2-port RS232/422/485 Modbus Gateway



Standard Modbus TCP/RTU/ASCII Network Integration

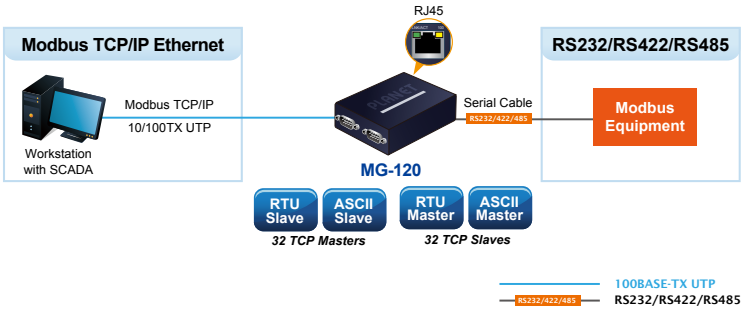
PLANET MG-120 2-port RS232/422/485 Modbus Gateway supports the standard Modbus Protocol, which makes it possible for converting any Modbus Protocols between Modbus TCP, Modbus RTU, and Modbus ASCII for all supported hardware interfaces. Its serial protocol can be used for industrial automation where SCADA or HMI system is in place.

Moreover, its network integration can be upgraded from the SNMP network to the automated Modbus TCP network, which brings interconnection over Ethernet longer distances, thus making a network infrastructure more flexible.



A Conversion Bridge for Flexible Network Deployment

The MG-120 can be a conversion bridge between the equipment with the Modbus RTU/ASCII Protocol and the administrator workstations that run the Modbus TCP/IP Protocol. The RS232/422/485 serial interface of the MG-120 provides the Modbus RTU/ASCII operation mode and various baud rate options to meet the demand of integration between the Modbus TCP/IP Protocol, Modbus RTU Master/Slave Protocol and Modbus ASCII Master/Slave Protocol.



Serial Interface

- Two DB9 interfaces support RS232, 2-wire RS485, 4-wire RS485 and RS422 standards
- Asynchronous serial data rates up to 921600bps

Ethernet Interface

- 1-port 10/100BASE-TX RJ45 with auto MDI/MDI-X function

Management Function

- Built-in IP-based **Web interface** and **telnet interface** for remote management
- Software Protocol supports Modbus TCP, Modbus RTU, Modbus ASCII, IP, ARP, DHCP and DNS
- Supports RTU Master, RTU Slave, ASCII Master, and ASCII Slave four serial operation modes via management interface
- Master mode supports 32 TCP slave connection requests
- Slave mode supports 32 TCP master connections
- PLANET Modbus Gateway utility for finding client device on the network
- PLANET Smart Discovery utility automatically finds the client devices on the network
- Firmware upgrade/configuration backup and restore via HTTP protocol

Case and Installation

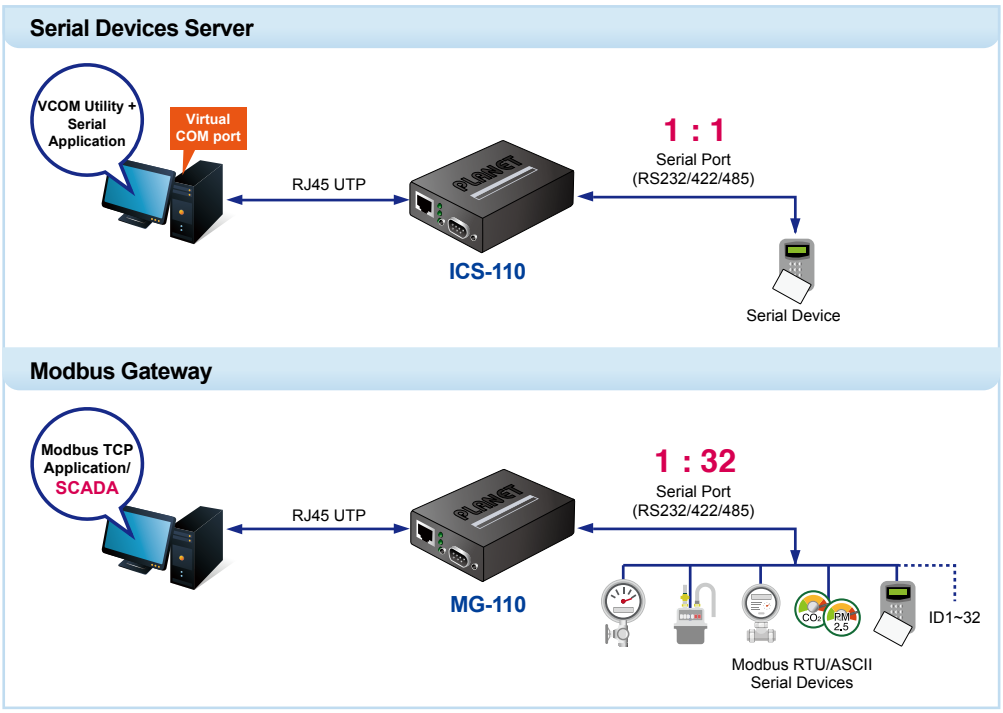
- -10 to 60 degrees C operating temperature
- Reset button for resetting to factory default

