ICP DAS

UA-7560M
OPC UA I/O Module with 6-ch DI, 6-ch Relay, and 2-port Ethernet Switch

◪ Features

- ■ Built-in Web Server to Provide the Web User Interface
- ■ Built-in OPC UA Server
- ■ Support MQTT Client Communication Protocol
- ■ Built-in I/O Channels (6 x DI and 6 x Relay)
- ■ 2-port Ethernet Switch for Daisy-Chain Topology
- ■ IEEE 802.3af-compliant Power over Ethernet (PoE)

CE RoHS

◪ Introduction

UA-7560M is an OPC UA I/O module that provides 6 digital input channels and 6 digital output Relay channels. It has a built-in two-port Ethernet switch to implement daisy-chain topology. The cabling is much easier and total costs of cable and switch are significantly reduced. UA-7560M follows IEEE 802.3af 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.

UA I/O provides OPC UA server and MQTT client function in industrial networking communication. Users can choose the networking mode according to their needs and environment, to transmit the values of built-in I/O channels to the cloud IT system or field control system for reading and writing.

◪ System Specifications

CPU Module	
CPU	32-bit CPU (400 MHz)
Isolation	
Intra-module Isolation	2500 VDC
EMS Protection	
EFT (IEC 61000-4-4)	±2 kV for Power Line
ESD (IEC 61000-4-2)	±4 kV Contact for each terminal and ±8 kV Air for random point
Surge (IEC 61000-4-5)	±2 kV for Power Line
LED Indicators	
Status	1 x PoE Power 1 x System Running 1 x Ethernet Link/Act 16 x I/O Channel Status
Ethernet	
Ports	RJ-45 x 2, 10/100 Base-TX, Swtich Ports (LED indicators)
PoE	Yes
Power	
Reverse Polarity Protection	Yes
Input Range	12 ~ 48 VDC
Consumption	3.8 W
Powered from PoE	Yes, IEEE 802.3af, Class 1
Powered from Terminal Block	Yes, 12 ~ 48 VDC
Mechanical	
Dimensions (mm)	97 x 120 x 42 (W x L x H)
Installation	Wall Mounting
Environmental	
Operating Temperature	-25 °C ~ +75 °C
Storage Temperature	-30 °C ~ +80 °C
Humidity	10 ~ 90% RH, non-condensing

◪ I/O Specifications

Digital Input/Counter	
Channels	6
Type	Wet Contact
Sink/Source (NPN/PNP)	Sink/Source
Wet Contact, ON Voltage Level	+10 VDC ~ +50 VDC
Wet Contact, OFF Voltage Level	+4 VDC Max.
Max. Counts	16-bit (65535)
Frequency	50 Hz
Min. Pulse Width	10 ms
Input Impedance	10 kΩ
Overvoltage Protection	+70 VDC
Relay Output	
Relay Output	6
Type	Power Relay, Form A (SPST N.O.)
Contact Rating	5 A @ 250 VAC/24 VDC (Resistive Load)
Operate Time	10 ms (max.)
Release Time	5 ms (max.)
Electrical Endurance	100,000 ops.
Mechanical Endurance	20,000,000 ops.

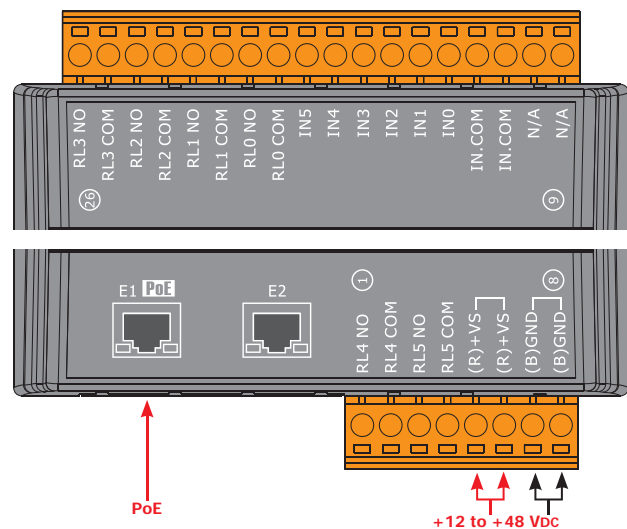## ■ Software Specifications

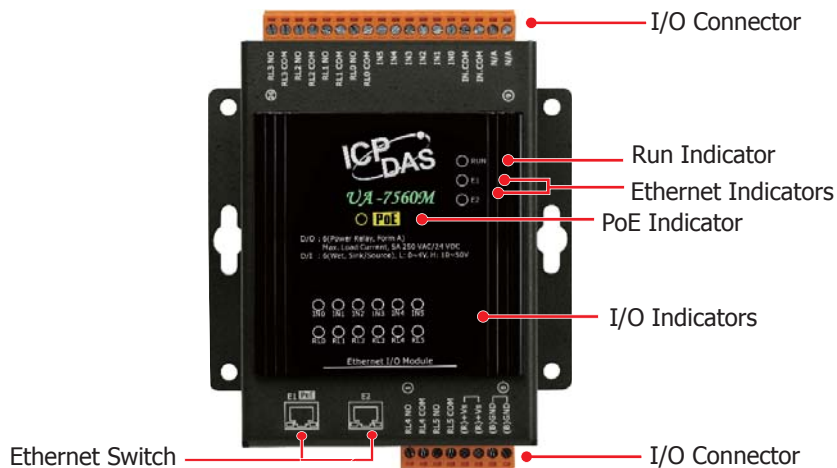| Protocol	

OPC UA Server	● OPC Unified Architecture: 1.02
	● Core Server Facet
	● Data Access Server Facet
	● Method Server Facet
	● UA-TCP UA-SC UA Binary
	● User Authentication:
	  - Username/Password
	  - X.509 Certificate
	● Security Policy:
	  - None
	  - Basic128Rsa15 (Sign, Sign & Encrypt)
	  - Basic256 (Sign, Sign & Encrypt)
	● Recommend to keep the maximum number of sessions within 3 connections.

