



U-7542M

OPC UA I/O Module

with 16-channels DO and 2-port Ethernet Switch

■ Features

- Support OPC UA Server / Client and MQTT Client Protocol
- Support RESTful API via HTTP and HTTPS
- Support to Execute OPC UA, MQTT and RESTful API Simultaneously
- Support Logic Function Rule Setting: IF, THEN, ELSE
- Support Schedule: to Execute the Set Rules at a Specific Time.
- Support Event Log: Record the I/O Change for Device Tracking
- Support IoTstar Cloud Management Software.
- Built-in Web Server to Provide the Web User Interface
- I/O Channels: 16 x DO
- Dual-port Ethernet Switch for Daisy-Chain Topology
- IEEE 802.3af-compliant Power over Ethernet (PoE)









Introduction

U-7542M is a UA I/O module that provides 16 digital output channels. It has a built-in dual-port Ethernet switch to implement daisy-chain topology. The cabling is much easy and can reduce the total cable and switch cost. It follows IEEE 802.3af (Class 2) compliant Power over Ethernet (PoE) specification. It allows receiving power from PoE enabled network by Ethernet pairs. This feature provides greater flexibility and efficiency to simplify system design, save space, and reduce wirings and power sockets. It provides a Web UI to configure/control/monitor the modules, connections, and I/O status via a web browser. It is easy, fast, and no extra APP needed.

In industrial communication, UA I/O provides OPC UA Server / Client, MQTT Client and RESTful API protocols (can execute all communications at the same time.). Users can choose the networking mode according to their cases. And to transmit the values of the built-in I/O channels to the cloud system or field control system for displaying, analysis or strategy. Support Scaling. Let the analog signal be converted into a more readable value. Support logic function rule setting IF, THEN, ELSE, can set up logical condition/action for I/O and virtual point; Provide schedule function to execute the set rules at a specific time; and support RESTful API function, can read/write I/O and virtual point through HTTP or HTTPS.

■ Software Specifications

Protocol	Protocol		
OPC UA Server / Client	 OPC Unified Architecture: 1.02 Core Server Facet Data Access Server Facet Method Server Facet UA-TCP UA-SC UA Binary User Authentication: Anonymous Username/Password X.509 Certificate Security Policy: None Basic128Rsa15 (Sign, Sign & Encrypt) Basic256 (Sign, Sign & Encrypt) 		
	 Can Execute with MQTT and RESTful API Communication Simultaneously Max. Session Connections: 3 (Server only) 		
MQTT Client	Connect to the MQTT Broker to read or control the I/O channel value by the publish/subscribe messaging mechanism. (MQTT Ver. 3.1.1; TLS Ver. 1.2)		
RESTful API	• User can read/write the I/O & Virtual points through HTTP and HTTPS.		

Function	
Web Interface for Configuration	 The system operation can be performed through the browser without installing software tools. Use AES 256 encryption algorithm to encrypt web page setting data for general communication. HTTPS upgrades the security of web communication.
Scaling	Convert the analog signal to a more readable value.Function is only available for modules with AI/O.
Security	 Infromation Security: Provide HTTPS, Port Binding, Allowlist, ICMP drop functions. Data security: Provide Certificate (X.509), Communication Encryption (SSL/TLS) functions.
Rule Setting	 Provide simple logic condition rule setting, let UA I/O do automatic condition judgment and action control, to achieve simple intelligentization.
Schedule	 Provide schedule function to execute the set rules at a specific time.
Event Log	• When the I/O value changes, record the current I/O value for easy device tracking in the future.
IoTstar Setting	Support loTstar cloud management software developed by ICP DAS.

