



EloT20 Series Network IO Gateway

Product Specification



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V1.0	202410		





● Product Description

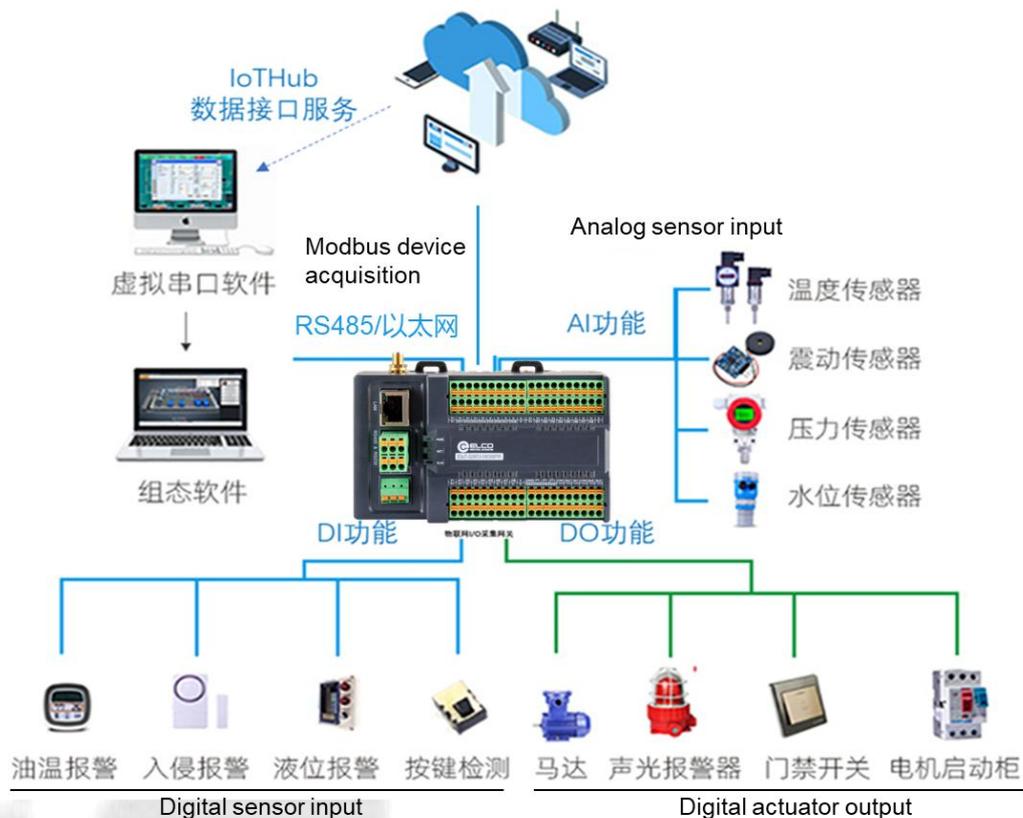
The ELCO new EloT20 series network IO gateway products, upgrade the WiFi networking solution, support Ethernet communication, and retain 4G version options to better meet the applications in digital factory, logistics support and other fields. Support customization of digital input and output modes, built-in high-precision digital to analog recognition conversion chip, and support for analog input. The RS485 serial port supports standard data transmission protocol and Modbus RTU protocol, and can be extended to communicate with sensors, transmitters, PLCs, and other devices that support Modbus protocol, and collect relevant data for processing and uploading. Models that support PT100 and relay output functions can be selected to meet various user scenarios for data acquisition and local simple logic control needs.

The northbound protocol of the gateway supports MQTT and Modbus TCP communication solutions, with built-in simple logic functions that can independently complete device collection and monitoring, and report device data after configuration. In addition to the deep integration application mode of ELCO IoT Hub platform, EEDS data acquisition system, it can interface with third-party Internet of Things platforms, industrial Internet platforms, and various information systems, such as MES, SCADA and other industrial field information systems, and non real-time control application scenarios, to achieve independent data collection and upload independent of PLC and related control systems, and extend intelligent logical control.





● Application Model



The ELCO EloT20 series network IO gateway products are mainly aimed at wireless data acquisition and control execution in digital workshop data acquisition, digital energy management, smart environment, smart logistics and other scenarios. Through the digital and analog IO interface capabilities of the gateway, relevant signal acquisition and processing are realized, helping users collect and monitor various sensor data on site, including but not limited to pressure, liquid level, temperature, vibration, switch quantity, sound, lighting and other sensor data. They can be used in conjunction with some PLCs that support Modbus protocol, or independently with upper computer systems and cloud platforms.





● Product Function

1. Hardware configuration

- Embedded processor design, product safety and stability, can work continuously 24/7.
- Supports up to 8 Modbus slave devices for expansion.
- Support multiple status lights to provide timely feedback on device status, including current device power, system, network status, and other information.
- Select 4G and WiFi versions to support external communication antennas, adjust signal gain, and ensure the security and stability of wireless communication network signals.
- 2PIN non pluggable terminal interface, DC24V DC power supply interface.
- Support full digital, digital + analog (up to 8 channels) combined IO solutions to meet diverse scene requirements.
- The digital interface supports customization of input and output.
- Supports 1 485 interface, using Modbus master-slave mode cascade or independent operation.
- Support 1 232 serial port, convenient for local debugging of products or connection to upper computer configuration software.
- The combination scheme supports 1 PT100 temperature sensor interface, with a monitoring temperature range of -70~160 °C.
- The combination scheme supports up to 2 relay interfaces and supports switching between normally open or normally closed states.