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)
Function	
Web Interface for Configuration	The system operation can be performed through the browser without installing software tools.

■ Wire Connections

Digital Input/ Counter	Readback as 1	Readback as 0
Sink	+10 ~ +50 V$_{DC}$	OPEN or <4 V$_{DC}$
Source	+10 ~ +50 V$_{DC}$	OPEN or <4 V$_{DC}$

Power Relay	ON State: Readback as 1
Relay Output	
	OFF State: Readback as 0

■ Pin Assignments

RL3 NO, RL3 COM, RL2 NO, RL2 COM, RL1 NO, RL1 COM, RL0 NO, RL0 COM, IN5, IN4, IN3, IN2, IN1, IN0, IN.COM, IN.COM, N/A, N/A

E1 PoE, E2

RL4 NO, RL4 COM, RL5 NO, RL5 COM, (R)+VS, (R)+VS, (B)GND, (B)GND

PoE

+12 to +48 V$_{DC}$

■ Appearance

I/O Connector

Run Indicator

Ethernet Indicators

PoE Indicator

I/O Indicators

Ethernet Switch

I/O Connector

■ Dimensions (mm)

Top View

97.0
86.0
73.0

42.0
40.0

120.0 101.0 71.0 14.0

∅4.5
∅4.5
∅8.5

Left Side View

Front View

Bottom View
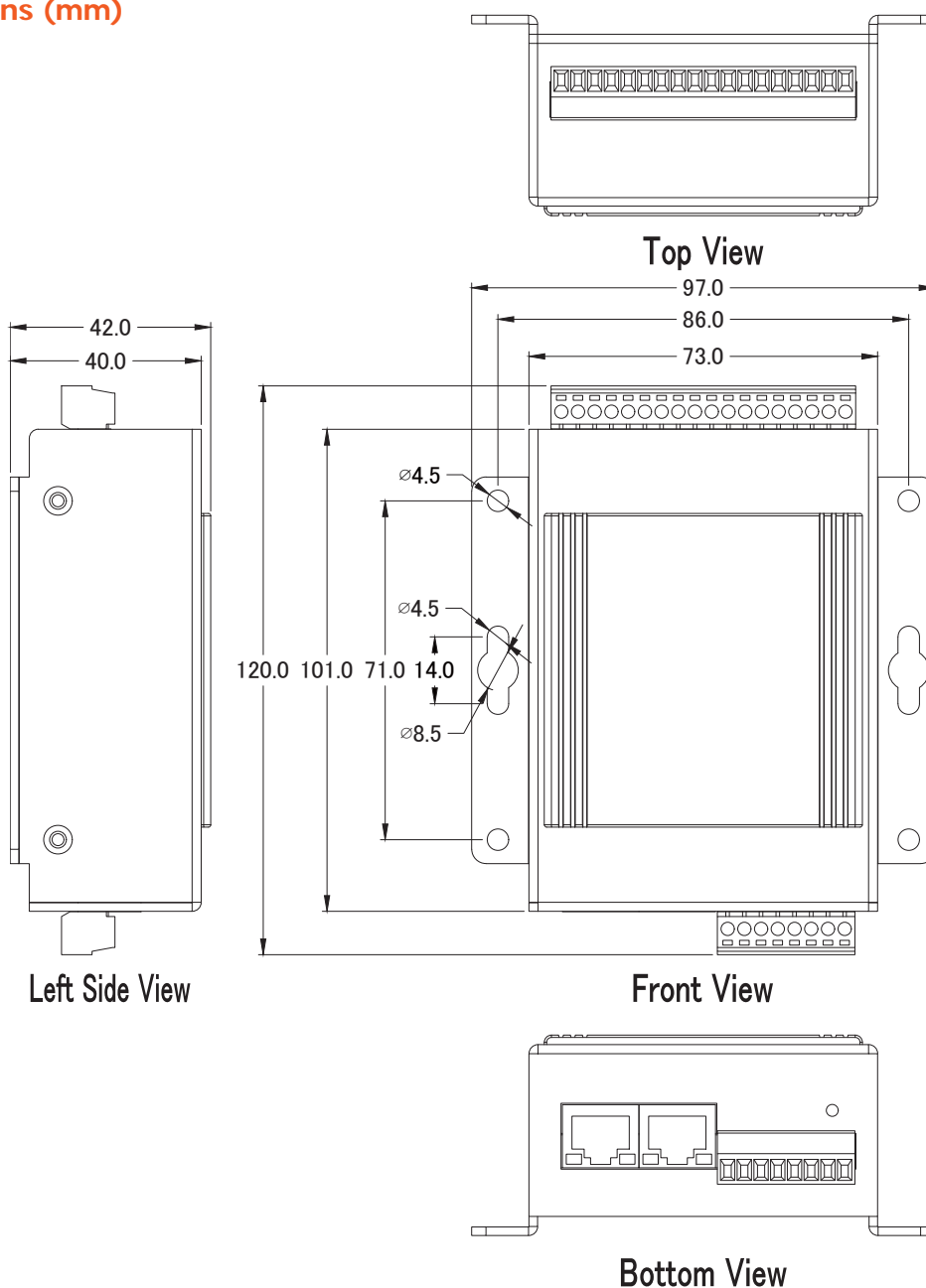
■ Ordering Information

UA-7560M CR	OPC UA I/O Module with 6-ch DI, 6-ch Relay, and 2-port Ethernet Switch. (RoHS)