

Industrial IoT Serial Device Server

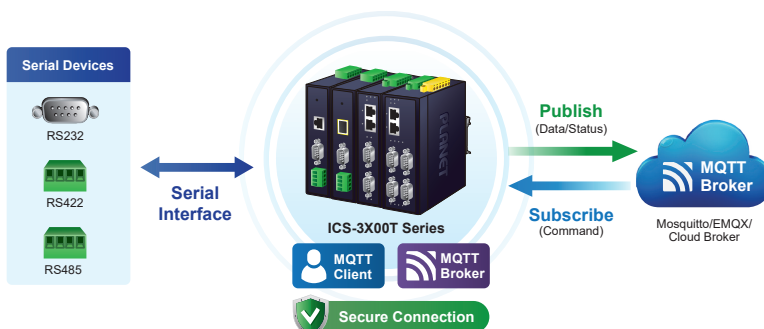


Industrial Serial-to-Ethernet Gateway for Modern IIoT Connectivity

The ICS-3X00T Series is designed to bridge legacy **RS-232**, **RS-422** and **RS-485** devices with modern Industrial Ethernet and IIoT infrastructures. In addition to traditional Serial-to-Ethernet communication, the ICS-3X00T enables seamless integration between field devices and IP-based networks, helping users extend communication distances while preserving existing serial equipment investments. It provides an efficient migration path for factories, transportation systems, utilities and building automation applications to connect legacy assets into digitalized industrial environments without replacing existing devices or software systems.

MQTT Edge Gateway for Data Aggregation and Distribution

The ICS-3X00T Series expands traditional serial gateway functionality by supporting both **MQTT Client** and built-in **MQTT Broker** capabilities. It can collect data from PLCs, RTUs, sensors and industrial controllers through RS-232, RS-422 or RS-485 interfaces, convert the information into MQTT messages and publish them to SCADA systems, MES platforms, cloud services or third-party MQTT servers. The embedded MQTT Broker also enables local data exchange among connected devices without requiring an external broker, simplifying system deployment and providing an efficient solution for Industrial IoT and edge computing applications.



Physical Port

• ICS-3100T

- 1 **10/100BASE-TX** Fast Ethernet RJ45 port
- One DB9 interface that support RS-232
- One terminal block interface that supports 2-wire RS-485 and 4-wire RS-422/RS-485 standards
- Asynchronous serial data rates up to 921600bps

• ICS-3105AT

- 1 **100BASE-FX SFP** slot
- One DB9 interface that support RS-232
- One terminal block interface that supports 2-wire RS-485 and 4-wire RS-422/RS-485 standards
- Asynchronous serial data rates up to 921600bps

• ICS-3200T

- 2 **10/100BASE-TX** Ethernet RJ45 ports
- Two software-selectable DB9 serial interfaces supporting RS-232, RS-422 and RS-485
- Asynchronous serial data rates up to 921600bps

• ICS-3400T

- 2 **10/100BASE-TX** Ethernet RJ45 ports
- Four software-selectable DB9 serial interfaces supporting RS-232, RS-422 and RS-485
- Asynchronous serial data rates up to 921600bps

Digital Input and Digital Output (ICS-3400T only)

- 2 digital input (DI)
- 2 digital output (DO)
- Integrate sensors into auto alarm system
- Transfer alarms to IP networks via SNMP Trap

Serial Interface & Operation Modes

• High-Speed Transmission

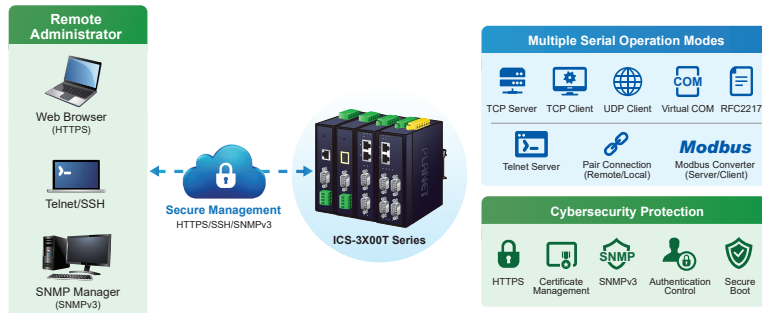
- Supports asynchronous serial data rates up to 921600bps

• Versatile Serial Operation Modes

- Supports Virtual COM mode via Windows-based VCOM Utility
- Supports TCP Server, TCP Client and UDP Client modes
- Supports RFC2217 and Telnet Server modes
- Supports Pair Connection mode for transparent serial cable replacement

Flexible Serial Operation Modes

The ICS-3X00T Series supports multiple serial operation modes, including **TCP Server**, **TCP Client**, **UDP Client**, **Virtual COM**, **RFC2217**, **Telnet Server**, **Pair Connection** and **Modbus Converter Server/Client** modes. These operation modes provide **flexible connectivity** for industrial communication applications and enable **legacy serial devices** to be integrated into **Ethernet networks** for **remote access, monitoring, configuration and management**.