The advantage of having the MG-120 is to assist users to build an environment between the Modbus TCP Protocol and the Modbus RTU/ASCII Protocol easily, thus offering an application solution to the control equipment without Ethernet ports, and the control equipment can only control through a PC workstation or control panel.

In addition, the effective integration solution of Modbus Ethernet devices, Modbus serial equipment or multi Modbus master / slave in a hybrid network brings the following:

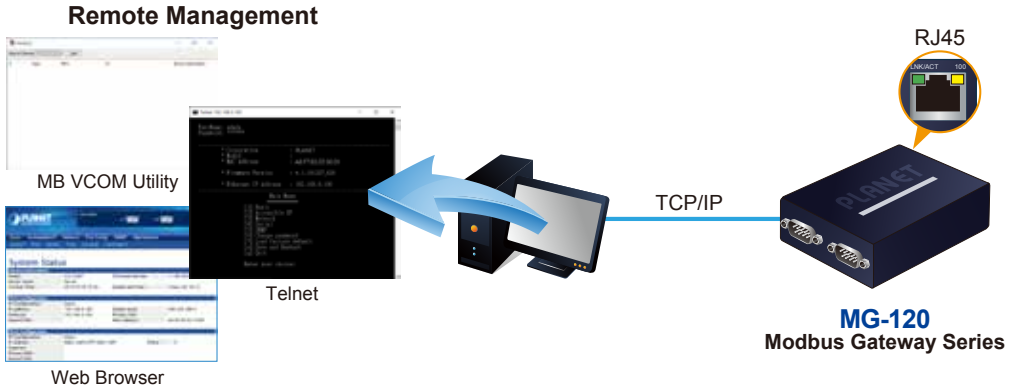
- Master mode supports up to 32 TCP slave connection requests
- Slave mode supports up to 32 TCP master connections

Differences between Serial Devices and Modbus Gateway



Remote Management

The MG-120 makes the connected Modbus RTU/ASCII equipment become IP-based facilities and is able to connect to the Modbus TCP/IP network via its R232/422/485 serial interface and **10/100BASE-TX RJ45** Ethernet port. It provides a remote web management and telnet Interface for efficient remote network management. The MG-120 also provides PLANET Modbus Gateway utility tool and supports PLANET Smart Discovery utility to help network administrator to easily get the current IP subnet address information or change the IP subnet address setting of the MG-120.



Modbus Serial Port State Monitoring

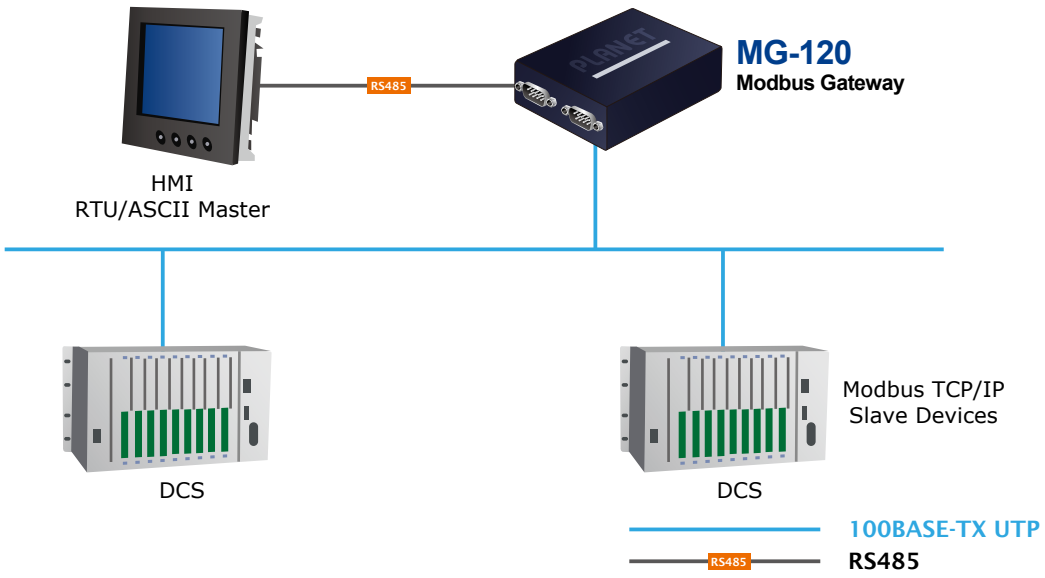
The MG-120 shows the details of the total bytes transmitted and received on the RS232/422/485 serial interface, and the detailed total number of frames transmitted and received on the remote web/telnet management interface. This function allows network administrator to check the status and statistics of the MG-120 via the single RS232/422/485 serial interface.

