Y202-R Standard Ethernet DTU Specification



> **Reference:** Technical manual coming soon. **Related:** Serial Gateway Overview

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1. Overview

Y202-R is the dual-port Ethernet model in the Yengear standard DTU family. It integrates two independent serial channels, each configurable as RS232 or RS485, together with a `10/100Base-T` Ethernet uplink. Each serial channel maps to Socket A and B, enabling concurrent TCP, UDP, HTTP, or MQTT data paths as well as Modbus RTU to Modbus TCP conversion.

Item	Description
MCU and Firmware	Dual-core `240 MHz` MCU, RTOS scheduler, dual watchdogs
Serial Ports	`2 x` RS232 / RS485, software-selectable combination
Ethernet Uplink	`10/100Base-T` RJ45, static IP or DHCP
Power Input	`9 to 36 VDC` terminal input, optional DC barrel input
Mounting	DIN-rail enclosure with removable terminal block

Highlights

- Two independent serial buses, each with dual Socket contexts for concurrent SCADA and cloud access
- Industrial EMC design and `9 to 36 VDC` power input for substation and HVAC cabinets
- Built-in browser console with default address `192.168.10.8`, login `admin/admin`
- Consistent standard DTU firmware stack with registration packets, NET/UART heartbeat, HTTP OTA, and remote AT access

2. Ordering Information

2.1 Model Configuration

`Y202-R` is a dual-port DTU with an RJ45 Ethernet uplink. The ordering suffix selects the serial configuration: `-2H` for two RS232 ports, `-4H` for two RS485 ports, or

`–6H` for one of each.

For family codes and examples, see Model Groups and Suffixes.

2.2 SKU Matrix

SKU	Serial Configuration
Y202-R-2H	`2 x` RS232
Y202-R-4H	`2 x` RS485
Y202-R-6H	`1 x` RS232 + `1 x` RS485

2.3 Standard Package

1 x Y202-R DTU
1 x DB9 breakout for COM1
1 x pluggable terminal for COM2 and power
DIN-rail clip, quick-start card, warranty information
Optional: `12 V` power adapter, USB console cable

3. Key Features

1. **Dual Serial Channels**: Two isolated serial channels, each with Socket A and B for concurrent service access.
2. **Broad Protocol Support**: Supports TCP, UDP, HTTP client, MQTT client, and Modbus RTU to Modbus TCP conversion.
3. **Industrial-Grade Power**: `9 to 36 VDC` input with watchdog protection for unattended operation.
4. **Browser-Based Configuration**: Built-in Web UI for IP settings, serial settings, and protocol management.
5. **Data Enhancement Functions**: Supports registration packets, heartbeat packets, auto reconnect, and remote AT.

4. Technical Specifications

4.1 Electrical and Hardware

Parameter	Specification
Processor	Dual-core `240 MHz` MCU
Power Input	`9 to 36 VDC`, terminal input, optional DC barrel
Protection	Industrial EMC design, dual watchdog
Mounting	DIN-rail industrial enclosure

4.2 Serial and Network

Parameter	Specification
Serial Ports	`2 x` RS232 / RS485, selectable by SKU
Baud Rate	`9600 bps` (default)
Ethernet	`10/100Base-T` RJ45
IP Mode	Static IP / DHCP
Socket Channels	Socket A and B for each serial port

4.3 Software Functions

Item	Description
Protocols	TCP / UDP / HTTP / MQTT
Gateway Function	Modbus RTU to Modbus TCP
Maintenance	Web UI, remote AT, HTTP OTA
Value-Added Functions	Registration packet, NET/UART heartbeat, reconnect logic

