ICP DAS

Features

- Cost-effective Tiny Ethernet I/O Modules (Modbus TCP/UDP)
- 10/100 Base-TX Ethernet, RJ-45 x1 (Auto-negotiating, Auto MDI/MDIX, LED Indicators)
- Includes Redundant Power Inputs: PoE and DC Input
- Supports Web Configuration and Firmware Update Via Ethernet
- Supports Latched DI, 32-bit DI Counters and Frequency Measurement
- Supports I/O Pair-connection Through the Ethernet
- Dual-watchdog with Power-on and Safe Value

tET-P2R2
tET-PD2R1
tPET-P2R2
tPET-PD2R1

Tiny Ethernet module with Digital Input and Relay Output

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 dual watchdog: CPU watchdog and host watchdog. The CPU watchdog automatically resets it-self 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 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 in 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 DC adapter.

System Specifications

Model	tET-P2R2	tET-PD2R1	tPET-P2R2	tPET-PD2R1
CPU Module				
CPU	32-bit MCU			
Watchdog Timer	Yes			
LED Indicators				
Status	1 x Power, 2 x Ethernet		1 x Power, 2 x Ethernet, 1 x PoE	
Ethernet				
Ports	10/100 Base-TX, 8-Pin RJ-45 x1 (Auto-negotiating, Auto-MDI/MDIX, LED indicator)			
Power				
Consumption	0.04 A @ 24 VDC	-	0.03 A @ 48 VDC	-
Powered from PoE	-		IEEE 802.3af, Class 1	
Powered from Terminal Block	+12 ~ 48 VDC			
Mechanical				
Dimensions	52 mm x 27 mm x 98 mm			
Installation	DIN-Rail mounting			
Environment				
Operating Temperature	-25 ~ +75 °C			
Storage Temperature	-30 ~ +80 °C			
Humidity	10 ~ 90% RH, Non-condensing			

I/O Specifications

Model	tET-P2R2	tPET-P2R2	tET-PD2R1	tPET-PD2R1
Digital Input				
Channels	2			
Type	Wet Contact (Sink, Source)		Dry Contact (Source)	
ON Voltage Level	+10 VDC ~ +50 VDC		Close to GND	
OFF Voltage Level	+4 VDC max.		Open	
Isolation	3750 Vrms			
Input Impedance	10 k Ohm		-	
Effective Distance	-		500 M max.	
Overvoltage Protection	+70 VDC		-	
Digital Input/Counter				
Max. Counts	4,294,967,285 (32 bits)			
Frequency	3.5 kHz (without filter)			
Min. Pulse Width	0.15 ms			
Relay Output				
Channels	2		1	
Type	Power Relay, Form A (SPST N.O.)			
Operate Time	6 ms			
Release Time	3 ms			
Electrical Endurance	5 A 250 VAC 30,000 ops (10 ops/minute) at 75 °C 5 A 30 VDC 70,000 ops (10 ops/minute) at 75 °C 5 A 250 VAC/30 VDC 6,000 ops 3 A 250 VAC/30 VDC 100,000 ops			
Mechanical Endurance	20,000,000 ops. At no load (300 ops./minute)			
Isolation	3000 Vrms			

■ Dimensions (Units: mm)

Left Side View	Front View	Right Side View	Rear View	Top View

Top View

Bottom View
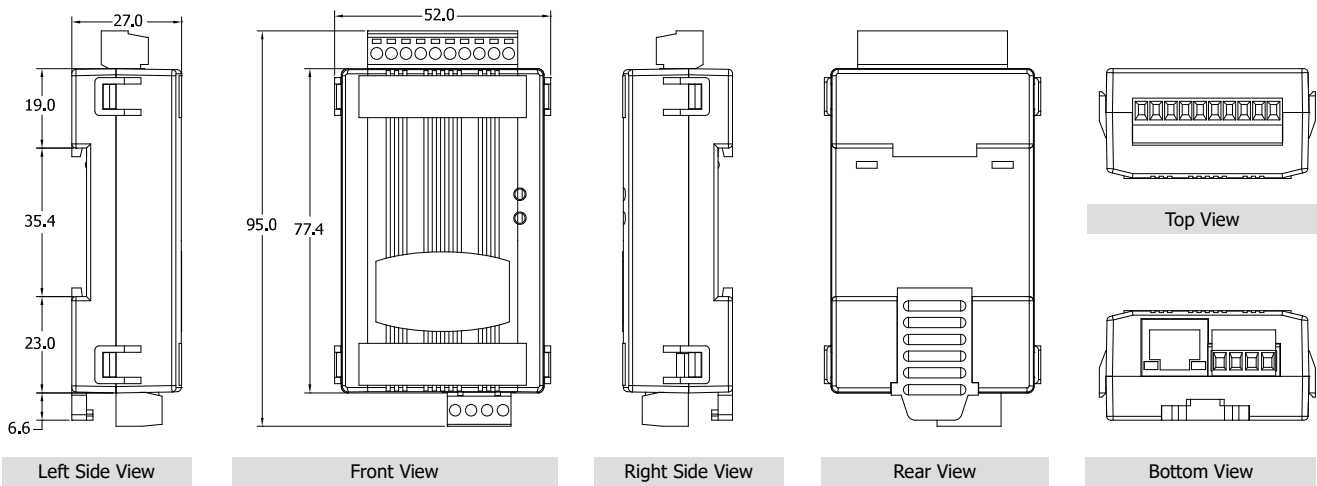
■ Ordering Information

tET-P2R2 CR	Tiny Ethernet Module with 2-ch Wet Contact DI and 2-ch Power Relay (RoHS)
tET-PD2R1 CR	Tiny Ethernet Module with 2-ch Dry Contact DI and 1-ch Power Relay (RoHS)
tPET-P2R2 CR	Tiny PoE Ethernet Module with 2-ch Wet Contact DI and 2-ch Power Relay (RoHS)
tPET-PD2R1 CR	Tiny PoE Ethernet Module with 2-ch Dry Contact DI and 1-ch Power Relay (RoHS)