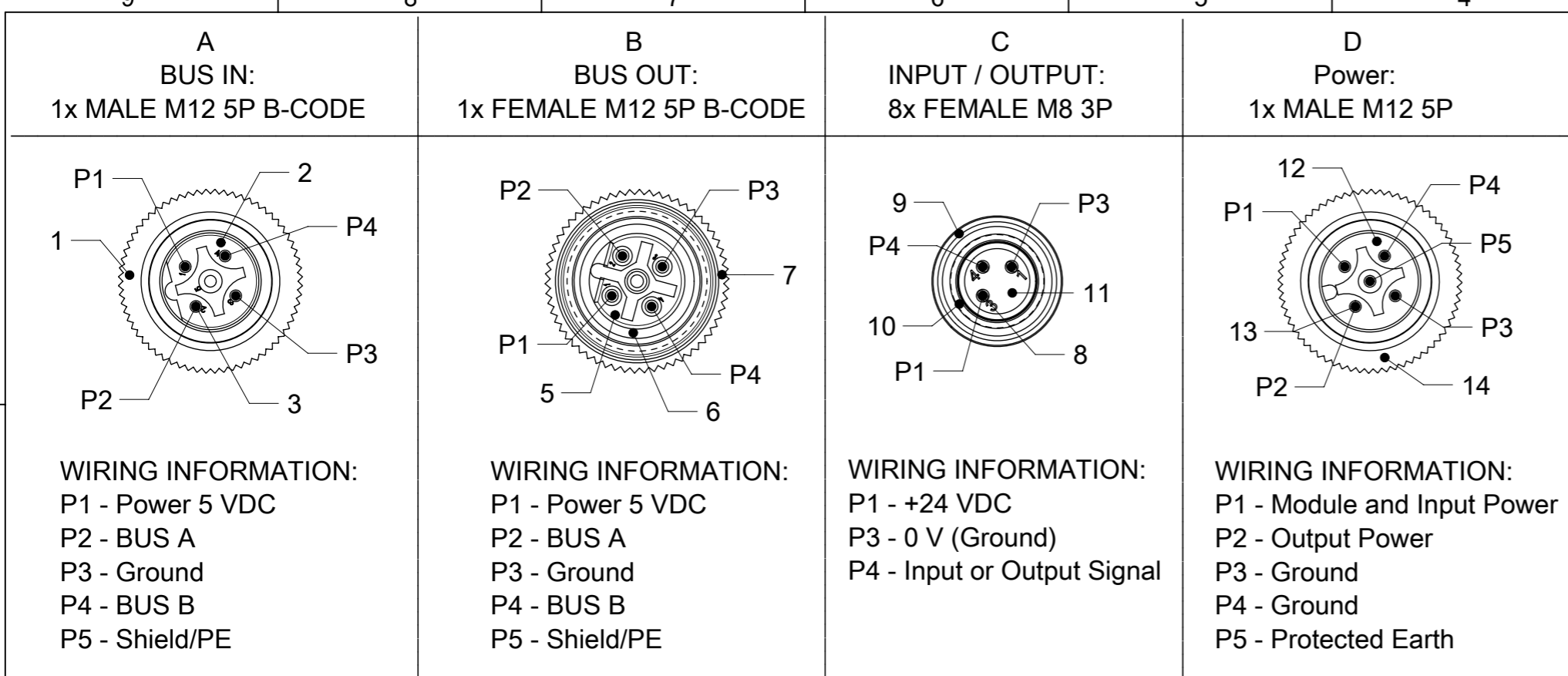


THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION												
QUALITY SYMBOLS	2016/12/13	2016/12/14	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION UNITS	SCALE						
			ANGULAR TOL ± °		MM	1:1						
▽A = 0	EC NO: 111427 DRWN: ULETTENMEIER CHK'D: RSILLER APPR: RSILLER	REV: A3	4 PLACES ±	°	DRWN BY	DATE	<b>DBO PB 30 MM M12 5P MA BC U12 5P FM BC M8 3P 8PT AC M12 5P AC</b>					
▽E = 0			3 PLACES ±	°	ULETTENMEIER	2015/01/27						
▽F = 0			2 PLACES ±	°	CHK'D BY	DATE	<b>PRODUCT CUSTOMER DRAWING</b>					
▼ = 0			1 PLACE ± 0.3	°	APPR BY	DATE						
▽C = 0			0 PLACES ± 0.5	°	RSILLER	2015/05/20	SERIES	MATERIAL NUMBER	CUSTOMER			
⊗ = 0			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				A3	THIRD ANGLE PROJECTION	112038	SEE TABLE 1	GENERAL MARKET	
■ = 0							DOCUMENT NUMBER	DOC TYPE	DOC PART	SHEET NUMBER		
▽ = 0							1120380014	PSD	000	1 OF 3		



