



ETL-2255

Ethernet I/O Module with 8-ch DI, 8-ch DO

Features

- Web Server for Configuration
- Support Modbus TCP/UDP, MQTT, and SNMP V2c Protocols
- 2-Port 10 Base-T1L Long-Reach Industrial Ethernet
 - Single Twisted-Pair, 10 Mbps / Up to 1,000 m
 - Supports LAN Bypass and Daisy-chain Topology
- Supports Dual-watchdog
- I/O Pair Connection (Push and Pull)
- Built-in I/O
 - 8-ch DI (Wet/Dry), 8-ch DO (Sink)
- LED Display to Indicate the I/O Status



Introduction

ETL-2255 is a 8-channel DI (Wet/Dry Contact) and 8-channel DO (Sink-type) module. Each input channel can function as a 32-bit counter, while each output channel can be configured with a power-on value and safe value, ensuring the module's safe operation in applications with hazardous voltages.

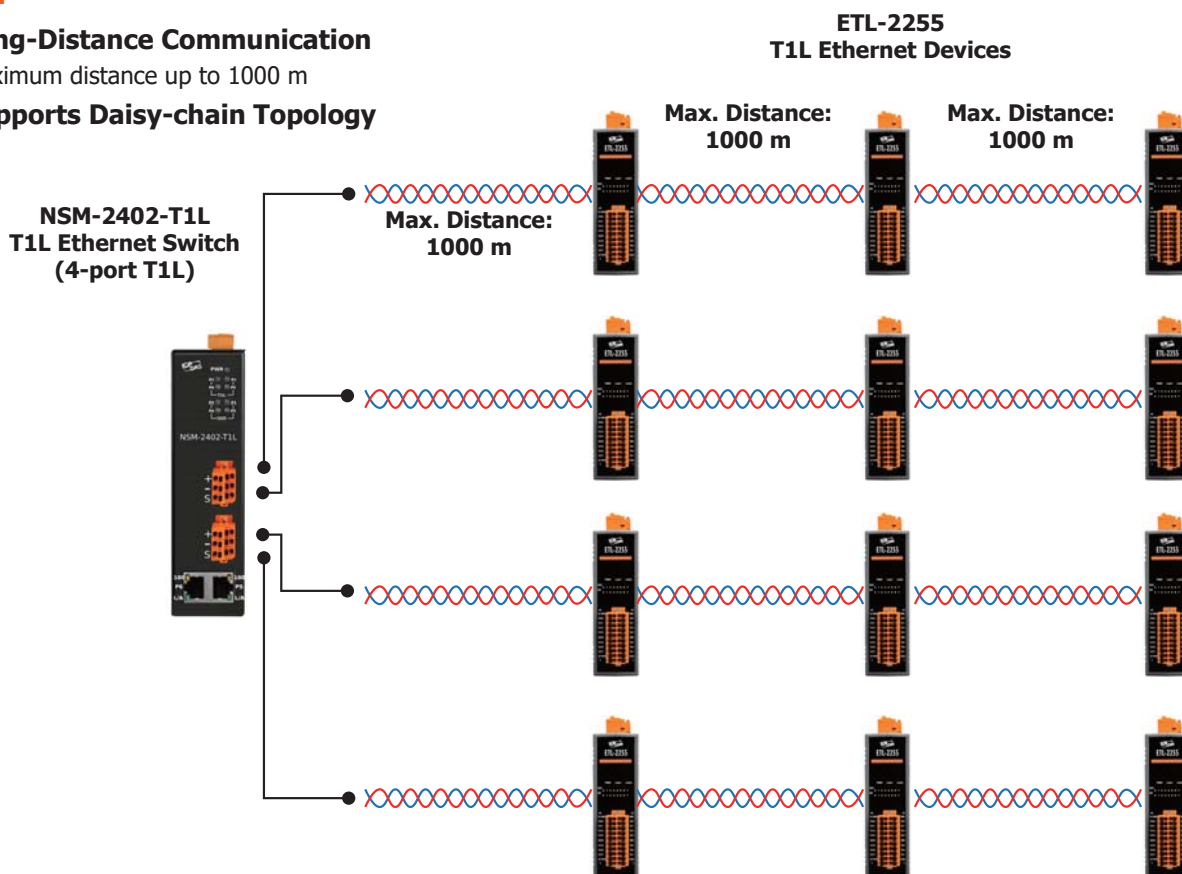
The module features a T1L design that supports transmission distances of up to 1000 m and includes a built-in 2-port Ethernet switch, facilitating a daisy-chain topology. This feature offers flexibility in device configuration, simplifies installation, and reduces infrastructure costs. The module features optical-isolated 3000 V_{rms} transient overvoltage protection and does not support channel-to-channel isolation. Additionally, it provides EMS (EFT/ESD/Surge) protection and 3000 V_{dc} I/O isolation to enhance noise protection capabilities in industrial environments.

