



## REAL TIME AUTOMATION



### KAM Power Meters On BACnet/IP

#### FEATURES

- Fully Compliant BACnet/IP Server
- Pre-loaded KAM Modbus Profile
- KAM Profile Includes Tag Names, Units and Scaling Factors
- BACnet Analog Data Automatically Scaled per KAM Profile
- Support for up to Ten KAM Devices
- Supports Function Code 1, 2, 3, 4, 5, 6, 15, and 16
- Effortless Browser Based Configuration
- Web Based HMI (optional)
- 10/100 BaseT Operation
- Includes Ethernet Device Management Tool
- No Programming Required

#### Get Your KAM Digital Power Meter Data on BACnet/IP

The 460MX moves power and energy data between one or more KAM Power Meters and BACnet/IP Clients like Johnson Controls Metasys. With energy costs rising and increased concern about energy and power quality, more and more building managers need access to the real time energy and power data collected by KAM Power Meters. Managers want to access that data over BACnet/IP, the networking standard for commercial building automation. The 460MX is perfect for this task. In fact, it's been designed solely to move data from KAM Meters to BACnet-based Building Automation systems.

**With the 460MX you have a device that can be quickly deployed and easily configured to integrate KAM Power Meters into Your BACnet Building Automation System.**

#### No Nasty Configuration Headaches

The 460MX comes pre-programmed ready to be integrated. A user editable profile automatically maps many of the important KAM Modbus registers to BACnet Analog points. You simply select the Modbus address for each KAM Meter. If your application requires additional KAM Registers you can simply edit and reload the profile to access other KAM data points. **In Most Apps There's No Need To Look At The KAM Register List!**

Some BACnet Clients, like Metasys require more than just data values. To meet this need the KAM profile includes tag names, unit designations and scaling factors for each KAM register. These tag strings and automatic scaling factors are easily customized for your application by editing the KAM profile.

#### Move Your Data Bi-directionally

You can both receive energy data from your KAM Digital Power Meter and send new control parameters to the Meter from your BACnet/IP Client.

#### Configure Your Data Transfer from a Web Page

No special software is required. The unit is completely configurable using your Browser.

#### The Legend Begins

*"It's likely that your business isn't industrial networking. And it shouldn't be. You make products, products that do wonderful things. Whatever it is that you make the process creates data. If you're a control engineer and your plants been around for more than a few years your plant floor is probably littered with devices that send out all kinds of data, and in most case data talking in a lot of different protocols. If you're an automation device developer you probably need to move your data into some other network. Either way, you've got a device conversion problem. You have devices that generate ASCII data, Modbus RTU, Ethernet TCP Data, DeviceNet data or some completely proprietary data and now you're the guy that has to move that data to some other network!"*

*I feel your pain... and better than my sympathy I have a solution for you. You see while your business isn't moving data around the factory floor mine is. In fact it is all we have done for more than twenty years now. Our 460 series of Device Converters line is the culmination of those twenty years. You can now move all of your data, where you want, when you want and how you want. Best of all **THE HARDEST PART IS OPENING THE BOX**".*

*John Rivaldi*

## It's Easy to Set Up

Sound complicated? It's not. Just Three Simple Steps!

**ONE**, Start by opening the web page for the device from any browser. All you need to do is simply enter the IP address of the gateway.

**TWO**, configure your BACnet communication parameters and select the KAM DPM button from the Modbus configuration page.

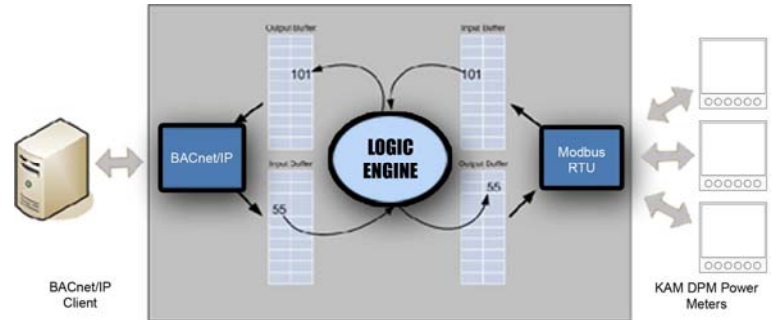
**THREE**, View the summary list of Modbus registers supported by the device and you're done!