Secure Remote Management and Cybersecurity

The ICS-3X00T Series provides **remote management** through **web-based interfaces**, **SNMP** and **Windows-based VCOM Utility**, allowing administrators to **monitor, configure and maintain** devices efficiently. To enhance network security, it supports **HTTPS encrypted access**, **certificate management**, **SNMPv3**, **IEEE 802.1X authentication**, **RADIUS/TACACS+ user authentication**, and **Secure Boot** technology, helping protect systems against unauthorized access and **firmware tampering**. **Event Log**, **Syslog**, **SNMP Trap** and **Relay Alarm** functions further simplify device maintenance and improve network reliability.

Stable Performance under Harsh Industrial Environments

Designed for demanding industrial applications, the ICS-3X00T Series provides excellent immunity against electromagnetic interference, electrostatic discharge and power fluctuations commonly found in industrial environments. With an operating temperature range of -40 to 75 degrees C and a rugged IP30-rated metal enclosure, the devices ensure reliable communication in harsh conditions. Support for DIN-rail and wall mounting also offers flexible installation and efficient cabinet space utilization.



- **Industrial Protocol Conversion**
 - Supports Modbus Converter Server and Modbus Converter Client modes for Modbus TCP and Modbus RTU/ASCII integration
- **Multi-Host Connectivity**
 - Allows a maximum of 4 hosts to access the same serial device simultaneously in TCP Client mode
- **Industrial IoT Integration (MQTT)**
 - Supports MQTT Client and built-in MQTT Broker functions
 - Supports Transparent Publish, Topic Distribution and Transparent Subscribe mechanisms
 - Supports Internal and External MQTT Broker connections
 - Supports QoS 0/1/2, TLS encryption and Username/Password authentication

Management & Security

- **Network Management**
 - Supports IPv4 and IPv6 dual stack management
 - Supports ARP, ICMP, TCP/IP, UDP, HTTP/HTTPS server, DHCP client and SNMP v1/v2c/v3
 - Supports LLDP protocol
 - Supports IP NTP (Network Time Protocol) and DNS management
- **Secure Management**
 - Supports HTTPS encrypted management
 - Supports Certificate Management
 - Supports SNMP v3
 - Supports RADIUS/TACACS+ user authentication
 - Supports Secure Boot technology for system integrity protection
- **Configuration & Maintenance**
 - Supports firmware upgrade
 - Supports configuration backup and restore
 - Supports HTTP/HTTPS Web management
 - Supports Windows-based VCOM Utility
 - Supports PLANET Smart Discovery Utility
 - Supports PLANET NMS System and CloudNMS

Intelligent Event Notification

- **Rugged Industrial Design**
 - IP30 rugged metal enclosure
 - DIN-rail and wall-mount installation
 - Operating temperature from -40 to 75°C
 - Free fall, shock and vibration resistance for industrial environments
- **Redundant Power Design**
 - Dual redundant power input supporting 9~48V DC and 24V AC
 - Reverse polarity protection
 - Supports hardware automatic failover mechanism for uninterrupted operation

Dual Power Input for High Availability Network Systems

The ICS-3X00T Series features a redundant dual power input design supporting 9V to 48V DC operation for enhanced system reliability. When the primary power source fails, the built-in hardware failover mechanism automatically switches to the backup supply, ensuring uninterrupted communications and continuous operation. This high-availability design is especially suitable for remote sites, process control systems and mission-critical industrial applications where maintaining network uptime is essential.



- **Electrical Protection**
 - Supports 6000V DC Ethernet ESD protection
 - Supports 2KV surge protection
- **Diagnostics & Hardware Control**
 - Extensive LED indicators for network and serial status diagnosis
 - Reset button for system reboot and factory default restoration
 - Buzzer reset button for muting the alarm buzzer (ICS-3200T & ICS-3400T only)

Digital Input and Digital Output for External Alarm (ICS-3400T only)

With digital input and digital output on its front panel, an external alarm can help users via the digital input to detect and log external device status (such as door intrusion detector), and then immediately send an event alarm to the administrator. The digital output can be used to alarm the administrator if the ICS-3400T serial port shows DCD, changed DSR or power failure.