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

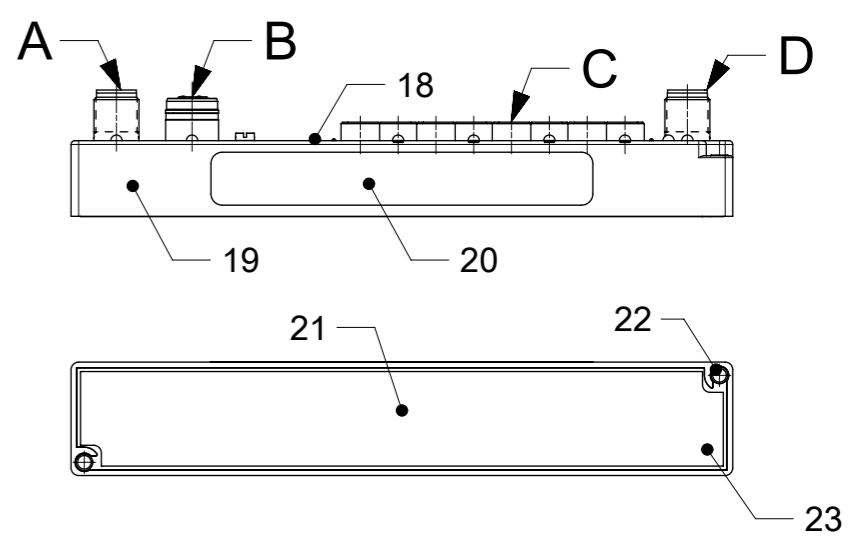
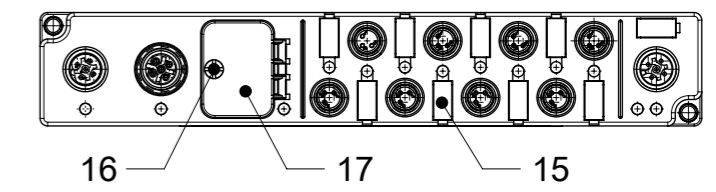
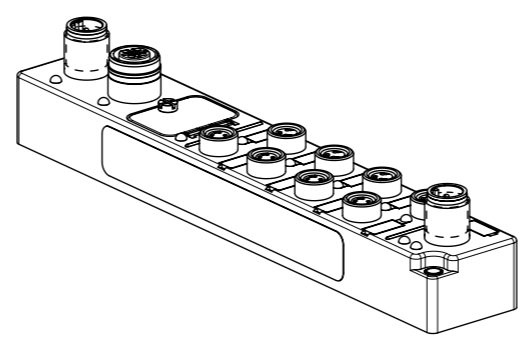
**WIRING INFORMATION:**  
P1 - Power 5 VDC  
P2 - BUS A  
P3 - Ground  
P4 - BUS B  
P5 - Shield/PE

**WIRING INFORMATION:**  
P1 - +24 VDC  
P3 - 0 V (Ground)  
P4 - Input or Output Signal

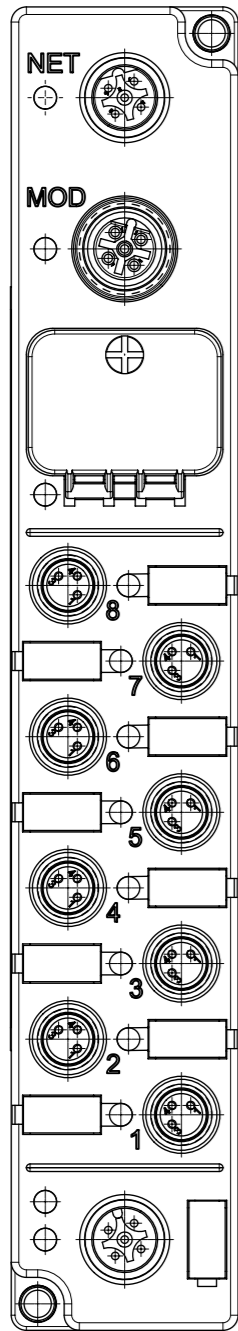
**WIRING INFORMATION:**  
P1 - Module and Input Power  
P2 - Output Power  
P3 - Ground  
P4 - Ground  
P5 - Protected Earth

**BILL OF MATERIAL**

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



<b>QUALITY SYMBOLS</b> ▽ = 0 ▽ = 0 ▽ = 0 ▼ = 0 ▽ = 0 ⊗ = 0 ■ = 0 ▽ = 0	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		DIMENSION UNITS <b>MM</b>	SCALE <b>1:1</b>			
	EC NO: 111427 DRWN: ULETTENMEIER CHK'D: APPR: RSILLER	GENERAL TOLERANCES (UNLESS SPECIFIED) ANGULAR TOL ± °	DRWN BY ULETTENMEIER	DATE 2015/01/27		DBO PB 30 MM M12 5P MA BC U12 5P FM BC M8 3P 8PT AC M12 5P AC	
		4 PLACES ± 3 PLACES ± 2 PLACES ± 1 PLACE ± 0.3 0 PLACES ± 0.5	CHK'D BY DATE	APPR BY RSILLER			DATE 2015/05/20
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	DRAWING SIZE <b>A3</b>	THIRD ANGLE PROJECTION			PRODUCT CUSTOMER DRAWING
RELEASE STATUS P1	RELEASE DATE 14.12.2016 17:27:00	SERIES 112038		MATERIAL NUMBER SEE TABLE 1	CUSTOMER GENERAL MARKET		
DOCUMENT NUMBER 1120380014		DOC TYPE PSD	DOC PART 000	SHEET NUMBER 2 OF 3			



