



DeviceNet Master (Scanner)

HE800DNT450 / HE-DNT450*

DeviceNet Communications

* HE- denotes plastic case.



This datasheet also covers products starting with IC300.

This product has a detailed supplement available (SUP0462).

1 SPECIFICATIONS

Table 1 - DNT450 Specifications			
DeviceNet Network Specifications			
Parameter	Minimum	Maximum	Units
DeviceNet Power Voltage	11	25	V
DeviceNet Power Load		65	mA
DeviceNet Signal Baud Rate	125	500	KHz
DeviceNet Signal Driver Fanout	0	63	Devices
PLC Power Load Specifications			
Parameter	Minimum	Maximum	Units
+5 Vdc (LOGIC)	0	175	mA
+24 Vdc (RELAY)	0	0	mA
+24 Vdc (ISOLATED)	0	0	mA
Environmental Specifications			
Parameter	Minimum	Maximum	Units
Operating Temperature	0	+60	Deg C
Storage Temperature	-40	+85	Deg C
Humidity (non-condensing)	5	95	% RH
Cable Specifications			
Description	Belden #		
DeviceNet "Thick" Cable	3082A		
One twisted pair for signal, 18 gauge, separately foil shielded. One twisted pair for power, 15 gauge, separately foil shielded. Overall foil/braid shield with 18 gauge drain. 8 A maximum power.			
Description	Belden #		
DeviceNet "Thin" Cable	3084 A		
One twisted pair for signal, 24 gauge, separately foil shielded. One twisted pair for power, 22 gauge, separately foil shielded. Overall foil/braid shield with 22 gauge drain. 3 A maximum power.			

DeviceNet Cable Length vs Network Baud Rate		
DeviceNet Baud Rate	Maximum Cable Distance	
	Thick Cable	Thin Cable
125 KHz	1640 ft	328 ft
250 KHz	820 ft	328 ft
500 kHz	328 ft	328 ft
DeviceNet Baud Rate	Maximum Drop Distance	
	Per Drop	Cumulative
125 KHz	20 ft	512 ft
250 KHz	20 ft	256 ft
500 KHz	20 ft	128 ft
These specifications are subject to change without notice.		

General Specifications			
Required Power (Steady State)	To be Determined	Operating Temperature	0°–60° Celsius
Required Power (Inrush)	To be Determined	Terminal Type	Spring Clamp, Removable
Relative Humidity	5–95% Non-condensing	Weight	9.5 oz. (270 g)
CE	See Compliance Table at http://www.heapg.com/Support/compliance.htm		
UL			
These specifications are subject to change without notice.			

2 CONNECTOR / REGISTERS

2.1 DeviceNet I/O Connector (CAN A)

The DeviceNet I/O connector (CAN A) is located next to the RS-232 serial port. It consists of a 5-pin removable screw terminal with the following terminal descriptions:

Pin	Signal	Description
1	V-	Power -
2	CAN_L	Signal -
3	Drain	Shield
4	CAN_H	Signal +
5	V+	Power +

Figure 2 – DNT450 Connectors

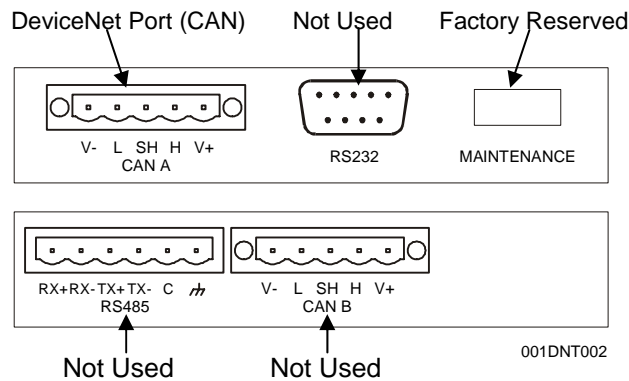
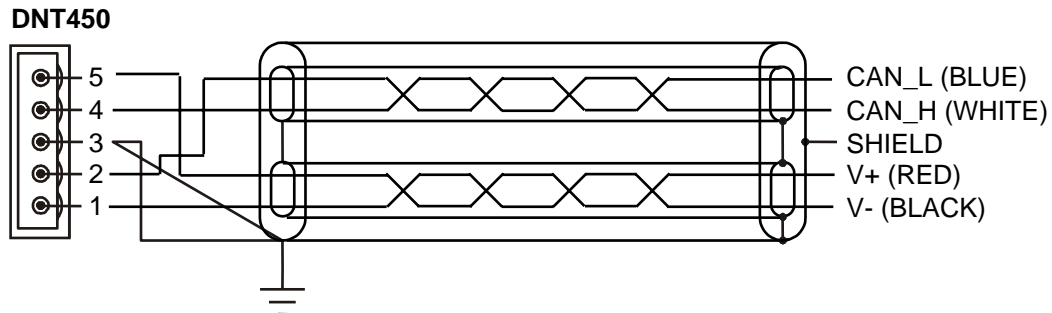


Figure 3 - DeviceNet Wiring



A user-supplied 121 Ω ¼ W 1% resistor is needed for termination at EACH END of the network cabling. Refer to the DeviceNet cabling specifications for proper location of the terminating resistor.

