

IEC61850 / IEEE1613

Media Conversion Products for the Grids and Substations

Serial Device Servers

04

- Serial to Ethernet
- Serial to Wireless
- Fiber Modem

Selection Guide

Serial to Ethernet Solutions

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Serial to Ethernet Solutions

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Selection Guide / Serial Device Servers



Serial to Ethernet >>				
Model Name	FT5702	SE6300	SE5300	SE6100
Ethernet Interface				
Max. 10/100 BASE-TX	2	2	2	1
Max. 100 BASE-FX	2	2	2	1
1.5KV Managetetic Isolation	√	√	√	√
Ethernet Redundancy	√	√	√	-
Serial Interface				
RS-232/422/485	2	4	4	1
RS-422/485	-	2	2	1
Connector Type	DB9	DB9 / RJ50 / TB	DB9 / RJ50 / TB	DB9 / TB
ESD Protection	√	√	√	√
2KV Serial Line Isolation	-	SE6320	SE5320	SE6110
Speed	50bps - 460.8kbps	50bps - 460.8kbps	50bps - 460.8kbps	50bps - 460.8kbps
Software				
Operaion Modes	Self-Healing Ring	TCP, UDP, Pair Connection		
COM Driver Support	-	Windows 2000/XP/2003		
Configuration Options	Console	Web, Telnet Console, SNMP		
Machanical				
Casing	aluminum	aluminum	aluminum	aluminum
Installation*	D, P	D, P	D, P	D, P
Dimensions (WxHxD)	100x125x30	100x125x30	100x125x30	70x110x30
Power Input				
No. of Power Input	2	3	3	2
Terminal Block	12 - 32VDC	12 - 32VDC	12 - 32VDC	12 - 32VDC
DC Jack	-	12VDC	12VDC	12VDC
Operating Temperature				
0°C to 45°C	-	-	-	-
-10°C to 60°C	√	-	√	-
-25°C to 70°C	-	√	-	-
-25°C to 75°C	-	-	-	√ (Fiber)
-34°C to 75°C	-	-	-	√ (Copper)
-40°C to 75°C	-	-	-	-
Regulatory Approvals				
CE / FCC	√	√	√	√
VCCI	√	√	√	√
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* D: DIN-Rail Mounting, P: Panel Mounting, R: Rack Mounting, W: Wall Mounting

Selection Guide / Serial Device Servers



Serial to Ethernet >>		
Model Name	SE5100	TS900
Ethernet Interface		
Max. 10/100 BASE-TX	1	1
Max. 100 BASE-FX	1	1
1.5KV Managetetic Isolation	√	√
Ethernet Redundancy	-	-
Serial Interface		
RS-232/422/485	1	1
RS-422/485	1	-
Connector Type	DB9 / TB	DB9
ESD Protection	√	√
2KV Serial Line Isolation	SE5110	-
Speed	50bps - 460.8kbps	600bps - 230.4kbps
Software		
Operaion Modes	TCP, UDP, Pair Connection	TCP, UDP
COM Driver Support	Windows 2000/XP/2003	-
Configuration Options	Web, Telnet Console, SNMP	Web, Telnet Console, Serial Console
Machanical		
Casing	aluminum	aluminum
Installation*	D, P	D, W
Dimensions (WxHxD)	70x110x30	80.3x109.2x23.8
Power Input		
No. of Power Input	2	1
Terminal Block	12 - 32VDC	12VDC
DC Jack	12VDC	12VDC
Operating Temperature		
0°C to 45°C	-	-
-10°C to 60°C	√	-
-25°C to 70°C	-	-
-25°C to 75°C	-	-
-34°C to 75°C	-	-
-40°C to 75°C	-	√
Regulatory Approvals		
CE / FCC	√	√
VCCI	√	√
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* D: DIN-Rail Mounting, P: Panel Mounting, R: Rack Mounting, W: Wall Mounting

Ethernet Switches
Media Converters
Ethernet Extenders
Serial Device Servers
Accessories

FT5702 Series

Industrial 2-port RS232/422/485 Self-Healing Ring Fiber Modem



Value

- › Self-Healing Ring offers the reliability of uninterrupted serial to Ethernet communications
- › Easy and reliable solution for bridging your serial based equipment to Fast Ethernet networks
- › DNP 3.0 transparency

Features

- › Supports 2 ports configurable RS-232/422/485
- › Provides Self-Healing Ring feature to prevent network interruption
- › Offers single-mode and multi-mode and SC, ST, WDM fiber optic options for both LAN ports
- › Equipped two terminal block power inputs ensure the continuous electrical stability
- › Supports DNP3.0 protocol transparency
- › Aluminum housing with Panel and DIN-Rail mounting brings more installation flexibility
- › 64KB port buffer prevents data loss when temporarily connection fails
- › Informs user by relay output in case of any disconnection
- › Simple Master/Local Configuration by DIP switch selection

Ordering Information

FT5702-2XT 2-port RS-232/422/485 Self-Healing Ring Fiber Modem with 2-port 100BASE-FX

100FX Fiber Options :

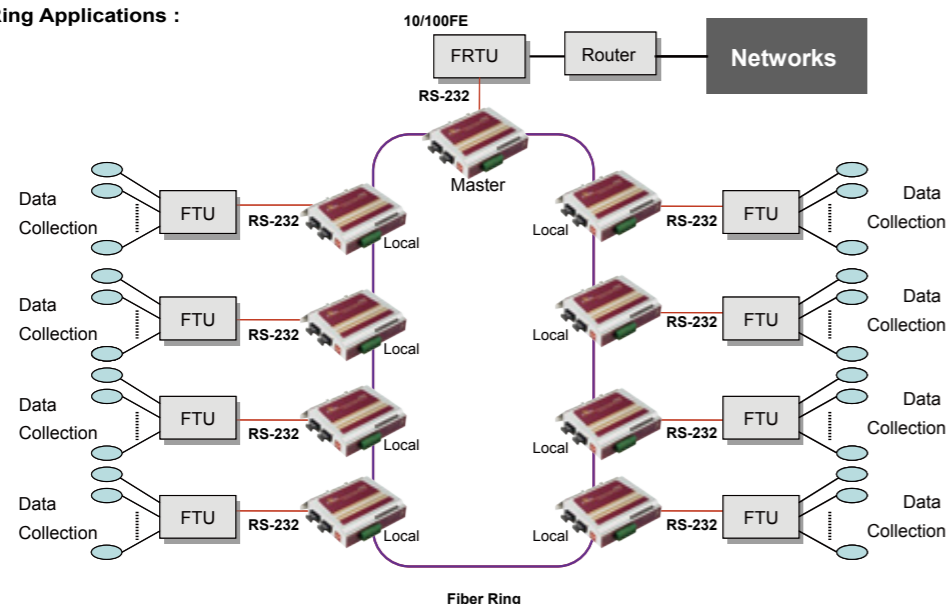
- (X) = 1 : Multi Mode (SC)
- 2 : Multi Mode (ST)
- A : Single Mode (SC) - 20Km
- B : Single Mode (SC) - 40Km
- H : Single Mode (ST) - 20Km

Power Supply : (Optional)

*Option A - The Terminal Block type external power supplies are not included. Please order the following part numbers:

DR-30-24, DR-60-24, DR-75-24, DR-120-24 or 41-136046-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

Self-Healing Ring Applications :