No complicated procedures and best of all it's browser driven!

**NO SPECIAL SOFTWARE IS REQUIRED**

## How It Works:

The products in the Instant Device Converter product line contain an IEC standard control engine that moves your data from buffer to buffer. Input data from one network is moved to the output buffer of one or more other networks. Input data from those networks is moved to the output area of the other networks.



ENCLOSURE / HARDWARE	
Size	4.2" x 3.25" x 1"
Weight	5.4 oz.
Enclosure Type	Anodized Aluminum
Mounting	Din Rail
Connectors	Port 0: TSTRIP (RS232, RS-485, CAN) Port 1: DB-9 (RS232, RS485, CAN) <i>(Only one RS232, RS485, or CAN port setting can be active per unit. For example, a unit cannot have two ports set for RS232 or two ports set for CAN.)</i> RJ45 10/100 Base-T (Ethernet) Barrel Power Connector (2.1mm P5)
LEDs	Ethernet Link/Data LED, Ethernet Speed LED, Power LED, & 2 general purpose LEDs on side.
CONTROL LOGIC	
Specification	IEC 61131-3
Supported Logic Types	Ladder Logic, Instruction List, Function Block Programming, Structured Text, and Sequential Function Chart
Application Debug & Monitoring	Included
Visualization Access	Remote Browser
Data Typing	Strong Data Typing
ELECTRICAL/ENVIRONMENTAL	
Network Interface	10/100 BaseT with RJ-45 Connector
DC Input Voltage	8 V @ 230 mA to 28 V @ 80 mA
Power Adapter	1.2 A @ 7.5 VDC
Maximum Baud Rate	115K Baud
Device IP Address Management	<b>IPSetup™</b> — automatically locates RTA Instant Device Converters
Operating Temperature	-40 C to 85 C
Certification	RoHS-Compliant, UL, CUL, CE Approvals



