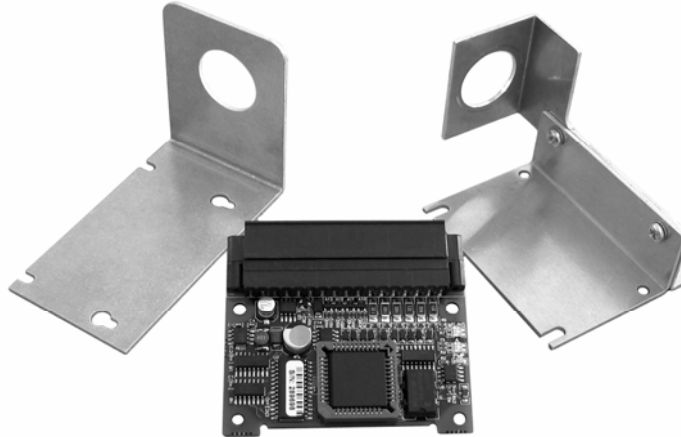


Description

The Holjeron Push Button Controller for DeviceNet™ provides a convenient method to connect push button stations in a DeviceNet™ system.

The Push Button Controller provides six (6) inputs and four (4) outputs.

The Push Button Controller can be purchased as a stand-alone card, or with different brackets, depending on the application. Holjeron can also design brackets to meet specific packaging requirements.



Warranty/Remedy

Seller warrants its products to be free from defects in design, material and workmanship under normal use and service. Seller will repair or replace without charge any such products it finds to be so defective on its return to Seller within 18 months after date of shipment by Seller. **The foregoing is in lieu of all other expressed or implied warranties (except title), including those of merchantability and fitness for a particular purpose.** The foregoing is also purchaser's sole remedy and is in lieu of all other guarantees, obligations, or liabilities or any consequences incidental, or punitive damages attributable to negligence or strict liability, all by way of example.

While Holjeron provides application assistance, personally and through our literature, it is up to the customer to determine the suitability of the product in the application.

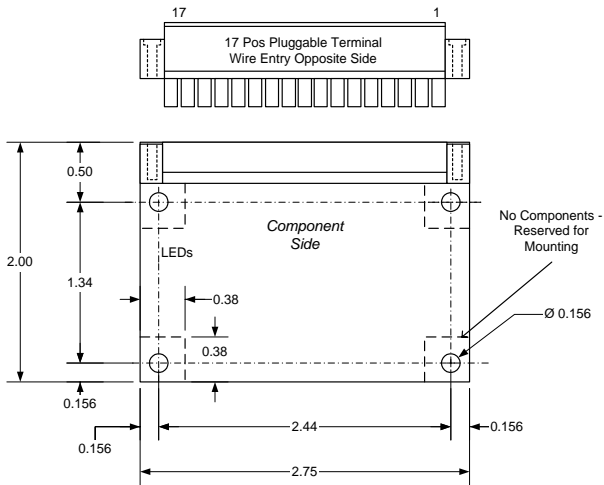
All information contained herein, including illustrations, specifications and dimensions, is believed to be reliable as of the date of publication, but is subject to change without notice.

Specifications

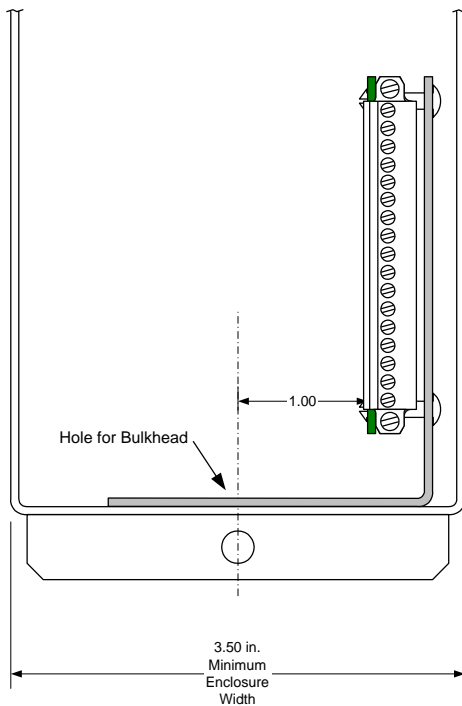
Part Number	Push Button Controller Only	PBC-DNT300		
	PBC with Mini Bulkhead Bracket	PBC-DNT300-05		
	PBC with 22.5 mm Bracket	PBC-DNT300-22		
	PBC with 30.5 mm Bracket	PBC-DNT300-30		
DeviceNet	Voltage Range	12-24 VDC		
	Current Consumption	60 mA plus inputs and outputs		
	Data Rates	125, 250 and 500 kbps		
Inputs	Type	Open collector		
	Number	Six (6)		
	Voltage Range	12-24 VDC		
	Maximum Current	20 mA per input		
Outputs	Type	Current Sourcing		
	Number	Four (4)		
	Voltage Range	12-24 VDC		
	Maximum Current	200 mA		
Environmental	Temperature	Storage	-30° to 70° C (-22° to 158° F)	
		Operating	0° to 60° C (32° to 140° F)	
	Humidity		5-95% RH, non-condensing	
	Vibration Shock		2G at 10 to 500 Hz 10G	
Physical	Dimensions (card only)		2.79" H x 2.00" W x 0.38" W	
	Weight		6 oz	
	Mounting	DNT300-05		Mini bulkhead bracket
		DNT300-22		22 mm button mount bracket
		DNT300-30		30 mm button mount bracket
	Terminations Indication	Status Activity		Pluggable terminal block, 17 pos.
			Red/Green Green	

