ICP DAS 泓格科技
ICP DAS CO., LTD.



Tiny Gateway

for Big Business Opportunities





LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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tGW-700 Series

The tGW-700 series modules provide Modbus TCP to Modbus RTU or Modbus ASCII gateway function, allowing a Modbus TCP host to communicate with Modbus RTU/ASCII serial devices over the network and eliminating the cable length limitations of traditional serial communication equipment.



Easy installation and space saving

The tGW-700 series gateways are small in size for maximum space savings, making them easy to install anywhere, even directly connected to serial devices or built into machines.

Isolation protection

The tGW-700 series (i version) modules also have 1000 VDC or 3000 VDC isolation and ±4 kV electrostatic discharges protection (ESD) design that diverts potentially dangerous charges away from sensitive circuits to protect modules and equipment from damage by sudden and short-term overvoltage.

PoE

The tGW-700 series modules provide the true IEEE 802.3af-compliant (Class 1), Power over Ethernet (PoE) technology powered by PoE switch using a standard category 5 Ethernet cable. In addition, it is also possible to receive power from a DC adapter.

Efficient energy use

The tGW-700 series modules are specially designed for ultra-low power consumption to reduce additional energy costs. Choosing this energy-efficient device to minimize energy consumption will help users contribute to a greener environment.

Pair-connection mode

This mode can create pair-connection applications (serial tunnel or bridge). Once the pairing is set up, users can establish a connection, transfer data, or control equipment between two Modbus RTU/ASCII devices via TCP/IP communication protocol.



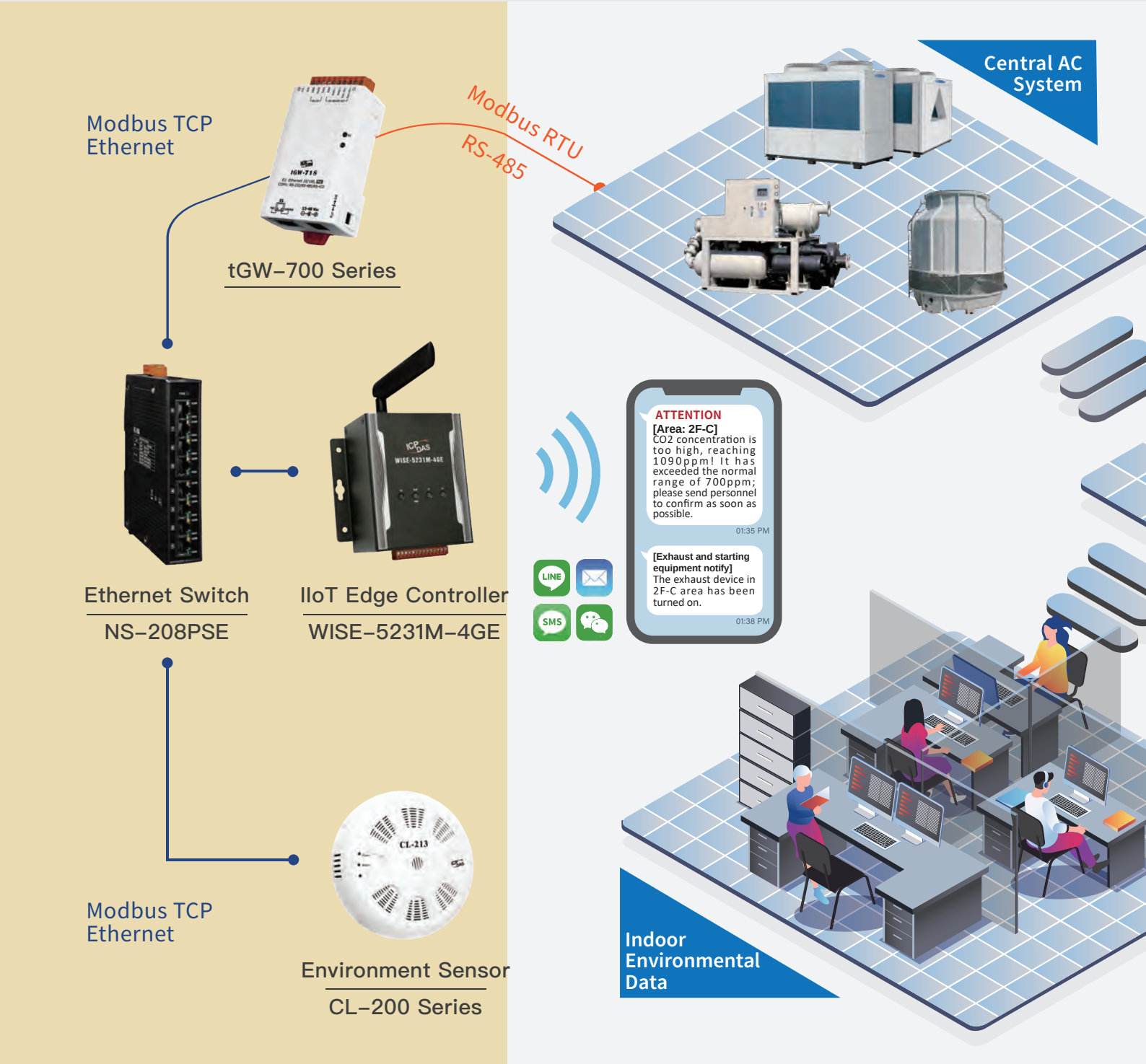
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Application Case