UNIVERSAL PRINTING

TABLE 1 UNIVERSAL PRINTING					
		PROFIBUS			
POWER TYPE	INPUT / OUTPUT	ENG.NO.	MOLEX P/N	3D MODEL NO.	
M12 5 POLE	NPN	8I	TBDPB-880N-B84	1120380019	1120380014 (PDM)
		6I/20	TBDPB-862N-B84	1120380017	
		4I/40	TBDPB-844N-B84	1120380015	
	PNP	8I	TBDPB-880P-B84	1120380021	
		6I/20	TBDPB-862P-B84	1120380018	
		4I/40	TBDPB-844P-B84	1120380016	
		80	TBDPB-808P-B84	1120380014	

<b>QUALITY SYMBOLS</b> 	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION										
	EC NO: 111427 DRWN: ULETTENMEIER CHK'D: RSILLER APPR: RSILLER	2016/12/13		2016/12/14		GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION UNITS		SCALE	
						ANGULAR TOL ± °		MM		1:1	
		4 PLACES ±				DRWN BY		DATE			
		3 PLACES ±				ULETTENMEIER		2015/01/27			
		2 PLACES ±				CHK'D BY		DATE		DBO PB 30 MM M12 5P MA BC U12 5P FM BC M8 3P 8PT AC M12 5P AC	
	1 PLACE ± 0.3				APPR BY		DATE				
	0 PLACES ± 0.5				RSILLER		2015/05/20		PRODUCT CUSTOMER DRAWING		
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				DRAWING SIZE		THIRD ANGLE PROJECTION		SERIES		
					A3				112038		
								MATERIAL NUMBER			
								SEE TABLE 1			
								CUSTOMER			
								GENERAL MARKET			
								DOCUMENT NUMBER			
								1120380014			
								DOC TYPE			
								PSD			
								DOC PART			
								000			
								SHEET NUMBER			
								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

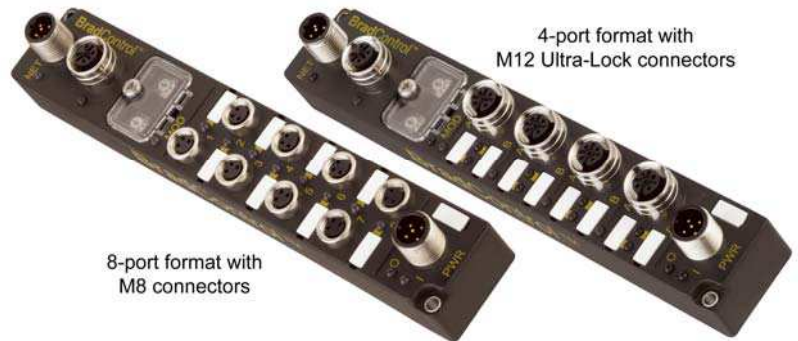
### IP67 Compact 30mm Format

#### 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

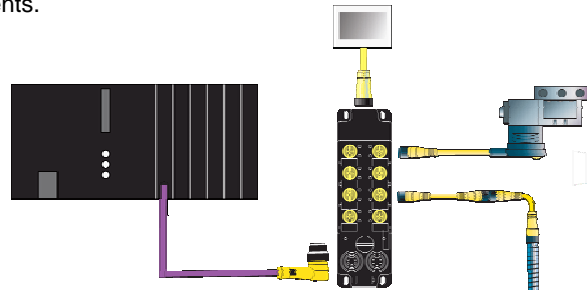
#### Typical Applications

- 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.

## PROFIBUS® I/O Module



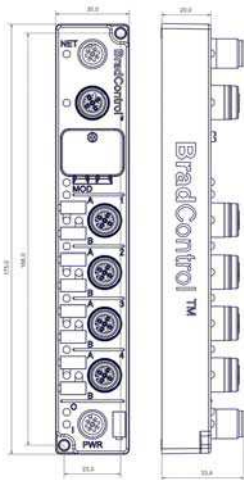
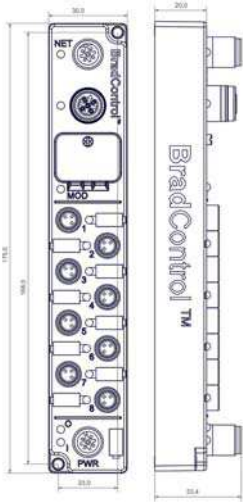
### LED Indicators

**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

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

Reference Number: DW200585

Date Published: September 2006

**BradControl™**  
 from Woodhead Industries

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