



DeviceNet™ Push Button Stations (Catalog Number 800T-)

Important User Information

The illustrations, charts, sample programs and layout examples shown in this guide are intended solely for purposes of example. Since there are many variables and requirements associated with any particular installation, Allen-Bradley does not assume responsibility or liability (to include intellectual property liability) for actual use based upon the examples shown in this publication.

Allen-Bradley publication SGI-1.1, *Safety Guidelines for the Application, Installation, and Maintenance of Solid-State Control* (available from your local Allen-Bradley office), describes some important differences between solid-state equipment and electromechanical devices that should be taken into consideration when applying products such as those described in this publication.

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Throughout this manual we use notes to make you aware of safety considerations:



ATTENTION: Hazardous voltage may be present. Disconnect power before servicing.

Important: Follow applicable codes and laws.

For More Information

As part of our effort to preserve, protect, and improve our environment, Allen-Bradley is reducing the amount of paper we use. Less paper means more options for you. In addition to traditional printed publications and CD-ROM versions, we now offer on-line manuals with the most up-to-date information you can get. We recommend that you read the related publications listed below before starting up your control system.

Related Publications

Publication Title	Publication Number
800T DeviceNet Push Button Station User Manual	800E-UM002A-EN-P
800T Push Button Selection Guide	800-SG001B-EN-P
DeviceNet Cable System Planning and Installation Manual	DN-6.7.2
1756-DNB Scanner Module Configuration	1756-6.5.19
RSNetWorx for DeviceNet	1787-6.5.3
DeviceNet Media	1485-CG001A-EN-P
Cable Connection Systems – for I/O connectors	889-CG001A-US-P
DeviceLogix User Manual	ACIG-UM001A-EN-P

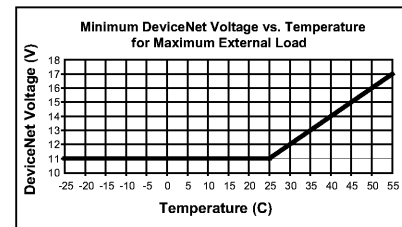
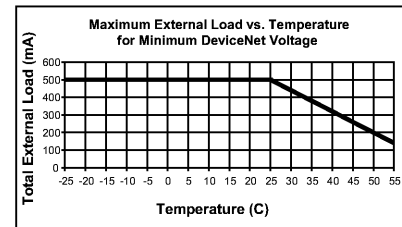
How To Get More Information

For	Obtain Information By
Publications in electronic format	<ul style="list-style-type: none"> Visiting the Allen-Bradley internet site – http://www.ab.com/manuals/ Publication is on RSNetWorx CD-ROM Calling your local Allen-Bradley distributor Visiting the Automation Bookstore at – http://www.theautomationbookstore.com
Publications in printed format	<ul style="list-style-type: none"> Visiting the Automation Bookstore at – http://www.theautomationbookstore.com
Manuals in other languages	<ul style="list-style-type: none"> To determine the availability of translated publication, add a 2-letter suffix to the end of the publication number (DN-6.7.2DE) or replace the US or EN in the publication number (800E-UM002A-FR-P). French – FR German – DE Italian – IT Spanish – ES Portuguese – PT Chinese – ZH Japanese – JA Dutch – NL

Specifications

800T DeviceNet Push Button Stations		
General Specifications		
Degree of Protection	NEMA Type 4/13	
Operating Ambient Temperature	-25°C to 55°C (-13°F to +131°F) Operating temperatures below 0°C are based on the absence of freezing moisture and liquids.	
Storage Ambient Temperature	-40°C to 70°C (-40°F to 158°F)	
Vibration	10 – 2000Hz, 1.52mm displacement (peak to peak) max./2.5G max.	
Shock	½ cycle sine wave for 11 milliseconds at 15G	
Relative Humidity	0 to 95%	
Certifications	UL, cUL, and CE compliant for all applicable directives. CE directives include EN50081-2, EN50082-2. This product is intended for use in an industrial environment.	
DeviceNet Specifications	Max	Min
DeviceNet Voltage	25V DC – Class II Power Supply Required	11V DC
DeviceNet Current @ 24VDC *	930mA max load (1 sensor @ 50mA, 2 outputs @ 300mA)	150mA no load operation
External Input Specifications	Max	Min
Sensor Source Current/Voltage	50mA / 26.5V	- / 23V
External Inputs per Station	4: Dry contact or sinking/sourcing devices	0
On-State Current	13mA nominal	
External Output Specifications	Max	Min
Output Auxiliary Voltage	26.5V	23.5V
On-state Voltage Drop	0.5V	–
On-state current	300mA per output, 500mA per station (total)	
Off-state leakage	0.05mA	
External E-Stop Specifications	Max	Min
Voltage	250V	–
Switching current per contact block	3A	–

* Please refer to the following thermal derating curves for external outputs at low DeviceNet voltages



Default I/O Bytes – Following are the out-of-box settings for the I/O word format. The default I/O connection size is 2 Input Bytes and 1 Output Byte. The size and meaning of the data can be changed by the user. For more information, please refer to the User Manual – 800E-UM002A-EN-P.

I/O	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Input Byte 0	Input 7	Input 6	Input 5	Input 4	Input 3	Input 2	Input 1	Input 0
Input Byte 1	N/A	N/A	N/A	Out 3 Short Circuit	Out 2 Short Circuit	Power Supply Fault	SSV2 Short Circuit	SSV1 Short Circuit
Output Byte 0	N/A	N/A	N/A	N/A	Out 3	Out 2	Out 1	Out 0

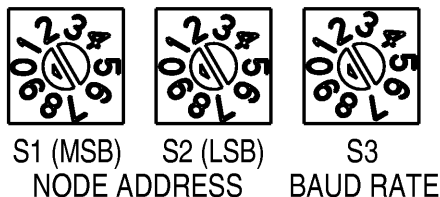
Set the Node Address

Valid node addresses are 00 to 63.