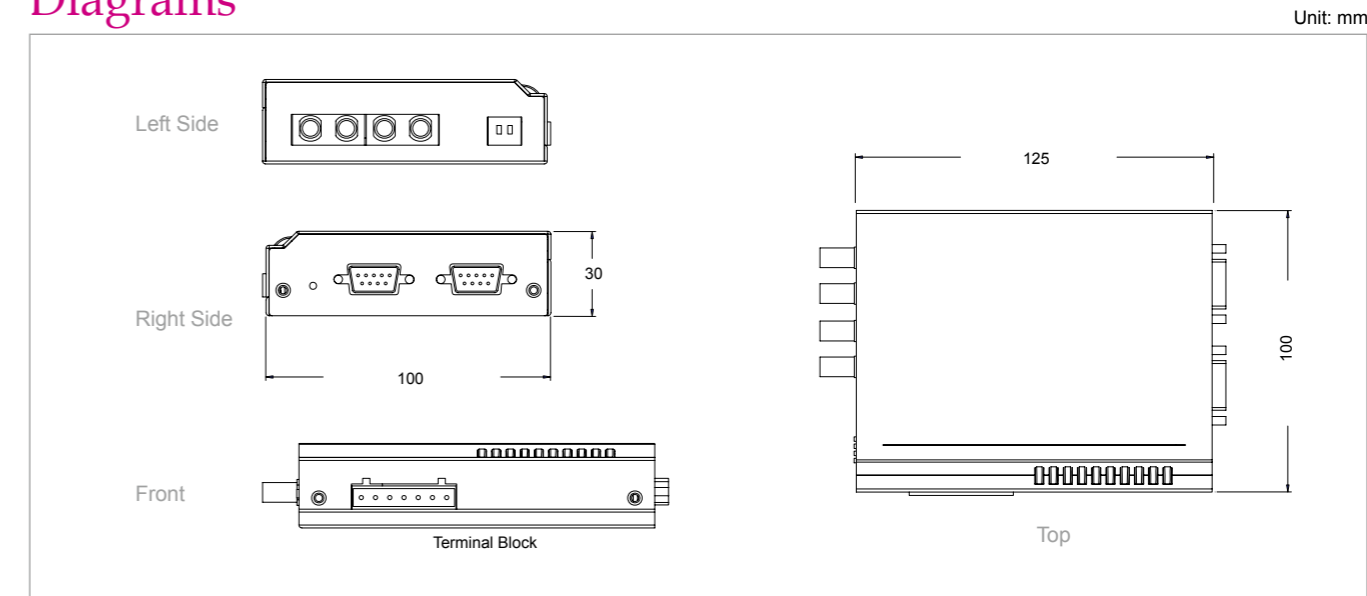


Specifications

Technology	
Serial Port	<ul style="list-style-type: none"> • Interface: RS-232/422/485 • Connector: DB9, Male • Line Protection: 15KV ESD
Serial Communication Parameters	<ul style="list-style-type: none"> • Parity: None, Even, Odd, Space, Mark • Data Bits: 5, 6, 7, 8 • Stop Bit: 1, 1.5, 2 • Flow Control: None, RTS/CTS, Xon/Xoff • Speed: 50 bps to 460.8 Kbps
Operation mode	• Self-Healing Ring
Management	• Console management by Port 1, when setting at Master Mode
Port Buffer	• 64K Bytes
Power	
Input	• Input Voltage: 12 to 32VDC (Terminal Block)
Power Consumption	• 4.32W Max. 0.36A @ 12VDC, 0.18A @ 24VDC
Connector	• Terminal Block
Mechanical	
Casing	• Aluminum Case
Dimensions	• 100mm (W) x 125mm (D) x 30 mm(H) (3.94" (W) x 4.92" (D) x 1.18" (H))
Weight	• 0.3kg (0.66 lb)
Installation	• DIN-Rail, Panel Mounting

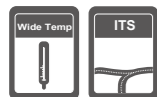
Interface	
Ethernet Port	<ul style="list-style-type: none"> • Interface: 100BASE-FX • Connector: SC, ST Type (100BASE-FX) • Isolation: Built-in 1.5KV magnetic isolation
Serial Port	• DB9- RS232/422/485: 2 port
LED Indicators	<ul style="list-style-type: none"> • Per Unit: Power Status (Power 1, Power 2), Status, Master Local/Sub-master, Fault • Per Port: Ethernet: LAN1, LAN2 Serial: Port1-TX/RX, Port2-TX/RX
Environment	
Operating Temperature	• -10°C to 60°C (14°F to 140°F)
Storage Temperature	• -20°C to 85°C (-4°F to 185°F)
Ambient Relative Humidity	• 5% to 95% non-condensing
Regulatory Approvals	
Emission Compliance	<ul style="list-style-type: none"> • CE Mark Class A • FCC Part 15 Class A • VCCI Class A

Diagrams



SE6300 Series

Hardened 2/4 ports Serial Device Server



Value

- ▶ Best hardened model for serial to Ethernet data transmission with various communication modes
- ▶ Serial interface with optical isolation protection is available
- ▶ Wide operation temperature specification supports harsh environment applications
- ▶ Redundant Ethernet interfaces prevents Ethernet interruption

Features

- ▶ Supports 2 or 4 ports of RS-232/422/485 serial communication
- ▶ Equipped with 2KV optical isolation protection and 15KV ESD surge protection of serial interfaces
- ▶ Dual LAN Ports design for redundant Ethernet connection
- ▶ Supports RJ45 and single-mode/multi-mode fiber optics through SC and ST fiber connector
- ▶ 512KB port buffer prevents data loss when connection fails
- ▶ Alarm by Relay Output for Loss of Ethernet Connection
- ▶ Supports Virtual COM, TCP server, TCP client, UDP, and Pair Connection
- ▶ Multiple configuration interfaces: Web, Telnet console, SNMP and windows-based utility
- ▶ Both Terminal Block and latch secure DC Jack power inputs are provided for flexible power connectivity
- ▶ Redundant power inputs to avoid unexpected electrical failure
- ▶ Aluminum housing with flexible installation by DIN-Rail, panel and wall mounting

Ordering Information

SE6302-00B	2-port RS-232/422/485 Serial Device Server with 2-port 10/100BASE-TX
SE6302-1XB	2-port RS-232/422/485 Serial Device Server with 1-port 10/100BASE-TX and 1-port 100BASE-FX
SE6302-2XB	2-port RS-232/422/485 Serial Device Server with 2-port 100BASE-FX
SE6304-00B	4-port RS-232/422/485 Serial Device Server with 2-port 10/100BASE-TX
SE6304-1XB	4-port RS-232/422/485 Serial Device Server with 1-port 10/100BASE-TX and 1-port 100BASE-FX
SE6304-2XB	4-port RS-232/422/485 Serial Device Server with 2-port 100BASE-FX
SE6320-00B	2-port isolated RS-422/485 Serial Device Server with 2-port 10/100BASE-TX
SE6320-1XB	2-port isolated RS-422/485 Serial Device Server with 1-port 10/100BASE-TX and 1-port 100BASE-FX
SE6320-2XB	2-port isolated RS-422/485 Serial Device Server with 2-port 100BASE-FX

100FX Fiber Options :

- (X) = 1 : Multi Mode (SC)
 2 : Multi Mode (ST)
 A : Single Mode (SC) - 20Km
 B : Single Mode (SC) - 40Km
 H : Single Mode (ST) - 20Km

Power Supply : (Optional)

- *Option A - The Terminal Block type external power supplies are not included. Please order the following part numbers:
DR-30-24, DR-60-24, DR-75-24, DR-120-24 or 41-136046-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP
- **Option B - The external power adapters and power cords are not included. Please order the following part numbers:
41-136044-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

Installation Type : DIN-Rail (mounting kit included)

Optional Panel mount kit, part number: **KP-AA51**

Connection Cable : (Optional)

10-pin RJ50 to male DB9, 180cm Cable: **CS-50M9-180** 10-pin RJ50 to female DB9, 180cm Cable: **CS-50F9-180**



Specifications

Technology	
Serial Port	<ul style="list-style-type: none"> Interface: RS-232/422/485 Connector: RJ50 for 4-port RS-232/422/485 DB9 for 2-port RS-232/422/485 (Male) Terminal Block for isolated RS-422/485 Line Protection: 15KV ESD Isolation: 2KV (SE6320)
Serial Communication Parameters	<ul style="list-style-type: none"> Parity: None, Even, Odd, Space, Mark Data Bits: 5, 6, 7, 8 Stop Bit: 1, 1.5, 2 Flow Control: None, RTS/CTS, Xon/Xoff Speed: SE6304 & SE6302, 50 bps to 460.8Kbps SE6320, 50 bps to 230.4Kbps
Protocols	<ul style="list-style-type: none"> ICMP, IP, TCP, UDP, DHCP client, Telnet, DNS, SNMPv2, HTTP, SMTP, SNTP, ARP, RARP, RFC2217
Operation mode	<ul style="list-style-type: none"> Virtual COM, TCP server, TCP client, UDP, Pair Connection
OS Driver Support	<ul style="list-style-type: none"> Windows 2000/XP/2003 COM driver
Management	<ul style="list-style-type: none"> Web, Telnet console, SNMP
Port Buffer	<ul style="list-style-type: none"> 512K bits

