1   DESCRIPTION

The Metasys® N2[1] by Johnson Controls network supports communications with a diverse range of devices. Many N2 compatible devices use their own version of the protocol and care must be taken to ensure that the device of interest is covered by the FieldServer implementation.

At present the FieldServer Metasys® N2 driver will support communications with the following devices or classes of devices when acting as a Client:

- N2Open-compliant devices. N2Open is a published N2-compatible protocol enabling 3rd party device vendors to integrate with N2.
- VMA 1400 series (with restrictions)
- DX9100 and XT9100

When acting as a Server the FieldServer Metasys® N2 driver can emulate an N2Open device only.

1.1   Connection Facts

FieldServer Mode	Nodes	Comments
Client	1	Only 1 client node allowed on Multidrop systems. Can communicate with: • N2Open • VMA 1400 series (AI,BI,AO,BO and custom types) • DX9100 / XT9100
Server	255	

2   FORMAL DRIVER TYPE

Serial, Client or Server

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[1] Metasys® and N2OPEN as used in this document are a trademarks of Johnson Controls Inc.

3   COMPATIBILITY MATRIX

FieldServer Model	Compatible with this driver
FS-x30	Yes
SlotServer	Yes
ProtoNode	Yes
QuickServer FS-QS-10xx	Yes
QuickServer FS-QS-12xx	Yes
ProtoCessor FFP-ED2	Yes
ProtoCessor FFP-ED4	Yes

4   CONNECTION INFORMATION

Connection type: RS-485 (Two wire, Half-Duplex)
Baud Rates: 9600 (N2 standard)
Data Bits: 8
Stop Bits: 1
Parity: None
Multidrop Capability: Yes

5   DEVICES TESTED

Device	Supported	Tested (FACTORY, SITE)	N2Open Device
AHU	✓	Site	✓
DC-9100	Consult Factory	not tested	Consult Factory
DX-9100	✓	Factory and Site	✗
IFC	Consult Factory	not tested	Consult Factory
ILC	Consult Factory	not tested	Consult Factory
MIG	✓	Site	✓
NAE (FieldServer as N2Open server)	✓	Factory and Site	✓
NCM (FieldServer as N2Open server)	✓	Factory and Site	✓
PHX	Consult Factory	not tested	Consult Factory
TC-9100	✗	not tested	✗
TEC1000	Consult Factory	not tested	Consult Factory
UNT	✓	Site	✓

Device	Supported	Tested (FACTORY, SITE)	N2Open Device
VAV	✓	Site	✓
VMA1410, VMA1420	✓	Factory and Site	✗
VND	✓	Site	✓
XT-9100	Consult Factory	Site	✗

6   COMMUNICATIONS FUNCTIONS - SUPPORTED FUNCTIONS AT A GLANCE:

6.1   N2Open Functions

6.1.1   Data Types Supported

FieldServer Data Type	Description (or Device Data Type)
Analog_Input	Analog Input (AI)
Digital_Input	Binary Input (BI)
Analog_Output	Analog Output (AO)
Digital_Output	Binary Output (BO)
Float_Reg	Internal Float value (ADF)
Integer	Internal Integer value (ADI)
Byte	Internal Byte value (BD)

6.1.2   Read Operations Supported

FieldServer as a Client	FieldServer as a Server
Read Current Value (all data types) direct read, Change-of-State (COS) poll	Read Current Value (all data types) direct read, Change-of-State (COS) poll
Read Attribute (all data types): direct read, specifying a legal attribute number	Read Attribute (all data types): direct read, specifying a legal attribute number
Identify Self command	Identify Self command
Read All Attributes (Optional) These commands are used to read all attributes of specified (Analog Input, Binary Input, Analog Output or Binary Output) object without specifying attribute number.	Read All Attributes (Optional) These commands are used to read all attributes of specified (Analog Input, Binary Input, Analog Output or Binary Output) object without specifying attribute number.

6.1.3   Write (Control) Operations Supported

FieldServer as a Client[2]	FieldServer as a Server[2]
Override Current Value (all data types) implemented as Write on FieldServer	Override Current Value (all data types) implemented as Write on FieldServer
Override Release (all data types)	Override Release (all data types)
Write Attribute (all data types) direct write, specifying a legal attribute number	Write Attribute (all data types) direct write, specifying a legal attribute number
Write Characterize Attributes (Optional) These commands are used to set all attributes that characterize the specified (Analog Input, Binary Input, Analog Output or Binary Output) object without specifying an attribute number.	Write Characterize Attributes (Optional) These commands are used to set all attributes that characterize the specified (Analog Input, Binary Input, Analog Output or Binary Output) object without specifying an attribute number.
Write Internal Parameter Command (Optional). This command is used to change the value attribute of internal parameter objects without specifying an attribute number.	Write Internal Parameter Command (Optional). This command is used to change the value attribute of internal parameter objects without specifying an attribute number

[2] On a Metasys® network there should be only one device overriding a value at any time. Otherwise it is possible that the Metasys® Master sees a value different to the overwritten value as the FieldServer will respond to a poll with the value last read from the Slave device.