



The BradControl™ Block I/O system provides an IP20 I/O interface solution for open network fieldbuses such as PROFIBUS®, DeviceNet™ and Ethernet. Features include expandability, high-density design & DIN rail mounting.

Digital Input/Output Module

16 Channels Providing for 24V DC Inputs & 24V DC Outputs

Features

- Expandable in-cabinet IP20 I/O
- Comprehensive selection of digital and analog I/O interfaces
- Easy field replacement of modules
- Direct wire couplings for assembly cost savings
- Space-saving construction
- High-density design
- Ribbon cable connections between modules
- User markable identification
- LED channel status
- 8 inputs plus 8 outputs
- Inputs available as high speed (PNP sensor compatible)
- Outputs available as 1A or 2A (current sourcing)
- User selectable model provides for inputs and outputs in groups of 4



Overview

The BradControl IP20 Block I/O system is an effective way to connect industrial I/O devices to a PLC or PC controller over an industrial fieldbus network such as PROFIBUS. The BradControl I/O interface solution is comprised of a network adapter and up to 32 expansion modules mounted in an enclosure close to the field devices. The ribbon cable based expansion bus, which handles inter-module communication, operates at 11 Mbd, is permitted to be 6.5 meters in length, and accommodates a maximum of ten groups of modules.

A wide range of control system interface requirements are met with the availability of 24 VDC powered digital input, digital output, relay output, analog input and analog output modules.

Digital Input/Output Module

The BradControl digital input/output module combines eight PNP sensor compatible inputs and eight current sourcing outputs in one module. The available configurations provide for high-speed channels as well as short circuit protected outputs. The BradControl BCB-FDM-165 allows the user to implement the configuration of inputs and outputs in groups of four for enhanced flexibility.

Together with the labeling fields for the individual inputs and outputs, green LEDs (inputs), or yellow LEDs (outputs), show the signal status.



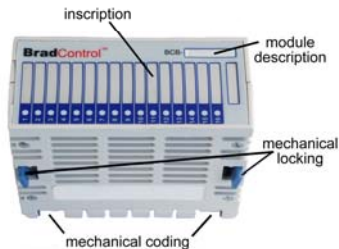
Digital Conversion Module



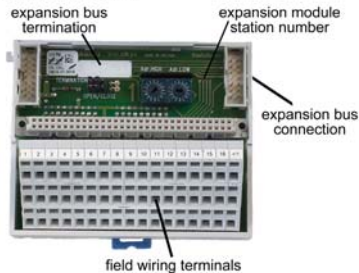
Components

The modular I/O is a combination of the function and terminal modules.

Function Module:



Terminal Module:



Hardware Specifications

Part Number	BCB-FDM-161	BCB-FDM-163	BCB-FDM-164	BCB-FDM-165
Supply Voltage	18 – 30V DC			
Current Consumption BradControl™ Bus (+5V)	Typical 20 mA maximum 40 mA			Typical 30 mA maximum 50 mA
Current Consumption Terminal Block (+24V)	Inputs, 5 mA at 24 Vdc typical			
Digital Inputs – Channel 1 to 8				
Number of Inputs	8			16
Input Current	5 mA at 24 V typical			7 mA at 24 V typical
Switching Threshold	11 V typical			10 V typical
Maximum Input Voltage for Logic 0	8 V			
Minimum Input Voltage for Logic 1	14 V			
Input Delay	5 ms typical	0.5 ms typical	5 ms typical	
Status Display	Green LED			
Digital Outputs – Channel 9 to 16				
Number of Outputs	8			16
Short Circuit Protection	No	Yes		
Supply Voltage	18 – 30 V DC			
Maximum Permitted Continuous Load Current per Output	1 A	2 A		
Voltage Drop over Output (switched on)	≤ 1 V			
Residual Current (switched on)	≤ 1 mA			
Maximum Total Current of all Outputs	6 A (switch-on duration)			All 16 outputs 24 A (100% switch-on duration)
Switch-on Delay	< 10 μs	< 200 μs		
Switch-off Delay	< 30 μs	< 200 μs		
Status Display	Yellow LED			
Operation Temperature	0 – 60°C (32 – 140°F)			
Relative Humidity	0 – 95% non-condensing			

Ordering Information

Part Number	Product Description
BCB-FDM-161	Digital input/output module – 8 inputs, 8 outputs, 1 A
BCB-FDM-163	Digital input/output module – 8 inputs, 8 outputs, 2 A
BCB-FDM-164	Digital input/output module – 8 inputs (0.5ms), 8 outputs, 2 A
BCB-FDM-165	Digital input/output module – 16 inputs to 16 outputs, 2 A
BCB-TDM-013	Terminal module for BCB-FDM-161, BCB-FDM-163 and BCB-FDM-164
BCB-TDM-016	Terminal module for BCB-FDM-165

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