Power	
Input	<ul style="list-style-type: none"> Input Voltage: 12 to 32VDC (Terminal Block); 12VDC (DC Jack)
Power Consumption	<ul style="list-style-type: none"> 4.32W Max. 0.36A @ 12VDC, 0.18A @ 24VDC
Connector	<ul style="list-style-type: none"> Terminal Block and DC Jack with latch

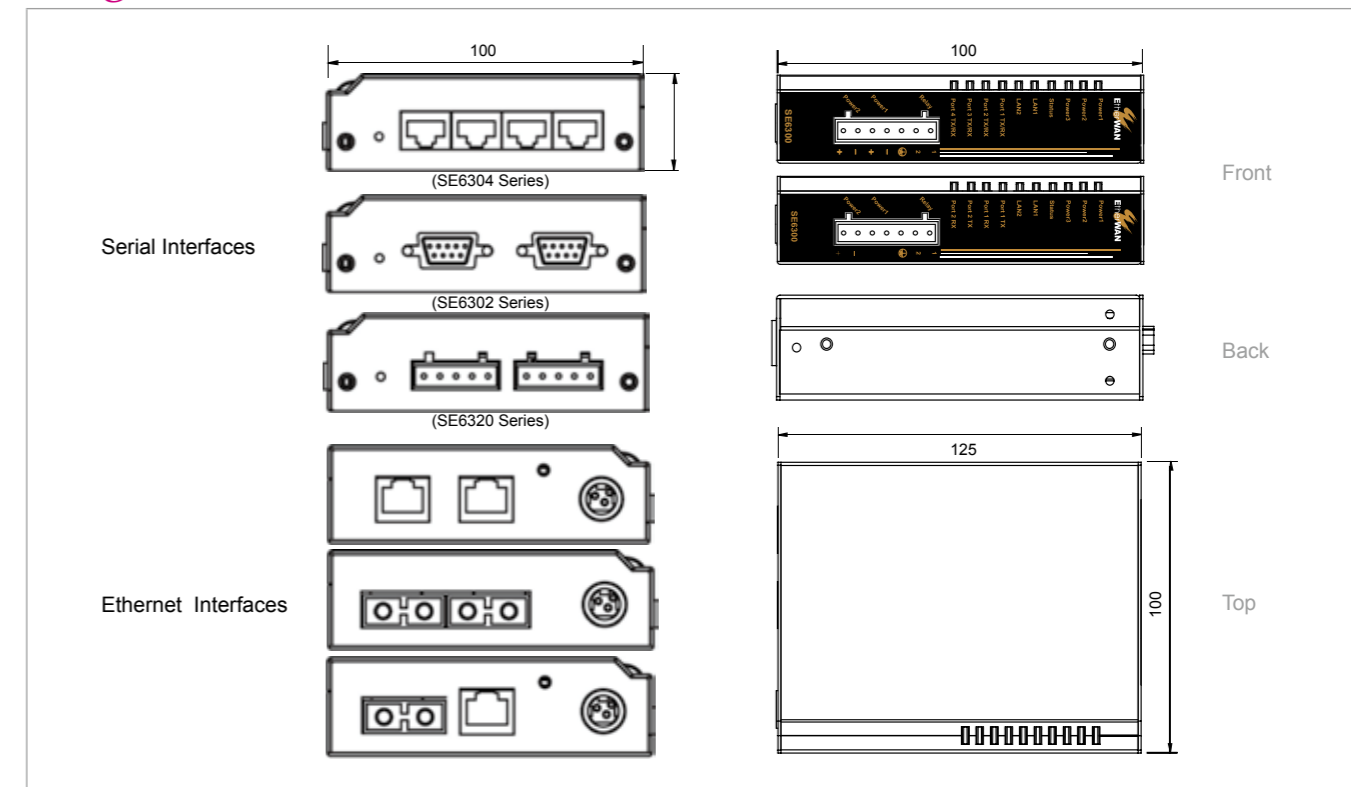
Mechanical	
Casing	<ul style="list-style-type: none"> Aluminum case
Dimensions	<ul style="list-style-type: none"> 100mm (W) x 125mm (D) x 30mm(H) (3.94" (W) x 4.92" (D) x 1.18" (H))
Weight	<ul style="list-style-type: none"> 0.3kg (0.66 lb)
Installation	<ul style="list-style-type: none"> DIN-Rail (Top hat type 35mm), Panel Mounting

Interface	
Ethernet Port	<ul style="list-style-type: none"> Interface: 10/100BASE-TX; 100BASE-FX Connector: RJ45 (10/100BASE-TX); SC, ST Type (100BASE-FX) Isolation: Built-in 1.5KV magnetic isolation
Serial Port	<ul style="list-style-type: none"> RJ50- RS232/422/485: 4-port or DB9- RS232/422/485: 2-port or 5Pin Terminal Block (Isolation version) - RS422/485: 2-port
LED Indicators	<ul style="list-style-type: none"> Per Unit: Power Status (Power 1, Power 2), Status Local/Sub-master, Fault Per Port: Ethernet: LAN1, LAN2 Serial: Port1 TX, Port1 RX, Port2 TX, Port2 RX Port1 TX/RX, Port2 TX/RX, Port3 TX/RX, Port4 TX/RX for RJ50 Interface Version

Environment	
Operating Temperature	<ul style="list-style-type: none"> -25°C to 70°C (-13°F to 158°F)
Storage Temperature	<ul style="list-style-type: none"> -25°C to 85°C (-13°F to 185°F)
Ambient Relative Humidity	<ul style="list-style-type: none"> 5% to 95% non-condensing

Regulatory Approvals	
Emission Compliance	<ul style="list-style-type: none"> CE Mark Class A FCC Part 15 Class A VCCI Class A

Diagrams



Ethernet Switches
Media Converters
Ethernet Extenders
Serial Device Servers
Accessories

SE5300 Series

Industrial 2/4 ports Serial Device Server



Value

- ▶ Best industrial model for serial to Ethernet data transmission with various communication modes
- ▶ Serial interface with optical isolation protection is available
- ▶ Redundant Ethernet interfaces prevents Ethernet interruption

Features

- ▶ Supports 2 or 4 ports of RS-232/422/485 serial communication
- ▶ Equipped with 2KV optical isolation protection and 15KV ESD surge protection of serial interfaces
- ▶ Dual LAN Ports for redundant Ethernet connection
- ▶ Supports RJ45 and single-mode/multi-mode fiber optics through SC and ST fiber connector
- ▶ 512KB port buffer prevents data loss when connection fails
- ▶ Alarm by Relay Output for Loss of Ethernet Connection
- ▶ Supports Virtual COM, TCP server, TCP client, UDP, and Pair Connection
- ▶ Multiple configuration interfaces: Web, Telnet console, SNMP and windows-based utility
- ▶ Both Terminal Block and latch secure DC Jack power inputs are provided for flexible power connectivity
- ▶ Redundant power inputs designs to avoid unexpected electrical problem
- ▶ Aluminum housing with flexible installation design by DIN-Rail, panel and wall mounting

Ordering Information

SE5302-00B	2-port RS-232/422/485 Serial Device Server with 2-port 10/100BASE-TX
SE5302-1XB	2-port RS-232/422/485 Serial Device Server with 1-port 10/100BASE-TX and 1-port 100BASE-FX
SE5302-2XB	2-port RS-232/422/485 Serial Device Server with 2-port 100BASE-FX
SE5304-00B	4-port RS-232/422/485 Serial Device Server with 2-port 10/100BASE-TX
SE5304-1XB	4-port RS-232/422/485 Serial Device Server with 1-port 10/100BASE-TX and 1-port 100BASE-FX
SE5304-2XB	4-port RS-232/422/485 Serial Device Server with 2-port 100BASE-FX
SE5320-00B	2-port isolated RS-422/485 Serial Device Server with 2-port 10/100BASE-TX
SE5320-1XB	2-port isolated RS-422/485 Serial Device Server with 1-port 10/100BASE-TX and 1-port 100BASE-FX
SE5320-2XB	2-port isolated RS-422/485 Serial Device Server with 2-port 100BASE-FX

