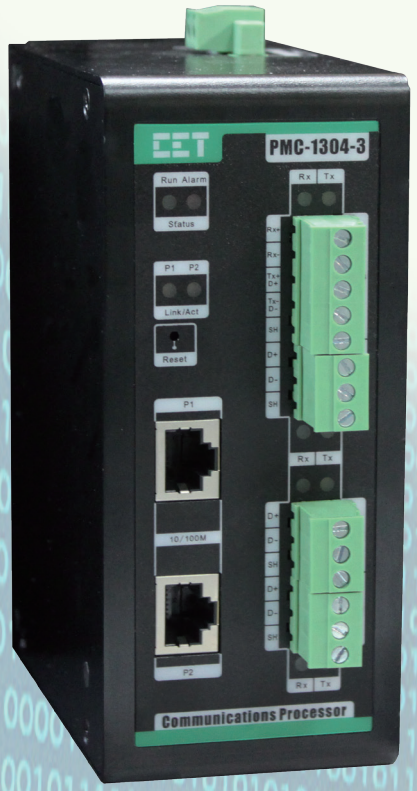




PMC-1304-3

Communications Processor

Fully Integrated Solution for
Industrial Internet of Things (IIoT)
and Big Data Applications

www.CETSingapore.com.sg

PMC-1304-3 is an ideal instrument to connect serial devices to an IP based Ethernet LAN for any industrial automation systems that require isolation protection as well as high reliability. The Basic Model provides Modbus TCP to RTU Gateway function and supports interrogation from multiple Modbus TCP Masters. The optional RTU Model features 2GB On-Board Memory for local data caching and logging to enhance overall system performance and provides data redundancy.

Features Summary

- Designed to withstand the harshest industrial environments
  - 15kV (contactless) & 6kV (contact) ESD protection and 3kV isolation protection for all Serial signals
  - 1.5kV isolation protection for Ethernet ports
- Simple port configuration via built-in web interface
- DIN-Rail or Surface Mounting
- Dual 10/100BaseT (RJ45)
- Standard 2xRS-485, optional 4xRS-485
- Modbus Gateway function
- Multiple Upstream Applications support

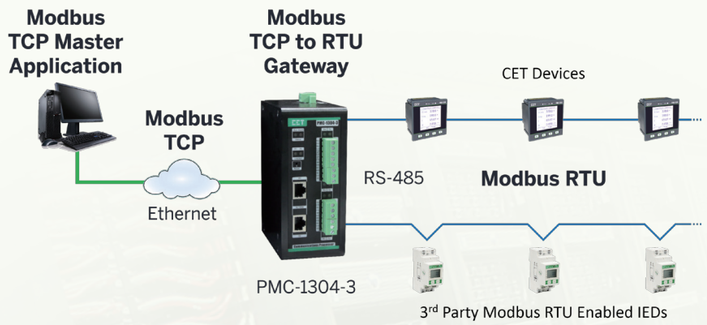
Basic Model
- 32 Slave IEDs per RS-485 port or a maximum of 128 Slave IEDs per device
- 4 Modbus TCP Masters per device

RTU Model
- 64 Slave IEDs per RS-485 port or a maximum of 256 Slave IEDs per device
- 16 Modbus TCP Masters per device
- Modbus RTU Mastering
- 2GB On-Board Log Memory
- Local Data Caching and Logging
- FTP Server and Client Support
- Automatic Data Log push to external FTP Server

Basic Applications

I. Modbus TCP to RTU Gateway

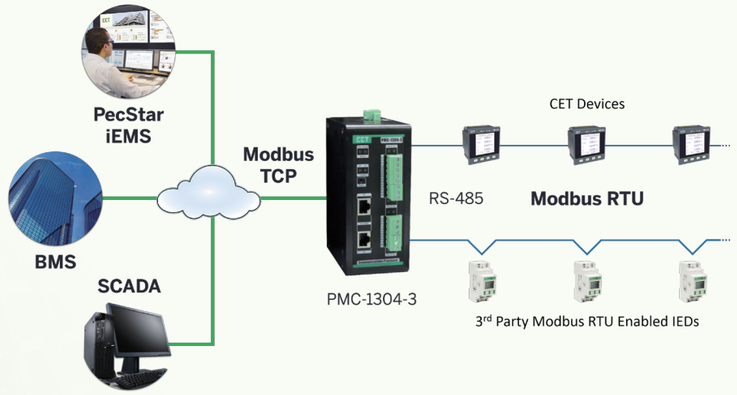
The PMC-1304-3 supports the Modbus TCP to RTU Gateway function that makes it extremely simple for any Modbus TCP Master Applications to interface with Modbus RTU enabled IEDs over a local area network. A simple web-based interface allows users to easily configure the TCP to RTU address mapping and which downstream RS-485 port the IEDs are located.



