


**ET-2254**

Ethernet I/O Module with 16-ch Universal DIO

**ET-2254P**

### Features

- Built-in Web Server
- Support Modbus TCP/UDP Protocols
- Powerful 32-bit MCU Handles Efficient Network Traffic
- 2-port Ethernet Switch (LAN Bypass) for Daisy-Chain Wiring
- Dual Watchdog
- I/O Pair Connection (Push and Polling)
- Easy Firmware Update via Ethernet
- LED Display to Indicate the I/O status
- 16 channels of Universal DIO
- Provide Digital Output Maximum Load Current:
  - ET-2254: 100 mA/Channel
  - ET-2254P: 400 mA/Channel
- Bi-direction Universal DIO ports under software control
- Wide Operating Temperature Range: -25 ~ +75°C



### Introduction

The ET-2254(P) provides 16-channel Universal DIO. Each I/O port can be configured as a DI or DO port. The ET-2254 provides Digital Output channel can drive 100 mA load, while the ET-2254P provides Digital Output channel can drive 400 mA load. There are configurable power-on and safe values for Digital Output. With 2 Ethernet ports, the ET-2254(P) allows daisy chain connection which permits the flexibility in locating devices, eases installation and lowers infrastructure costs. These modules feature 8 kV ESD protection, 4 kV EFT protection, 3 kV surge and 3000 V<sub>oc</sub> I/O isolation to enhance noise protection capabilities in industrial environments.

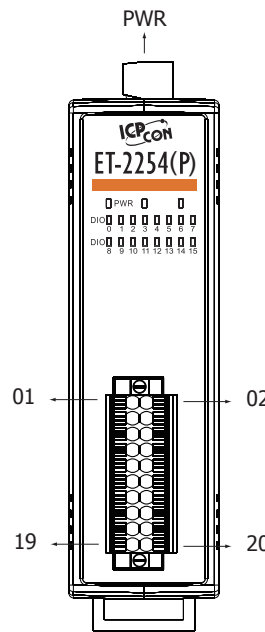
### System Specifications

System	
CPU	32-bit ARM
Communication	
Ethernet Port	2 x RJ-45, 10/100 Base-TX, Switch Ports
Protocol	Modbus TCP, Modbus UDP
Security	Password and IP Filter
I/O Pair Connection	Yes (Push, Polling)
Dual Watchdog	Yes, Module, Communication (Configurable)
LAN Bypass	Yes
LED Indicators	
System Running	Yes
Ethernet Link/Act	Yes
DI/DO status	Yes
2-Way Isolation	
Ethernet	1500 V <sub>oc</sub>
I/O	3000 V <sub>oc</sub>
EMS Protection	
ESD (IEC 61000-4-2)	±8 kV Contact for Each Terminal and ±16 kV Air for Random Point
EFT (IEC 61000-4-4)	±4 kV for Power Line
Surge (IEC 61000-4-5)	±3 kV for Power Line
Power	
Reverse Polarity Protection	Yes
Powered from Terminal Block	+10 ~ +30 VDC
Consumption	3.3 W (Max.)
Mechanical	
Dimensions (L x W x H)	127 mm x 33 mm x 99 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	ET-2254	ET-2254P
<b>Parallel I/O Module</b>		
I/O Type	By Wire Connection	
I/O Channels	16	
<b>Digital Input</b>		
Type	Dry Contact	
Sink/Source (NPN/PNP)	Source	
On Voltage Level	Close to GND	
Off Voltage Level	Open	
Input Impedance	3 kΩ, 0.5 W	7.5 kΩ, 1 W
Counters	Max. Count	4,294,967,295 (32 bits)
	Max. Input Frequency	3 kHz      2.5 kHz
	Programmable Digital Filter	1 ~ 6500 ms (0.08 Hz ~ 500 Hz)
<b>Digital Output</b>		
Type	Open-collector (Sink)	
Max. Load Current	100 mA/channel	400 mA/channel
Load Voltage	+5 VDC to +30 VDC	+5 VDC to +50 VDC
Short Circuit Protection	-	Yes
Power-on Value	Yes, Configurable	
Safe Value	Yes, Configurable	

### Pin Assignments



Terminal No.	Pin Assignment
PWR	F.G.
	GND
	+ Vs
ETH1	
ETH2	

Terminal No.	Pin Assignment	Pin Assignment	Terminal No.
01	DIO0	DIO8	02
03	DIO1	DIO9	04
05	DIO2	DIO10	06
07	DIO3	DIO11	08
09	DIO4	DIO12	10
11	DIO5	DIO13	12
13	DIO6	DIO14	14
15	DIO7	DIO15	16
17	EXT.PWR	EXT.PWR	18
19	EXT.GND	EXT.GND	20

### Wire Connections

Input Type	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
Dry Contact	Close to GND	Open

Output Type	ON State Readback as 1	OFF State Readback as 0
Drive Relay		
Resistance Load		

### Ordering Information

<b>ET-2254 CR</b>	Ethernet I/O Module with 2-port Ethernet Switch, 16-ch Universal DIO (DO Max. Load Current: 100 mA) (RoHS)
<b>ET-2254P CR</b>	Ethernet I/O Module with 2-port Ethernet Switch, 16-ch Universal DIO (DO Max. Load Current: 400 mA) (RoHS)

### Related Products

NS-205 CR	Unmanaged 5-Port Industrial Ethernet Switch with Power Input +10 ~ +30 Vdc (RoHS)
NS-208 CR	Unmanaged 8-port Industrial 10/100 Base-TX Ethernet Switch with Power Input +10 ~ +30 VDC (RoHS)
DIN-KA52F CR	24 V/1.04 A, 25 W Power Supply with DIN-Rail Mounting (RoHS)
GPSU06U-6	24 V/0.25 A (max.) Power Supply