tET-P2A2/tET-P2C2 tPET-P2A2/tPET-P2C2

Tiny Ethernet module with Digital Input/Output

Features

- Built-in Web Server
- Cost-effective Tiny Ethernet I/O Modules
- Support Modbus TCP/UDP and MQTT Protocols
- I/O Pair Connection (Push and Pull)
- Redundant power inputs:
  PoE (IEEE 802.3af, Class 1) and DC input
- Supports Dual-watchdog
- Supports Web Configuration and Firmware Update Via Ethernet
- Supports Latched DI, 32-bit DI Counters, and Frequency Measurement
- DO Power-on and Safe Value

Introduction

Providing various digital I/O functions, the tET/tPET series is an IP-based Ethernet I/O monitoring and control module. The module can be remotely controlled through a 10/100 M Ethernet network by using Modbus TCP protocol. Modbus has become a de facto standard communications protocol in industry and is now the most commonly available means of connecting industrial electronic devices. This makes the tET/tPET series perfect integration with the HMI, SCADA, PLC, and other software systems.

The functionality of the tET/tPET series is almost the same as the ET-7000/PET-7000 series. The tET/tPET series tiny Ethernet I/O modules support various I/O types, like photo-isolated digital input, relay contact, photoMOS relay, and open-collector output. The module can be used to create DI to DO pair-connect through the Ethernet. Once the configuration is completed, the tET/tPET series module can poll the status of the local DI channels and then use the Modbus/TCP protocol to continuously write to a remote DO device in the background.

The tET/tPET series provides a dual watchdog: CPU watchdog and host watchdog. The CPU watchdog automatically resets itself when the built-in firmware runs abnormally. The host watchdog monitors the host controller (PC or PLC), and the output of the module can go to a predefined state (safe value) when the host fails.

For maximum space savings, the tET/tPET series is offered in an amazing tiny form factor that makes it can be easily installed anywhere, even directly embedded into a machine. It is equipped with two removable terminal block connectors for easy wiring and features a powerful 32-bit ARM MCU to handle efficient network trafficking. The tPET series offers true IEEE 802.3af-compliant (classification, Class 1) Power over Ethernet (PoE) using a standard category 5 Ethernet cable to receive power from a PoE switch like the NS-205PSE. When there is no PoE switch on site, the tPET series accepts power input from the DC adapter.

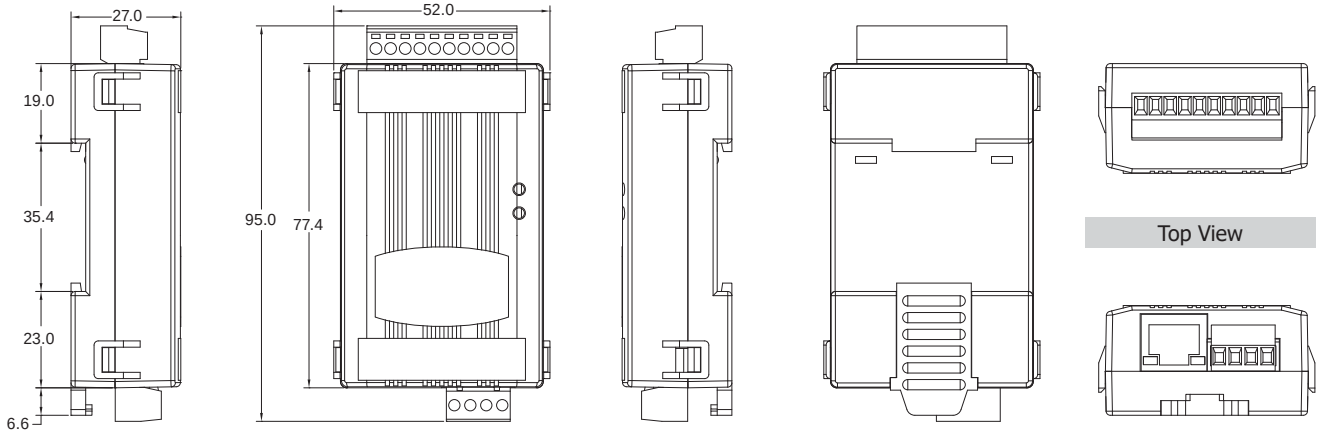
System Specifications

Model	tET-P2A2	tET-P2C2	tPET-P2A2	tPET-P2C2
CPU Module				
CPU	32-bit MCU			
Watchdog Timer	Module, Communication (Programmable)			
EMS Protection				
EFT (IEC 61000-4-4)	±4 kV for Power Line			
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal ±8 kV Air for Random Point			
LED Indicators				
Status	Run, Ethernet		Run, Ethernet, PoE	
Ethernet				
Ports	10/100 Base-TX, 8-Pin RJ-45 x1 (Auto-negotiating, Auto-MDI/MDIX, LED indicator)			
Power				
Consumption	0.9 W		1.0 W	
Powered from PoE	-		IEEE 802.3af, Class 1	
Powered from Terminal Block	+12 to +48 VDC			
Mechanical				
Dimensions (mm)	52 x 95 x 27 (W x L x H)			
Installation	DIN-Rail mounting			
Environment				
Operating Temperature	-25 to +75 °C			
Storage Temperature	-30 to +80 °C			
Humidity	10 to 90% RH, Non-condensing			

I/O Specifications

Model	tET-P2A2	tPET-P2A2	tET-P2C2	tPET-P2C2
Digital Input/Counter				
Channels	2			
Type	Wet Contact			
Sink/Source (NPN/PNP)	Sink/Source			
ON Voltage Level	+10 to +50 VDC			
OFF Voltage Level	+4 VDC (max.)			
Max. Counts	4,294,967,295 (32-bit)			
Frequency	3.5 kHz (without filter)			
Min. Pulse Width	0.15 ms			
Isolation	3750 Vrms			
Input Impedance	10 kΩ			
Overvoltage Protection	+70 VDC			
Digital Output				
Channels	2			
Type	Open Collector			
Sink/Source (NPN/PNP)	Source		Sink	
Load Voltage	+10 to +40 VDC		+5 to +30 VDC	
Load Current	650 mA/channel		100 mA/channel	
Overvoltage Protection	+48 VDC		+60 VDC	
Short-circuit Protection	Yes		-	
Isolation	3750 Vrms			

Dimensions (Units: mm)



Left Side View | Front View | Right Side View | Rear View | Top View | Bottom View

Ordering Information

tET-P2A2 CR	Tiny Ethernet Module with 2-ch DI and 2-ch (Source-type, PNP) DO (RoHS)
tET-P2C2 CR	Tiny Ethernet Module with 2-ch DI and 2-ch (Sink-type, NPN) DO (RoHS)
tPET-P2A2 CR	Tiny PoE Ethernet Module with 2-ch DI and 2-ch (Source-type, PNP) DO (RoHS)
tPET-P2C2 CR	Tiny PoE Ethernet Module with 2-ch DI and 2-ch (Sink-type, NPN) DO (RoHS)