General Specifications

VP6F9291, VP6F9291A
EtherNet/IP Communication Package (for ALE111)

CENTUM VP

GS 33J30Z40-01EN

[Release 6]

■ GENERAL

*EtherNet/IP and DeviceNet are the major open digital field network in the world. This package achieves the communication between the Field Control Station (FCS) and the EtherNet/IP Node (*1) with the CIP protocols. Using the Linking Device (*2), it also achieves the DeviceNet communication.*

    *1:   Rockwell Automation ControlLogix Programmable Automation Controllers
    *2:   Rockwell Automation model: 1788-EN2DNR

■ FEATURES

• Communication with the EtherNet/IP Nodes
• Communication with the DeviceNet devices through the linking device
• Tag name based access to the EtherNet/IP Nodes (*1)
• Redundant EtherNet/IP Node (*1)

    *1:   Rockwell Automation ControlLogix Programmable Automation Controllers

■ FUNCTION SPECIFICATIONS

Number of Communicable EtherNet/IP Node
Max. 30 EtherNet/IP Nodes per ALE111

Number of DeviceNet devices
Max. 63 DeviceNet devices per DeviceNet scanner (1788-EN2DNR)

Number of Communicable Data
Max. 4,000 words per FCS

Max. 1,000 words per ALE111

Max. 208 communication definitions per ALE111

Max. 250 words per one communication definition

    Note: • 1 word = 16 bits   • Max. 125 words per 1788-EN2DNR input assembly as per 1788-EN2DNR limitation
          • Max. 125 words per ControlLogix as limitation of ControlLogix

Transimission Specifications

Interface	Ethernet (10BASE-T)
Protocol	TCP/IP CIP EtherNet/IP protocol
CIP Service	Command code: 0x6F SendRRData (Forward Open, Forward Close, Get Attribute Single, Set Attribute Single), 0x70 SendUnitData (Data Table Read, Data Table Write)
Data code	Binary
Type of messaging	Explicit messaging
Port Number	Fixed to 44818 (hexadecimal AF12)

Tag name based communication with EtherNet/IP Nodes and communication with DeviceNet devices through the linking device are available by defining the alias name in the Communication I/O Builder.

Details of the alias name are defined in the Address Translation Setting window with the following information:

• The alias name and corresponding tag name and member name for the EtherNet/IP Nodes
• The alias name and corresponding DeviceNet MAC-ID, class, instance and attribute for the DeviceNet linking device and DeviceNet devices

Communication Throughput
ControlLogix: 50 msec per communication definition (*1)

1788-EN2DNR: 20 msec per communication definition (*1)

    *1:   Average communication time required from the time ALE111 sends the command packets to the time ALE111 receives the
          response packets, supposing the CPU load for ControlLogix and the network load are considered as the normal condition.

Accessible Data Type
ControlLogix: BOOL / SINT / INT / DINT / REAL / BOOL array

1788-EN2DNR: BOOL / SINT / INT / DINT / REAL / BOOL array

Applicable Node and Device
ControlLogix and 1788-EN2DNR supplied by Rockwell Automation.

Redundancy

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Redundancy of ALE111 module	Applicable when the ALE111 module communicates with only ControlLogix. When redundancy is introduced, the read-back must be specified for writing. (*1)
Redundancy of ControlLogix	Applicable (IP address swapping)
Redundancy of 1788-EN2DNR	Not applicable

*1: Depending on the redundant configuration, the watch dog timer kind of software application will be required between CENTUM VP FCS and ControlLogix to check the communication establishment.

■ SYSTEM CONFIGURATION EXAMPLE

<In case of Single Configuration> (*1)

<In case of Redundant Configuration>
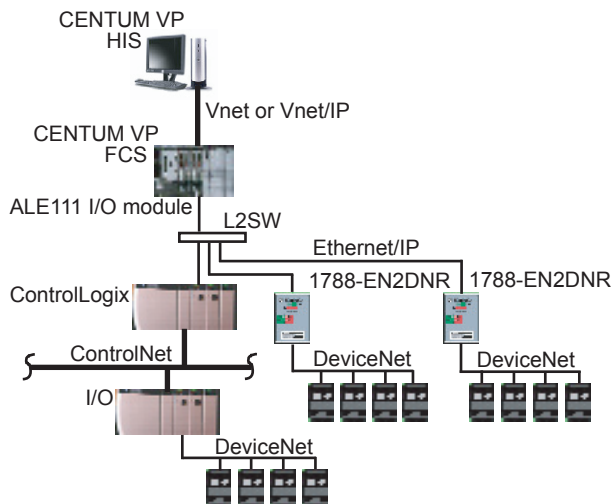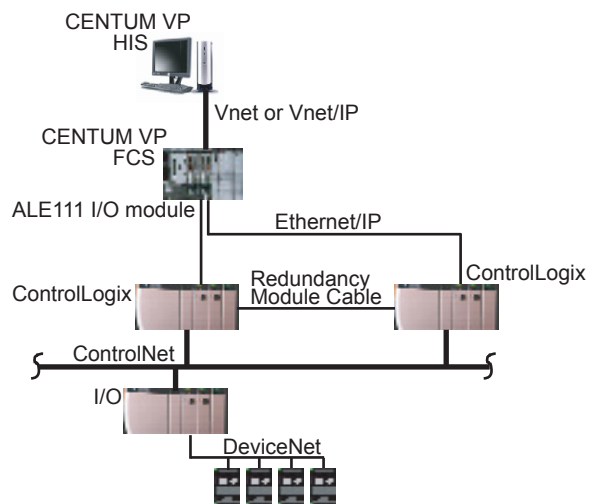
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*1: Single ControlLogix PLC and 1788-EN2DNR DeviceNet linking devices can be connected on the same EtherNet/IP network sharing the same ALE111 module as described above.

■ OPERATING ENVIRONMENT

Operating environment of hardware, software and engineering is similar to the system requirements of CENTUM standard function needed when the communication module that this communicating software is used.

Note: Following software is required for Rockwell
    Automation products.
    • "RSLogix 5000" for ControlLogix engineering
    • "RSNetworx for DeviceNet" for DeviceNet configuration
    • "RSLinx" for communication interface between EtherNet/IP Nodes and PC with above
      packages

■ MODEL AND SUFFIX CODES

● **EtherNet/IP Communication Package (for ALE111)**

		Description
Model	VP6F9291	EtherNet/IP Communication Package (for ALE111)
Suffix Codes	-W	Basic software license
	1	For single
	2	For redundancy (*1)
	1	English version
	-F□□□	□□□ : 001 to 064 (The number of FCSs with this software)

*1: ControlLogix only. No redundancy is provided for the communication with DeviceNet linking device.

● **EtherNet/IP Communication Package (for ALE111) (no media)**

		Description
Model	VP6F9291A	EtherNet/IP Communication Package (for ALE111) (no media)
Suffix Codes	-W	Basic software license
	1	For single
	2	For redundancy (*1)
	1	English version
	-F□□□	□□□ : 001 to 064 (The number of FCSs with this software)

*1: ControlLogix only. No redundancy is provided for the communication with DeviceNet linking device.

■ TRADEMARKS

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