

● Selection Guide



tET/tPET Selection Guide

Model Name		Bus	Protocol	I/O Specification		
Ethernet	PoE			Isolation	DI	DO
tET-P6	tPET-P6	Ethernet 10/100 M	Modbus TCP/UDP	Yes	6-ch (Sink/Source)	-
tET-C4	tPET-C4			Yes	-	4-ch (NPN, Sink)
tET-A4	tPET-A4			Yes	-	4-ch (PNP, Source)
tET-P2C2	tPET-P2C2			Yes	2-ch (Sink/Source)	2-ch (NPN, Sink)
tET-P2A2	tPET-P2A2			Yes	2-ch (Sink/Source)	2-ch (PNP, Source)
tET-P2POR2	tPET-P2POR2			Yes	2-ch (Sink/Source)	2-ch Form A PhotoMos Relay
tET-P2R2	tPET-P2R2			Yes	2-ch (Sink/Source)	2-ch Form A Power Relay



Available soon
tET/tPET Series
 Tiny Ethernet I/O modules

Features

- Cost-effective tiny Ethernet I/O modules (Modbus TCP/UDP)
- Contains a 32-bit MCU that efficiently handles network traffic
- 10/100 Base-TX Ethernet, RJ-45 x1 (Auto-negotiating, auto MDI/MDIX, LED Indicators)
- Includes redundant power inputs: PoE and DC input
- Supports TCP, UDP, HTTP, DHCP, BOOTP and TFTP protocols
- Supports UDP responder for device discovery
- Supports web configuration and firmware update via Ethernet
- Supports PWM (Pulse Width Modulation) in DO channels
- Supports latched D/I and 32-bit low-speed counter functions
- Supports I/O pair-connection through the Ethernet
- Dual-watchdog with power-on and safe value
- Tiny form-factor with easy DIN-Rail mounting
- RoHS compliant & no Halogen
- Made from fire retardant materials (UL94-V0 Level)
- Low power consumption (about 1.7 W only)








System Specifications

Moduls	tET Series	tPET Series
System		
CPU	32-bit MCU	
Dual Watchdog	Yes	
Communication		
Ethernet Port	10/100 Base-TX, 8-Pin RJ-45 x1, (Auto-negotiating, Auto-MDI/MDIX, LED indicator)	
	-	PoE (IEEE 802.3af, Class 1)
LED Display		
S1	-	
	System indicator (Red)	
E1	Link/Act indicator (Green)	
	10/100 M indicator (Yellow)	
Mechanical		
Dimensions	52 mm x 27 mm x 98 mm	
Installation	DIN-Rail mounting	
Environment		
Operating Temperature	-25 °C ~ +75 °C	
Storage Temperature	-30 °C ~ +80 °C	
Humidity	10 ~ 90 % RH, non-condensing	
Power Requirements		
Power Input	-	
	Terminal block: +12 ~ 48 V _{DC} (non-regulated)	
Power Consumption	0.04 A @ 24 V _{DC} for tET-P2R2	0.03 A @ 48 V _{DC} for tPET-P2R2



I/O Specifications

Digital Input/Output Series

Models				
	tET-C4/tPET-C4		tET-A4/tPET-A4	
Digital Output				
Output Channels	4			
Output Type (Module)	Sink, Open Collector (NPN)		Source, Open Collector (PNP)	
Output Voltage	+5 V _{DC} ~ +30 V _{DC}		+10 V _{DC} ~ +40 V _{DC}	
Max. Load Current	100 mA/channel at 25 °C Direct drive power relay module		650 mA/channel at 25 °C	
PWM	100 Hz Max. (High/Low duty cycle range = 5 ~ 65,535 ms)			
Over-Voltage	+60 V _{DC}		+48 V _{DC}	
Short Circuit Protection	-		Yes	
Output Isolation	3750 Vrms			

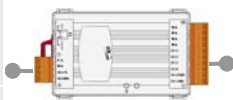
Models						
	tET-P6/tPET-P6		tET-P2C2/tPET-P2C2		tET-P2A2/tPET-P2A2	
Digital Input						
Input Channels	6		2			
Input Type (Device)	Wet Contact (Sink, Source)					
On Voltage Level	+10 V _{DC} ~ +50 V _{DC}					
Off Voltage Level	+4 V _{DC} max.					
Input Impedance	10 k Ohm					
Counters	Max. Count: 4,294,967,285 (32 bits)					
	Max. Input Frequency: 3.5 kHz (without filter)					
	Min. Pulse Width: 0.15 ms					
Frequency Measurement	3.5 kHz in Mode "1000 ms" (+/-1 Hz error)					
Overvoltage Protection	+70 V _{DC}					
Isolation	3750 Vrms					
Digital Output						
Output Channels	-		2			
Output Type (Module)	-		Sink, Open Collector (NPN)		Source, Open Collector (PNP)	
Output Voltage	-		+5 V _{DC} ~ +30 V _{DC}		+10 V _{DC} ~ +40 V _{DC}	
Max. Load Current	-		100 mA/channel at 25 °C Direct drive power relay module		650 mA/channel at 25 °C	
PWM	100 Hz Max. (High/Low duty cycle range = 5 ~ 65,535 ms)					
Over-Voltage	-		+60 V _{DC}		+48 V _{DC}	
Short Circuit Protection	-		-		Yes	
Output Isolation	-		3750 Vrms			

