



Control Corporation is an expert device connectivity manufacturer and provider of networking products, specializing in industrial Ethernet gateways and intelligent embedded device connectivity products. These products support a wide range of industrial, security, power utility and traffic automation applications. The company's RocketPort® multi-port serial cards, DeviceMaster® Ethernet device servers, and RocketLinx™ industrial grade Ethernet and Power over Ethernet switch product lines are sold through regional, national, and international distributors and by thousands of resellers and integrators worldwide.

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ETHERNET SWITCH - UNMANAGED

DIVISION 27 – COMMUNICATIONS

27 20 00 Data Communications

27 21 29 Data Communications Switches and Hubs

Notes to Specifier:

1. Where several alternative parameters or specifications exist, or where, the specifier has the option of inserting text, such choices are presented in **[bold text]**.
2. Explanatory notes and comments are presented in text.

PART 1 GENERAL

1.01 SUMMARY

- A. *Section includes a 6-Port Ethernet network switch, allowing Ethernet devices to communicate with one another, shipped in a fixed configuration, with only alarms being user configurable.*
- B. *Product - 6-Port Industrial PoE unmanaged switch with four 10/100BASE-TX PoE injector ports and two 10/100/1000BASE-TX uplink ports*
- C. *Related Requirements*
 1. **[Insert relevant related requirements]**

1.02 REFERENCES

- A. *Abbreviations*
 1. MTBF - Mean Time Between Failures
 2. PoE - Power over Ethernet
 3. QoS - Quality of Service
 4. VoIP - Voice over IP
- B. *Reference Standards*
 1. IEEE 802.3 Ethernet Standards
 - a. IEEE 802.3i - 10BASE-T
 - b. IEEE 802.3u - 100BASE-TX,
 - c. IEEE 802.3ab - 1000BASE-TX
 - d. IEEE 802.3af Power over Ethernet
 - e. IEEE 802.3x Flow Control and Back-Pressure
 - f. IEEE 802.1p Class of Service
 2. Emissions
 - a. FCC Part 15 Subpart B, Class A limit
 - b. Canadian EMC Requirement ICES-003
 - c. European Standard EN55022
 3. Immunity - European Standard EN55024
 - a. IEC61000-4-2/EN61000-4-2: ESD
 - b. IEC61000-4-3/EN61000-4-3: RF
 - c. IEC61000-4-4/EN61000-4-4: Fast Transient/Burst
 - d. IEC61000-4-5/EN61000-4-5: Surge

- e. IEC61000-4-6/EN61000-4-6: Conducted Disturbance
- f. IEC61000-4-8/EN61000-4-8: Magnetic Field
- g. IEC61000-4-11/EN61000-4-11: DIPS and Voltage Variations
- 4. Safety
 - a. IEC 60950/EN60950
 - b. CSA C22.2 No. 60950/UL60950 Third Edition
- 5. ROHS - European Standard: 2002/95/EC Directive (RoHS)

1.03 SUBMITTALS

- A. *Product Data*
 - 1. Manufacturer's printed or electronic data sheets
 - 2. Manufacturer's installation and operation manuals
 - 3. Warranty Documentation

1.04 QUALIFICATIONS

- A. *Manufacturer of system shall have a minimum of three years' experience of successful installation of systems equivalent in function to the system proposed herein.*
- B. *Installation contractor shall be authorized to install service and maintain the system by the system manufacturer.*

1.05 WARRANTY

- A. *Manufacturer shall support a minimum limited warranty of five years.*

END OF SECTION

PART 2 PRODUCTS

2.01 SOFTWARE

- A. *Manufacturer:* Comtrol Corporation
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- B. *Model* 7106-VB

2.02 DESCRIPTION

- A. *General* - The Ethernet Switch ("Switch") shall be a 6-Port device, four of which are 10/100BASE-TX capable of PoE injection and two are 10/100/1000BASE-TX Gigabit Ethernet capable uplink ports.
1. The Switch shall have a 32 Gbps internal switching fabric
 2. The Switch shall support at least 8000 MAC addresses in its internal memory
 3. The Switch shall support an MTBF of greater than 20 years
- B. *Power over Ethernet (PoE)*
1. The four PoE ports shall be fully IEEE 802.3af compliant
 2. The Switch shall support a total PoE power consumption of 65 watts, under all input voltage ranges specified by the manufacturer
- C. *Quality of Service (QoS)* - The Switch shall fully support QoS in accordance with IEEE 802.1p for optimization of video and voice over the network
- D. *Alarms*
1. The Switch shall contain an alarm relay for failure and event notification rated for 1 Amp at 24 VDC.
 2. Each Switch port shall have an Alarm capability, configured via DIP switch to automatically trigger on connection issues when ports are connected to an auto-negotiation 10/100 full-duplex device.
- E. *Indicators* - The Switch shall provide visual indication of the following:
1. input voltage
 2. port failure condition
 3. delivery of power from a PoE port
 4. device connected to port
 5. full-duplex mode
 6. collision of frames in half-duplex mode
 7. port speed
- F. *Voltage Input*
1. The Switch shall be powered by 12-24 VDC via 4-pin industrial terminal block
- G. *Enclosure*
1. The Switch shall be packaged in industrial-grade aluminum IP30 housing
 2. The Switch shall provide for DIN rail or wall-mount installation
- H. *Environmental*
1. The Switch operating temperature range shall be -20° to +60°C
 2. The Switch shall operate in a non-condensing humidity range of 0 - 95%

END OF SECTION

PART 3 EXECUTION

3.01 INSTALLERS

- A. The Installer must demonstrate sufficient network knowledge to the satisfaction of the Owner's representative.

3.02 STORAGE

- A. The Switch shall be stored in an environment where temperature is in the range of -40° to +80°C and humidity is 0 - 95%

3.03 INSTALLATION

- A. Before permanent installation of the system, the system shall be tested in a configuration equivalent to the final system.

END OF SECTION