



ET-2224CI

ET-2228CI

Ethernet I/O Module with 4/8-ch AO

Features

- Web Server for Configuration
- Support Modbus TCP/UDP and MQTT Protocols
- 2-port Ethernet Switch (LAN Bypass) for Daisy-chain Wiring
- Supports Dual-watchdog
- I/O Pair Connection (Push and Pull)
- Open Wire Detection for Current Output
- Built-in I/O
 - ET-2224CI: 4-ch AO (Differential)
 - ET-2228CI: 8-ch AO (Differential)
- 3000 VDC Channel-to-channel Isolation



Introduction

The ET-2224CI/ET-2228CI is Channel to Channel Isolation analog output module that includes 4/8 differential analog output channels, and allows a programmable output range on all analog outputs channels (0 ~ 5 V, 0 ~ 10 V, 4 ~ 20 mA, or 0 ~ 20 mA). Each analog output channel can be configured for an individual range and provides an RF immunity level matching that defined by the IEC 61000-4-3 standard.

Voltage and current outputs are programmable selectable, and the module also features per-channel open wire detection for 4 ~ 20 mA outputs, together with 4 kV ESD protection as well as 3000 VDC intra-module isolation. Options for configuring power-on and safe values are also included. The ET-2224CI has the same specifications as the ET-2228CI but provides 4 differential analog input channels.

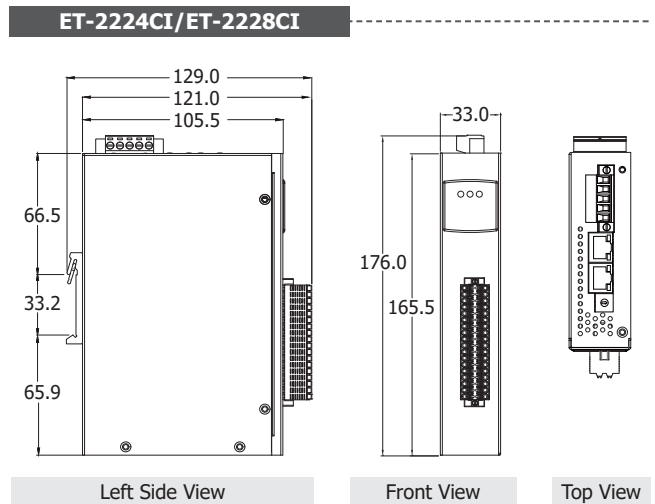
System Specifications

Model	ET-2224CI	ET-2228CI	Model	ET-2224CI	ET-2228CI
Software			LAN bypass		
Built-in Web Server	Yes		Yes		
CPU Module			Access Control		
CPU	32-bit ARM		Password and IP Filter		
Watchdog Timer	Module, Communication (Programmable)		Protocol		
Isolation			Modbus TCP, Modbus UDP, and MQTT		
2-way Isolation	Ethernet: 1500 VDC I/O: 3000 VDC		Power		
EMS Protection			Reverse Polarity Protection		
EFT (IEC 61000-4-4)	±4 kV for Power Line		Yes		
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal ±8 kV Air for Random Point		Consumption		
Surge (IEC 61000-4-5)	±2 kV for Power Line		6.0 W (max.)		
LED Indicators			Powered from Terminal Block		
Status	Run, Ethernet		+10 to +48 VDC		
Ethernet			Mechanical		
Ports	2 x RJ-45, 10/100 Base-Tx, Switch Ports		Casing		
			Metal		
			Dimensions (mm)		
			33 x 176 x 130 (W x L x H)		
			Installation		
			DIN-Rail mounting / Wall mounting (Optional ASO-0015)		
			Environment		
			Operating Temperature		
			-25 ~ +75 °C		
			Storage Temperature		
			-40 ~ +80 °C		
			Humidity		
			10 ~ 90% RH, Non-condensing		

I/O Specifications

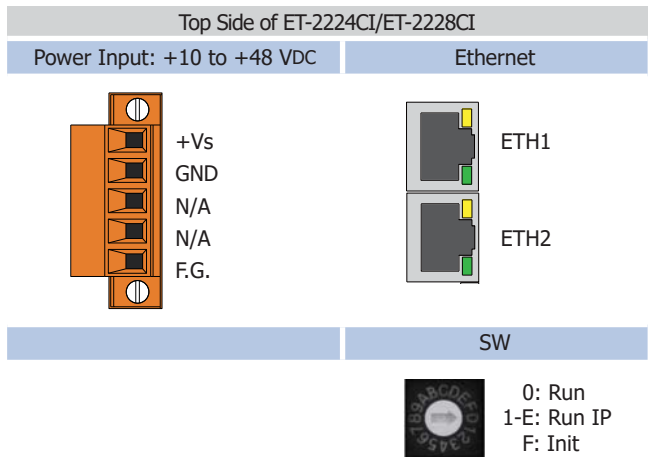
Model	ET-2224CI	ET-2228CI
Analog Output		
Channels	4 Differential	8 Differential
Range	Voltage	0 to +5 VDC, 0 to +10 VDC
	Current	0 to 20 mA, 4 to 20 mA
Resolution	12-bit	
Accuracy	±0.1% of FSR	
Short Circuit Protection	Yes	
DA Output Response Time	10 ms per channel	
Programmable Output Slope	Voltage	0.0625 to 512 V/Second
	Current	0.125 to 1024 mA/Second
Open Wire Detection	For 4 to 20 mA only	
Voltage Output Capability	10 V @ 10 mA	
Current Load Resistance	500 Ω	
Channel-to-channel Isolation	3000 VDC	
Power-on Value	Programmable	
Safe Value	Programmable	

Dimensions (Units: mm)

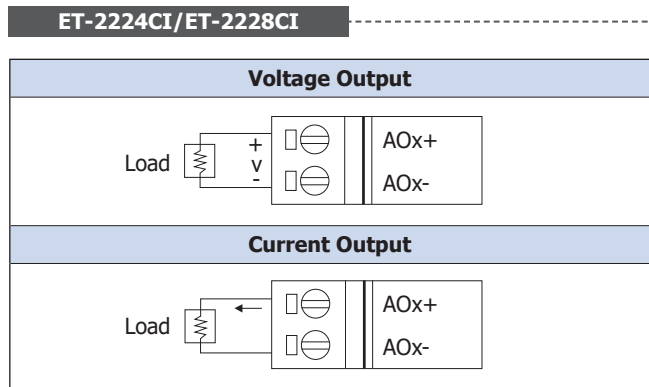


Pin Assignments

Pin Assignment		Terminal No.	Pin Assignment		
ET-2224CI	ET-2228CI		ET-2224CI	ET-2228CI	
A00-	A00-	02	01	A00+	A00+
		04	03		
	A01-	06	05		A01+
		08	07		
A01-	A02-	10	09	A01+	A02+
		12	11		
	A03-	14	13		A03+
		16	15		
A02-	A04-	18	17	A02+	A04+
		20	19		
		22	21		
	A05-	24	23		A05+
		26	25		
		28	27		
A03-	A06-	30	29	A03+	A06+
		32	34		
		34	33		
	A07-	36	35		A07+



Wire Connections



Ordering Information

ET-2224CI CR	Ethernet I/O Module with 2-port Ethernet Switch, 4-ch AO (RoHS)
ET-2228CI CR	Ethernet I/O Module with 2-port Ethernet Switch, 8-ch AO (RoHS)