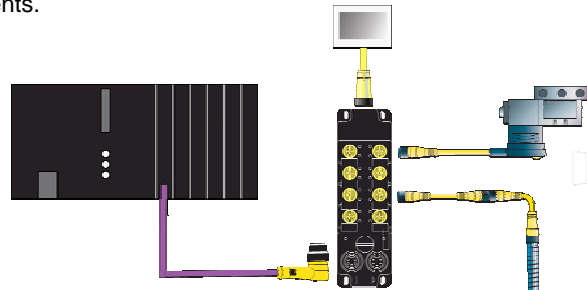
#### Typical Applications

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



### I/O Systems for Harsh Environments

The BradControl™ Compact 30mm I/O modules for PROFIBUS® provide a reliable solution for connecting industrial controllers to I/O devices in harsh environments.



Contained in a 30mm wide housing rated for IP67 environments, 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.

To facilitate input and output device wiring, two versions of the BradControl Compact 30mm I/O modules for PROFIBUS are available; an 8 port format using M8 style connectors and a 4 port format using standard M12 threaded connectors or BradConnectivity™'s new Ultra-Lock™ connection system, a "push-to-lock" method that provides a fast, simple and secure connection between the I/O module and I/O devices. With the Ultra-Lock connection system, performance and reliability are designed right into the connector! The unique radial seal design provides a reliable, operator independent seal each and every time. There's no chance for under- or over-tightening. When you hear and feel the connector click, you know it's locked in – there's no guesswork.

Other features include the support of both PNP and NPN inputs and current sourcing outputs. Built-in diagnostic tools include the highly visible LEDs which provide maintenance personnel with the ability to easily determine I/O, module and network status.

PROFIBUS specific features include support of module and channel diagnostics through PROFIBUS and PROFIBUS Slave DP-V0 in accordance with EN 50170.



## LED Indicators

### PROFIBUS Network Status (NET):

Green – running  
Red – device not configured

### I/O Module Diagnostics (MOD):

Off – no fault  
Red – fault

### Module & Input Power (I):

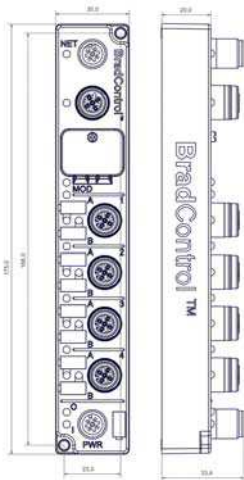
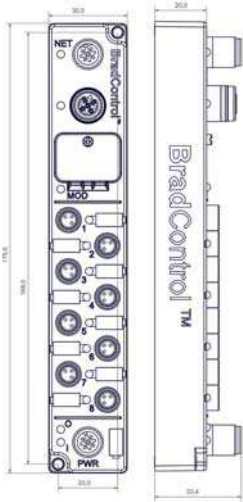
Green – external supply present

### Input / Output:

(4 Port - 1A to 4B)

(8 Port - 1 to 8)

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



## Technical Information

I/O Configurations	8 inputs 8 outputs 4 inputs / 4 outputs 6 inputs / 2 outputs
I/O Connectors	5-pole female M12 BradConnectivity™ Ultra-Lock™ or 3-pole female threaded M8 connectors
Bus Connectors	Bus in: male reverse keyway M12 5-pole, B-Coded Bus out: female reverse keyway M12 5-pole, B-Coded
Power Connector	Power in: male Micro-Change® M12 5-pole
External Power Requirements	Module & input power: 24 Vdc, device current + module Output power: 24 Vdc (13 ... 28V), 4A max per module
Baud Rate Settings	Auto baud. All PROFIBUS® baud rates up to 12 Mbaud
Address Settings	1 – 99 by rotary switches. 1 – 126 by Set_Slave_Address command.
Input Type	Dry contact, PNP or NPN
Input Delay	3 ms
Input Device Supply	140 mA per port at 25°C
Output Load Current	Sourcing, max 1.4 A per channel, max 4 A per module
Maximum Switching Frequency	200 Hz
Housing Dimensions	30 x 175 x 20 mm (1.18 x 6.89 x 0.78 inches)
Mounting Dimensions	23 mm (0.91 inches) horizontal on centers 168 mm (6.61 inches) vertical centers
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-25°C to 90°C (-13°F to 194°F)
RH Operating	5 to 95% non-condensing
EMC	IEC 61000-6-2
Protection	IP67 according to IEC 60529
Vibration	IEC 60068-2-6 conformance
Shock	10G, 11ms, 3 axis
Input Signal Voltage	“0”: -2V ... 7 Volts / “1”: 9 ... 30 Volts
Output Voltage	Auxiliary power value - 1 Volt.
Approvals	CE, UL, CUL, PNO certification

## Ordering Information

Part Number	Product Description – Compact
TBDPB-480N-B8U	4 Port M12 – 8 inputs NPN
TBDPB-462N-B8U	4 Port M12 – 6 inputs NPN / 2 outputs
TBDPB-444N-B8U	4 Port M12 – 4 inputs NPN / 4 outputs
TBDPB-480P-B8U	4 Port M12 – 8 inputs PNP
TBDPB-462P-B8U	4 Port M12 – 6 inputs PNP / 2 outputs
TBDPB-444P-B8U	4 Port M12 – 4 inputs PNP / 4 outputs
TBDPB-408P-B8U	4 Port M12 – 8 outputs - sourcing
TBDPB-880N-B84	8 Port M8 – 8 inputs NPN
TBDPB-862N-B84	8 Port M8 – 6 inputs NPN / 2 outputs
TBDPB-844N-B84	8 Port M8 – 4 inputs NPN / 4 outputs
TBDPB-880P-B84	8 Port M8 – 8 inputs PNP
TBDPB-862P-B84	8 Port M8 – 6 inputs PNP / 2 outputs
TBDPB-844P-B84	8 Port M8 – 4 inputs PNP / 4 outputs
TBDPB-808P-B84	8 Port M8 – 8 outputs - sourcing

To contact us: [www.woodhead.com](http://www.woodhead.com)

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from Woodhead Industries

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