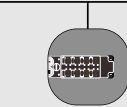# Active I/O Modules

- 16 inputs
- 8 input/8 output
- 8 output

The Brad® active I/O family of DeviceNet I/O modules can control a variety of DC PNP or NPN 24V sensors or dry contacts as well as variety actuators. These modules are intended for heavy-duty industrial use, as they are designed to meet or exceed IP68, NEMA 6P environments such as food processing, metal cutting and welding. Three configurations are available including 16 IN, 8IN/8OUT and 8 OUT to accommodate a variety of applications. Input circuits are provided with auto-configuration to allow either PNP and NPN sensors to be connected. Outputs are overload protected at 1A. A variety of LEDs including network, module, input and output status and auxiliary power indicators are provided to assist in diagnosing and trouble-shooting the network. The node address of the blocks can either be software or dip switch selected.

- Auto-sensing of either PNP/NPN switches allows any combination of devices to be connected providing you with flexibility
- IP68-rated for wash-down packaging and food processing environments
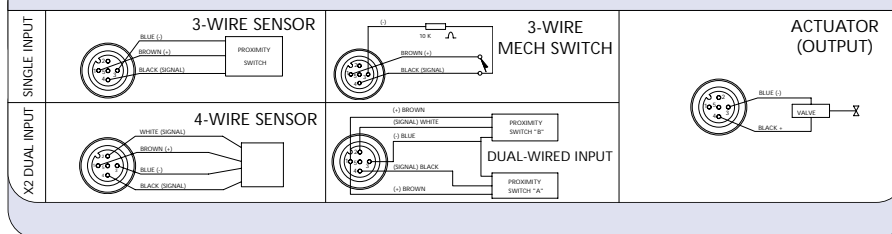- Short-circuit protection on I/O protects blocks from damage, maximizing up-time

Wiring Information

DESCRIPTION	MODULE	FIG.	BUS IN MALE	BUS OUT FEMALE	AUX POWER	INPUTS	OUTPUTS
8 X 2 IN 16 TOTAL INPUTS, AUTO-SENSING PNP/NPN, SHORT-CIRCUIT PROTECTION	TDN-8C0-108 * ***	1					
4 X 2 IN/4 X 2 OUT, 8 INPUT/8 OUTPUTS, AUTO-SENSING PNP/NPN SHORT-CIRCUIT PROTECTION 1A OUTPUT	TDN-888-118 * ** ***	2					
8 X 1 OUT TOTAL 8 OUTPUTS 1A OUTPUT	TDN-808-118 * ** ****	2					

TYPICAL CONNECTIONS

SINGLE INPUT

3-WIRE SENSOR
BLUE (-)
BROWN (+)
BLACK (SIGNAL)
PROXIMITY SWITCH

3-WIRE MECH SWITCH
(-)
10 K
BROWN (+)
BLACK (SIGNAL)

ACTUATOR (OUTPUT)
BLUE (-)
VALVE
BLACK +

X2 DUAL INPUT

4-WIRE SENSOR
WHITE (SIGNAL)
BROWN (+)
BLUE (-)
BLACK (SIGNAL)

(SIGNAL) WHITE
(-) BLUE
PROXIMITY SWITCH "B"
(SIGNAL) BLACK
PROXIMITY SWITCH "A"
(+) BROWN
DUAL-WIRED INPUT

* For bus IN/OUT cordsets use DN10A-M0X0 (bus in) and DN01A-M0X0 (bus out) – see pages 24-27
** For aux power cordsets see pages 64-65
*** For dual I/O cordsets use 884030A05M0X0 or see pages 154-157 of Brad Harrison Designer's Guide
**** For single I/O cordsets use Brad Harrison type 883030A09M0X0 or see pages 94-114 of Brad Harrison Designer's Guide
Note: Use Adaptor P/N BG14616 to connect NC contact from sensor into active module