100FX Fiber Options :

- (X) = 1 : Multi Mode (SC)
 2 : Multi Mode (ST)
 A : Single Mode (SC) - 20Km
 B : Single Mode (SC) - 40Km
 H : Single Mode (ST) - 20Km

Power Supply : (Optional)

*Option A - The Terminal Block type external power supply are not included. Please order the following part numbers:
DR-30-24, DR-60-24, DR-75-24, DR-120-24 or 41-136046-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

**Option B - The external power adapter and power cord are not included. Please order the following part numbers:
41-136044-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

Installation Type : DIN-Rail (mounting kit is included)

Optional Panel mount kit, part number: **KP-AA51**



Connection Cable : (Optional)

10-pin RJ50 to male DB9, 180cm Cable: **CS-50M9-180**



10-pin RJ50 to female DB9, 180cm Cable: **CS-50F9-180**



Specifications

Technology	
Serial Port	<ul style="list-style-type: none"> Interface: RS-232/422/485 Connector: RJ50 for 4-port RS-232/422/485 DB9 for 2-port RS-232/422/485 (Male) Terminal Block for isolated RS-422/485 Line Protection: 15KV ESD Isolation: 2KV (SE5320)
Serial Communication Parameters	<ul style="list-style-type: none"> Parity: None, Even, Odd, Space, Mar Data Bits: 5, 6, 7, 8 Stop Bit: 1, 1.5, 2 Flow Control: None, RTS/CTS, Xon/Xoff Speed: SE5304 & SE5302, 50 bps to 460.8Kbps SE5320, 50 bps to 230.4Kbps
Protocols	<ul style="list-style-type: none"> ICMP, IP, TCP, UDP, DHCP client, Telnet, DNS, SNMPv2, HTTP, SMTP, SNT, ARP, RARP, RFC2217
Operation mode	<ul style="list-style-type: none"> Virtual COM, TCP server, TCP client, UDP, Pair Connection
OS Driver Support	<ul style="list-style-type: none"> Windows 2000/XP/2003 COM driver
Management	<ul style="list-style-type: none"> Web, Telnet console, SNMP
Port Buffer	<ul style="list-style-type: none"> 512K bits

Power	
Input	<ul style="list-style-type: none"> Input Voltage: 12 to 32VDC (Terminal Block); 12VDC (DC Jack)
Power Consumption	<ul style="list-style-type: none"> 4.32W Max. 0.36A @ 12VDC, 0.18A @ 24VDC
Connector	<ul style="list-style-type: none"> Terminal Block and DC Jack with latch

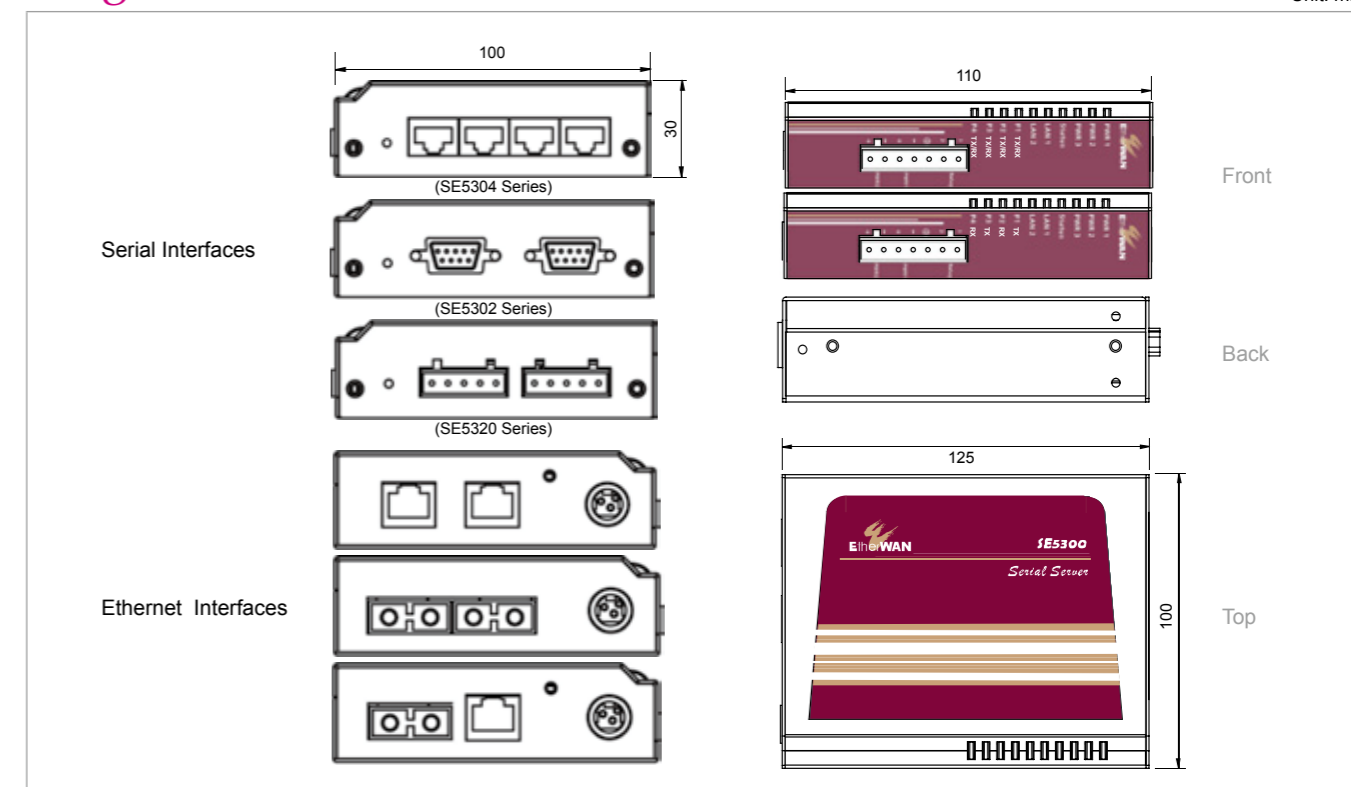
Mechanical	
Casing	<ul style="list-style-type: none"> Aluminum case
Dimensions	<ul style="list-style-type: none"> 100mm (W) x 125mm (D) x 30mm(H) (3.94" (W) x 4.92" (D) x 1.18" (H))
Weight	<ul style="list-style-type: none"> 0.3kg (0.66 lb)
Installation	<ul style="list-style-type: none"> DIN-Rail (Top hat type 35mm), Panel Mounting

Interface	
Ethernet Port	<ul style="list-style-type: none"> Interface: 10/100BASE-TX; 100BASE-FX Connector: RJ45 (10/100BASE-TX); SC, ST Type (100BASE-FX) Isolation: Built-in 1.5KV magnetic isolation
Serial Port	<ul style="list-style-type: none"> RJ50- RS232/422/485: 4 port or DB9- RS232/422/485: 2 port or 5Pin Terminal Block (Isolation version)- RS422/485: 2 port
LED Indicators	<ul style="list-style-type: none"> Per Unit: Power Status (Power 1, Power 2), Status Per Port: Ethernet: LAN1,LAN2 Serial: Port1 TX, Port1 RX, Port2 TX, Port2 RX Port1 TX/RX, Port2 TX/RX, Port3 TX/RX, Port4 TX/RX for RJ50 Interface Version

Environment	
Operating Temperature	<ul style="list-style-type: none"> -10°C to 60°C (14°F to 140°F) Test @ -20°C to 65°C (-4°F to 149°F)
Storage Temperature	<ul style="list-style-type: none"> -20°C to 85°C (-4°F to 185°F)
Ambient Relative Humidity	<ul style="list-style-type: none"> 5% to 95% non-condensing

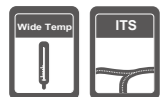
Regulatory Approvals	
Emission Compliance	<ul style="list-style-type: none"> CE Mark Class A FCC Part 15 Class A VCCI Class A