Applications

RTU/ASCII Master to Multi Modbus TCP/IP Slaves

The MG-120 can act as a bridge between the RTU/ASCII master equipment and the multi-TCP/IP slave equipment in a Modbus TCP/IP networking environment to control multi-TCP/IP slave equipment via the RTU/ASCII master equipment..

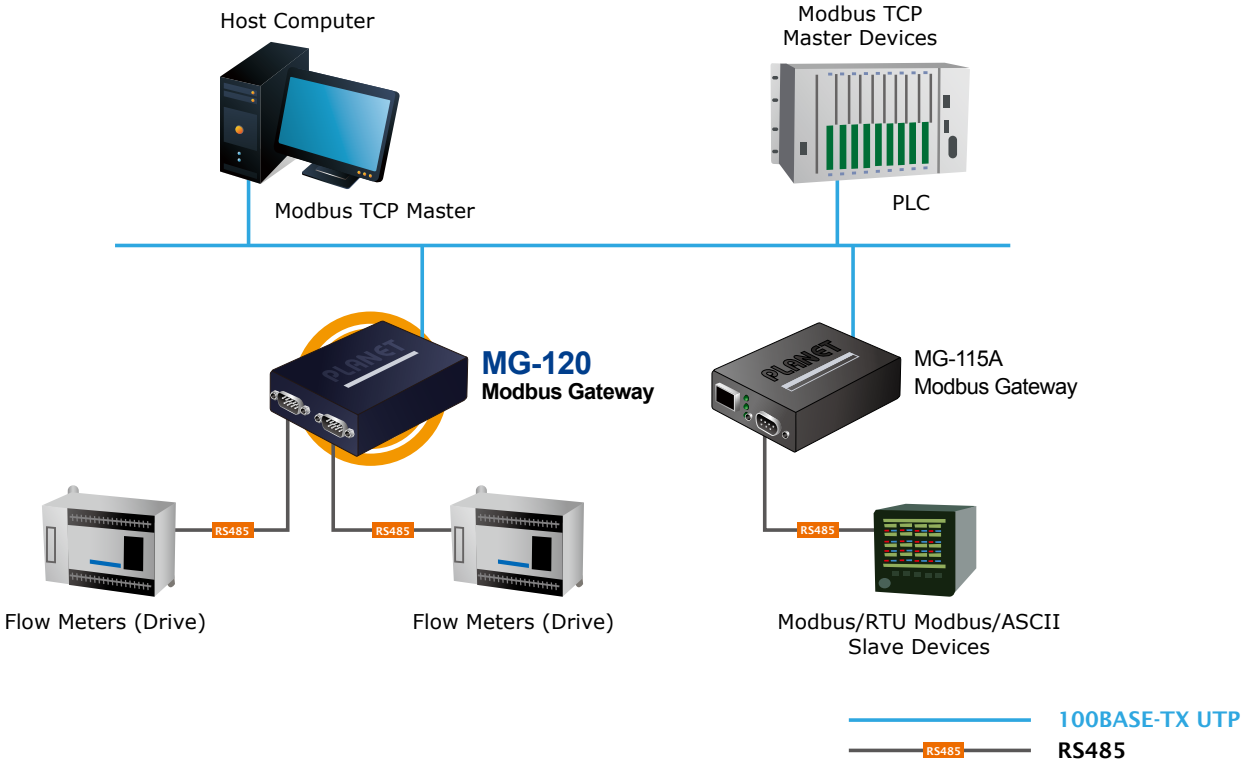
RTU/ASCII Master to Multi Modbus TCP/IP Slaves



