

**IP67 rated digital IO modules for harsh environments are designed for direct machine mount applications.**

## Specifications

PROFIBUS DP-V0 Slave according EN 50170  
Auto baud: all baud rates up to 12M Baud  
Address Settings: 1 – 99 by 2 rotary switches  
Operating Temperature: -25 to +70°C  
Storage Temperature: -25 to +90°C  
Approvals: CE, UL, PNO Certification



## Brad® PROFIBUS Harsh IO Modules

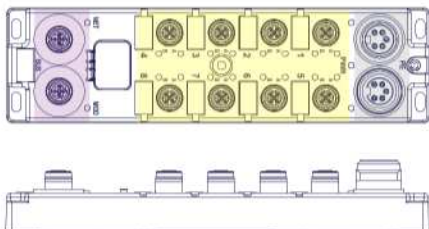


Brad® Harsh IO IP67 PROFIBUS Modules  
60mm and 30mm

User manual and GSD files to download under:  
[www.molex.com](http://www.molex.com) (select Brad Automation Products Support Center)

## Ordering Information

### Brad® Harsh IO IP67 PROFIBUS Module – 60mm M12



#### Connectivity

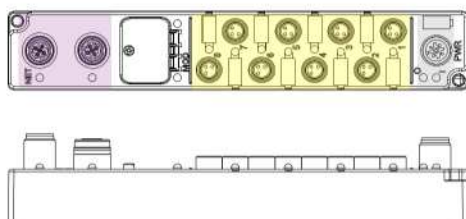
**PROFIBUS:**  
1x Male M12 5P  
B-Code  
1x Fem. M12 5P  
B-Code

**Inputs/Outputs:**  
8x Female M12  
5P A-CodeDual IO  
signal per port  
Inputs 24V max.  
140mA Outputs  
24V max. 2A Ultra-  
Lock® compatible

**Power:**  
1x Male 7/8"  
5 Poles  
1x Female 7/8"  
5 Poles  
Voltage: 24V Input  
& Output, max.  
8 Amps

| Power Type  | Input/ Output |        | Engineering No. | Standard Order No. |
|-------------|---------------|--------|-----------------|--------------------|
| 7/8" 5 Pole | NPN           | 16I    | TCDPB-8D0N-B1U  | 112038-0030        |
|             |               | 14I/2O | TCDPB-8C2N-B1U  | 112038-0028        |
|             |               | 12I/4O | TCDPB-8B4N-B1U  | 112038-0026        |
|             |               | 8I/8O  | TCDPB-888N-B1U  | 112038-0024        |
|             | User Config.  |        | TCDPB-8YYX-B1U  | 112038-5005        |
|             | PNP           | 16I    | TCDPB-8D0P-B1U  | 112038-0031        |
|             |               | 14I/2O | TCDPB-8C2P-B1U  | 112038-0029        |
|             |               | 12I/4O | TCDPB-8B4P-B1U  | 112038-0027        |
|             |               | 8I/8O  | TCDPB-888P-B1U  | 112038-0025        |

### Brad® Harsh IO IP67 PROFIBUS Module – 30mm M8



#### Connectivity

**PROFIBUS:**  
1x Male M12 5P  
B-Code  
1x Fem. M12 5P  
B-Code

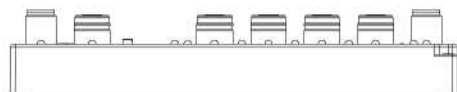
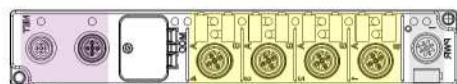
**Inputs/Outputs:**  
8x Female M8  
3 Poles  
Single IO signal  
per port  
Inputs 24V max.  
140mA  
Outputs 24V max.  
1,4A

**Power:**  
1x Male M12 5 Pole  
Voltage: 24V Input  
& Output, max.  
4 Ampere

| Power Type    | Input/ Output |       | Engineering No. | Standard Order No. |
|---------------|---------------|-------|-----------------|--------------------|
| M12<br>5 Pole | NPN           | 8I    | TBDPB-880N-B84  | 112038-0019        |
|               |               | 6I/2O | TBDPB-862N-B84  | 112038-0017        |
|               |               | 4I/4O | TBDPB-844N-B84  | 112038-0015        |
|               | PNP           | 8I    | TBDPB-880P-B84  | 112038-0021        |
|               |               | 6I/2O | TBDPB-862P-B84  | 112038-0018        |
|               |               | 4I/4O | TBDPB-844P-B84  | 112038-0016        |
|               |               | 8O    | TBDPB-808P-B84  | 112038-0014        |