Diagrams



SE6100 Series

Hardened 1-port Serial Device Server



Value

- Best hardened model for serial to Ethernet data transmission with various communication modes
- Serial interface with optical isolation protection is available
- Wide operation temperature specification supports harsh environment applications

Features

- Supports RS-232/422/485 serial communication
- Equipped with 2KV optical isolation protection and 15KV ESD surge protection of serial interfaces
- Supports RJ45 and single-mode/multi-mode fiber optics through SC and ST fiber connector
- 512KB port buffer prevents data loss when connection fails
- Supports Virtual COM, TCP server, TCP client, UDP, and Pair Connection
- Multiple configuration interfaces: Web, Telnet console, SNMP and windows-based utility
- Both Terminal Block and latch secure DC Jack power inputs are provided for flexible power connectivity
- Aluminum housing with flexible installation by DIN-Rail, panel and wall mounting

Ordering Information

SE6101-00B	1-port RS-232/422/485 Serial Device Server with 1-port 10/100BASE-TX
SE6101-1XB	1-port RS-232/422/485 Serial Device Server with 1-port 100BASE-FX
SE6110-00B	1-port isolated RS-422/485 Serial Device Server with 1-port 10/100BASE-TX
SE6110-1XB	1-port isolated RS-422/485 Serial Device Server with 1-port 100BASE-FX

100FX Fiber Options :

- (X) = 1 : Multi Mode (SC)
- 2 : Multi Mode (ST)
- A : Single Mode (SC) - 20Km
- B : Single Mode (SC) - 40Km
- H : Single Mode (ST) - 20Km

Power Supply : (Optional)

*Option A - The Terminal Block type external power supply are not included. Please order the following part numbers:
DR-30-24, DR-60-24, DR-75-24, DR-120-24 or 41-136046-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

**Option B - The external power adapter and power cord are not included. Please order the following part numbers:
41-136044-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

Installation Type : DIN-Rail (mounting kit included)

Optional Panel mount kit, part number: **KP-AA51**

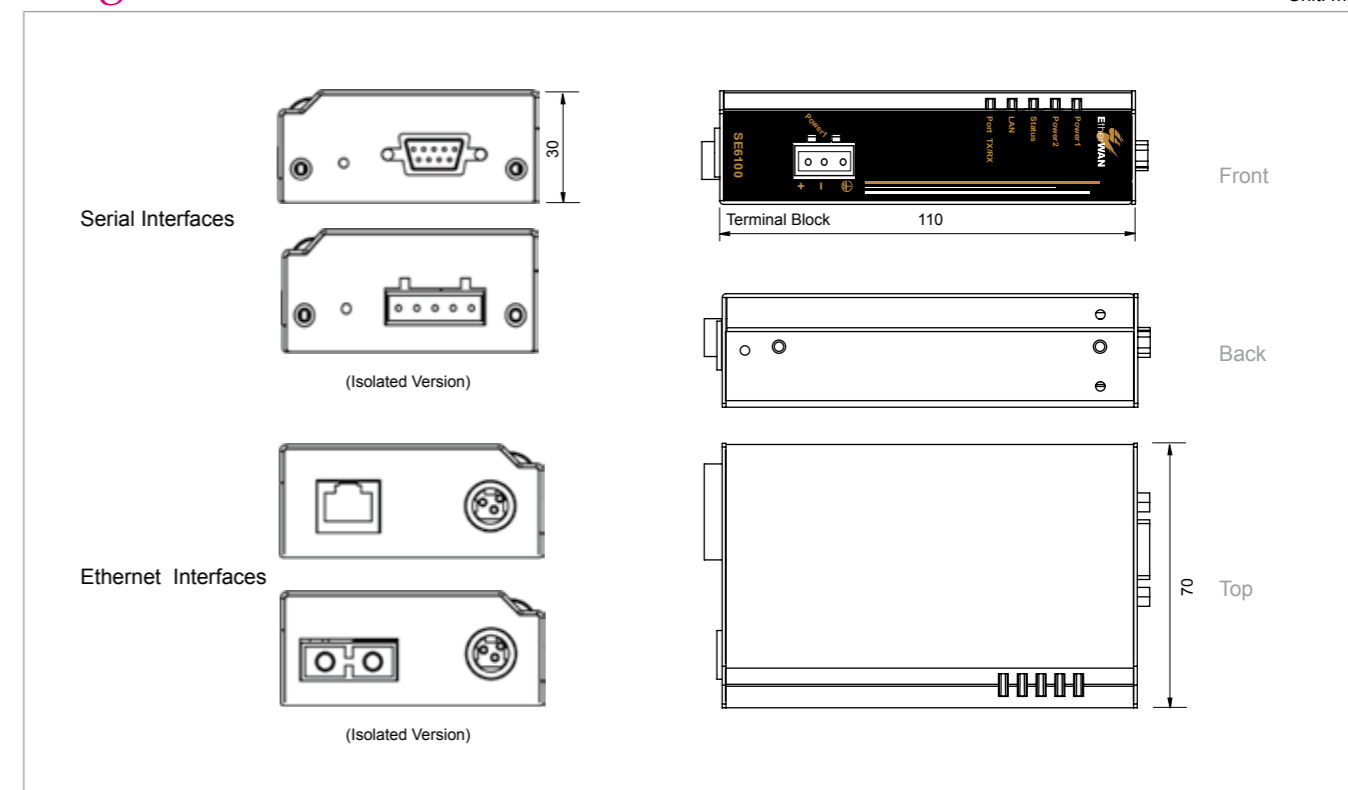


Specifications

Technology	
Serial Port	<ul style="list-style-type: none"> Interface: RS-232/422/485 Connector: DB9 for RS-232/422/485 (Male) Terminal Block for RS-422/485 Line Protection: 15KV ESD Isolation: 2KV (SE6110)
Serial Communication Parameters	<ul style="list-style-type: none"> Parity: None, Even, Odd, Space, Mark Data Bits: 5, 6, 7, 8 Stop Bit: 1, 1.5, 2 Flow Control: None, RTS/CTS, Xon/Xoff Speed: SE6101, 50 bps to 460.8Kbps SE6110, 50 bps to 230.4Kbps
Protocols	<ul style="list-style-type: none"> ICMP, IP, TCP, UDP, DHCP client, Telnet, DNS, SNMPv2, HTTP, SMTP, SNTP, ARP, RARP, RFC2217
Operation mode	<ul style="list-style-type: none"> Virtual COM, TCP server, TCP client, UDP, Pair Connection
OS Driver Support	<ul style="list-style-type: none"> Windows 2000/XP/2003 COM driver
Management	<ul style="list-style-type: none"> Web, Telnet console, SNMP
Port Buffer	<ul style="list-style-type: none"> 512K bits
Power	
Input	<ul style="list-style-type: none"> Input Voltage: 12 to 32VDC (Terminal Block); 12VDC (DC Jack)
Power Consumption	<ul style="list-style-type: none"> 2.88W Max. 0.24A @ 12VDC, 0.12A @ 24VDC
Connector	<ul style="list-style-type: none"> Terminal Block and DC Jack with latch
Mechanical	
Casing	<ul style="list-style-type: none"> Aluminum case
Dimensions	<ul style="list-style-type: none"> 70mm (W) x 110mm (D) x 30 mm(H) (2.76" (W) x 4.33" (D) x 1.18" (H))
Weight	<ul style="list-style-type: none"> 0.25kg (0.55 lb)
Installation	<ul style="list-style-type: none"> DIN-Rail (Top hat type 35mm), Panel Mounting