PLANET CloudNMS – Cloud-Based Universal Network Management

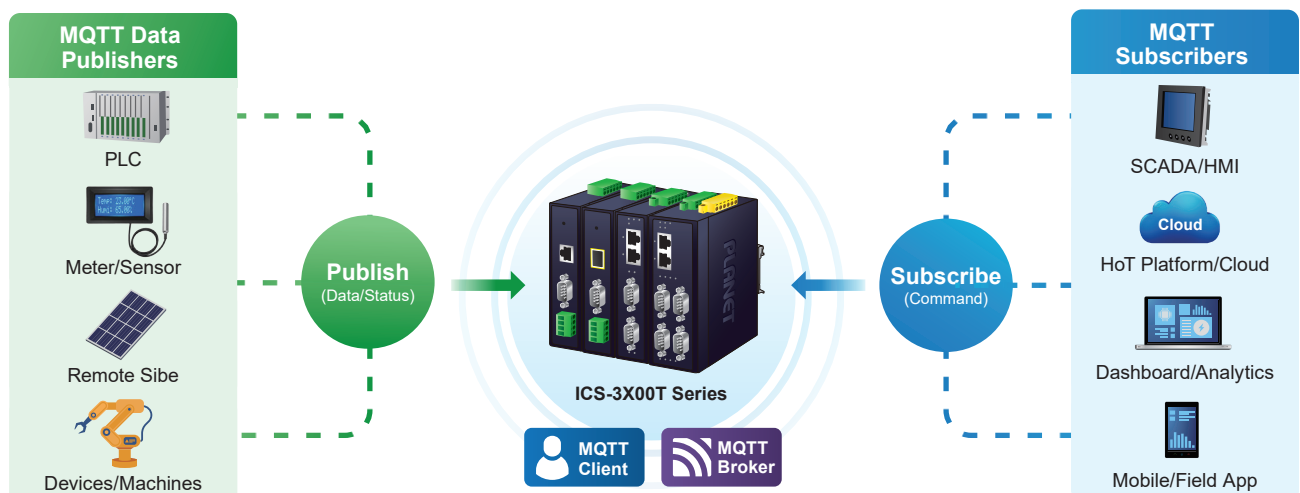
PLANET's **CloudNMS** platform and mobile app empower IT staff to remotely manage all network devices and Powered Devices (PDs) in real time. Designed for enterprises and industries, CloudNMS minimizes the need for on-site troubleshooting by providing centralized monitoring, fault detection, and instant alerts. With **CloudNMS**, businesses can manage diverse network deployments more **efficiently, securely, and intelligently**—all from a single cloud-based platform.



Applications

MQTT Edge-to-Cloud Data Aggregation

The ICS-3X00T Series serves as an edge gateway for Industrial IoT applications by collecting data from PLCs, RTUs, sensors and legacy serial devices through RS-232, RS-422 or RS-485 interfaces. Acting as an MQTT Client, it can publish field data to SCADA systems, MES platforms, cloud services or third-party MQTT servers. The built-in MQTT Broker further enables local message distribution among connected devices and applications without requiring an external broker, simplifying deployment while reducing infrastructure costs.



Industrial Process Control and Serial Integration

The ICS-3X00T Series supports multiple serial operation modes, including TCP Server, TCP Client, UDP Client, Virtual COM, RFC2217, Telnet Server, Pair Connection and Modbus Converter Server/Client modes, providing flexible connectivity for industrial automation systems. It enables operators to remotely monitor and configure PLCs, production equipment and serial controllers over Ethernet networks, reducing on-site maintenance efforts and improving operational efficiency.



