ICP DAS

tET-A4 / tET-C4 / tPET-A4 / tPET-C4

Tiny Ethernet Module with 4-ch DO

◼ Features

- ◼ Web Server for Configuration
- ◼ 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 Firmware Update via Ethernet
- ◼ DO Power-on and Safe Value

◼ Introduction

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.

The functionality of the tET/tPET series is almost the same as the ET-7000/PET-7000 series. 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 Supports 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.

It 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.
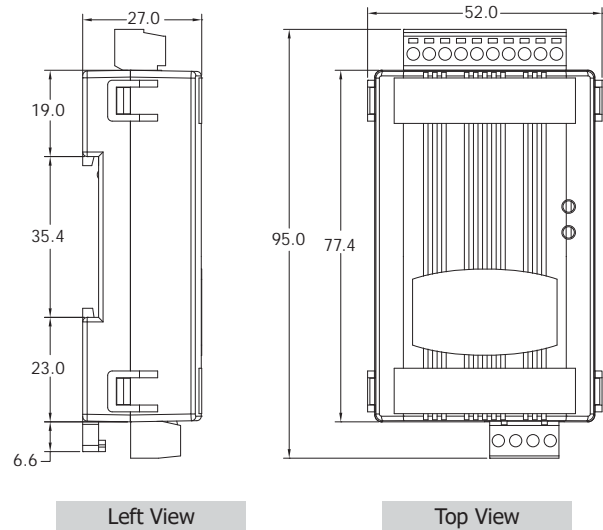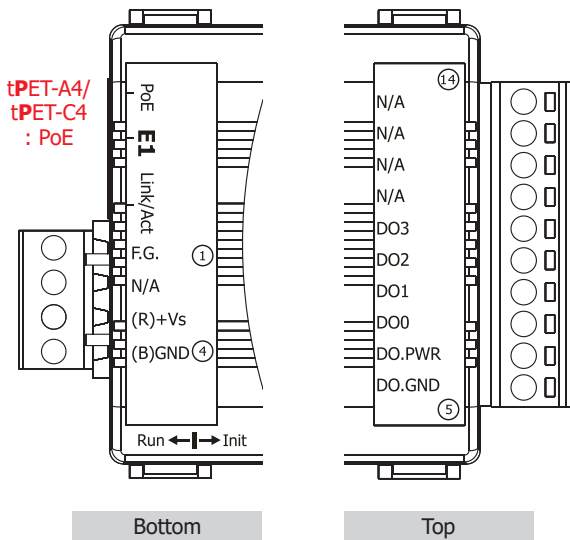
◼ System Specifications

Model	tET-A4	tET-C4	tPET-A4	tPET-C4
Software				
Built-in Web Server	Yes			
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	1 x RJ-45, 10/100 Base-TX			
PoE	-		Yes	
Access Control	Password and IP Filter			
Protocol	Modbus TCP, Modbus UDP, MQTT			
Power				
Reverse Polarity Protection	Yes			
Consumption	1.0 W	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 ~ +75 °C			
Storage Temperature	-30 ~ +80 °C			
Humidity	10 ~ 90% RH, Non-condensing			

■ I/O Specifications

Model	t(P)ET-A4	t(P)ET-C4
Digital Output		
Channels	4	
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	

■ Pin Assignments

tPET-A4/
tPET-C4
: PoE

Bottom   Top

■ Dimensions (Units: mm)

Left View   Top View

■ Wire Connections

Digital Output	Readback as 1	Readback as 0
(Source) Drive Relay	Relay ON	Relay OFF
(Source) Resistance Load	Relay ON	Relay OFF

Digital Output	Readback as 1	Readback as 0
(Sink) Drive Relay	Relay ON	Relay OFF
(Sink) Resistance Load	Relay ON	Relay OFF
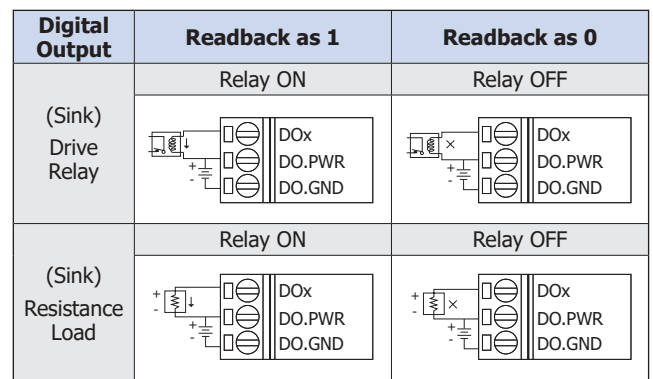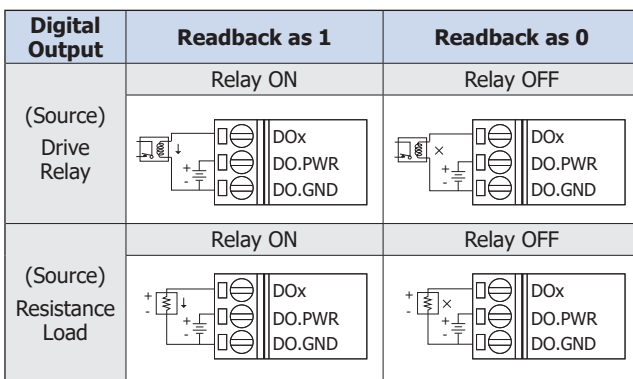
■ Ordering Information

tET-A4 CR	Tiny Ethernet Module with 4-ch DO (Source, PNP) (RoHS)
tET-C4 CR	Tiny Ethernet Module with 4-ch DO (Sink, NPN) (RoHS)
tPET-A4 CR	Tiny PoE Ethernet Module with 4-ch DO (Source, PNP) (RoHS)
tPET-C4 CR	Tiny PoE Ethernet Module with 4-ch DO (Sink, NPN) (RoHS)