Application

Long-Distance Communication

Maximum distance up to 1000 m

Supports Daisy-chain Topology



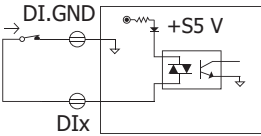
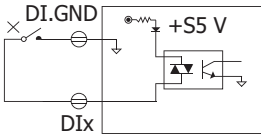
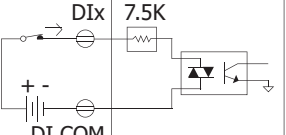
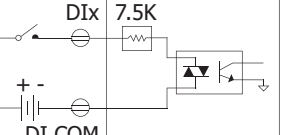
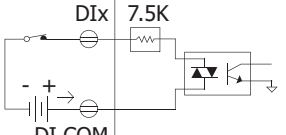
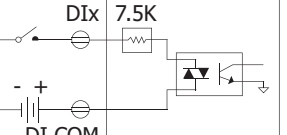
System Specifications

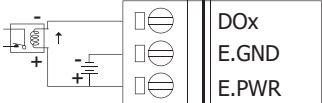
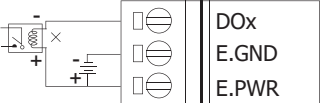
Model	ETL-2255
Software	
Built-in Web Server	Yes
CPU Module	
CPU	32-bit ARM
Watchdog Timer	Module, Communication (Programmable)
Isolation	
2-way Isolation	Ethernet: 1500 V _{DC} , I/O: 3000 V _{DC}
EMS Protection	
EFT (IEC 61000-4-4)	±4 kV for Power Line
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal, ±8 kV Air for Random Point
Surge (IEC 61000-4-5)	±2 kV for Power Line
LED Indicators	
Status	Run, Ethernet, I/O
T1L Communication	
Ports	2 x 10 Base-T1L, Switch Ports
Standards	IEEE802.3cg
Protocol	Modbus TCP, Modbus UDP, MQTT, SNMP V2c
Access Control	Password and IP Filter
Transmission Distance	1000 m (max.)
Connector	3-pin Spring Clamp
Cable Type	Shielded Twisted Pair (STP), 18 AWG ~ 24 AWG
LAN bypass	Yes
Power	
Reverse Polarity Protection	Yes
Consumption	3.5 W (max.)
Powered from Terminal Block	+10 ~ +30 V _{DC}
Mechanical	
Casing	Plastic
Dimensions (mm)	33 x 136 x 108 (W x L x H)
Installation	DIN-Rail Mounting
Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-40 ~ +80 °C
Humidity	10 ~ 90% RH, Non-condensing

I/O Specifications

Digital Input/Counter		Digital Output	
Channels	8	Channels	8
Type	Dry Contact, Wet Contact	Type	Open Collector
Sink/Source (NPN/PNP)	Dry: Source, Wet: Sink/Source	Sink/Source (NPN/PNP)	Sink
ON Voltage Level	Dry: Close to GND, Wet: +5 ~ +50 V _{DC}	Load Voltage	+3.5 ~ +50 V
OFF Voltage Level	Dry: Open, Wet: +1 V _{DC} (max.)	Load Current	650 mA/channel
Max. Counts	4,294,967,295 (32-bit)	Overvoltage Protection	+60 V _{DC}
Frequency	3 kHz	Overload Protection	1.4 A (with short-circuit protection)
Input Impedance	7.5 kΩ	Short Circuit Protection	Yes
Overvoltage Protection	+70 V _{DC}	Power-on Value	Programmable
Low Pass Filter	1 ~ 6500 ms (0.08 Hz ~ 500 Hz)	Safe Value	Programmable

Wire Connections

Digital Input/Counter	Readback = 1	Readback = 0
	Close to GND	Open
Dry Contact		
Wet Contact (Sink)	+5 ~ +50 Vdc 	OPEN or <1 Vdc 
Wet Contact (Source)	+5 ~ +50 Vdc 	OPEN or <1 Vdc 