Specifications

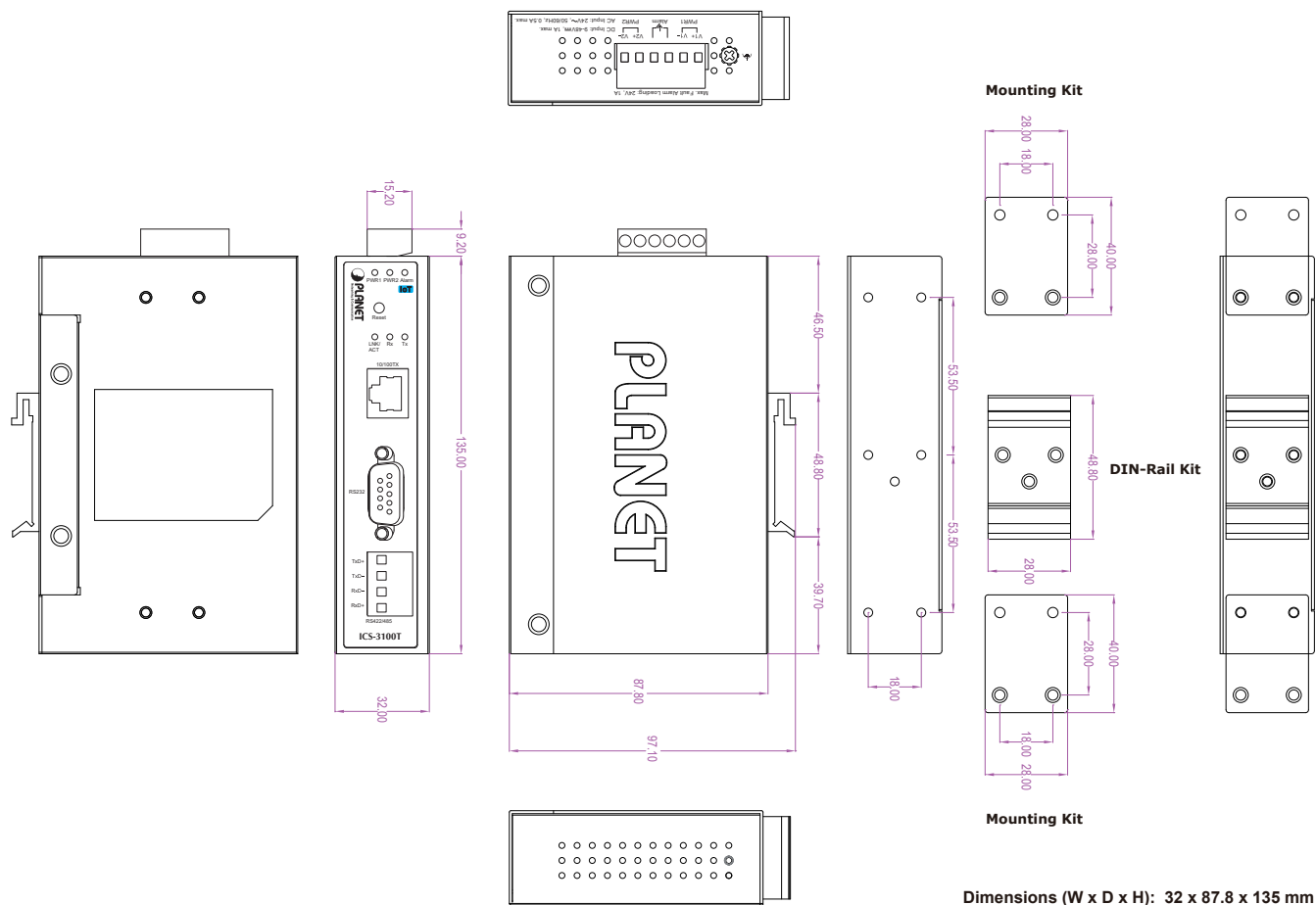
Product	ICS-3100T	ICS-3105AT	ICS-3200T	ICS-3400T																																										
Serial Interface																																														
PoE Injector Port	1 x DB9 male for RS-232 1 x 4-Pin Terminal block for RS-422 / RS-485		2 x DB9 male for RS-232/ RS-422/RS-485	4 x DB9 male for RS-232/ RS-422/RS-485																																										
Serial Standards	RS-232 / 4-wire RS-422 or RS-485 / 2-wire RS-485																																													
Baud Rate (Data Rate)	50bps to 921Kbps																																													
Data Bits	5, 6, 7, 8																																													
Parity Type	Odd, Even, None, Space, Mark																																													
Stop Bit	1, 1.5, 2																																													
Flow Control	RTS/CTS and DTR/DSR (RS-232 only) XON/XOFF																																													
Signals	RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-422: Tx+, Tx-, Rx+, Rx-, GND 4-wire RS-485: Tx+, Tx-, Rx+, Rx-, GND 2-wire RS-485: Data A (+), Data B (-), GND																																													
Pin Assignment	<table><tr><th>Male DB9</th><th>Pin</th><th>RS232</th><th>RS422 RS485-4W</th><th>RS485-2W</th></tr><tr><td rowspan="9"></td><td>1</td><td>DCD</td><td>TxD+</td><td>--</td></tr><tr><td>2</td><td>RxD</td><td>TxD-</td><td>--</td></tr><tr><td>3</td><td>TxD</td><td>RxD-</td><td>Data-</td></tr><tr><td>4</td><td>DTR</td><td>RxD+</td><td>Data+</td></tr><tr><td>5</td><td>GND</td><td>GND</td><td>GND</td></tr><tr><td>6</td><td>DSR</td><td>--</td><td>--</td></tr><tr><td>7</td><td>RTS</td><td>--</td><td>--</td></tr><tr><td>8</td><td>CTS</td><td>--</td><td>--</td></tr><tr><td>9</td><td>--</td><td>--</td><td>--</td></tr></table>				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	--	--	--
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	--	--	--																																										
Serial Line Protection	-	-	2KV isolation protection 1KV (level 2) surge protection 15KV ESD protection																																											
Operation Mode	TCP Server TCP Client UDP Client Virtual COM RFC2217 Telnet Server Pair Connection – Remote (Slave) Pair Connection – Local (Master) Modbus converter server Modbus converter client MQTT																																													
Ethernet Interface																																														
Ethernet Ports	1 x RJ45	1 x SFP	2 x RJ45																																											
Standard	10/100BASE-TX	100BASE-FX	10/100BASE-TX																																											
Distance	100m	2 km to 120 km (depending on SFP module)	100m																																											
Hardware Specifications																																														
Installation	DIN-rail kit and wall-mount ear																																													
Enclosure	IP 30 metal																																													
Dimensions (W x D x H)	32 x 87.8 x 135 mm			50 x 87 x 135 mm																																										
Weight	392g		477g	625g																																										
LED Indicators	System: PWR1 (Green) PWR2 (Green) Alarm (Red) I/O (Red) Port Interfaces : LNK/ACT (Green) RX (Amber) TX (Green)		System: PWR1 (Green) PWR2 (Green) Alarm (Red) SYS (Green) Port Interfaces : LNK/ACT (Green) RX (Amber)) TX (Green)	System: PWR1 (Green) PWR2 (Green) Alarm (Red) SYS (Green) I/O (Red) Port Interfaces : LNK/ACT (Green) RX (Amber)) TX (Green)																																										
Power Requirements	Power Requirements 9~48V DC, redundant power with reverse polarity protection 24V AC																																													