Central AC Monitoring

Central AC monitoring - on-site data collection and protocol conversion

The traditional central air-conditioning (AC) monitoring system integrates the water-cooled chiller, central AC unit, and cooling tower. With the tGW-700 series tiny gateway, the customer can effectively solve the problem of communication between three devices and the upper end via Modbus RTU (RS-485) to Modbus TCP (Ethernet). This solution structure cooperates with the WISE-5231M-4GE intelligent IIoT edge controller and the CL-200 series indoor air quality data logger module. At the same time, the CO2 level information collected indoors is sent back to the control center through WISE-5231M-4GE via 4G wireless communication. In case of an abnormal situation, relevant alarm messages will be sent to customers from the WISE-5231M-4GE to the mobile phone, ensuring timely alarm handling and maintaining good air quality.



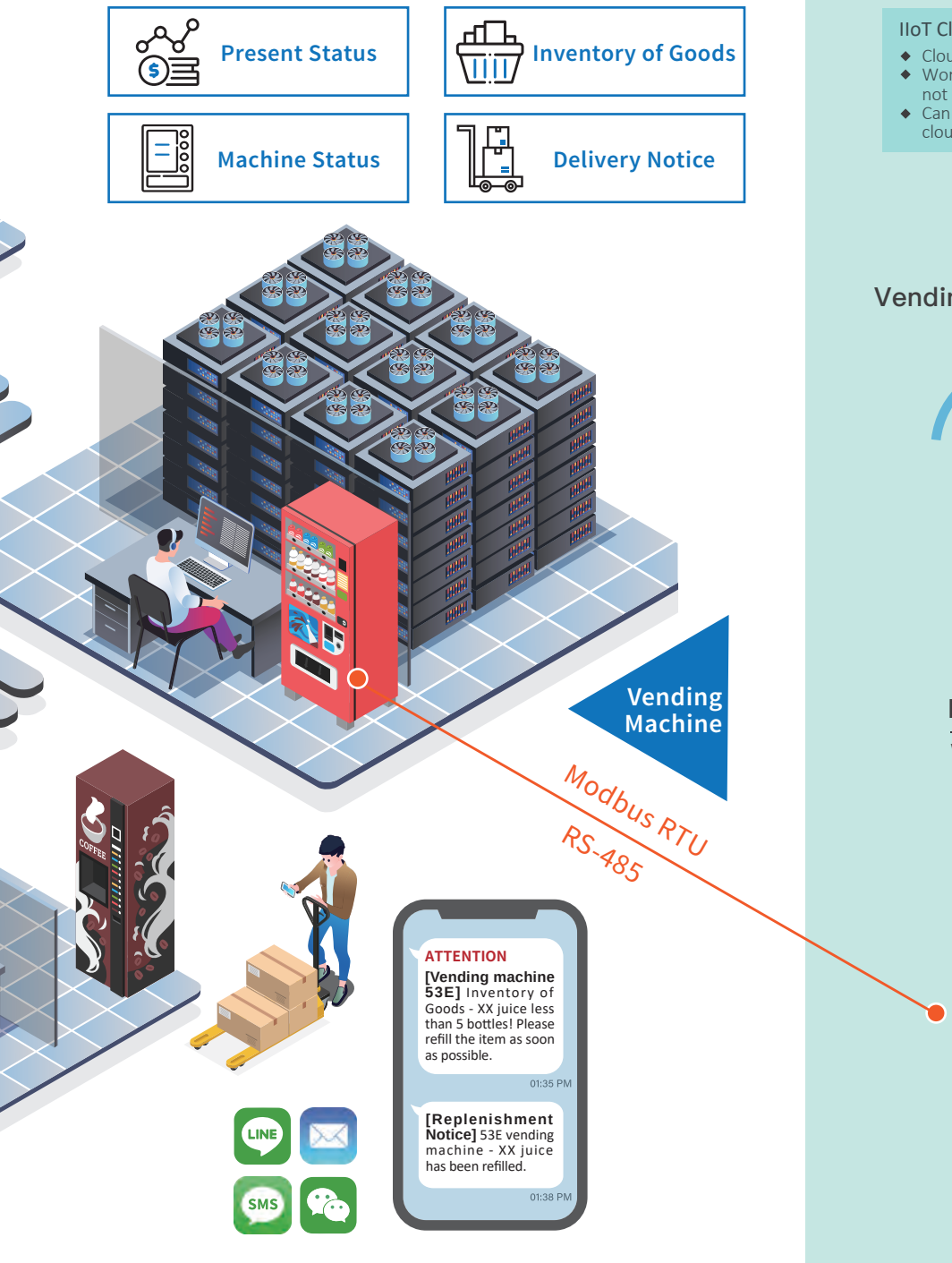


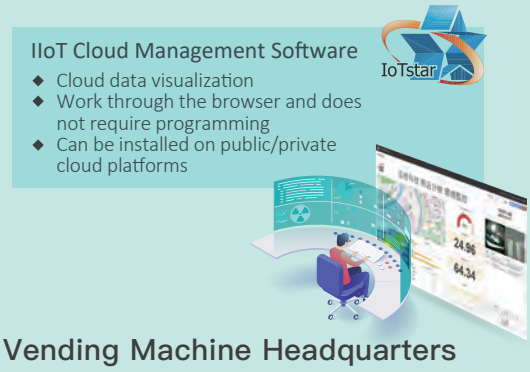
Application Case

Vending Machine

Vending machine - Digital transformation of traditional equipment

The extensive settings of 24-hour vending machines, which are not limited by time and place, can provide more convenient services to users. However, traditional vending machines often do not support connecting equipment to the network, so replenishment and maintenance of equipment are difficult, since all actions depend on the vending machine attendant, who regularly goes to work on a set route, which requires a lot of time and labor, and can also be easily lead to additional costs. In this case, the customer uses the tGW-700 series tiny gateway with the WISE-5231M-4GE intelligent IIoT edge controller and the IIoT cloud management software IoTstar to collect data such as inventory of goods, equipment temperature, present status, and the overall status of the vending machine. Further, these data are transmitted to the control center of the headquarters, and after analysis, the vending machine attendant will be sent to the zone of the vending machine that needs to be operated. Such a functional structure helps management personnel carry out the necessary maintenance (replenishment) of the machine in time, which reduces the load on the vending machine attendant and saves the associated labor costs.