Interface	
Ethernet Port	<ul style="list-style-type: none"> Interface: 10/100BASE-TX; 100BASE-FX Connector: RJ45 (10/100BASE-TX); SC, ST Type (100BASE-FX) Isolation: Built-in 1.5KV magnetic isolation
Serial Port	<ul style="list-style-type: none"> DB9- RS232/422/485: 1 port or 5Pin Terminal Block (Isolation version) RS422/485: 1 port
LED Indicators	<ul style="list-style-type: none"> Per Unit: Power Status (Power 1, Power 2), Status Per Port: Ethernet: LAN1, Serial: Port TX/RX
Environment	
Operating Temperature	<ul style="list-style-type: none"> 10/100BASE-TX Interface: -34°C to 75°C (-29.2°F to 167°F) 100BASE-FX Interface: -25°C to 75°C (-13°F to 167°F)
Storage Temperature	<ul style="list-style-type: none"> 10/100BASE-TX Interface: -34°C to 85°C (-29.2°F to 185°F) 100BASE-FX Interface: -25°C to 85°C (-13°F to 185°F)
Ambient Relative Humidity	<ul style="list-style-type: none"> 5% to 95% non-condensing
Regulatory Approvals	
Emission Compliance	<ul style="list-style-type: none"> CE Mark Class A FCC Part 15 Class A VCCI Class A

Diagrams



SE5100 Series

Industrial 1-port Serial Device Server



Value

- ▶ Best industrial model for serial to Ethernet data transmission with various communication modes
- ▶ Serial interface with optical isolation protection is available

Features

- ▶ Supports RS-232/422/485 serial communication
- ▶ Equipped with 2KV optical isolation protection and 15KV ESD surge protection of serial interfaces
- ▶ Supports RJ45 and single-mode/multi-mode fiber optics through SC and ST fiber connector
- ▶ 512KB port buffer prevents data loss when connection fails
- ▶ Supports Virtual COM, TCP server, TCP client, UDP, and Pair Connection
- ▶ Multiple configuration interfaces: Web, Telnet console, SNMP and windows-based utility
- ▶ Both Terminal Block and latch secure DC Jack power inputs are provided for flexible power connectivity
- ▶ Aluminum housing with flexible installation by DIN-Rail, panel and wall mounting

Ordering Information

SE5101-00B	1-port RS-232/422/485 Serial Device Server with 1-port 10/100BASE-TX
SE5101-1XB	1-port RS-232/422/485 Serial Device Server with 1-port 100BASE-FX
SE5110-00B	1-port isolated RS-422/485 Serial Device Server with 1-port 10/100BASE-TX
SE5110-1XB	1-port isolated RS-422/485 Serial Device Server with 1-port 100BASE-FX

100FX Fiber Options :

- (X) = 1 : Multi Mode (SC)
 2 : Multi Mode (ST)
 A : Single Mode (SC) - 20Km
 B : Single Mode (SC) - 40Km
 H : Single Mode (ST) - 20Km

Power Supply : (Optional)

- *Option A - The Terminal Block type external power supply are not included. Please order the following part numbers:
DR-30-24, DR-60-24, DR-75-24, DR-120-24 or 41-136046-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP
- **Option B - The external power adapter and power cord are not included. Please order the following part numbers:
41-136044-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

Installation Type : DIN-Rail (mounting kit included)

Optional Panel mount kit, part number: **KP-AA51**



Specifications

Technology	
Serial Port	<ul style="list-style-type: none"> • Interface: RS-232/422/485 • Connector: DB9 for RS-232/422/485 (Male) Terminal Block for RS-422/485 • Line Protection: 15KV ESD • Isolation: 2KV (SE5110)
Serial Communication Parameters	<ul style="list-style-type: none"> • Parity: None, Even, Odd, Space, Mark • Data Bits: 5, 6, 7, 8 • Stop Bit: 1, 1.5, 2 • Flow Control: None, RTS/CTS, Xon/Xoff • Speed: SE5101, 50 bps to 460.8Kbps SE5110, 50 bps to 230.4Kbps
Protocols	<ul style="list-style-type: none"> • ICMP, IP, TCP, UDP, DHCP client, Telnet, DNS, SNMPv2, • HTTP, SMTP, SNTP, ARP, RARP, RFC2217
Operation mode	• Virtual COM, TCP server, TCP client, UDP, Pair Connection
OS Driver Support	• Windows 2000/XP/2003 COM driver
Management	• Web, Telnet console, SNMP
Port Buffer	• 512K bits

Power	
Input	• Input Voltage: 12 to 32VDC (Terminal Block); 12VDC (DC Jack)
Power Consumption	• 2.88W Max. 0.24A @ 12VDC, 0.12A @ 24VDC
Connector	• Terminal Block and DC Jack with latch

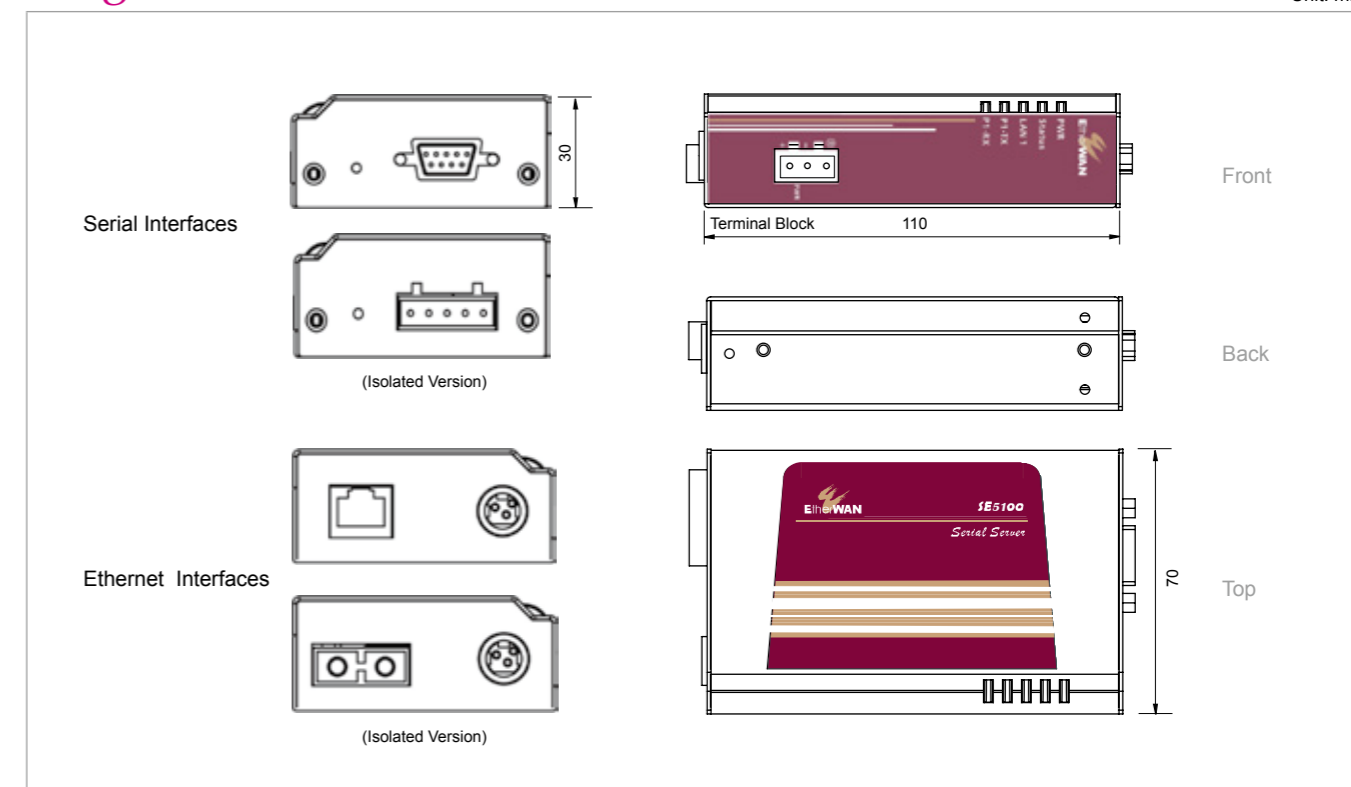
Mechanical	
Casing	• Aluminum case
Dimensions	• 70mm (W) x 110mm (D) x 30 mm(H) (2.76" (W) x 4.33" (D) x 1.18" (H))
Weight	• 0.25kg (0.55 lb)
Installation	• DIN-Rail (Top hat type 35mm), Panel Mounting