Power Consumption	Max. 2.4 watts/8.19BTU (Power on without any connection)	Max. 2.88 watts/9.83BTU (Power on without any connection)	Max. 3.24 watts/11.05BTU (Power on without any connection)	Max. 4.48 watts/15.28BTU (Power on without any connection)
	Max. 2.52 watts/8.6BTU (Full loading)	Max. 2.88 watts/9.83BTU (Full loading)	Max. 4.32 watts/14.74BTU (Full loading)	Max. 4.51 watts/15.39BTU (Full loading)
Connector	Removable 6-pin terminal block for power input Pin 1/2 for Power 1, Pin 3/4 for fault alarm, Pin 5/6 for Power 2 Removable 6-pin terminal block for DI/DO interface (ICS-3400T only) Pin 1/2 for DI 1 & 2, Pin 3/4 for DO 1 & 2, Pin 5/6 for GND			
Alarm	One relay output for power failure. Alarm relay current carry ability: 1A @ 24V DC			
DI, DO	-	-	-	2 digital input (DI) Level 0: -24V~2.1V (±0.1V) Level 1: 2.1V~24V (±0.1V) Input load to 24V DC, 10mA max. 2 digital output (DO): Open collector to 24V DC, 100mA max.
ESD Protection	6KV			
Surge Protection	2KV			
Reset Button	< 5 sec: System reboot > 5 sec: Factory default			
Buzzer Reset	-	-	Push Button for Buzzer Muting	
Management				
Management Interfaces	HTTP Web management HTTPS Web management Windows-based VCOM Utility management SNMPv1, v2c and v3 PLANET Smart Discovery Utility PLANET on-promise NMS System and cloud-based CloudNMS			
IP Protocol	IPv4 / IPv6			
Time Management	NTP Client			
Name Service	DNS Client			
Network Protocol	LLDP			
System Maintenance	Firmware Upgrade Configuration Backup / Restore			
Diagnostic	Event Log Syslog			
Event Notification	SNMP Trap Relay Alarm			
Operation Mode	TCP Server TCP Client UDP Client Virtual COM RFC2217 Telnet Server Pair Connection – Remote (Slave) Pair Connection – Local (Master) Modbus converter server Modbus converter client MQTT			
Virtual COM Utility Platform Supports	Windows-based Only: Windows 10 Windows 11 Windows Server 2016 Windows Server 2019 Windows Server 2022			