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■ System Specifications

CPU Module				
СРИ	32-bit CPU (400 MHz)			
Watchdog Timer	Module, Communication(Programmable)			
Isolation				
2-way Isolation	I/O: 3750 VDC			
EMS Protection				
ESD (IEC 61000-4-2)	±4 kV Contact for each terminal ±8 kV Air for random point			
EFT (IEC 61000-4-4)	±4 kV for Power Line			
Surge (IEC 61000-4-5)	±2 kV for Power Line			
LED Indicators				
Status	Run, Ethernet, I/O			
Ethernet				
Ports	2 x RJ-45, 10/100 Base-TX, Swtich Ports			
PoE	Yes			
LAN bypass	Yes			
Security	ID, Password and IP Filter			
Power				
Reverse Polarity Protection	Yes			
Consumption	3.4 W			
Powered from PoE	IEEE 802.3af, Class2			
Powered from Terminal Block	+12 ~ +48 VDC			
Mechanical				
Dimensions (mm)	97 x 120 x 47 (W x L x H)			
Installation	DIN-Rail mounting			
Environment				
Operating Temperature	-25 °C ~ +75 °C			
Storage Temperature	-30 °C ~ +80 °C			
Humidity	10 ~ 90% RH, Non-condensing			

■ I/O Specifications

Digital Output		
Channels	16	
Туре	Isolated Open Collector	
Sink/Source (NPN/PNP)	Sink	
Load Voltage	+ 3.5 ~ + 50 VDC	
Load Current	650 mA/channel at 25°C	
	Direct Drive Power Relay Module	
Overvoltage Protection	+60 VDC	
Overload Protection	1.3 A	
Short-circuit Protection	Yes	
Power-on Value	Programmable	
Safe Value	Programmable	

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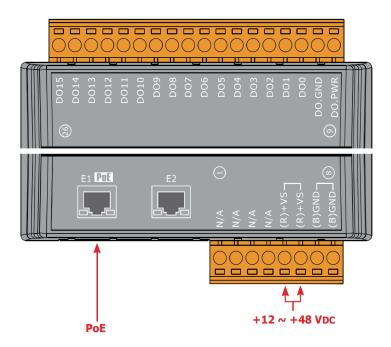


■ Wire Connections

Output Type	ON State Readback as 1
Drive Relay	DO.PWR DOx DO.GND
Resistance Load	DO.PWR DOx DO.GND

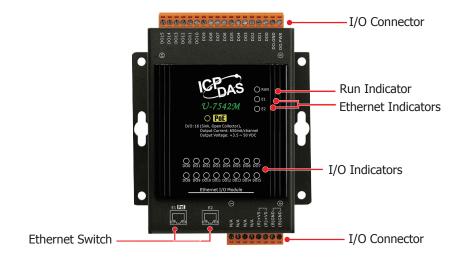
Output Type	OFF State Readback as 0
Drive Relay	DO.PWR DOx DO.GND
Resistance Load	DO.PWR DOx DO.GND

■ Pin Assignments

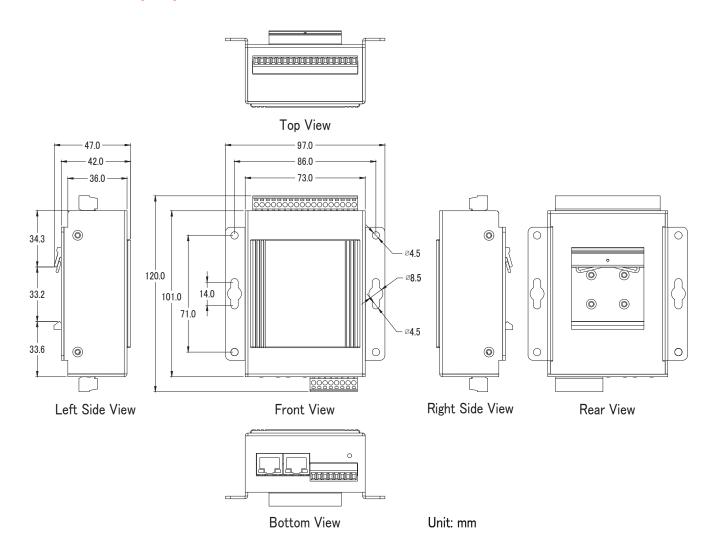


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Appearance



■ Dimensions (mm)



Ordering Information

U-7542M CR OPC UA I/O Module with 16-channels DO and 2-port Ethernet Switch. (RoHS)

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