Modbus TCP to RTU Gateway

II. Multiple Upstream Applications Support

The PMC-1304-3 supports multiple Modbus TCP Masters simultaneously to facilitate information sharing while minimizing the implementation cost. For highly data or communication intensive applications, the RTU model is recommended.

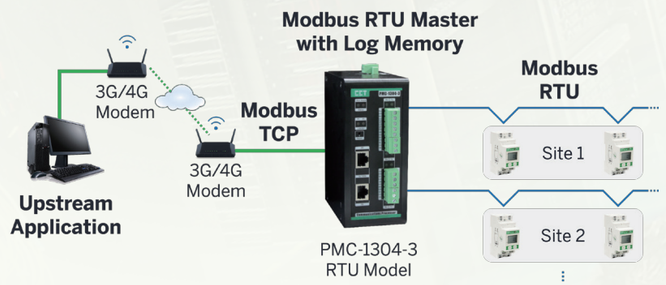


One PMC-1304-3 Serving 3 Modbus TCP Applications Simultaneously

Advanced Applications

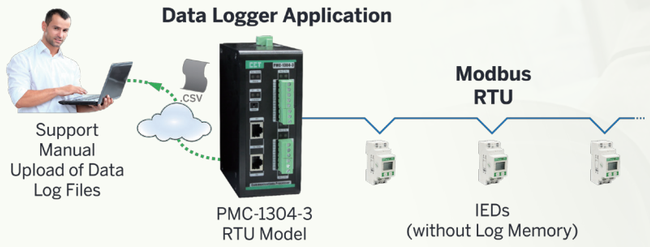
III. Data Logging

The RTU model supports embedded Modbus RTU mastering as well as Local Data Caching and Data Logging of real-time parameters from Modbus RTU enabled IEDs for a maximum of 25,600 data points. The device can be configured to perform data logging from 5-minute to 60-minute intervals. With its large on-board non-volatile memory, the device is capable of storing more than 2-year worth of data at 60-minute recording interval. These features enhance the overall system performance and reliability, reduce the CPU loading of the server applications such as EMS, BMS or SCADA and provide an extra level of data redundancy for IEDs without memory.



Multi-site Data Collection through 3G/4G Modems

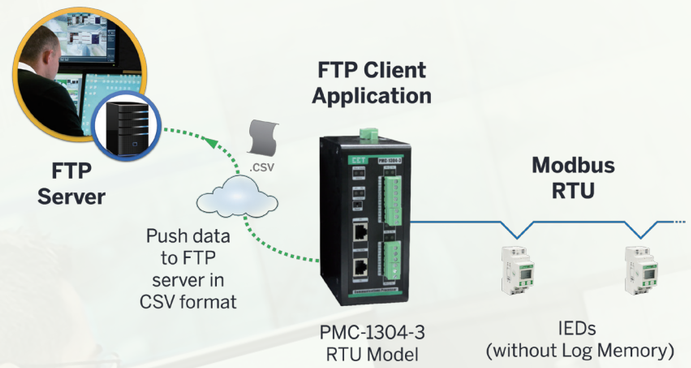
In addition, the RTU model may be deployed as a stand-alone Data Logger without any server systems in a Local Area Network or in remote locations. The RTU model's FTP Server allows manual access and uploading of historical information in zipped CSV format. This versatile function allows users to perform simple data logging of Slave IEDs locally or remotely without any expensive software.



Stand-Alone Data Logger Application

IV. FTP Client Support

The RTU model can be configured as an FTP Client to automatically push the most recent data log files in CSV format to an external FTP Server over an intranet or internet at pre-determined intervals from hourly to weekly. This is especially useful for distributed or remote Energy Management applications where real-time data update is not required. The log files will be deposited at the FTP Server at scheduled intervals which can then be processed by 3rd-Party applications.



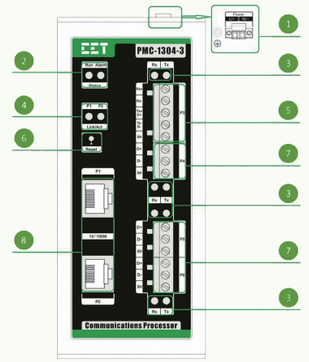
Data Push to FTP Server in CSV Format

V. Customized 3rd-Party Modbus Device Support

Not only does the RTU model support Modbus IEDs from CET, it can also support the Modbus RTU Mastering of any 3rd-Party Modbus IEDs with customized device drivers.

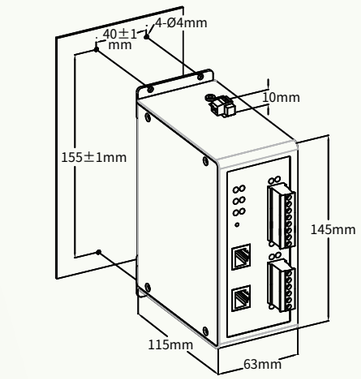
Please contact your local CET Representatives for detailed information and your applications.