Dimensions

PBC-DNT300 Only



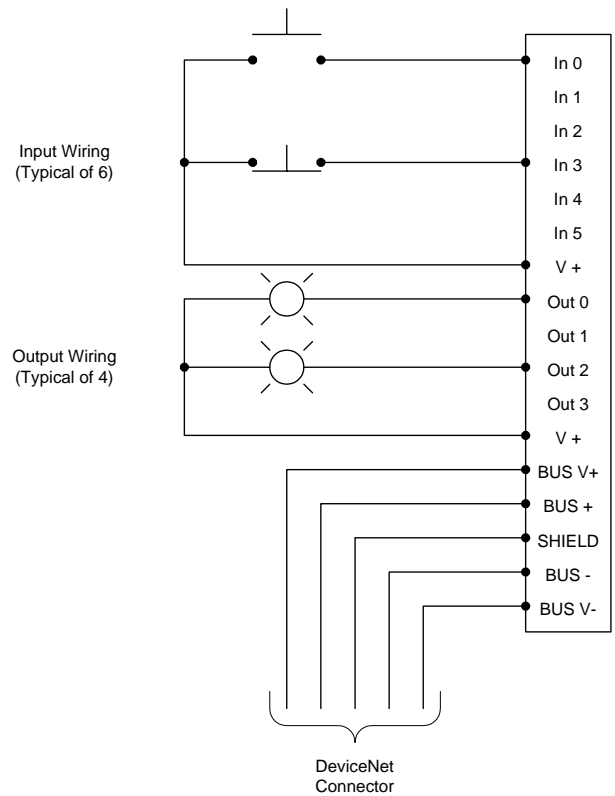
PBC-DNT300-05



Wiring

Note

Outputs use DeviceNet™ power. Lamp current consumption must be considered when calculating the total power used by a DeviceNet™ network.



Configuration

The Push Button Controller can be configured using several tools. Consult the configuration manual for the tool being used.

Quick Start

The steps described below are the minimum configuration steps required to install a Push Button Controller.

Device MAC Id

Set the MAC Id of the device. All units are shipped from the factory as **address 63**.

Note: Set the MAC Id before attaching a Push Button Controller to a complete bus. Otherwise, multiple devices may reside at the default address of 63.

Operation

The Push Button Controller is a general purpose discrete I/O device functioning as a "Group 2 Only Server". In addition to explicit messaging, polled I/O and change-of-state/cyclic I/O is supported for the transfer of input and output information. Once a polled connection is established, the module expects a poll at least every 10 seconds, otherwise the module will time out and take action as specified in the watchdog timeout action attribute. The connection timeout can be altered by changing the Expected Packet Rate (EPR) for the polled connection, which is contained in Object 5, Instance 1, attribute 9.

Input Variable

The Input Variable is contained in the Assembly Object (Object 4, Instance 4) and is a collection of discrete inputs. The inputs can be configured using the **Discrete Input Object (Object 8, Instances 1-6)**.

Bit	Name	Description
0	Input 0	State of physical input 0
1	Input 1	State of physical input 1
2	Input 2	State of physical input 2
3	Input 3	State of physical input 3
4	Input 4	State of physical input 4
5	Input 5	State of physical input 5
6	Failed Lamp	One of the outputs has a burnt or missing lamp
7	Reserved	

Discrete Input Object

Input State

Attribute 3

The current state of the input.

This attribute maps to bits 0-5 in the input variable.

Input NO/NC

Attribute 100

When the Input NO/NC is set to a value of 1 the state of the input reported in the input variable will be inverted from the physical input state.

Alternate Action Enable

Attribute 101

When Alternate Action Enable is set to a value of 1 and the associated physical input turns on, the value reported in the input variable will change state and remain in that state until the physical input is cycled.

For example, if the input reported in the input variable is on when the physical input changes state, the reported input will be turned off until the physical input is turned off and on again.

Push-To-Test Enable

Attribute 102

When the Push-To-Test Enable is set to a value of 1 for an associated input then all outputs will be energized when that physical input is on.

Output Variable

The Output Variable is contained in the Assembly Object (Object 4, Instance 34) and is a collection of discrete outputs as defined by the **Discrete Output Object (Object 9, Instance 1-4)**.

