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## 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 I/O Pair-connection Through the Ethernet
- Dual-watchdog with Power-on and Safe Value

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

Tiny Ethernet module with Digital 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.
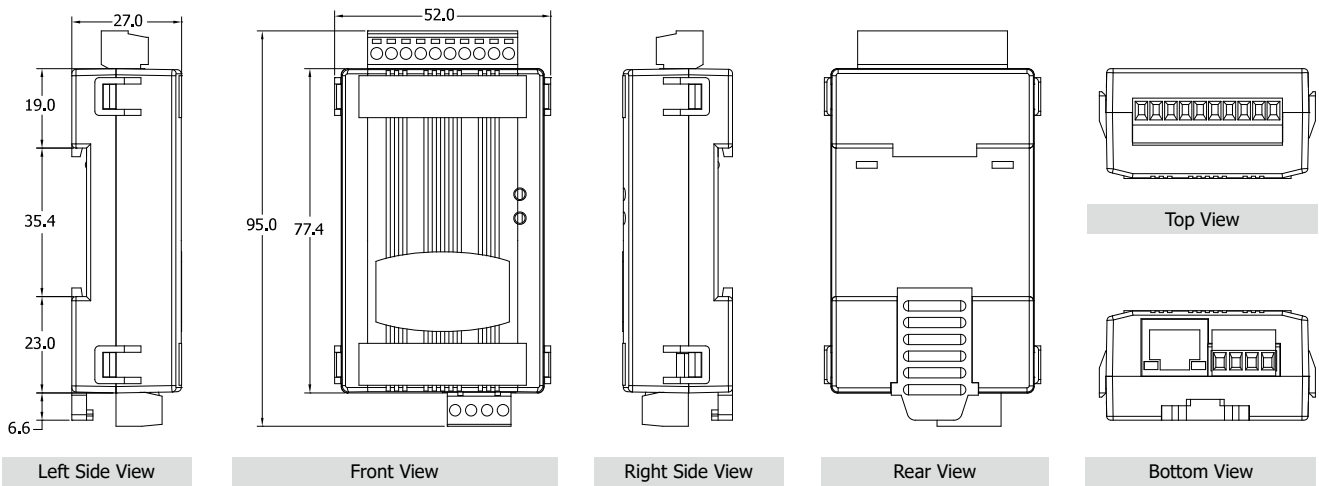
## System Specifications

| Model | tET-A4 | tET-C4 | tPET-A4 | tPET-C4 |
|---|---|---|---|---|
| **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** | | | | |
| 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-A4 | tPET-A4 | tET-C4 | tPET-C4 |
|---|---|---|---|---|
| **Digital Output** | | | | |
| Channels | 4 | | | |
| Type | Source, Open Collector (PNP) | | Sink, Open Collector (NPN) | |
| Voltage | +10 VDC ~ +40 VDC | | +5 VDC ~ +30 VDC | |
| Max. Load Current | 650 mA/channel | | 100 mA/channel | |
| Overvoltage Protection | +48 VDC | | +60 VDC | |
| Isolation | 3750 Vrms | | | |
| Short-Circuit Protection | Yes | | - | |

## ◼ Dimensions (Units: mm)

Left Side View — 27.0, 19.0, 35.4, 23.0, 6.6

Front View — 52.0, 95.0, 77.4

Right Side View

Rear View

Top View

Bottom View

## ◼ Ordering Information

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