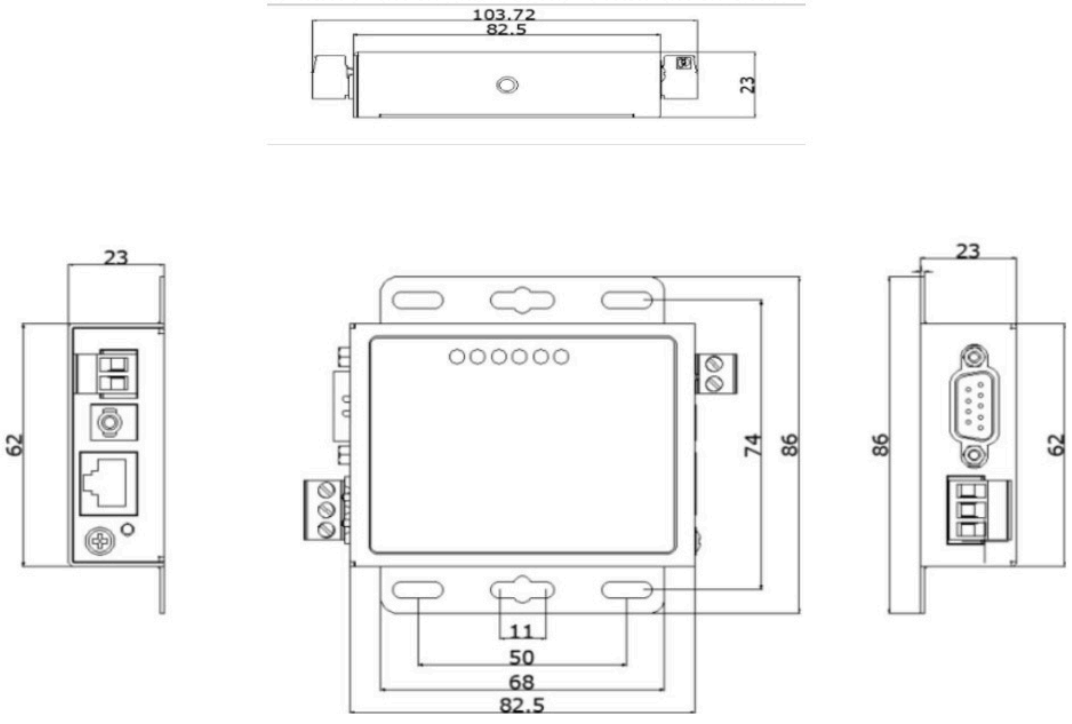
5. Interfaces and Indicators

Interface / Indicator	Description
COM1 / COM2	Dual serial interfaces for RS232 or RS485 field devices
RJ45	Ethernet uplink for LAN or SCADA network
Power Terminal	Wide-range DC input
Status LEDs	Power, link, and data activity indication
Reload Button	Used for parameter recovery and maintenance

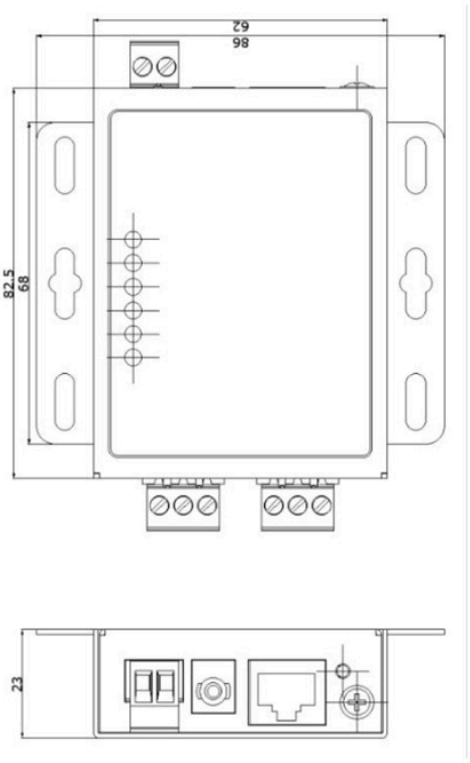
6. Mechanical and Installation

6.1 Dimension Drawings

Standard interface version:



Dual RS485 version:



These drawings can be used for cabinet cutout and installation clearance planning for the corresponding Y202-R interface version.

- Standard DIN-rail enclosure for direct cabinet installation
- Removable terminal blocks simplify field wiring and replacement
- Recommended for retrofit cabinets where two independent serial buses must be retained

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