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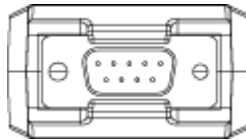
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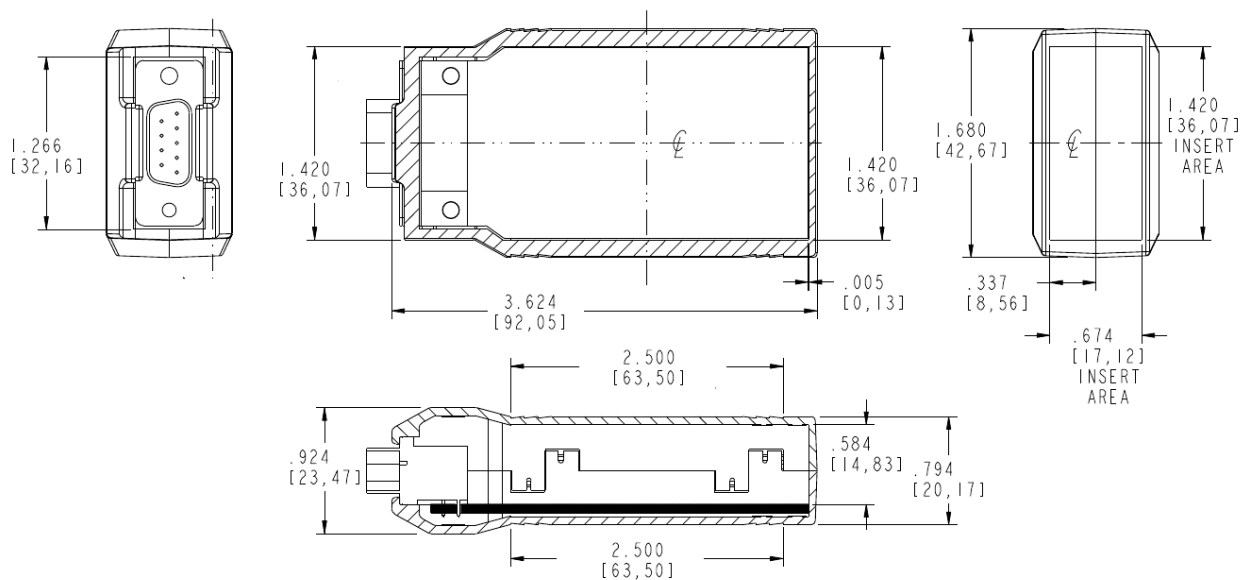
PA2400 Ethernet to RS-485 (MODBUS RTU / MODBUS ASCII) Gateway

User's Manual
Rev 1.0.6 2018



PA2400 Specifications

Operating Temperature Range	-40 ° C to +85 ° C (-40 ° F to +185 ° F)
Dimensions	9.1 cm (3.6") x 4.2 cm (1.7") x 2 cm (0.8")
Housing Material	Injection molded ABS plastic
Housing Colour	black (bone white optional)
Power source:	8 to 24 VDC
Current Consumption	800 mW
Communications Interface	10-Base/T RJ-45 / RS485 w/ built-in termination.
Maximum RS-485 extension cable length	1200 m (4000 ft.).
Selectable Communications Protocol	MODBUS RTU / MODBUS ASCII
Selectable Baud Rates	100, 300, 1200, 2400, 4800, 9600, 19200, 28800, 38400, 57600, 115200, 23400, 460800, 921600
Ethernet Protocols	MODBUS/TCP, HTTP, DHCP, PAP-Multicast (Pike Aero Discovery/Setup Protocol)
RS485 Protocols	MODBUS/RTU, MODBUS/ASCII



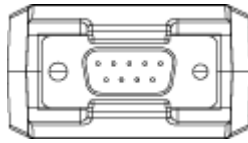
Description

- Provides 1 x 10 Mbps (10-BaseT) Ethernet port
- Provides 1 x RS-485 MODBUS/RTU/ASCII port
- Plug-and-Play Network Integration
- Integration of MODBUS/TCP and MODBUS/RTU/ASCII networks
- Supports up to 921.6 kbps data rate on RS485 port
- DIN-rail mounting [option](#)
- Automatic RS485 data flow control
- Supports for setting static IP or using DHCP
- Ethernet multicast protocol for easy network-interface [discovery and setup](#)
- Built-in HTTP (web) service for device configuration
- Includes [DB-9 Shell Termination](#)
- Optional [DB-9 Break-out Termination](#)