Digital Input/Relay Output Series

Models				
	tET-P2POR2/tPET-P2POR2		tET-P2R2/tPET-P2R2	
Digital Input				
Input Channels	2			
Input Type (Device)	Wet Contact (Sink, Source)			
On Voltage Level	+10 V _{DC} ~ +50 V _{DC}			
Off Voltage Level	+4 V _{DC} Max.			
Input Impedance	10 k Ohm			
Counters	Max. Count: 4,294,967,285 (32 bits)			
	Max. Input Frequency: 3.5 kHz (without filter)			
	Min. Pulse Width: 0.15 ms			
Frequency Measurement	3.5 kHz in Mode "1000 ms" (+/-1 Hz error)			
Overtoltage Protection	+70 V _{DC}			
Isolation	3750 Vrms			
Relay Output				
Output Channels	2		2	
Output Type (Module)	PhotoMOS Relay, Form A		Power Relay, Form A (SPST N.O.)	
Load Voltage	60 V _{DC} / V _{AC}		-	
Load Current	60 V/1.0 A (Operating Temperature -25°C ~ -40°C)		-	
	60 V/0.8 A (Operating Temperature +40°C ~ +60°C)		-	
	60 V/0.7 A (Operating Temperature +60°C ~ +75°C)		-	
Turn ON Time	1.3 ms (Typical)		-	
Turn Off Time	0.1 ms (Typical)		-	
Output Isolation	3000 Vrms		3000 Vrms	
Output Voltage Range	-		250 V _{AC} /30 V _{DC}	
Max. Load Current	-		5.0 A/channel at 25 °C	
Operate Time	-		6 ms	
Release Time	-		3 ms	
PWM	50 Hz Max. (High/Low duty cycle range= 10 ~ 65,535 ms)			
Electrical Life (Resistive load)	VED	-		5 A 250 V _{AC} 30,000 ops (10 ops/minute) at 75 °C
		-		5 A 30 V _{DC} 70,000 ops (10 ops/minute) at 75 °C
	UL	-		5 A 250 V _{AC} /30 V _{DC} 6,000 ops
		-		3 A 250 V _{AC} /30 V _{DC} 100,000 ops
Mechanical Life	-			

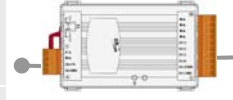
Pin Assignments

tET/tPET-C4 tET/tPET-A4	
E1	Link/Act 10/100 M
01	F.G.
02	N/A
03	(R)+Vs
04	(B)GND



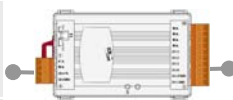
tET/tPET-C4 tET/tPET-A4	
14	N/A
13	N/A
12	N/A
11	N/A
10	DO3
09	DO2
08	DO1
07	DO0
06	DO.PWR
05	DO.GND

tET/tPET-P6	
E1	Link/Act 10/100 M
01	F.G.
02	N/A
03	(R)+Vs
04	(B)GND



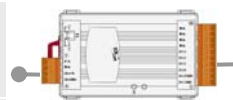
tET/tPET-P6	
14	N/A
13	N/A
12	N/A
11	DI5
10	DI4
09	DI3
08	DI2
07	DI1
06	DI0
05	DI.COM

tET/tPET-P2C2 tET/tPET-P2A2	
E1	Link/Act 10/100 M
01	F.G.
02	N/A
03	(R)+Vs
04	(B)GND