SNMP MIBs	RFC 1213 MIB-II RFC 1215 Generic Traps RFC 2737 Entity MIB (Version 2) RFC 2863 Interface Group MIB RFC 3635 Ethernet-like MIB
Security	
Hardware Security	Hardware-based Secure Boot Arm® TrustZone® Technology Hardware True Random Number Generator (TRNG) Hardware-accelerated AES, SHA, ECC and RSA Cryptographic Operations Hardware Key Store and OTP Protection for Secure Boot Keys
System Security	HTTPS Secure Web Management HTTP-to-HTTPS Redirection Certificate Management IP-based Management Access Control TLS 1.2 / TLS 1.3 SNMP v3 Authentication and Encryption
MQTT	
MQTT Operation Modes	MQTT Client Built-in MQTT Broker
MQTT Messaging	Retained Messages Last Will and Testament (LWT)
Publish Methods	Transparent Serial Data Publishing Data Mapping-based Publishing
Subscribe Methods	Transparent MQTT-to-Serial Data Forwarding
Quality of Service	MQTT QoS Level 0,1 and 2
Authentication	Username and Password
Transport Security	MQTT over TLS 1.2
Broker Connectivity	Built-in or External MQTT Broker
Standards Conformances	
Regulatory Compliance	FCC Part 15 Class A, CE Certification Class A
Stability Testing	IEC60068-2-32 (Free fall) IEC60068-2-27 (Shock) IEC60068-2-6 (Vibration)
Standards	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX RFC 768 UDP RFC 793 TCP RFC 791 IP RFC 792 ICMP RFC 854 Telnet RFC 5905 NTPv4 RFC 1591 DNS (client only) RFC 1908 SNMPv2c RFC 2616 HTTP/1.1 RFC 2131 DHCP Client RFC 2732 Format for Literal IPv6 Addresses in URL's RFC 3315 DHCPv6 Client RFC 3513 IPv6 Addressing Architecture RFC 3596 DNSv6 RFC 4443 ICMPv6 EIA/TIA RS-232/422/485
Regulatory Approval	RoHS
Environment	
Operating Temperature	-40 ~ 75 degrees C
Storage Temperature	-40 ~ 85 degrees C
Humidity	5 ~ 95% (non-condensing)