### Ordering Information

#### Brad® Harsh IO IP67 PROFIBUS Module – 30mm M12



#### Connectivity

**PROFIBUS:**  
1x Male M12 5P  
B-Code  
1x Fem. M12 5P  
B-Code

**Inputs/Outputs:**  
4x Female M12  
5P A-Code Dual IO  
signal per port  
Inputs 24V max.  
140mA Outputs  
24V max. 1.4A  
Ultra-Lock®  
compatible

**Power:**  
1x Male M12 5 Pole  
Voltage: 24V Input  
& Output, max.  
4 Ampere

| Power Type    | Input/Output |       | Engineering No. | Standard Order No. |
|---------------|--------------|-------|-----------------|--------------------|
| M12<br>5 Pole | NPN          | 8I    | TBDPB-480N-B8U  | 112038-0009        |
|               |              | 6I/2O | TBDPB-462N-B8U  | 112038-0007        |
|               |              | 4I/4O | TBDPB-444N-B8U  | 112038-0005        |
|               | PNP          | 8I    | TBDPB-480P-B8U  | 112038-0011        |
|               |              | 6I/2O | TBDPB-462P-B8U  | 112038-0008        |
|               |              | 4I/4O | TBDPB-444P-B8U  | 112038-0006        |
|               |              | 8O    | TBDPB-408P-B8U  | 112038-0003        |

All Brad® IP67 Harsh IO Modules with Micro-Change® (M12) ports accept both threaded cordsets and the new Brad® Ultra-Lock® Connection System, the fastest, easiest and most secure connection ever.

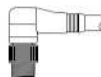


Ultra-Lock® technology is designed for higher performance and reliability to eliminate downtime, increase productivity and lower costs.

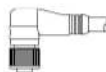
**Plug & Play PROFIBUS infrastructure to interconnect IP67 devices based on B-Code M12 standard connectors. Designed with PUR jacket material for better chemical and oil resistance, low-resistance contact design and 360° shielded head design to reduce RFI/EMI.**

## Ordering Information

### Brad® PROFIBUS Single-Ended M12 Cordsets

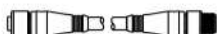


| PROFIBUS Shielded PUR Cable |                 |                    |                 |                    |
|-----------------------------|-----------------|--------------------|-----------------|--------------------|
|                             | Male Straight   |                    | Male 90°        |                    |
| Length                      | Engineering No. | Standard Order No. | Engineering No. | Standard Order No. |
| 5m                          | B05S06PP4M050   | 120098-0104        | B05S07PP4M050   | 120098-0111        |
| 10m                         | B05S06PP4M100   | 120098-0107        | B05S07PP4M100   | 120098-0112        |
| 20m                         | B05S06PP4M200   | 120098-8053        | B05S07PP4M200   | 120098-8054        |
| 30m                         | B05S06PP4M300   | 120098-0108        | B05S07PP4M300   | 120098-8055        |



| PROFIBUS Shielded PUR Cable |                 |                    |                 |                    |
|-----------------------------|-----------------|--------------------|-----------------|--------------------|
|                             | Female Straight |                    | Female 90°      |                    |
| Length                      | Engineering No. | Standard Order No. | Engineering No. | Standard Order No. |
| 5m                          | B05S00PP4M050   | 120098-0087        | B05S01PP4M050   | 120098-0095        |
| 10m                         | B05S00PP4M100   | 120098-0089        | B05S01PP4M100   | 120039-0136        |
| 20m                         | B05S00PP4M200   | 120039-0122        | B05S01PP4M200   | 120098-8056        |
| 30m                         | B05S00PP4M300   | 120098-0222        | B05S01PP4M300   | 120098-8057        |