Interface	
Ethernet Port	<ul style="list-style-type: none"> • Interface: 10/100BASE-TX; 100BASE-FX • Connector: RJ45 (10/100BASE-TX); SC, ST Type (100BASE-FX) • Isolation: Built-in 1.5KV magnetic isolation
Serial Port	<ul style="list-style-type: none"> • DB9- RS232/422/485: 1-port or • 5Pin Terminal Block (Isolation Version) RS422/485: 1 port
LED Indicators	<ul style="list-style-type: none"> • Per Unit: Power Status (Power 1, Power 2), Status • Per Port: Ethernet: LAN1, Serial: Port TX/RX

Environment	
Operating Temperature	• -10°C to 60°C (14°F to 140°F) Test @ -20°C to 70°C (-4°F to 158°F)
Storage Temperature	• -20°C to 85°C (-4°F to 185°F)
Ambient Relative Humidity	• 5% to 95% non-condensing

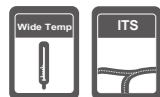
Regulatory Approvals	
Emission Compliance	<ul style="list-style-type: none"> • CE Mark Class A • FCC Part 15 Class A • VCCI Class A

Diagrams



TS900 Series

Hardened 1-port Serial Device Server



Value

- ▶ Hardened operating temperature specification for serial and Ethernet data transmission
- ▶ Provides 3-in-1 RS-232/422/485 serial interfaces

Features

- ▶ Complies with NEMA TS1 & TS2 Environmental requirements for Traffic control equipment
- ▶ Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- ▶ Provides one port 10/100BASE-T/TX auto-negotiation/Auto MDIX with RJ45 connector, or one port Multi Mode with SC/ST/MT-RJ/VF-45/LC fiber connector, or Single Mode SC/ST fiber connector
- ▶ Provides one serial port 4 wire full-duplex asynchronous (RS-422/485) or 2 wire half-duplex asynchronous (RS-485)
- ▶ Complies with IEEE802.3 10BASE-T and IEEE 802.3u 100BASETX, 100BASE-FX standards
- ▶ Complies with EIA/TIA RS-232E, EIA/TIA-574
- ▶ Extended distances up to 1.2Km (0.74mile) (24AWG) using RS-422/485
- ▶ LED Indication: PWR, LINK/ACT, FDX, STATUS (ON - idle, BLINK -Running)
- ▶ -40°C to 75°C (-40°F to 167°F) operating temperature range
- ▶ Supports Din-Rail mounting installation

Ordering Information

DC Jack power input:

TS900RJ	Hardened 1-port RS-232/422/485 to 10/100BASE-TX Serial Device Server
TS900C	Hardened 1-port RS-232/422/485 to 100BASE-FX Multi Mode (SC) Serial Device Server
TS900T	Hardened 1-port RS-232/422/485 to 100BASE-FX Multi Mode (ST) Serial Device Server

Terminal Block power input:

TS930RJ	Hardened 1-port RS-232/422/485 to 10/100BASE-TX Serial Device Server
TS930C	Hardened 1-port RS-232/422/485 to 100BASE-FX Multi Mode (SC) Serial Device Server
TS930T	Hardened 1-port RS-232/422/485 to 100BASE-FX Multi Mode (ST) Serial Device Server

*TS901/TS931 DB25 version series available

*ST fiber available in Single Mode, 20Km

*SC fiber available in Single Mode, 20/40/75/100/120Km

*SC fiber available in WDM

Power Supply : (Optional)

*Option A - The Terminal Block type external power supply are not included. Please order the following part numbers:

41-136046-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

**Option B - The external power adapter and power cord are not included. Please order the following part numbers:

41-136044-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

Specifications

Technology	
Serial Port	<ul style="list-style-type: none"> • Interface: RS-232/422/485 (Software available) • Connector: DB9 for RS-232/422/485 (Female)
Serial Communication Parameters	<ul style="list-style-type: none"> • Parity: None, Even, Odd • Data Bits: 5, 6, 7, 8 • Stop Bit: 1, 2 • Flow Control: None, RTS/CTS, Xon/Xoff • Speed: 600 bps to 230.4 Kbps
Ethernet Port	<ul style="list-style-type: none"> • Interface: 10/100BASE-TX; 100BASE-FX • Connector: R-J45 (10/100BASE-TX); SC, ST type (100BASE-FX)
Protocols	• TCP, IP, UDP, Telnet, DHCP, ICMP, HTTP
Operation mode	• TCP Mode, UDP Mode
Management	<ul style="list-style-type: none"> • Serial Console, Telnet Console, Web Management, • Firmware Upgradeable

Power	
Input	• Input Voltage: 12VDC
Power Consumption	• 2.64W Max. 0.22A @ 12VDC
Connector	• Terminal Block or DC Jack

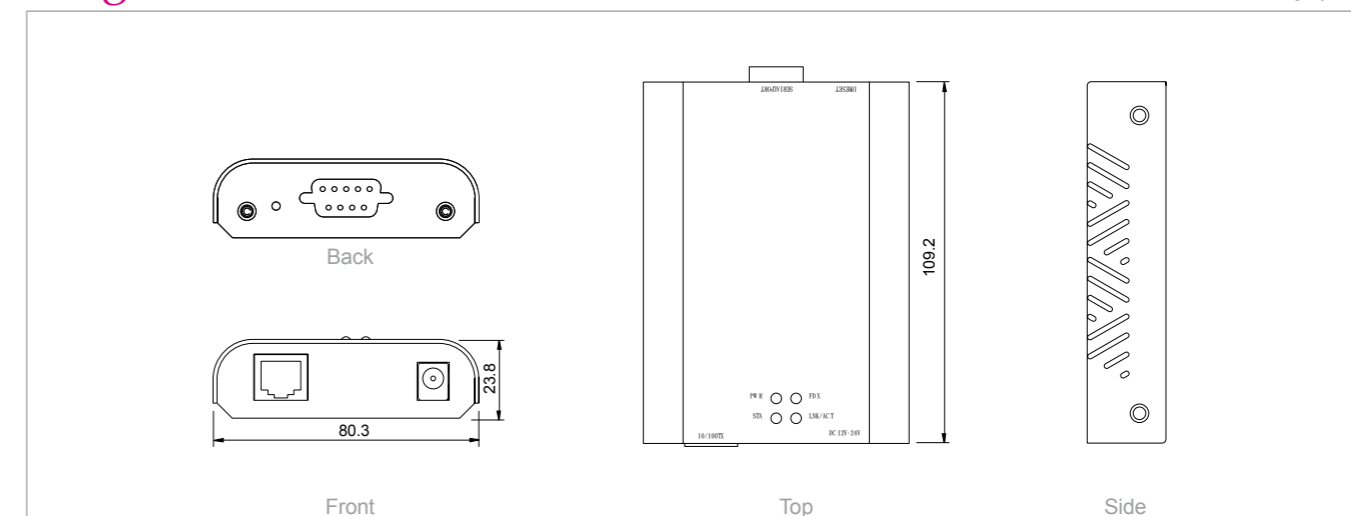
Mechanical	
Casing	• Aluminum case
Dimensions	• 80.3mm (W) x 109.2mm (D) x 23.8mm (H) (3.16" (W) x 4.3" (D) x 0.94" (H))
Weight	• 0.8kg (1.76 lb)
Installation	• DIN-Rail, Wall Mounting

Environment	
Operating Temperature	<ul style="list-style-type: none"> • -40°C to 75°C (-40°F to 167°F) • Tested @ -40°C to 85°C (-40°F to 185°F)
Storage Temperature	• -40°C to 85°C (-40°F to 185°F)
Ambient Relative Humidity	• 5% to 95% non-condensing

Regulatory Approvals

ISO	• Manufactured in an ISO9001 facility
Safety	• UL508
EMI	<ul style="list-style-type: none"> • FCC Part 15, Class A • EN61000-6-3 - EN55022 - EN61000-3-2 - EN61000-3-3
EMS	<ul style="list-style-type: none"> • EN61000-6-2 - EN61000-4-2 (ESD Standards) Contact: + / - 4KV; Criteria B Air: + / - 8KV; Criteria B - EN61000-4-3 (Radiated RFI Standards) 10V/m, 80 to 1000MHz; 80% AM Criteria A EN61000-4-4 (Burst Standards) Signal Ports: + / - 4KV; Criteria B D.C. Power Ports: + / - 4KV; Criteria B - EN61000-4-5 (Surge Standards) Signal Ports: + / - 1KV; Line-to-Line; Criteria B D.C. Power Ports: + / - 0.5KV; Line-to-earth; Criteria B - EN61000-4-6 (Induced RFI Standards) Signal Ports: 10Vrms @ 0.15 - 80MHz; 80% AM Criteria A D.C. Power Ports: 10Vrms @ 0.15 - 80MHz; 80% AM Criteria A - EN61000-4-8 (Magnetic Field Standards) 30A/m @ 50, 60Hz; Criteria A
Environmental Test Compliance	<ul style="list-style-type: none"> • IEC60068-2-6 Fc (Vibration Resistance) 5g @ 10 - 150Hz, Amplitude 0.35mm (Operation/Storage/Transport) • IEC60068-2-27 Ea (Shock) 25g @ 11ms (Half-Sine Shock Pulse; Operation) 50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport) • IEC60068-2-32 Ed (Free Fall) 1M (3.281ft.)