Output Type	ON State, Readback as 1	OFF State, Readback as 0
Inductive Load		
Resistance Load		

Pin Assignments

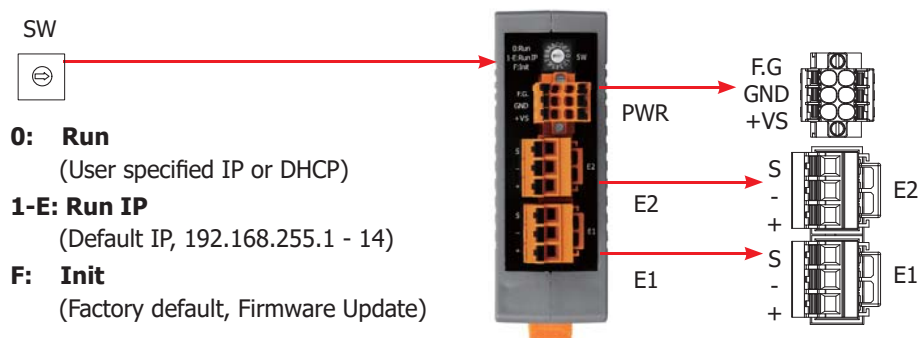


LED Indicators
PWR,
Link1,
Link2

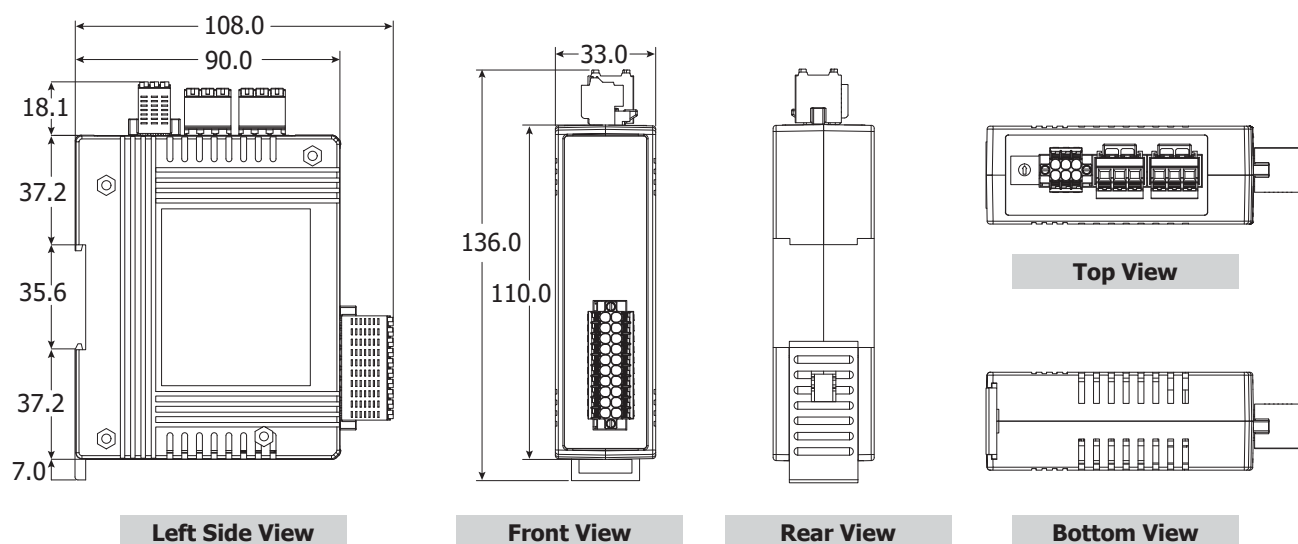
Pin Assignment	Terminal No.	Pin Assignment
E.GND	20	19 DI.GND
DO0	18	17 DI0
DO1	16	15 DI1
DO2	14	13 DI2
DO3	12	11 DI3
DO4	10	09 DI4
DO5	08	07 DI5
DO6	06	05 DI6
DO7	04	03 DI7
E.PWR	02	01 DI.COM

20-pin Connector

Appearance



Dimensions (Units: mm)



Ordering Information

ETL-2255 CR	Ethernet I/O Module with 2-port T1L Ethernet Switch, 8-ch DI, 8-ch DO (Sink) (RoHS)
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