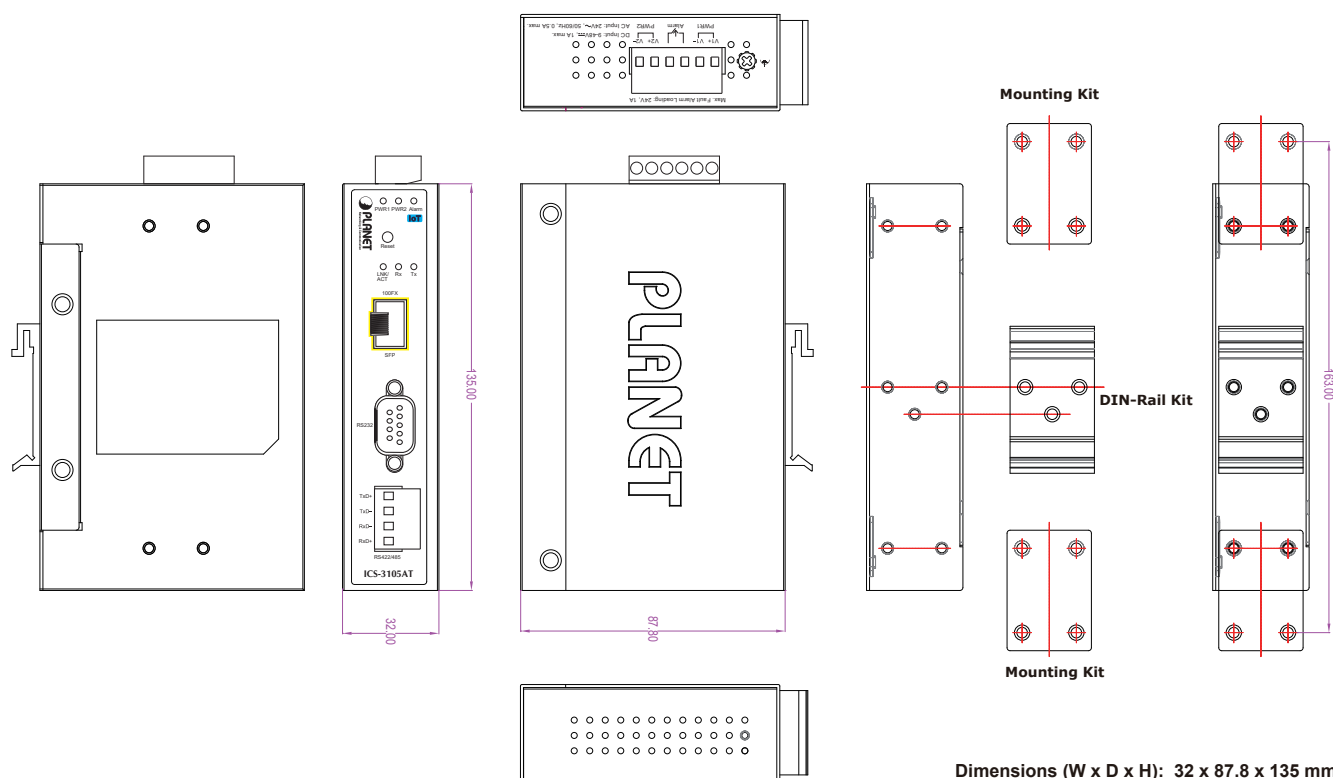
Dimensions

■ ICS-3100T



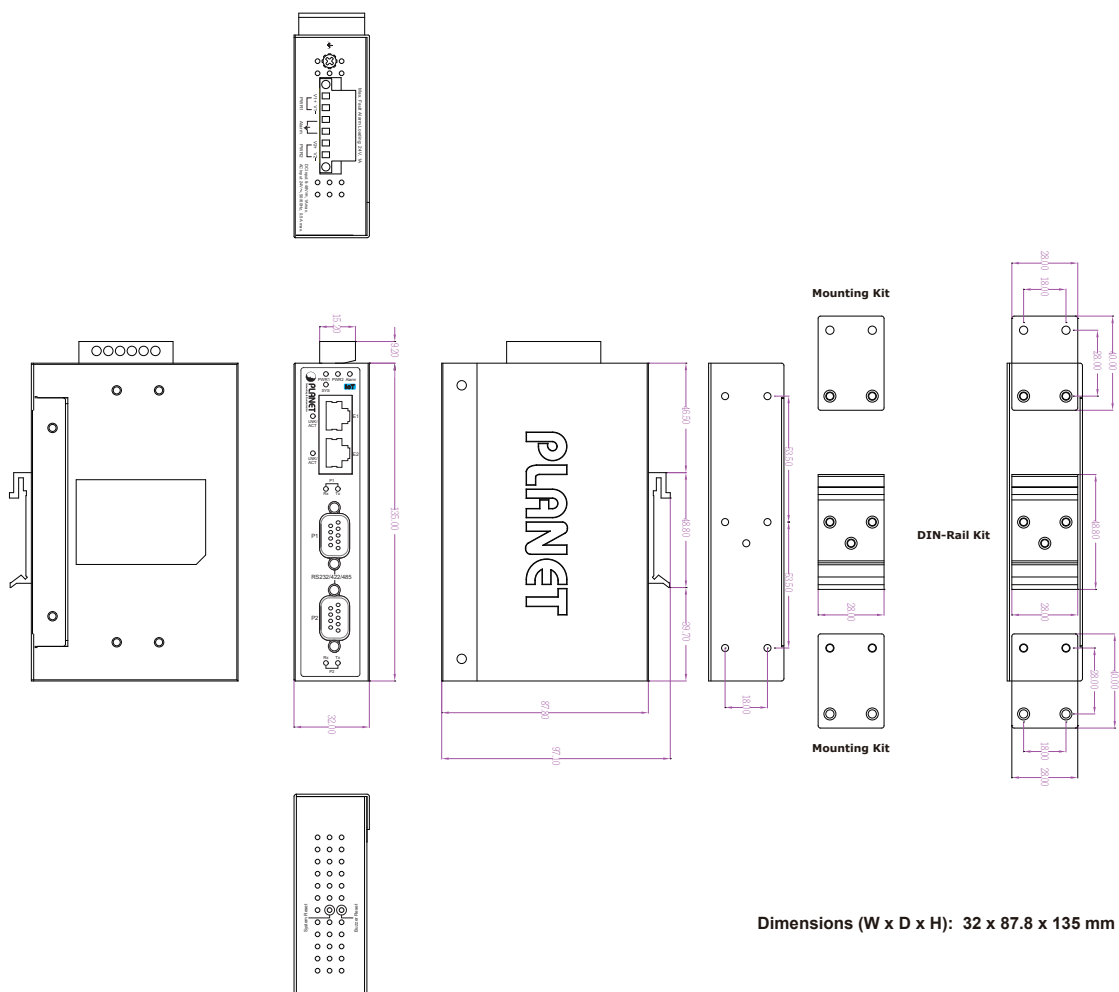
Dimensions (W x D x H): 32 x 87.8 x 135 mm