Protocols

- **HTTP** Provides a web-browser based user interface to settings.
- **DHCP** Provides a convenient means to integrate with DHCP enabled LANs.
- **PAP** (Pike Aero Discovery) protocol provides a convenient means to locate and configure the network interface of PikeAero Ethernet enabled devices on your LAN.
- **IGMP** Provides a means to test for presence of the PA2400 on the network using the "PING" protocol.
- **MODBUS/TCP and MODBUS/RTU/ASCII**
 - **MODBUS/TCP SLAVE** (default) Provides a means for a **MODBUS/TCP MASTER** to access **MODBUS/RTU/ASCII SLAVE** devices attached to the RS485 interface side of the PA2400 gateway device.
 - **MODBUS/TCP MASTER** Provides a means for a **MODBUS/RTU MASTER** to access a single **MODBUS/TCP SLAVE** device attached to the Ethernet interface side of the PA2400 gateway. (Note **MODBUS/ASCII** is not currently supported in this mode)

Device Pinouts and Hookups



PIN	SIGNAL	IN/OUT *	DESCRIPTION
1	A	IN/OUT	RS-485 DATA (A)
2	-	-	-
3	-	-	-
4	PWR	IN	+8-24 VDC IN
5	GND	-	Signal Ground
6	PWR	IN	+8-24 VDC IN
7	-	-	-
8	-	-	-
9	B	IN/OUT	RS-485 DATA (B)

Plug-and-Play Network Integration

After connecting to Ethernet RJ-45 cable, running the 'padisco' utility should produce results similar to the following:

```
$ padisco --find [ENTER ]  
--mac 00:00:CF:FF:FF:FE --dhcp 1 --ip 192.168.1.6 --sub 255.255.255.0 --gw 192.168.1.1
```

```
$ padisco --help [ENTER ]  
PADisco Version 1.1.0  
Copyright (c) 2019 Pike Aerospace Research Corporation  
Sales & Support <sales@pikeaero.com> | http://www.pikeaero.com  
--version      -v  
--help        -h -?  
--timeout     -t <milliseconds>  
--find        -f  
--mac         -m xx:xx:xx:xx:xx:xx  
--dhcp        -d <1|0>  
--ip          -i xxx.xxx.xxx.xxx  
--sub         -s xxx.xxx.xxx.xxx  
--gw          -g xxx.xxx.xxx.xxx  
--apply       -a  
--reset       -r
```

Examples,

```
padisco --find
```

```
padisco --mac 00:20:6D:69:6E:3D --dhcp 0 -ip 192.168.1.10 --apply
```

```
padisco --mac 00:20:6D:69:6E:3D --reset
```

Configuration using the HTTP Web Interface

GATEWAY MODE	
TCP Master / RTU Slave:	<input type="checkbox"/>
ETHERNET INTERFACE	
DHCP:	<input type="checkbox"/>
MAC Address:	<input type="text"/>
IP Address:	<input type="text"/>
Gateway Address:	<input type="text"/>
Net Mask:	<input type="text"/>
MODBUS/TCP	
TCP Port:	<input type="text"/>
Timeout (milliseconds):	<input type="text"/>
RS485 MODBUS/RTU/ASCII	
Protocol:	<input type="text"/>
Baud Rate (BPS):	<input type="text"/>
Data Bits:	<input type="text"/>
Parity:	<input type="text"/>
Stop Bits:	<input type="text"/>
Timeout (milliseconds):	<input type="text"/>
<input type="submit" value="Submit"/>	

GATEWAY MODE	
TCP Master / RTU Slave:	<input type="checkbox"/>
ETHERNET INTERFACE	
DHCP:	<input type="checkbox"/>
MAC Address:	<input type="text"/>
IP Address:	<input type="text"/>
Gateway Address:	<input type="text"/>
Net Mask:	<input type="text"/>
MODBUS/TCP	
Slave ID:	<input type="text"/>
Slave IP:	<input type="text"/>
TCP Port:	<input type="text"/>
Timeout (milliseconds):	<input type="text"/>
RS485 MODBUS/RTU/ASCII	
Slave ID:	<input type="text"/>
Protocol:	<input type="text"/>
Baud Rate (BPS):	<input type="text"/>
Data Bits:	<input type="text"/>
Parity:	<input type="text"/>
Stop Bits:	<input type="text"/>
Timeout (milliseconds):	<input type="text"/>
Submit	