MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

ALLEN-BRADLEY

1756-DNB

DEVICENET SCANNER COMMUNICATION MODULE

Used with the applicable ControlLogix configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Rockwell Automation 1756-IN566D, ControlLogix DeviceNet Scanner, Series C and D

Installation Instructions

ControlLogix DeviceNet Scanner Module

Catalog Numbers 1756-DNB, Series C and D

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Important User Information

Solid state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls Publication SGI-1.1 available from your local Rockwell Automation sales office or online at http://literature.rockwellautomation.com) describes some important differences between solid state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

WARNING 	Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.
ATTENTION 	Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard and recognize the consequences.
SHOCK HAZARD 	Labels may be on or inside the equipment (for example,a drive or motor) to alert people that dangerous voltage may be present.
BURN HAZARD 	Labels may be on or inside the equipment (for example, a drive or motor) to alert people that surfaces may reach dangerous temperatures.

Preventing Electrostatic Discharge

ATTENTION



This equipment is sensitive to electrostatic discharge, which can cause internal damage and affect normal operation. Follow these guidelines when you handle this equipment:

- Touch a grounded object to discharge potential static.
- Wear an approved grounding wriststrap.
- Do not touch connectors or pins on component boards.
- Do not touch circuit components inside the equipment.
- Use a static-safe workstation, if available.
- Store the equipment in appropriate static-safe packaging when not in use.

North American Hazardous Location Approval

The following information applies when operating this equipment in hazardous locations.	Informations sur l'utilisation de cet équipement en environnements dangereux.
Products marked "CL I, DIV 2, GP A, B, C, D" are suitable for use in Class I Division 2 Groups A, B, C, D, Hazardous Locations and nonhazardous locations only. Each product is supplied with markings on the rating nameplate indicating the hazardous location temperature code. When combining products within a system, the most adverse temperature code (lowest "T" number) may be used to help determine the overall temperature code of the system. Combinations of equipment in your system are subject to investigation by the local Authority Having Jurisdiction at the time of installation.	Les produits marqués "CL I, DIV 2, GP A, B, C, D" ne conviennent qu'à une utilisation en environnements de Classe I Division 2 Groupes A, B, C, D dangereux et non dangereux. Chaque produit est livré avec des marquages sur sa plaque d'identification qui indiquent le code de température pour les environnements dangereux. Lorsque plusieurs produits sont combinés dans un système, le code de température le plus défavorable (code de température le plus faible) peut être utilisé pour déterminer le code de température global du système. Les combinaisons d'équipements dans le système sont sujettes à inspection par les autorités locales qualifiées au moment de l'installation.

WARNING



EXPLOSION HAZARD -

- Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous.
- Do not disconnect connections to this equipment unless power has been removed or the area is known to be nonhazardous. Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product.
- Substitution of components may impair suitability for Class I, Division 2.
- If this product contains batteries, they must only be changed in an area known to be nonhazardous.

AVERTISSEMENT



RISQUE D'EXPLOSION –

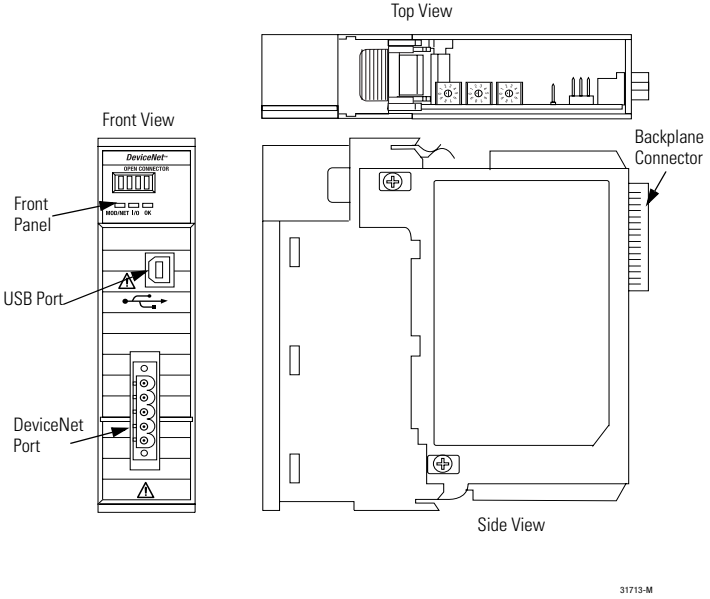
- Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher l'équipement.
- Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher les connecteurs. Fixer tous les connecteurs externes reliés à cet équipement à l'aide de vis, loquets coulissants, connecteurs filetés ou autres moyens fournis avec ce produit.
- La substitution de composants peut rendre cet équipement inadapté à une utilisation en environnement de Classe I, Division 2.
- S'assurer que l'environnement est classé non dangereux avant de changer les piles.

About this Publication

Use this publication as a guide to install the module. This publication describes hardware installation only. For configuration information, refer to the DeviceNet Modules in Logix5000 Systems User Manual, publication DNET-UM004.