Bit	Name	Description
0	Output 0	Controls the state of physical output 0
1	Output 1	Controls the state of physical output 1
2	Output 2	Controls the state of physical output 2
3	Output 3	Controls the state of physical output 3
4	Flash 0	When enabled concurrently with Output 0 causes Output 0 to flash.
5	Flash 1	When enabled concurrently with Output 1 causes Output 1 to flash.
6	Flash 2	When enabled concurrently with Output 2 causes Output 2 to flash.
7	Flash 3	When enabled concurrently with Output 3 causes Output 3 to flash.

Discrete Output Object

Output State

Attribute 3

The current state of the output.

This attribute maps to bits 0-3 in the output variable.

Fault Action

Attribute 5

If the Fault Action is set to 0 when a fault occurs, the output will be set to the state defined in the Fault Value. When set to 1, the outputs will be held at their last state.

Fault Value

Attribute 6

The value for the output when a fault occurs and the Fault Action is set to 0.

Idle Action

Attribute 7

When the Push Button Controller is in an idle state (unallocated) and the Idle Action is set to a value of 0, the associated output will be set to the state defined in the Idle Value. If set to a value of 1 the output will be held in its last state.

Idle Value

Attribute 8

The value for the output when idle and the Idle Action is enabled.

Flasher Enable

Attribute 10

When the Flasher Enable is set to a value of 1 the associated output will flash when turned on.

This attribute maps to bits 4-7 in the output variable.

Flasher Rate

Attribute 11

The Flasher Rate is the frequency which the output will flash when enabled and on. The rate is Hertz (cycles per second).

Lamp Test Enable

Attribute 100

The Push Button Controller contains circuitry that determines whether a lamp is missing or burnt out. Setting the Lamp Test Enable to a value of 1 enables the lamp test for the given output.

Lamp Test Failed

Attribute 101

When the lamp test is enabled for an output and the lamp is missing or burnt out the Lamp Test Failed attribute will contain a value of 1.

A failed lamp will turn on bit 6 in the input variable.

Identity Object
Class 1, Instance 1

Attribute	Description	Data Type	R/W	Default Value
1	Vendor ID	INTEGER	R	693
2	Device Type	INTEGER	R	
3	Product Code	INTEGER	R	
4	Revision	BYTE [2]	R	1,1
5	Status	WORD	R	
6	Serial Number	LONG INT	R	
7	Product Name	CHAR	R	Push Button Controller

DeviceNet Object
Class 3, Instance 1

Attribute	Description	Data Type	R/W	Default Value
1	MAC ID (0-63)	BYTE	W	63
2	Baud Rate	BYTE	W	0 (125K)
3	BOI	BOOLEAN	W	1
4	Bus-Off Counter	BYTE	W	
5	Allocation Information	BYTE [2]	R	

Connection Object
Class 5, Instance 1, 2 and 4

Attribute	Description	Data Type	R/W	Default Value
1	State	BYTE	R	01h
2	Instance Type	BYTE	R	01h
3	Transport Class Trigger	BYTE	R	82h
4	Produced Connection ID	BYTE	R	
5	Consumed Connection ID	BYTE	R	FFFFh
6	Initial Comm Characteristics	BYTE	R	01h
7	Produced Connection Size	INTEGER	R	
8	Consumed Connection Size	INTEGER	R	
9	Expected Packet Rate	INTEGER	W	0
12	Watchdog Timeout Action	BYTE	W	0
13	Produced Connection Path Len	INTEGER	R	
14	Produced Connection Path		R	
15	Consumed Connection Path Len	INTEGER	R	
16	Consumed Connection Path		R	
17	Production Inhibit Time	INTEGER	W	0

Assembly Object
Class 4, Instance 4
Class 4, Instance 34

Attribute	Description	Data Type
3	Input Variable	See the section on Input Variable for mapping
3	Output Variable	See the section on Output Variable for mapping

Discrete Input Object
Class 8, Instance 1-6

Attribute	Description	Data Type	R/W	Default Value
3	Input State	BOOLEAN	R	
100	Input NO/NC	BOOLEAN	W	0 [disabled]
101	Alternate Action	BOOLEAN	W	0 [disabled]
102	Push-To-Test	BOOLEAN	W	0 [disabled]

Discrete Output Object
Class 9, Instance 1-4

Attribute	Description	Data Type	R/W	Default Value
3	Output State	BOOLEAN	W	
5	Fault Action	BOOLEAN	W	0 [Fault Value attribute]
6	Fault Value	BOOLEAN	W	0
7	Idle Action	BOOLEAN	W	0 [Idle Value attribute]
8	Idle Value	BOOLEAN	W	0
10	Enable Flash	BOOLEAN	W	0 [disabled]
11	Flash Rate (Hertz)	BYTE	W	
100	Lamp Test Enable	BOOLEAN	W	0 [disabled]
101	Lamp Test Failed	BOOLEAN	R	