REAL TIME AUTOMATION

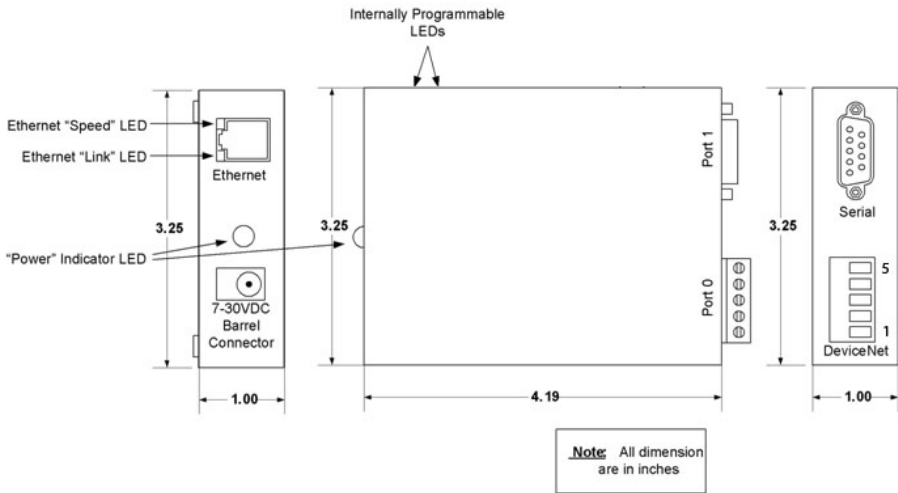
## Parameters

Address	Parameter	Address	Parameter
41792	Phase 1 Current	41816	Power Factor Phase 1
41793	Phase 2 Current	41817	Power Factor Phase 2
41794	Phase 3 Current	41818	Power Factor Phase 3
41795	Neutral Current	41819	Average Value I1
41796	Phase to Phase Voltage U12	41820	Average Value I2
41797	Phase to Phase Voltage U23	41821	Average Value I3
41798	Phase to Phase Voltage U31	41822	Average Value $\Sigma$ Active Power +
41799	Phase to Neutral voltage Phase 1	41823	Average Value $\Sigma$ Active Power -
41800	Phase to Neutral voltage Phase 2	41824	Average Value $\Sigma$ Reactive Power +
41801	Phase to Neutral voltage Phase 3	41825	Average Value $\Sigma$ Reactive Power -
41802	Frequency	41826	Average Value $\Sigma$ Apparent Power
41803	$\Sigma$ Active Power +/-	41827	Maximum Value I1
41804	$\Sigma$ Reactive Power +/-	41828	Maximum Value I2
41805	$\Sigma$ Apparent Power +/-	41829	Maximum Value I3
41806	$\Sigma$ Power Factor +/-	41830	Maximum Value $\Sigma$ Active Power +
41807	Active Power Phase 1 +/-	41831	Maximum Value $\Sigma$ Active Power -
41808	Active Power Phase 2 +/-	41832	Maximum Value $\Sigma$ Reactive Power +
41809	Active Power Phase 3 +/-	41833	Maximum Value $\Sigma$ Reactive Power -
41810	Reactive Power Phase 1 +/-	41834	Maximum Value $\Sigma$ Apparent Power
41811	Reactive Power Phase 2 +/-	41835	Active Energy +
41812	Reactive Power Phase 3 +/-	41837	Reactive Energy +
41813	Apparent Power Phase 1	41839	Apparent Energy
41814	Apparent Power Phase 2	41841	Active Energy -
41815	Apparent Power Phase 3	41843	Reactive Energy-



REAL TIME AUTOMATION

**Dimensions**



**Connector Pin-Outs**

PORT 1 (DB9)				
Pin	RS-232	RS-485	RS-422	CAN
1	CD	-	-	-
2	RX	TX-	TX-	CANL
3	TX	-	RX+	-
4	DTR	-	-	-
5	GND	GND	GND	GND
6	DSR	-	RX-	-
7	RTS	TX+	TX+	CANH
8	CTS	-	-	-
9	RI	-	PWRIN	PWRIN

PORT 0 (TStrip)				
Pin	RS-232	RS-485	RS-422	CAN
1	GND	GND	GND	GND
2	RX	TX-	TX-	CANL
3	TX	TX+	TX+	SHEILD
4	RTS	RX-	RX-	CANH
5	CTS	RX+	RX+	PWRIN

CATALOG #	DESCRIPTION
460MX	KAM Digital Power Meter to BACnet/IP

**Sales & Service**

**PLACING YOUR ORDER**

You can place your order by faxing 262-439-4989 or emailing [orders@rtaautomation.com](mailto:orders@rtaautomation.com).

**TECHNICAL SUPPORT**

Phone Support: 1-800-249-1612  
 Email Support: [support@rtaautomation.com](mailto:support@rtaautomation.com)

**Support for Other Industrial Networks**

Versions of the **460 Line of Instant Device Converters** support a large number of industrial networks and more are being added. Every one of these are implemented using our simple web-based integration and configuration architecture found in all 460 Device Converters. Connect any number of protocols with the same easy integration and configuration the 460 Line of Device Converters is known for.

INDUSTRIAL NETWORK SUPPORTED			
ASCII RS232	Modbus RTU Slave	Raw TCP Client	EtherNet/IP Server
ASCII RS485	Modbus TCP Server	Raw TCP Server	EtherNet/IP Client
BACnet IP	Modbus RTU Master	CANopen Slave	DeviceNet Master
Modbus TCP Client	<b>*** CALL ABOUT YOUR PROPRIETARY PROTOCOL ***</b>		DeviceNet Slave

**Proprietary Protocol Support**

The **460 Instant Device Converters** can be customized for specific applications and proprietary communications. The logic engine supports five worldwide, open standard programming languages and provides maximum flexibility for controlling your data as it moves around your factory floor or building. Call for more information on adding custom code to a 460 gateway.



REAL TIME AUTOMATION

**For More Information:**

1-800-249-1612  
[sales@rtaautomation.com](mailto:sales@rtaautomation.com)