Diagrams



Unit: mm

SW5400 Series

Industrial 1-port Serial to Wireless Device Server



Value

- ▶ Breaking the wire barrier for serial application, supports serial to Ethernet protocol transmission by Wi-Fi communication
- ▶ Compact mechanical design for serial to wireless Ethernet application

Features

- ▶ Supports RS-232/422/485 serial communication
- ▶ 15KV ESD surge protection of serial interfaces
- ▶ Supports IEEE 802.11b/g 54Mbps wireless Ethernet network for flexible Network Environment Design
- ▶ LED's indicator displays wireless signal strength
- ▶ Dual antennas design for various harsh environment network application
- ▶ Built-in Hardware WatchDog timer to monitor and ensure system operation is consistent
- ▶ Supports Virtual COM, TCP server, TCP client, UDP, and Pair Connection
- ▶ Multiple configuration interfaces: console, telnet, built-in web server and windows-based utilities
- ▶ Metal housing with flexible DIN-Rail and panel installation design

Ordering Information

DC Jack power input:

SW5400	Industrial 1-port Serial to Wireless Device Server
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Power Supply : (Optional)

The Terminal Block type external power supplies are not included. Please order the following part numbers:
 DR-30-24, DR-60-24, DR-75-24, DR-120-24 or 41-136046-X (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP

Installation Type : DIN-Rail (mounting kit included)

Optional Panel mount kit, part number: KP-AA54



The 2nd Antenna Type : (Optional)

5dBi Antenna, reverse SMA connector, part number: AN19



7dBi Antenna, reverse SMA connector with 200cm cable, part number: AB94-T



Specifications

Technology	
Serial Port	<ul style="list-style-type: none"> • Interface: RS-232/422/485 • Connector: Terminal Block and Mini Din to DB9 Cable (Male) (Software available) • Line Protection: 12KV ESD
Serial Communication Parameters	<ul style="list-style-type: none"> • Parity: None, Even, Odd, Space, Mark • Data Bits: 5, 6, 7, 8 • Stop Bit: 1, 2 • Flow Control: None, RTS/CTS, Xon/Xoff • Speed: 110 bps to 921.6Kbps
Ethernet Switch Port	<ul style="list-style-type: none"> • Standard Compliance: IEEE802.3, IEEE802.3u • Interface: 10/100BASE-TX • Connector: RJ45 • Protection: Built-in 1.5 KV magnetic isolation
Wireless LAN	<ul style="list-style-type: none"> • Standard Compliance: IEEE802.11b/g • Modulation: CCK, DQPSK, DBPSK, OFDM (802.11g) • TX Power 802.11g: 14dBm / 802.11b: 15dBm • RX Sensitivity: -66dBm @ 54Mbps; -80dBm @ 11Mbps • Transmission Rate: 802.11g up to 54Mbps; 802.11b up to 11Mbps • Transmission Distance: up to 300m (@ 12Mbps, in open areas) • Security: <ul style="list-style-type: none"> - WEP 64-bit/128-bit data encryption - WPA/WPA2-PSK compatible (Supported TKIP / AES encryption) • Antenna Connector: 2 x Reverse SMA • Network Mode: Infrastructure mode, Ad-Hoc mode
Protocols	<ul style="list-style-type: none"> • ICMP, IP, TCP, UDP, DHCP Client, Telnet, DNS, SNMP, HTTP, SMTP, SNTP
Operation mode	<ul style="list-style-type: none"> • Virtual COM, TCP server, TCP client, UDP, Pair Connection
Utilities	<ul style="list-style-type: none"> • Windows utility for Windows 98/2000/XP/2003 • Virtual COM for Windows 98/2000/XP/2003
Management	<ul style="list-style-type: none"> • Web server, Telnet console, Serial Console and Windows-based Utility

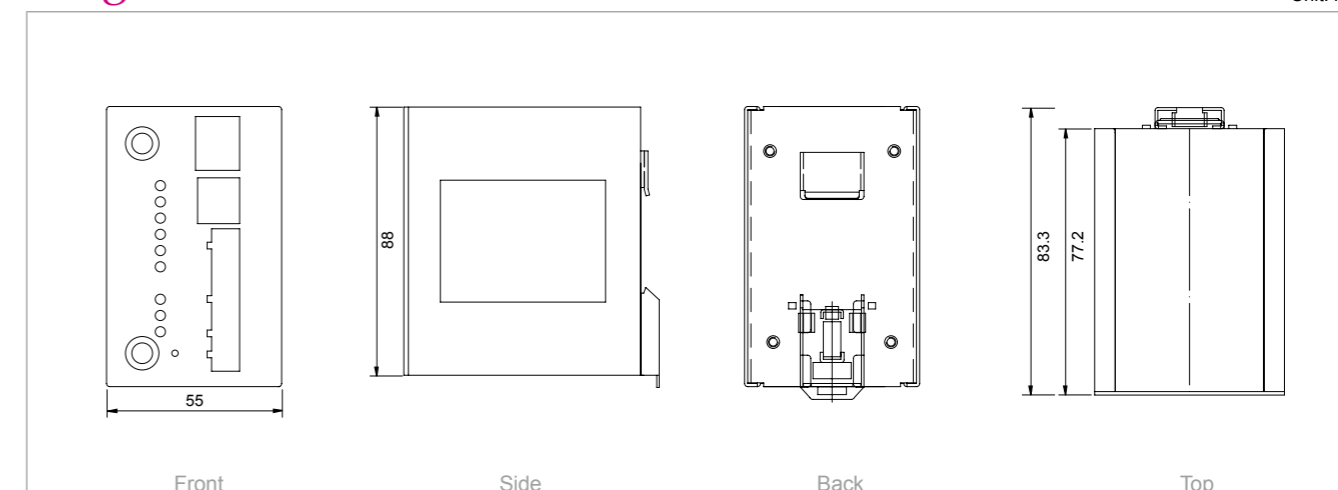
Power	
Input	<ul style="list-style-type: none"> • Input Voltage: 9 to 30VDC
Power Consumption	<ul style="list-style-type: none"> • 4.5W Max. 0.375A @ 12VDC
Connector	<ul style="list-style-type: none"> • Terminal Block

Mechanical	
Casing	<ul style="list-style-type: none"> • Metal case
Dimensions	<ul style="list-style-type: none"> • 55mm (W) x 77.2mm (D) x 88mm (H) (2.17" (W) x 3.04" (D) x 3.46" (H))
Weight	<ul style="list-style-type: none"> • 0.4kg (0.88 lb)
Installation	<ul style="list-style-type: none"> • DIN-Rail (Top hat type 35mm), Wall Mounting

Environment	
Operating Temperature	<ul style="list-style-type: none"> • -10°C to 60°C (14°F to 140°F)
Storage Temperature	<ul style="list-style-type: none"> • -20°C to 85°C (-4°F to 185°F)
Ambient Relative Humidity	<ul style="list-style-type: none"> • 5% to 95% non-condensing

Regulatory Approvals	
Emission Compliance	<ul style="list-style-type: none"> • FCC Class A • CE Class A

Diagrams



Unit: mm