BRAD HARRISON® From Woodhead Connectivity

Active I/O Modules

Specifications

	TDN-8C0-108	TDN-888-118	TDN-808-118
	16 INPUT	**8 INPUT / 8 OUTPUT**	**8 OUTPUT**
SUPPLY VOLTAGE			
BUS POWER:	11-25V DC	11-25V DC	11-25 V DC
INTERNAL CURRENT CONSUMPTION:	120mA MAX	120mA MAX	120mA MAX
INPUT CIRCUITS:	PNP OR NPN, 3 WIRE SENSORS OR DRY CONTACTS	PNP OR NPN, 3 WIRE SENSORS OR DRY CONTACTS	—
INPUT VOLTAGE:	11-25V (FROM BUS POWER)	11-25V (FROM BUS POWER)	—
SENSOR CURRENT:	100mA MAX PER INPUT PAIR LIMITED BY POLYSWITCH	100mA MAX PER INPUT PAIR LIMITED BY POLYSWITCH	—
OUTPUT CIRCUITS:	—	DC ACTUATORS	DC ACTUATORS
OUTPUT VOLTAGE:	—	10-30V DC (FROM AUXILIARY POWER)	10-30V DC (FROM AUXILIARY POWER)
OUTPUT CURRENT:	—	1A/OUTPUT ELECTRONIC PROTECTION	1A/OUTPUT ELECTRONIC PROTECTION
MAXIMUM SWITCHING FREQUENCY:	—	≤100 HZ	≤100 HZ
NETWORK SETTINGS			
COMMUNICATION RATE:	125K, 250K, OR 500K SET VIA CONFIGURATION SOFTWARE OR DIP SWITCHES ON PRODUCT		
PROTOCOL CAPABILITIES:	GROUP 2 ONLY SLAVE SUPPORTS POLLING, CYCLIC AND CHANGE OF STATE MESSAGING		
ADDRESSING:	0-63 SET VIA CONFIGURATION SOFTWARE OF DIP SWITCHES ON PRODUCT		
INPUT STATUS			
OFF:	SENSOR NOT ACTIVE	SENSOR NOT ACTIVE	—
SOLID YELLOW:	SENSOR ACTIVE	SENSOR ACTIVE	—
SOLID RED:	FAULT PRESENT	FAULT PRESENT	—
OUTPUT STATUS			
OFF:	OUTPUT OFF	OUTPUT OFF	OUTPUT OFF
SOLID GREEN:	OUTPUT ON	OUTPUT ON	OUTPUT ON
SOLID RED:	FAULT PRESENT	FAULT PRESENT	FAULT PRESENT
MECHANICAL			
MATERIAL-HOUSING:	BLACK PBT		
CONTACT PLATING:	GOLD OVER NICKEL, PER ODVA SPECIFICATION		
SHELL MATERIAL:	NICKEL-PLATED BRASS		
ENVIRONMENTAL			
PROTECTION:	IP68: NEMA 6P		
OPERATING TEMP:	32° TO 140° F (0° TO 60° C)		
HUMIDITY:	5 TO 95% RH NON-CONDENSING		
APPROVAL			
ODVA:	COMPLIANT		

LED INDICATORS **MODULE/NETWORK STATUS**	**NETWORK**	**MODULE LED**
OFF:	NOT POWERED OR MAY BE OFF-LINE	NO POWER
FLASHING GREEN:	ON-LINE, NO NETWORK CONNECTION	DEVICE ON STANDBY, NEEDS COMMISSIONING
SOLID GREEN:	ON-LINE, CONNECTIONS ESTABLISHED	DEVICE OPERATIONAL
FLASHING RED:	CONNECTIONS ARE IN TIMED-OUT STATE	RECOVERABLE FAULT – MAYBE CORRECTED W/O REMOVAL FROM NETWORK
SOLID RED:	CRITICAL ERROR SUCH AS DUPLICATE MAC ID OR BUS OFF	UNRECOVERABLE FAULT – MUST BE REMOVED FROM NETWORK FOR CORRECTIONS

MODULE DIMENSIONS

BUS IN MALE MINI-CHANGE CONNECTOR WITH EXTERNAL MALE THREAD
8 POSITION DIP SWITCH MAC ID/BAUD RATE
DUAL INPUT FEMALE CONNECTOR W/M12 INTERNAL THREAD
2.44" [62.00mm]
BUS OUT FEMALE MINI-CHANGE W/INTERNAL THREADS
8.66" [220.0mm]
FIG 1

BUS IN MALE MINI-CHANGE CONNECTOR WITH EXTERNAL MALE THREAD
8 POSITION DIP SWITCH MAC ID/BAUD RATE
DUAL INPUT FEMALE CONNECTOR W/Mx12 INTERNAL THREADS
AUXILIARY POWER 4 POLE MALE MINI-CHANGE, YELLOW
2.44" [62.00mm]
BUS OUT FEMALE MIN-CHANGE W/INTERNAL THREADS
8.66" [220.0mm]
FIG 2