3 INSTALLATION / SAFETY

Warning: Remove power from the OCS controller, CAN port, and any peripheral equipment connected to this local system before adding or replacing this or any module.

Use the following wire type or equivalent:

- Belden 8917
- 16 AWG or larger

For detailed installation and a handy checklist that covers panel box layout requirements and minimum clearances, refer to the hardware manual of the controller you are using. (See the [Additional References](#) section in this document.).

When found on the product, the following symbols specify:



Warning: Consult user documentation.



Warning: Electrical Shock Hazard.

WARNING: To avoid the risk of electric shock or burns, always connect the safety (or earth) ground before making any other connections.

WARNING: To reduce the risk of fire, electrical shock, or physical injury it is strongly recommended to fuse the voltage measurement inputs. Be sure to locate fuses as close to the source as possible.

WARNING: Replace fuse with the same type and rating to provide protection against risk of fire and shock hazards.

WARNING: In the event of repeated failure, do not replace the fuse again as a repeated failure indicates a defective condition that will not clear by replacing the fuse.

WARNING: Only qualified electrical personnel familiar with the construction and operation of this equipment and the hazards involved should install, adjust, operate, or service this equipment. Read and understand this manual and other applicable manuals in their entirety before proceeding. Failure to observe this precaution could result in severe bodily injury or loss of life.

For detailed installation and a handy checklist that covers panel box layout requirements and minimum clearances, refer to the hardware manual of the controller you are using. (See the [Additional References](#) section in this document.):

- All applicable codes and standards need to be followed in the installation of this product.
- For I/O wiring (discrete), use the following wire type or equivalent: Belden 9918, 18 AWG or larger.

Adhere to the following safety precautions whenever any type of connection is made to the module.

- Connect the green safety (earth) ground first before making any other connections.
- When connecting to electric circuits or pulse-initiating equipment, open their related breakers. Do not make connections to live power lines.
- Make connections to the module first; then connect to the circuit to be monitored.
- Route power wires in a safe manner in accordance with good practice and local codes.
- Wear proper personal protective equipment including safety glasses and insulated gloves when making connections to power circuits.
- Ensure hands, shoes, and floor are dry before making any connection to a power line.
- Make sure the unit is turned OFF before making connection to terminals. Make sure all circuits are de-energized before making connections.
- Before each use, inspect all cables for breaks or cracks in the insulation. Replace immediately if defective.

4 ADDITIONAL REFERENCES

The following information serves as a *general* listing of Horner controller products and other references of interest and their corresponding manual numbers. Visit our website listed in the [Technical Support](#) section to obtain user documentation and updates.

Note: This list is <u>not</u> intended for users to determine which products are appropriate for their application; controller products differ in the features that they support. If assistance is required, see the Technical Support section in this document.	
Controller	Manual Number
XLE Series (e.g., HE-XExxx)	MAN0805
QX Series (e.g., HE-QXxxx)	MAN0798
NX Series (e.g., HE-NXxxx)	MAN0781
LX Series (e.g., LX-xxx; also covers RCS116)	MAN0755
Color Touch OCS (e.g., OCSxxx)	MAN0465
OCS (Operator Control Station) (e.g., OCS1xx / 2xx; Graphic OCS250)	MAN0227
Remote Control Station (e.g., RCS2x0)	
MiniOCS (e.g., HE500OCSxxx, HE500RCSxxx)	MAN0305
Other Useful References	
CAN Networks	MAN0799
Cscape Programming and Reference	MAN0313
Wiring Accessories and Spare Parts Manual	MAN0347
DeviceNet™ Implementation	SUP0326
Wiring Accessories and Spare Parts Manual	MAN0347

5 TECHNICAL SUPPORT

For assistance and manual up-dates, contact Technical Support at the following locations:

North America:+

(317) 916-4274

www.heapg.com

Europe:

(+) 353-21-4321-266

www.horner-apg.com