### Brad® PROFIBUS Double-Ended M12 Cordsets

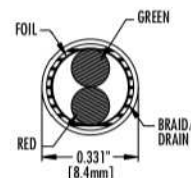


| PROFIBUS Shielded PUR Cable |                         |                    |                       |                     |
|-----------------------------|-------------------------|--------------------|-----------------------|---------------------|
|                             | Female to Male Straight |                    | Female to Male 90°    |                     |
| Length                      | Engineering No.         | Standard Order No. | Engineering No.       | Standard Order No.  |
| 1m                          | BB5S30PP4M010           | 120098-0006        | BB5S33PP4M010         | 120098-0029         |
| 2m                          | BB5S30PP4M020           | 120098-0007        | <b>BB5S33PP4M020*</b> | <b>120098-0031*</b> |
| 5m                          | BB5S30PP4M050           | 120098-0010        | BB5S33PP4M050         | 120098-0033         |
| 10m                         | BB5S30PP4M100           | 120098-0014        | BB5S33PP4M100         | 120098-0035         |
| 15m                         | BB5S30PP4M150           | 120098-0160        | BB5S33PP4M150         | 120098-8050         |
| 20m                         | BB5S30PP4M200           | 120098-0017        | BB5S33PP4M200         | 120098-8051         |
| 30m                         | BB5S30PP4M300           | 120098-0019        | BB5S33PP4M300         | 120098-8052         |

**Brad®  
PROFIBUS  
Infrastructure  
Components**



### PROFIBUS Cable Specification



PROFIBUS Twisted Pair  
AWG22 (0,34mm<sup>2</sup>) cable

Conductors: 2x Red and Green

Jacket Material: Purple PUR

Voltage Rating: 300V

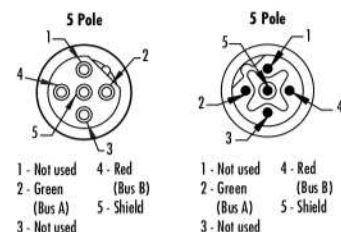
Operating Temperature:  
-40 to +60°C

C-Track compatible (3M cycles)

Bend radius: 10x cable diameter

Approvals: UL, CSA

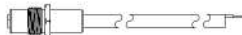
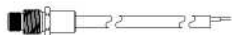
### PROFIBUS M12 B-Code Connector Pinout (front view)



\* Parts in bold belong to the BradExpress Program (see page 3)

## Ordering Information

### Brad® PROFIBUS M12 Receptacles



| PROFIBUS Shielded PUR Cable |                        |                     |                 |                    |
|-----------------------------|------------------------|---------------------|-----------------|--------------------|
|                             | Male                   |                     | Female          |                    |
| Length                      | Engineering No.        | Standard Order No.  | Engineering No. | Standard Order No. |
| 2m                          | BR5U76PP4M0203         | 120099-0015         | BR5U70PP4M0203  | 120099-0007        |
| 4m                          | <b>BR5U76PP4M0403*</b> | <b>120099-0016*</b> | BR5U70PP4M0403  | 120099-0009        |

### Brad® PROFIBUS M12 Field Attachables



| Male            |                    | Female          |                    |
|-----------------|--------------------|-----------------|--------------------|
| Engineering No. | Standard Order No. | Engineering No. | Standard Order No. |
| BA5S06-32*      | 120100-0002*       | BA5S00-32*      | 120100-0001*       |

### Brad® PROFIBUS IP20 Bus Terminators



|          | With Diagnostic   |                     | Without Diagnostic |                     |
|----------|-------------------|---------------------|--------------------|---------------------|
| Desc.    | Engineering No.   | Standard Order No.  | Engineering No.    | Standard Order No.  |
| Straight | <b>MA9D00-42*</b> | <b>120103-5001*</b> | —                  | —                   |
| 90°      | <b>PA9D01-42*</b> | <b>120103-0001*</b> | <b>PA9S01-42*</b>  | <b>120103-0005*</b> |
| 45°      | <b>PA9D0B-42*</b> | <b>120103-0003*</b> | —                  | —                   |

### Brad® PROFIBUS Accessories

| PROFIBUS M12 Male Terminator |                    |
|------------------------------|--------------------|
| Engineering No.              | Standard Order No. |
| B05S06*                      | 120102-0002*       |



\* Parts in bold belong to the BradExpress Program (see page 3)

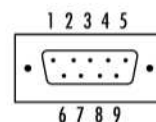
| PROFIBUS M12 Bus Tee |                    |
|----------------------|--------------------|
| Engineering No.      | Standard Order No. |
| PDTS01*              | 120101-0002*       |



## Brad® PROFIBUS Infrastructure Components

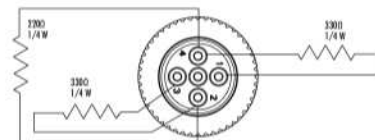


### PROFIBUS Terminator Resistor Wiring



- 1 - Not used
- 2 - Not used
- 3 - Red (Bus B)
- 4 - Not used
- 5 - Not used
- 6 - Not used
- 7 - Not used
- 8 - Green (Bus A)
- 9 - Not used

### PROFIBUS Terminator Resistor Wiring



### PROFIBUS Tee Wiring