Set the node address using the rotary switches, RSNetWorx for DeviceNet software, or another software configuration tool. Setting the switches between 64 and 99 allows the software to have address control.

Each station is shipped with the node address set to 99. The switches are located inside the enclosure on the circuit board. There are three switches on the board. The Node Address switches are labeled as S1 MSB (most significant byte) and S2 LSB (least significant byte).

To reset the node address, use a small blade screwdriver to rotate the switches. Line up the small black triangle with the number setting you wish to use. Then reset the unit via power or reset service.



Set the Baud Rate

This module is equipped with Autobaud detect. Autobaud lets the station read the network data rate and automatically synchronize to it. If the user wishes to hard set this data rate, the third rotary switch, S3, may be used. For more information on the baud rate switch, please refer to the user manual - 800E-UM002A-EN-P.

Network and I/O Connections

This station uses 4 and 5 pin micro (12mm) style quick disconnect connectors. The appropriate pinouts are shown on the product labeling. If there are further questions, please refer to the user manual - 800E-UM002A-EN-P.

Troubleshoot with the Indicators

The 800T Push Button Station has the following indicators:

- Mod/Net status indicator
- Logic status indicator

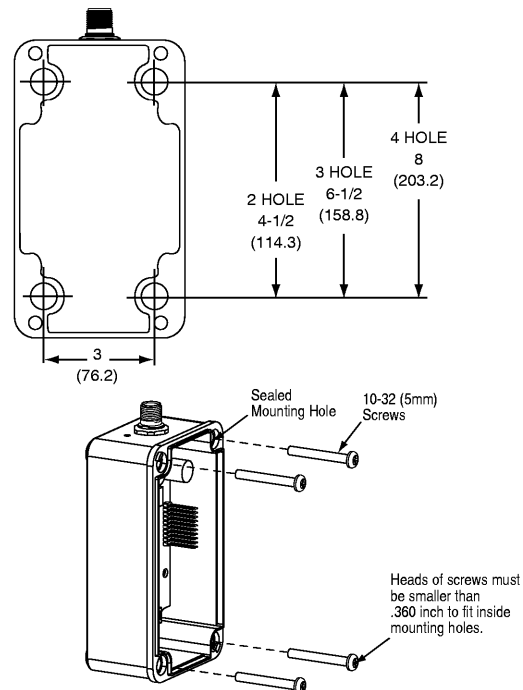
The following table describes the mod/net status indicator.

Combined Module/Network Status LED

Mod/Net State	LED	Indication
Not Powered/Not On-Line	Off	Device is not on-line. <ul style="list-style-type: none"> • The device has not completed the Dup MAC ID test yet. • The device may not be powered yet.
Device Operational AND On-Line, Connected	Solid Green	The device is operating in a normal condition and the device is on-line with connections in the established state. <ul style="list-style-type: none"> • For a Group 2 Only device it means that the device is allocated to a master.
Device Operational AND On-Line, Not Connected Or Device On-Line AND Device needs commissioning	Flashing Green	The device is on-line with no connections in the established state. <ul style="list-style-type: none"> • The device has passed the Dup MAC ID test, is on-line, but has no established connections to other nodes. • For a Group 2 Only device it means that the device is not allocated to a master.
Minor Fault and/or Connection Time-Out	Flashing Red	Recoverable fault and/or one or more I/O connections are in the Timed-out state. Recoverable faults include: <ul style="list-style-type: none"> • Failed Power Supply power-up test. • Faulted 24VDC, Out2, Out3.
Critical Fault or Critical Link Failure	Solid Red	The device has an unrecoverable fault; may need replacing. The device has detected an error that has rendered it incapable of communication on the network (Dup MAC failure or bus-off).

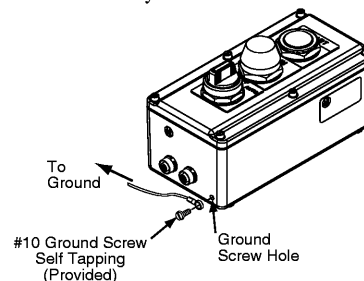
Mounting the Enclosure

Dimensions in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.



Grounding the Enclosure

In order to insure against possible DeviceNet malfunction or damage to electronic components from electrostatic discharge it is recommended that the die cast enclosure be grounded. A ground screw hole and a #10 self tapping ground screw have been provided for this purpose, however other methods may be used.



The following table describes the logic status indicator.

Logic Status LED

Logic State	LED	Indication
DeviceLogic is NOT Enabled	Off	Logic is disabled. <p>Note: Logic could be present on the device. This LED only reflects whether or not it is enabled.</p>
DeviceLogic is Enabled	Solid Green	Logic is enabled.
DeviceLogic is Enabled and Forces Enabled	Flashing Green	Forces are enabled. <p>Note: This implies that logic is also enabled because outputs don't get forced unless logic is enabled</p>

DeviceLogic

This station is equipped with DeviceLogic, which allows it to run simple and fast local logic. For more information on DeviceLogic configuration, please refer to the 800E Push Button Station User Manual - 800E-UM002A-EN-P and the DeviceLogic User Manual - ACIG-UM001A-EN-P.