Vending Machine Headquarters



IIoT Edge Controller

WISE-5231M-4GE

Modbus TCP
Ethernet



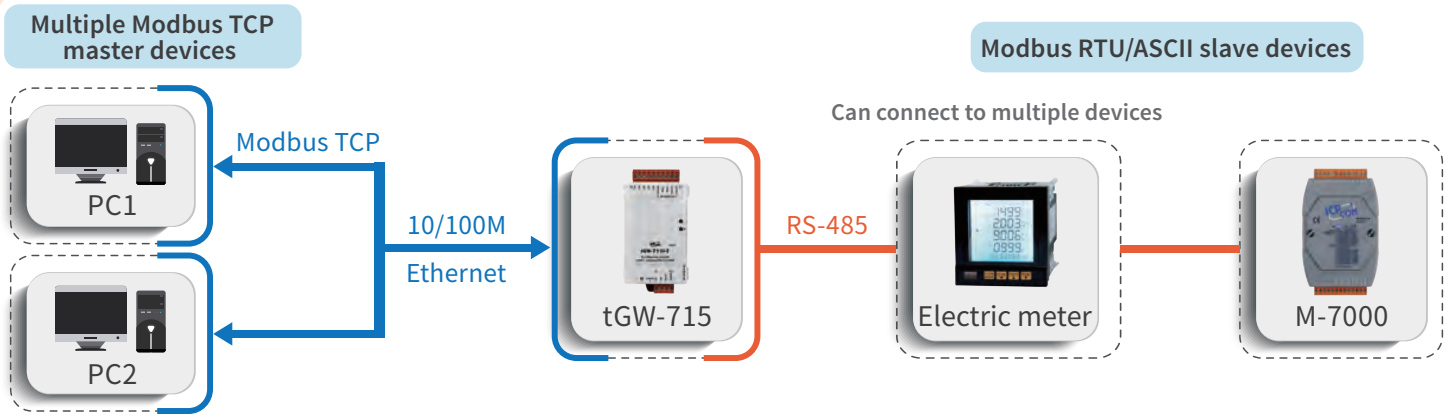
tGW-700 series

Tiny Gateway Application

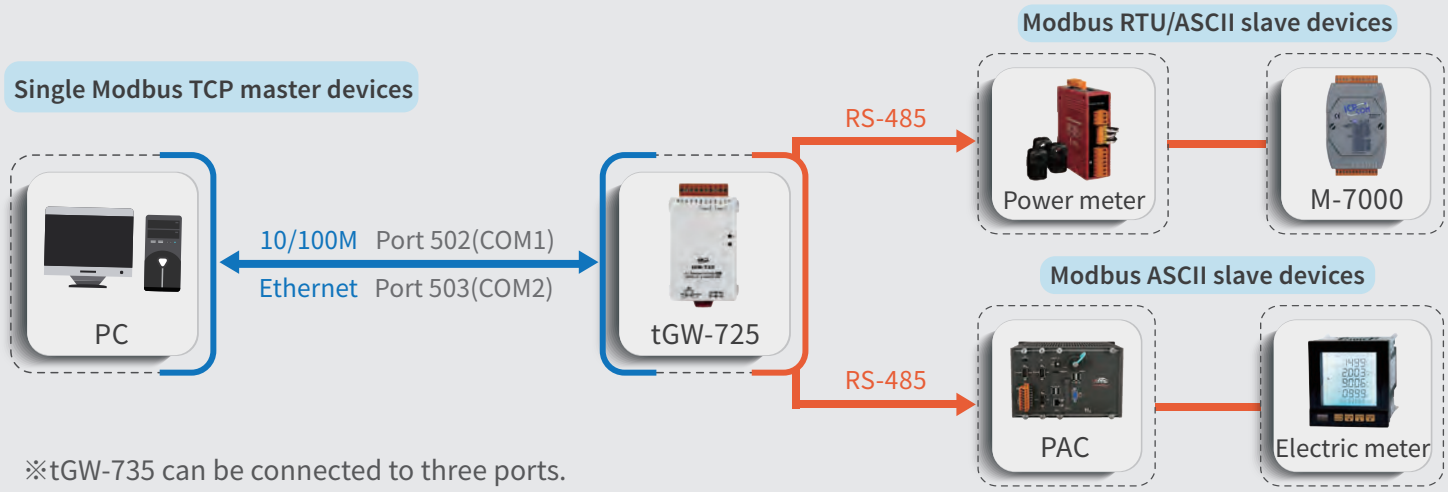


Modbus TCP Master to RTU/ASCII Gateway

Long-distance *High-speed*

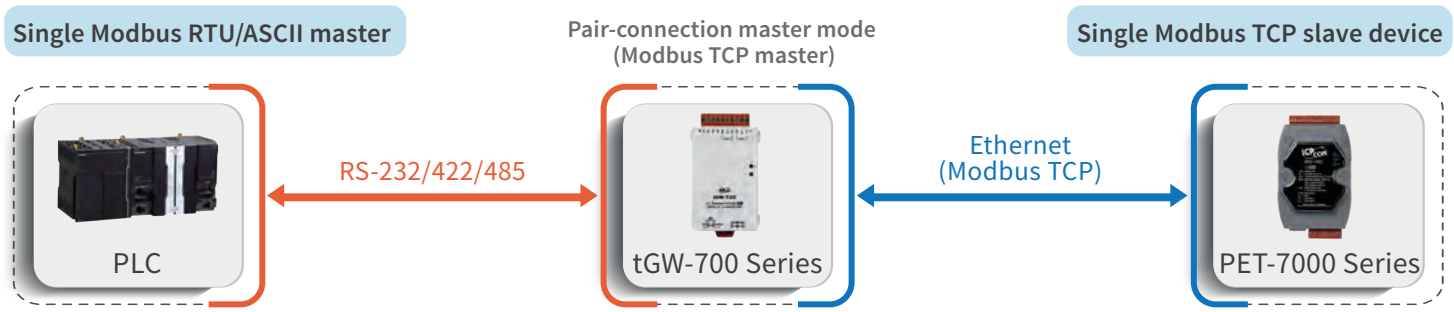


Modbus TCP to multiple RTU/ASCII Gateway (multiple port)



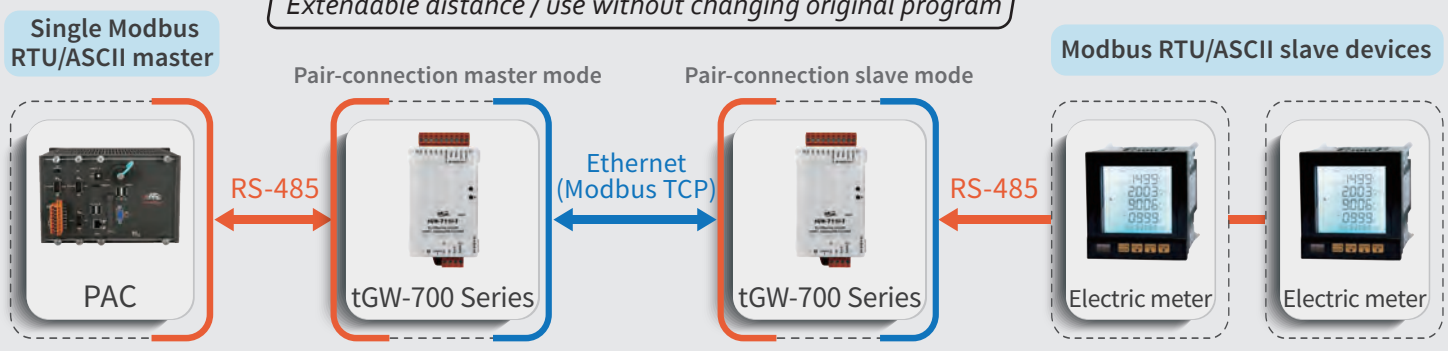
※tGW-735 can be connected to three ports.

Modbus RTU/ASCII to Modbus TCP Gateway (Like pair-connection)



Modbus RTU/ASCII application via virtual RS-485 connection(pair-connection mode)

Extendable distance / use without changing original program



Selection guide

tGW-700 series — Modbus TCP to Modbus RTU/ASCII gateway function with PoE and DC jack

Model (Non-Isolated / Isolated)	COM1	COM2	COM3
tGW-712 / tGW-712i	RS-232	-	-
tGW-722 / tGW-722i	RS-232	RS-232	-