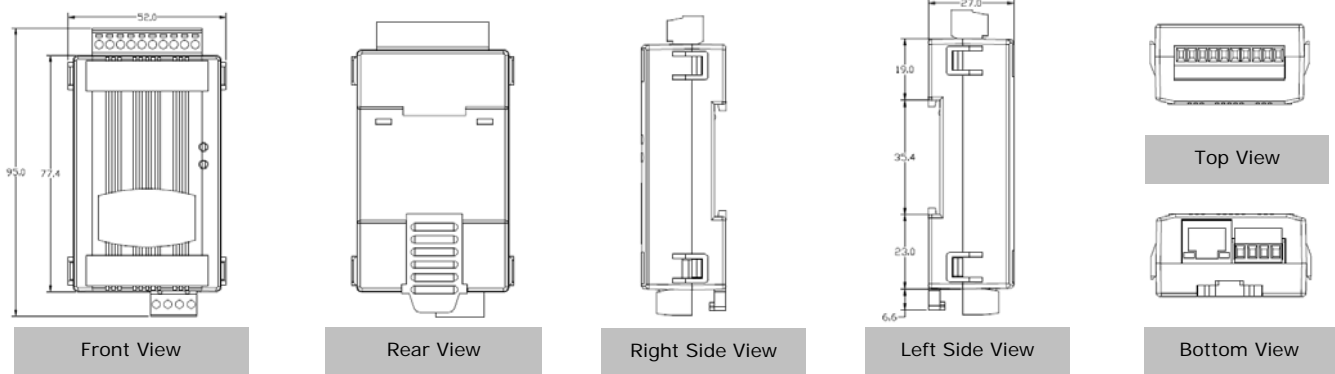
tET/tPET-P2C2 tET/tPET-P2A2	
14	N/A
13	N/A
12	N/A
11	DI1
10	DI0
09	DI.COM
08	DO1
07	DO0
06	DO.PWR
05	DO.GND

tET/tPET-P2POR2 tET/tPET-P2R2	
E1	Link/Act 10/100 M
01	F.G.
02	N/A
03	(R)+Vs
04	(B)GND



tET/tPET-P2POR2 tET/tPET-P2R2	
14	N/A
13	N/A
12	N/A
11	RL1 COM
10	RL1 NO
09	RL0 COM
08	RL0 NO
07	DI1
06	DI0
05	DI.COM

Dimensions (Unit: mm)



Ordering Information

tET Series	
tET-P6 CR (Available soon)	Tiny Ethernet module with 6-ch DI (RoHS)
tET-C4 CR (Available soon)	Tiny Ethernet module with 4-ch DO (NPN, Sink) (RoHS)
tET-A4 CR (Available soon)	Tiny Ethernet module with 4-ch DO (PNP, Source) (RoHS)
tET-P2C2 CR (Available soon)	Tiny Ethernet module with 2-ch DI and 2-ch DO (NPN, Sink) (RoHS)
tET-P2A2 CR (Available soon)	Tiny Ethernet module with 2-ch DI and 2-ch DO (PNP, Source) (RoHS)
tET-P2POR2 CR (Available soon)	Tiny Ethernet module with 2-ch DI and 2-ch Form A PhotoMos relay (RoHS)
tET-P2R2 CR (New)	Tiny Ethernet module with 2-ch DI and 2-ch Form A relay (RoHS)
tPET Series	
tPET-P6 CR (Available soon)	Tiny Ethernet module with PoE, and 6-ch DI (RoHS)
tPET-C4 CR (Available soon)	Tiny Ethernet module with PoE, and 4-ch DO (NPN, Sink) (RoHS)
tPET-A4 CR (Available soon)	Tiny Ethernet module with PoE, and 4-ch DO (PNP, Source) (RoHS)
tPET-P2C2 CR (Available soon)	Tiny Ethernet module with PoE, 2-ch DI and 2-ch DO (NPN, Sink) (RoHS)
tPET-P2A2 CR (Available soon)	Tiny Ethernet module with PoE, 2-ch DI and 2-ch DO (PNP, Source) (RoHS)
tPET-P2POR2 CR (Available soon)	Tiny Ethernet module with PoE, 2-ch DI and 2-ch Form A PhotoMos relay (RoHS)
tPET-P2R2 CR (New)	Tiny Ethernet module with PoE, 2-ch DI and 2-ch Form A power relay (RoHS)

Accessories

NS-205 CR	Unmanaged 5-Port Industrial Ethernet Switch (RoHS)
NS-205PSE CR	Unmanaged Ethernet Switch with 4 PoE Ports and 1 RJ-45 Uplink (RoHS)
NS-205PSE-24V CR	Unmanaged 5-Port 10/100 Mbps PoE (PSE) Ethernet Switch; 24 Vdc Input (RoHS)
DIN-KA52F CR	24 V/1.04 A, 25 W Power Supply with DIN-Rail Mounting (RoHS)
DIN-KA52F-48 CR	48 V/0.52 A, 25 W Power Supply with Din-Rail Mounting (RoHS, for NS-205PSE)
GPSU06U-6	24 V/0.25 A (max) Power Supply



NS-205 CR



NS-205PSE CR



NS-205PSE-24V CR



DIN-KA52F CR



DIN-KA52F-48 CR



GPSU06U-6