VIOLA systems

ESERV-10S for
SATELLINE Radio
Modems

ESERV-10S
For Satelline Radio Modems

Embedding the Internet™

Viola Systems ESERV-10S is specially designed to be used connecting Ethernet devices together by extending the Ethernet wirelessly.

Instead of a 'socket server' approach the ESERV-10S uses an intelligent bridging principle where the Ethernet frames itself are encapsulated into radio packets and a TCP or UDP connection is formed directly between communicating Ethernet devices.

So it's like a wireless narrow band Ethernet. The packet filtering and proxy ARP features decrease the loading of the radio channel by filtering out unwanted Ethernet data and ARP requests whereas the CRC-16 checksum ensures the filtering out of corrupted frames.

The maximum packet size and inter-packet delays are configurable making it possible to adjust for different radio network configurations. These are especially useful when repeaters are used.

Conventional Ethernet-to-radio converters have used a 'socket server' principle where TCP/IP connection was established between Ethernet device (PC, PLC) and only the data itself was transferred over the radio network. This approach has several drawbacks because it hadn't been designed for narrow band radio network requirements:

• If the data was lost on radio network the sending TCP/IP device did not know about that because socket server had already acknowledged the packet. This means it's never sure if the data was delivered to end device or not
• Only single TCP or UDP connection was formed between Ethernet device and socketserver
• Every socket server must have been configured to use certain TCP or UDP port and IP address
• Every Ethernet-device needed its own socket server
• Radio network properties were not taken into account.

Key Features

- Extends Ethernet with a product specially designed for Satel radio modems

- Using bridging instead of the conventional 'socket server' approach decreases costs and communications errors

- IP fragmentation and ICMP ensures efficient use of radio channel

- CRC-16 checksum on radio channel

Key Features

- Packet filtering disables unwanted packets from loading radio channel

- Internal Proxy ARP decreases load of radio channel

- Allows multiple TCP/IP devices to be controlled on same Ethernet segment

- Use multiple TCP or UDP connections over radio network simultaneously!
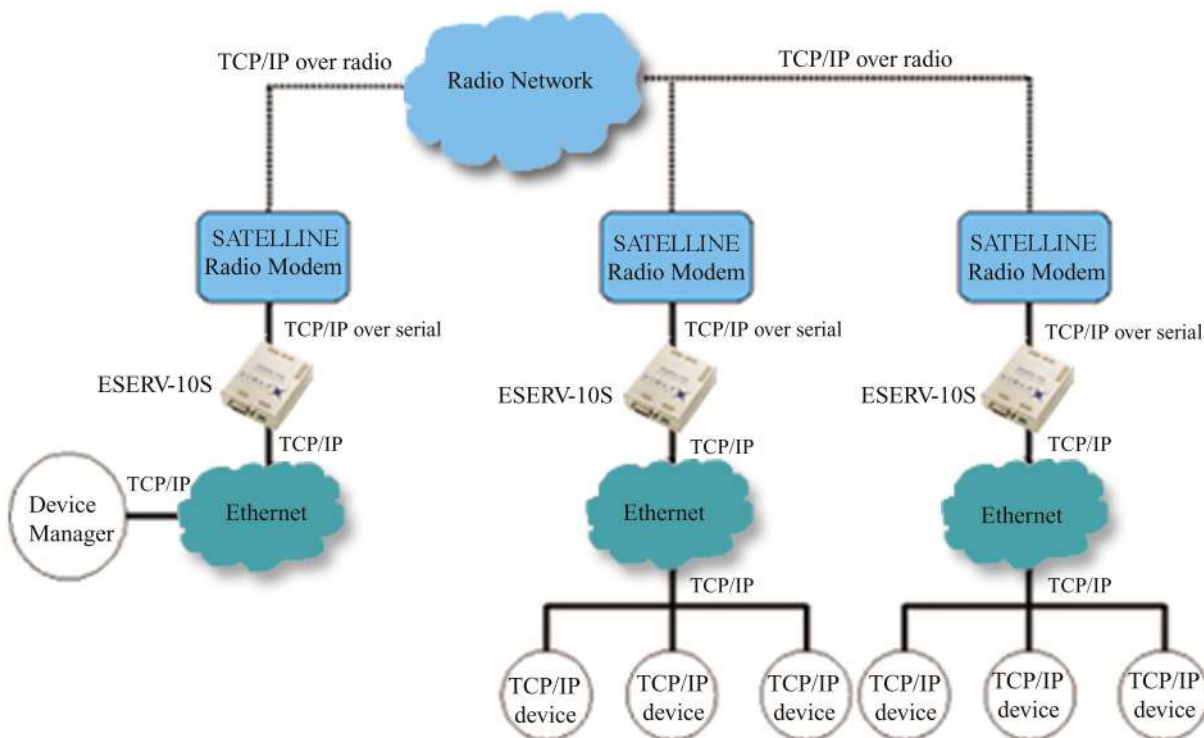
Key Specifications ESERV-10S

Network Interface
Ethernet 2.0/IEEE 802.3
RJ45 Ethernet connector (10Base-T)
Pre-programmed MAC-address

Device Interface
Serial port RS232 (asynchronous)
Male DB9 connector
Variable baud rate 1200-38400 bps

Serial Line Formats
Data bits. 7 or 8
Stop bits: 1 or 2
Parity: even, odd, none

Serial Communication Protocols
SATELLINE Radio Modem
communication

Flow Control
CTS/RTS

System SW
Downloadable over serial port

Diagnostic LEDs
Good link
Activity

Power Requirements
7-24V DC, less than 200 mA

Operating temperature
0 to 70°C (32 to 158°F)

Humidity
5-95%, non condensing

Physical Dimensions
Size: 65 mm x 75 mm x 27 mm
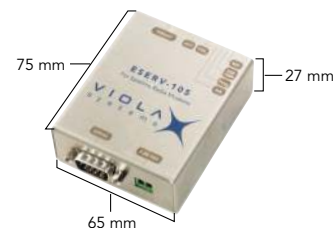(2.559 x 2.953 x 1.063 in)
Stainless steel cover

Mounting
Wall mount plate (stainless steel)

Accessories
DIN-rail attachment clip
115/230VAC power supply

Dimensions

75 mm — 27 mm
65 mm

Ordering Information

ESERV-10S for
SATELLINE Radio Modems

ESERV-10S Starter kit

Ordering Address
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24100 Salo, FINLAND
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