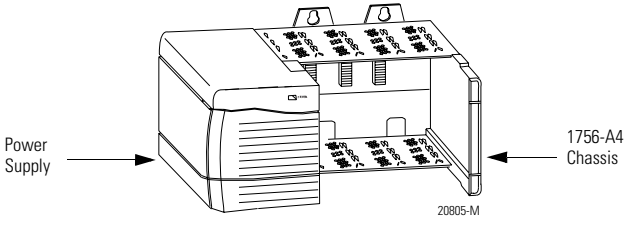
About the Module

Use this figure to identify the external features of the module.



Before You Begin

Before you install the module, you must install and connect a ControlLogix chassis and power supply.



To install these products, refer to these publications.

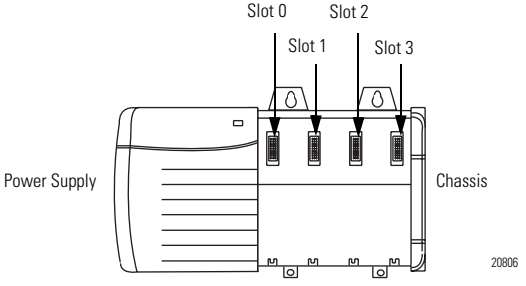
Publication References

Chassis Type	Chassis Installation Instructions	Power Supply	Power Supply Installation Instructions
Series B: 1756-A4, 1756-A7, 1756-A10, 1756-A13	Pub. No. 1756-IN080	1756-PA72/B	Pub. No. 1756-IN078
		1756-PB72/B	
		1756-PA75/A	Pub. No. 1756-IN596
		1756-PB75/A	

Determine Module Slot Location

Install the module in any slot in the ControlLogix chassis. You can install multiple 1756-DNB scanner modules in the same chassis.

The following figure shows chassis slot numbering in a 4-slot chassis. Slot 0 is the first slot and is always the leftmost slot in the chassis.



Specifications

ControlLogix DeviceNet Scanner Module, Cat. No. 1756-DNB

Attribute	Value
Module location	Any slot in the ControlLogix chassis
DeviceNet communication rate, max	125 Kbps - 500 m (1640 ft.) max 250 Kbps - 250 m (820 ft.) max 500 Kbps - 100 m (328 ft.) max
Backplane current (mA) at 5.1V DC	850 mA
Backplane current (mA) at 24V DC	3 mA
DeviceNet current (mA), max	11…25V DC (60 mA max)
Isolation voltage, continuous	30V (continuous), Basic Insulation Type No isolation between USB and system Tested at 500V AC for 60 s, DeviceNet to system
Enclosure type rating	None (open-style)
Conductors Wire size Category	Refer to the DeviceNet Media Design and Planning Guide, publication DNET-UM072, for information specific to your DeviceNet network.(1)
North American temp code	T4A
IEC temp code	T4
Power dissipation, max	5.8 W
Thermal dissipation, max	19.8 BTU/hr
Recommended USB cable for USB port	Samtec cable, PN RSP-119350

ControlLogix DeviceNet Scanner Module, Cat. No. 1756-DNB

USB port	USB 1.1 USB Device USB Series B Receptacle
DeviceNet connector torque	0.56...0.79 Nm (5...7 in-lb)
Power supply	To comply with the CE Low Voltage Directive (LVD), DeviceNet network must be powered from a source compliant with the following: Safety Extra Low Voltage (SELV) or Protected Extra Low Voltage (PELV). To comply with UL restrictions, DeviceNet network must be powered from a source compliant with the following: Class 2 or Limited Voltage/Current.

(1) Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

Environmental Specifications

Attribute	Value
Temperature, operating	IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock): 0…60 °C (32…140 °F)
Temperature, nonoperating	IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold), IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat), IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock): -40…85 °C (-40…185 °F)
Relative humidity	IEC 60068-2-30 (Test Db, Unpackaged Damp Heat): 5…95% noncondensing
Vibration	IEC 60068-2-6 (Test Fc, Operating): 2 g @ 10…500 Hz
Shock, operating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 30 g
Shock, nonoperating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 50 g
Emissions	CISPR 11: Group 1, Class A
ESD immunity	IEC 61000-4-2: 6 kV contact discharges 8 kV air discharges
Radiated RF immunity	IEC 61000-4-3: 10V/m with 1 kHz sine-wave 80%AM from 80…2000 MHz 10V/m with 200 Hz 50% Pulse 100%AM at 900 MHz 10V/m with 200 Hz 50% Pulse 100%AM at 1890 MHz 1V/m with 1 kHz sine-wave 80%AM from 2000…2700 MHz
EFT/B immunity	IEC 61000-4-4: ±3 kV at 5 kHz on DeviceNet port
Surge transient immunity	IEC 61000-4-5: ±2 kV line-earth(CM) on DeviceNet port
Conducted RF Immunity	IEC 61000-4-6: 10V rms with 1 kHz sine-wave 80%AM from 150 kHz…80 MHz