■ ICS-3105AT

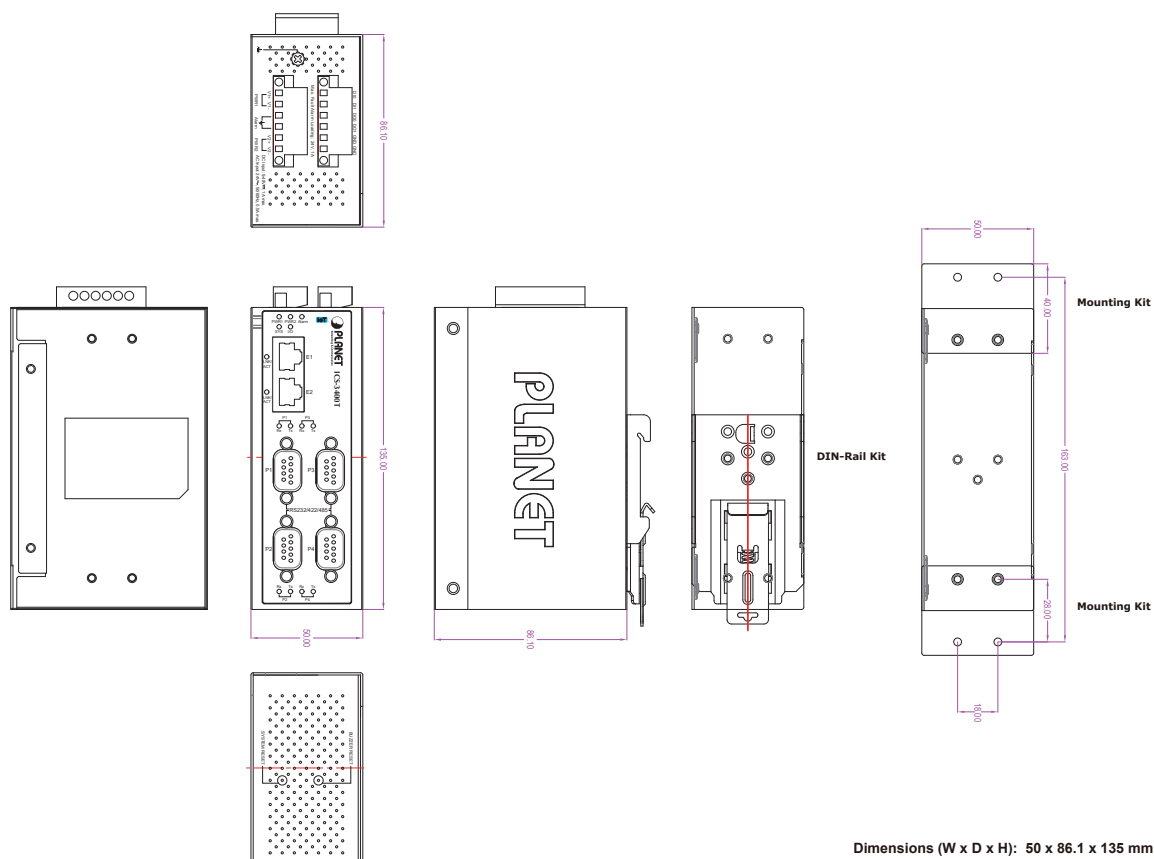


Dimensions (W x D x H): 32 x 87.8 x 135 mm

■ ICS-3200T



■ ICS-3400T



Ordering Information

ICS-3100T	IP30 Industrial 1-Port RS-232/RS-422/RS-485 Serial Device Server
ICS-3105AT	IP30 Industrial 1-Port RS-232/RS-422/RS-485 Serial Device Server with 1-Port 100FX SFP
ICS-3200T	IP30 Industrial 2-Port RS-232/RS-422/RS-485 Serial Device Server
ICS-3400T	IP30 Industrial 4-Port RS-232/RS-422/RS-485 Serial Device Server

Related Products

IMG-3100T	IP30 Industrial 1-Port RS-232/RS-422/RS-485 Modbus Gateway
IMG-3105AT	IP30 Industrial 1-Port RS-232/RS-422/RS-485 Modbus Gateway with 1-Port 100FX SFP
IMG-3200T	IP30 Industrial 2-Port RS-232/RS-422/RS-485 Modbus Gateway
IMG-3400T	IP30 Industrial 4-Port RS-232/RS-422/RS-485 Modbus Gateway

PLANET Technology Corporation

11F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231,
Taiwan (R.O.C.)

Tel: 886-2-2219-9518

Email: sales@planet.com.tw

Fax: 886-2-2219-9528

www.planet.com.tw



ICS-3100T/ICS-3105AT/ICS-3200T/ICS-3400Tv1.1

PLANET reserves the right to change specifications without prior notice. All brand names and trademarks are property of their respective owners. Copyright © 2026 PLANET Technology Corp. All rights reserved.