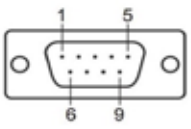
Multi Modbus TCP/IP Master to RTU/ASCII Slaves

The MG-120 can operate as a bridge between the multi-TCP/IP master equipment and the RTU/ASCII slave equipment in a Modbus TCP/IP networking environment to control the RTU/ASCII slave equipment via the multi-TCP/IP master equipment.

Multi Modbus TCP/IP Master to RTU/ASCII Slaves



Product Specifications

Product	MG-120
Serial Interface	
Serial Ports	2 x DB9 male
Serial Standards	RS232 RS422 4-wire RS485 2-wire RS485
Baud Rate (Data Rate)	50bps to 921Kbps
Data Bits	5, 6, 7, 8
Stop Bit	1, 1.5, 2
Parity Type	Odd, Even, None, Space, Mark
Flow Control	RTS/CTS and DTR/DSR (RS232 only) XON/XOFF
Signals	RS232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS422: Tx+, Tx-, Rx+, Rx-, GND 4-wire RS485: Tx+, Tx-, Rx+, Rx-, GND 2-wire RS485: Data A (+), Data B (-), GND
Pin Assignment	

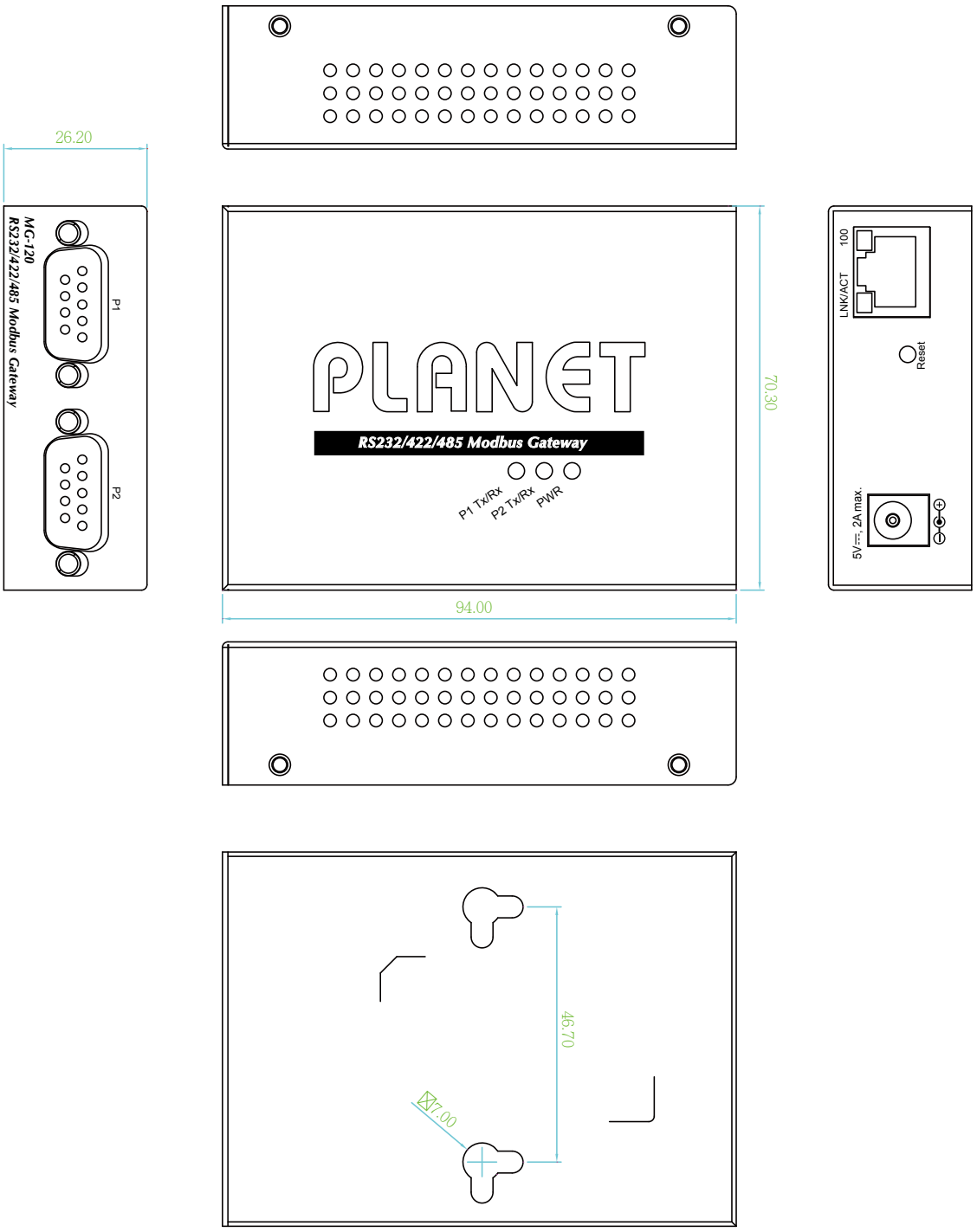
Male DB9	Pin	RS232	RS422 RS485-4W	RS485-2W
	1	DCD	TxD+	--
	2	RxD	TxD-	--
	3	TxD	RxD-	Data-
	4	DTR	RxD+	Data+
	5	GND	GND	GND
	6	DSR	--	--
	7	RTS	--	--
	8	CTS	--	--
	9	--	--	--