tGW-732 / tGW-732i	RS-232	RS-232	RS-232
tGW-715 / tGW-715i	RS-485 / RS-422	-	-
tGW-725 / tGW-725i	RS-485	RS-485	-
tGW-735 / tGW-735i	RS-485	RS-485	RS-485
tGW-718 / tGW-718i	RS-232 / RS-485 / RS-422	-	-
- / tGW-718i-D	RS-232 / RS-485 / RS-422	-	-
tGW-724 / tGW-724i	RS-485	RS-232	-
tGW-734 / tGW-734i	RS-485	RS-232	RS-232

tGW-700-T series — Modbus TCP to Modbus RTU/ASCII gateway function with DC terminal block power input

Model (Non-Isolated / Isolated)	COM1	COM2	COM3
tGW-715-T / tGW-715i-T	RS-485 / RS-422	-	-
tGW-718-T / tGW-718i-T	RS-232 / RS-485 / RS-422	-	-

Related products

GW-2200 series



Modbus TCP to RTU/ASCII gateway with 2-port Ethernet switch

WISE-5231M-4GE



IIoT Edge Controller

NS-208PSE



8-port unmanaged PoE industrial Ethernet switch

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泓格科技 ICP DAS CO., LTD.
+886-3-5973366 sales2@icpdas.com www.icpdas.com