Appearance

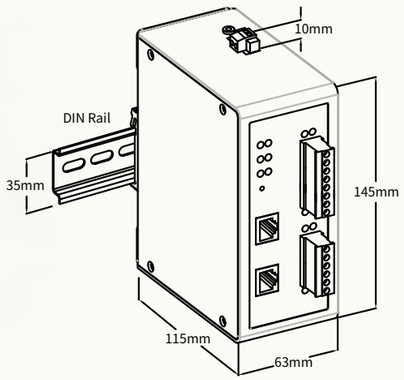


1. Power Supply
2. Running Status Indicator
3. Serial Port Comm. Status
4. Ethernet Port Comm. Status
5. 4-wire RS-422/485
6. Reset Button
7. 2-wire RS-485
8. Ethernet Port

Dimension



Surface Mounting



DIN-Rail Mounting

Technical Specifications

10/100 Base Ethernet Port (P1, P2)

Standard	10/100BaseT, RJ45 connector
Cable	CAT5, CAT5e (100m maximum)

Serial Ports (P3, P4, P5, P6)

Standard	1xRS-422/485 (P3), 3xRS-485 (P4, P5, P6)	
Comm. Parameters	Data bits	5, 6, 7, 8
	Stop bits	1, 2
	Parity	None, Even, Odd, Mark, Space
	Baud rate	300 to 115,200 bps

LED Indicators

Run (Green)	On	Abnormal condition
	Blinking	Working normally
	Off	Not powered up or abnormal condition
Alarm (Red)	On	Abnormal condition
	Blinking	Restoring default parameters
P1 & P2 (Yellow)	On	Connected but no data activities
	Blinking	Data activities
	Off	Disconnected
P3, P4, P5, P6 Rx (Green)	Blinking	Receiving data
Tx (Yellow)	Blinking	Transmitting data

Protocol

Protocol	Modbus RTU, Modbus TCP, FTP, HTTP

Power Supply (L/+, N/-)

Standard	95-250VAC/DC, 47-440Hz
Burden	<5W

Protection

ESD Protection	15kV (Contactless) and 6kV (Contact) ESD protection for all Serial signals
Isolation Protection	3kV for all Serial signals 1.5kV for Ethernet Ports

Environmental Conditions

Operating Temp.	-25°C to 70°C
Storage Temp.	-40°C to 85°C
Humidity	5% to 95% non-condensing
Atmospheric Pressure	70kPa to 110kPa

Mechanical Characteristics

Casing	Galvanized Iron
Unit Dimensions	115x63x145mm
Shipping Weight	0.95kg
Shipping Dimensions	300x210x150mm
Mounting	DIN-Rail or Surface Mounting
IP Rating	30

Standard of Compliance

Safety Requirements

Insulation	IEC 60255-5-2000
Dielectric Test	2kV @ 1 minute
Insulation Resistance	>100MΩ
Impulse Voltage	5kV, 1.2/50μs

Electromagnetic Compatibility

Electrostatic Discharge	IEC 61000-4-2: 2001 Level IV
Radiated Fields	IEC 61000-4-3: 2006 Level III
Fast Transients	IEC 61000-4-4: 2004 Level IV
Surges	IEC 61000-4-5: 2005 Level IV
Conducted Disturbances	IEC 61000-4-6: 2006 Level III
Magnetic Fields	IEC 61000-4-8: 2001 Level III
Oscillatory Waves	IEC 61000-4-12: 1995 Level III

Mechanical Tests

Vibration Test	Response	IEC 60255-21-1: 1988 Level I
	Endurance	IEC 60255-21-1: 1988 Level I
Shock Test	Response	IEC 60255-21-2: 1988 Level I
	Endurance	IEC 60255-21-2: 1988 Level I
Bump Test		IEC 60255-21-2: 1988 Level I

Ordering Information

Product Code						Description
PMC-1304-3						Communications Processor
Model	T					**Basic Model**: Modbus TCP/RTU Gateway with Multi-Master Support
	R*					**RTU Model**: Modbus Mastering with 2GB On-Board Storage
Serial Port		00-02				2xRS-485 (P3-P4)
		00-04*				4xRS-485 (P3-P6)
Power Supply			2			95-250VAC/DC, 47-440Hz
Ethernet Port				T2-XX-XXXX		100BaseT (P1/P2)
				F2-ST-M002*		100BaseFX (P1/P2), Multi-mode, 2km
				F2-ST-S060*		100BaseFX (P1/P2), Single-mode, 60km
Language					E	English
PMC-1304-3	T	00-02	2	T2-XX-XXXX	E	PMC-1304-3-T-00-02-2-T2-XX-XXXX-E (Standard Model)

Contact us

CET SINGAPORE
No.7 Mandai Link #05-33
Mandai Connection Blk B Singapore 728653
Tel:(65)6677 7279
EMAIL: contact@cetsingapore.com.sg

WWW.CETSINGAPORE.COM.SG