



## **PG-100-106-AA Modbus RTU to JCI Metasys N2 Protocol Converter**

PG-100-106-AA is highly powerful, superior, completely configurable and productive Building & Industrial Automation gateway for integrators to effortlessly interface devices to networks in commercial buildings and industrial plants.

PG-100-106-AA Gateway model supports Modbus RTU and JCI Metasys N2 protocols. It is a Bi-directional Converter that can be configured as a Client and/or a Server on either protocol interface.

When configured as a JCI Metasys N2 client, the PG-100-106-AA can read data from your JCI Metasys N2 devices and publish it as Modbus RTU data. Also, it can write commands sent from the Modbus RTU side to the JCI Metasys N2 devices.

When configured as a Modbus RTU client, the PG-100-106-AA can read data from your Modbus RTU devices and publish it as JCI Metasys N2 data. Also, it can write commands sent from the JCI Metasys N2 side to the Modbus RTU devices.

The PG-100-106-AA can be configured to behave as a server on both JCI Metasys N2 and Modbus RTU interfaces. This mode is useful when data exchange is required between a JCI Metasys N2 client (for eg. SCADA) and a BACnet IP client (for eg. a Building Management System).

PG-100-106-AA can be configured to behave as a client on both JCI Metasys N2 and Modbus RTU interfaces.

PG-100-106-AA gateways have benefitted system integrators worldwide with its powerful line of gateways. Additionally, PG-100-106-AA gateway runs the same protocol conversion software on a productive and cost efficient platform backed by the experience, engineering expertise and technically proven support that integrators have come to expect from PG-100-106-AA.

### **Features**

- Ability to interface upto 1000 points
- DIN rail mount optional
- DIP switches to select baud rate or node ID on the fly
- Multi-configuration capability
- BACnet COV support for fast data communication while reducing the traffic over a BACnet network

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## Specifications

<b>Environment</b>	Operating Temperature: -40 to 75° C (-40 to 167°F)	
	Relative Humidity:5-90% RH non-condensing	
<b>Power Requirements</b>	9-30 VDC or 12-24 VAC	
	Current Draw @ 12V about 250Ma	
<b>Physical Dimensions(HxWxD)</b>	4.5x2.9x1.6 in. (11.5x7.4x4.1 cm)	
	0.4 lbs (0.2 Kg)	
<b>Other</b>	Configuration/Diagnostic utilities	
	Capacity: 1000 points	
	Table,Wall or DIN rail mount	
<b>Communication Interfaces</b>	RS-485	2
	RS-232	-
	Ethernet 10Base-T, 100BASE-T <sup>2</sup>	1
	Mbus	-
	KNX	-
	LonWorks	-
<b>Approvals</b>	TUV Approved to UL 916 and CSA C22.2 standards	
	BTL and LonMark certified	
	LonMark Certified	
	RoHS Compliant	
	GOST-R Certified	
	CE and FCC	

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## Modbus RTU Description

PG-100-106-AA Mode	Comments
Client	Nodes:1 Only 1 client node allowed on Multidrop systems
Server	Nodes:255 Actual electrical loading may reduce number of usable server nodes
<b>Formal Driver Type</b>	
	Serial
	Client or Server
<b>Connection Information</b>	
	Connection Type: RS-232 or RS-485(Two wire, half-duplex)
	Baud Rate: 110-115200, standard baud rates only
	Data Bits: 7,8
	Parity: Even, odd, None
	Multidrop Compatibility: Yes
<b>Function Code Supported</b>	
Function Codes	Description
01	Read Discrete Output Status (0xxxx)
02	Read Discrete Input Status (1xxxx)
03	Read Output Registers (4xxxx)
04	Read Input Registers (3xxxx)
05	Force Single Coil (0xxxx)
06	Preset Single Register (4xxxx)
15	Force Multiple Coils (0xxxx)
16	Preset Multiple Registers (4xxxx)

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## JCI Metasys N2 Protocol Driver Description

<b>PG-100-106-AA Mode</b>	<b>Comments</b>
Client	Nodes: 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	Nodes: 255
<b>Formal Driver Type</b>	Serial
	Client
	Server
<b>Connection Information</b>	
Connection type:	RS-485 (Two-wire, Half Duplex)
Baud Rates:	9600 (N2 Standard)
Data Bits:	8
Stop Bits:	1
Parity:	None
Multidrop Capability:	Yes
<b>N2Open Functions:</b>	
<b>Data Type Supported</b>	
<b>PG-100-106-AA Data Type</b>	<b>Description</b>
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)
<b>Read Operations Supported</b>	

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<b>PG-100-106-AA As a Client</b>		<b>PG-100-106-AA As a Server</b>	
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, 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, Binary Output) object without specifying attribute number.	
<b>Write (Control) Operations Supported</b>			
<b>PG-100-106-AA As a Client 2</b>		<b>PG-100-106-AA As a Server 2</b>	
Override Current Value (All data types) implemented as Write on PG-100-106-AA		Override Current Value (All data types) implemented as Write on PG-100-106-AA	
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.	
<b>Unsupported Functions and Data Types</b>			
<b>Function</b>		<b>Reason</b>	
Read Memory		Not Required	
Diagnostics			
Warm Start		Not Required	
Message			
Status Update		Not Required	
Message			
Programming messages (download, upload)		Not Required PG-100-106-AA is a data transfer device)	
Time Synch Not supported		Time Synch PG-100-106-AA clocks are updated on receipt of this command.	
<b>VMA Functions:</b>			
<b>Data Types Supported</b>			
<b>PG-100-106-AA Data Type</b>	<b>Description</b>		

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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)	
<b>Read Operations Supported</b>		
<b>PG-100-106-AA As a Client</b>		<b>PG-100-106-AA As a Server</b>
Read Current value (all data types)		Not Applicable
Direct Read, Change-of-State (COS) poll		
<b>Write (Control) Operations Supported</b>		
<b>PG-100-106-AA As a Client</b>		<b>PG-100-106-AA As a Server</b>
Write/Override Current value (all data types) implemented as Write on PG-100-106-AA		Not Applicable
Override Release (AI and BI only) uses writes for outputs and internal values		
<b>Unsupported Functions and Data Types</b>		
<b>Function</b>		<b>Reason</b>
Programming messages(upload,download)		Not required – PG-100-106-AA is a data transfer device
<b>DX9100 Functions:</b>		
<b>Data Types Supported</b>		
<b>PG-100-106-AA Data Type</b>	<b>Description</b>	
	Supported sections of Address Map:	
	General control module	
	Programmable modules 1-12	
	Analog input modules 1-8	
	Analog output modules 1-2	
	Digital output modules 3-8	
	Extension modules 1-8	
	Time schedules 1-8	
	Optimal start/stop modules 1-2	
	Analog output modules 9-10	
	Auxiliary analog output modules 11-13	
<b>Read Operations Supported</b>		
<b>PG-100-106-AA As a Client</b>		<b>PG-100-106-AA As a Server</b>
Read of all points supported		Not Applicable

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Write (Control) Operations Supported	
PG-100-106-AA As a Client	PG-100-106-AA As a Server
Write of all points supported	Not Applicable
DX9100 may not allow writes to specific values	
Unsupported Functions and Data Types	
Function	Reason
Programming messages	Not required – PG-100-106-AA is a data transfer device