Operation Mode	RTU Master/RTU Slave/ASCII Master/ASCII Slave Master mode: Supports up to 32 TCP slave connection requests Slave mode: Supports up to 32 TCP master connection requests
Ethernet Interface	
Ethernet Ports	1 x RJ45
Standard	10/100BASE-TX
Distance	100m
ESD Protection	6KV
Hardware	
Installation	DIN-rail kit and wall-mount ear
Dimensions (W x D x H)	97 x 70 x 26mm
Weight	189 g
LED Indicators	System: Link TP Port: Link/Active Serial Port: Active
Power Requirements	External Power Adaptor 5V DC, 2A max.
Power Consumption	5.5 watts (max)
Enclosure	Metal
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
Management	
Management Interfaces	Web management Telnet Console management Windows-based MB VCOM Utility management SNMPv1, v2c / SNMP Trap UNI-NMS monitoring PLANET Smart Discovery Utility
IP Version	IPv4
Operation Mode	RTU Master RTU Slave ASCII Master ASCII Slave

Virtual COM Utility Platform Supports	Windows-based Only: Windows XP Windows Server 2003 Windows 7 Windows Server 2008 Windows 8 (Must install the latest version of WinPcap) Windows Server 2012 (Must install the latest version of WinPcap) Windows 10
Fault Alarm	Record: System log / SNMP trap
Time	NTP
Security	Accessible IP (white list)
SNMP	SNMP v1 and v2c
Standards Conformances	
Regulatory Compliance	FCC Part 15 Class A, CE Certification Class A
Standards	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX RFC 768 UDP RFC 793 TFTP RFC 791 IP RFC 792 ICMP RFC 854 Telnet RFC 958 NTP RFC 1908 SNMPv2c RFC 2068 HTTP RFC 2131 DHCP Client EIA/TIA RS232/422/485
Regulatory Approval	RoHS
Environment	
Operating Temperature	-10 ~ 60 degrees C
Storage Temperature	-10 ~ 70 degrees C
Humidity	5 ~ 95% (non-condensing)

Dimensions

- MG-120



Unit: mm

Ordering Information

MG-120	2-port RS232/422/485 Modbus Gateway (-10~60 degrees C)

Related Products

MG-110	1-port RS232/422/485 Modbus Gateway (-10~60 degrees C)
MG-115A	1-port RS232/422/485 Modbus Gateway with 1-port 100BASE-FX SFP (-10~60 degrees C)
IMG-2100T	IP30 Industrial 1-Port RS232/RS422/RS485 Modbus Gateway (1 x 10/100TX, -40~75 degrees C)
IMG-2105AT	IP30 Industrial 1-Port RS232/RS422/RS485 Modbus Gateway (1 x 100FX, -40~75 degrees C)
IMG-2200T	IP30 Industrial 2-Port RS232/RS422/RS485 Modbus Gateway (2 x 10/100TX, -40~75 degrees C, 2KV isolation)
IMG-2400T	IP30 Industrial 4-Port RS232/RS422/RS485 Modbus Gateway (2 x 10/100TX, -40~75 degrees C, 2KV isolation, 2 x DI + 2 x DO)

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