2. Data collection and control

- Provide data acquisition, reporting, and control output functions for digital, analog, temperature signals, Modbus protocol devices (some PLCs, sensors, transmitters, etc.)
- Analog acquisition resolution 24 bits:
 - Voltage: 0~5V, 0~10V, $\pm 0.1\%$ FSR
 - Current: 0~20mA, 4~20mA, $\pm 0.1\%$ FSR
- Digital acquisition attributes: Voltage: 0~1.2V (logic low), 3.5~30V (logic high);
Input current 6.4 mA; Short circuit current 200 mA (pulse 400 mA)
- Relay load output capability: NO@5A 250VAC/30VDC , NC@3A
250VAC/30VDC
- Support the linkage working mode of interface analog and digital quantities, triggering the lower level device for alarm indication or on/off control after the monitoring analog quantity reaches the specified range

3. Software configuration

- Supporting MQTT protocol, Modbus TCP protocol, and mode definition
- Support platform to set data reporting methods: periodic reporting
- Support modifying the device's scheduled reporting cycle
- Support remote FOTA upgrade and local serial port upgrade
- Support operation, alarm, device, data and other log generation, as well as exporting at selected times
- Support software to set interface linkage rules





- Support local setting of data acquisition interface register address and quantity, device address attributes
- Support Modbus master-slave mode setting
- Support independent and batch product IO interface enablement
- Support import and export of configuration parameters
- Support setting static IP or dynamic adaptive IP
- Support manual reading of product configuration parameter set models

4. Communication method

- 4G, Ethernet, WiFi communication methods are optional (model differentiation)
- Equipped with network diagnostic function, supporting disconnection reconnection and re continuous transmission
- The entire system supports MQTT protocol, enabling real-time uploading and parsing of data information
- Ethernet and WiFi versions support Modbus TCP protocol (Modbus TCP Server)

● Datasheet

Basic Parameters		
Processor	32-bit Low-powerCortex-M4	
Power supply	DC10-36V	
Average working current	200mA	
Network solution	4G	SMA interface





	Ethernet	RJ45 port
	WiFi	SMA interface
IO Function		
Digital IO channels	Up to 32 channels of fully digital configuration, and optional input or output	
Digital IO driver capacity	Max 2.5A	
Analog IO channels	Up to 8 channels analog input, optional current or voltage modes	
Analog input range	Current: 0-20mA Voltage:0-10V	
Temperature measurement	1 channel three wire PT100 temperature sensor input	
PT100 measurement range	-70°C-160°C	
Relay	Up to 2 channels relay	
Relay carrying capacity	NO mode is 5A 250VAC/5A 30VDC NC mode is 3A 250VAC/3A 30VDC	
Modbus protocol connect	RS-485 interface	
Modbus master mode	Connect Modbus sensors and read sensor data	
Modbus slave mode	As a Modbus slave, output local parameters and collect data	
Software configuration		





Modbus & Modbus TCP working mode	Master mode or Slave mode
Configuration Protocol	Modbus RTU
Northbound Protocol	MQTT, Modbus RTU, Modbus TCP
Configuration page	Web CUI

Interface	
Power interface	2 Pin non pluggable terminal
Digital IO	16 channels, 32 channels for overall pluggable terminal
Analog IO	Max 8 channels for overall pluggable terminal
PT100	1 channel three wire for overall pluggable terminal
Relay	2 channels NC or NO mode optional for overall pluggable terminal
RS485	1 channel pluggable terminal
RS232	1 channel pluggable terminal
RJ45 (Standard)	1 channel, the transmission rate is 10/100M adaptive Default IP: 192.168.1.9 (Subject to actual delivered version)
SMA*1 (Optional)	External screw internal hole antenna wiring terminal, default configuration suction cup antenna
SIM card slot*1	Only for 4G model, SIM card specifications 25mm×15mm
Indicator light	PWR power indication, NET network communication and SYS indication
Network Parameters	
Wireless communication mode 1	WiFi (Optional) only for 2.4GHz
Wireless communication mode 2	4G (Optional)





Wire communication	Ethernet for RJ45 (Standard configuration)
Wire communication for RS485	Only for Modbus mode
Machinery and Storage	
IP Level	IP20
External dimensions (mm)	120 x 70 x 41.5 (Excluding SMA and antenna)
Working Temperature and Humidity	-30...+70°C RH without condensation, Error±5°C
Storage Temperature and Humidity	-35°C ~ +85°C RH without condensation, Error±5°C

● Indicator Light Status Description

Lamp	Definition	Status	Description
PWR	Power indicator	Light On	Normal working
		-	Abnormal
NET	Network indicator	Light On	Normal working
		Off	Network unavailable
SYS	System indicator	Light On	System normal
		Off	System exception

● Product Mechanical Dimension

