



195 Narrowband

FCC-Licensed Wireless Solutions

Core Values & Key Features

FREQUENCY FLEXIBILITY

Offered in 150-174, 217-200 & 440-470MHz for Exclusive Use and Best Range Flexibility to support your application strategies.



- 195M 150-174MHz - 12.5 Kbps
- 195H 217-220MHz - 50 Kbps
- 195C 440-470MHz - 12.5 Kbps

ADVANCED SECURITY

Enhanced network security featuring AES-128 encryption, stringent access controls.



- AES-128 Encryption
- Proprietary Communication Links
- Network Isolation Strategies

LONG RANGE VARIED SETUPS

Experience RS-232, RS-422, RS-485 Serial or Ethernet Connectivity at maximum range for exceptional outdoor coverage.



- Maximum Coverage Range
- Versatile Mounting: Cabinet or DIN Rail
- Master, Repeater or Remote Modes of Operation

DEMONSTRATED RELIABILITY

Proven, robust technology delivers real-time data access deployed to support your reliability strategies.



- Own your Reliability
- User Defined Communication Routes
- Easy Utility based Configuration

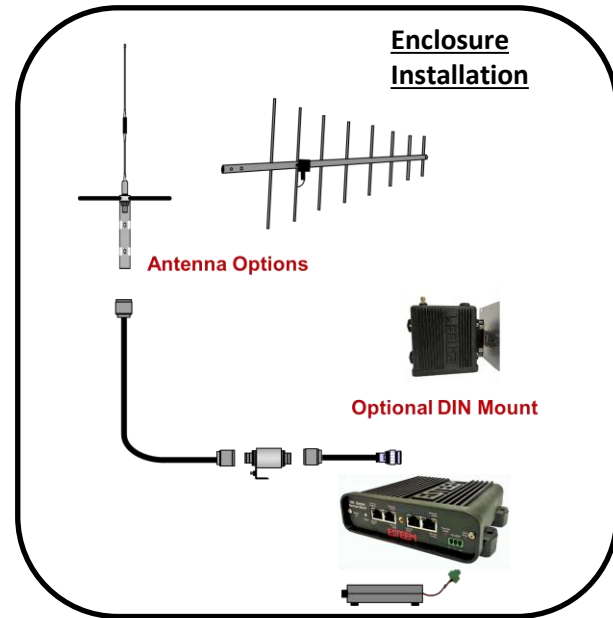
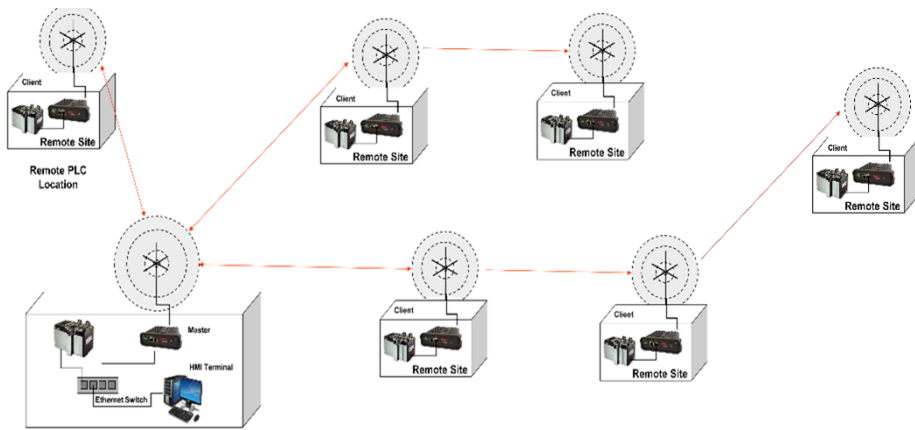
NETWORK VISIBILITY LONGEVITY

Proactive real-time monitoring via ESTEem Utility and/or ModbusTCP enhances wireless network efficiency and security.



- Scalable, Adaptable Network Solutions
- Built-in Full Feature Spectrum Analyzer
- ESTEem 192 Series Backward Compatibility





195 Narrowband Series Specifications

-Transmitter/Receiver-	195M	195H	195C
Frequency of Operation (Software Selectable)	150 - 174 MHz	217 - 220 MHz	440-470 MHz
Frequency Stability, -30C to +60C	+/- 2.5ppm	+/- 0.415ppm	+/- 0.38ppm
Channel Spacing	6.25 & 12.5kHz	6.25, 12.5, 25, & 50kHz	6.25 & 12.5kHz
RF Data Rate	(4.8Kbps @ 6.25kHz) & (12.5Kbps @ 12kHz)	(4.8Kbps @ 6.25kHz), (12.5Kbps @ 12kHz), (25Kbps @ 25kHz), & (50Kbps @ 50kHz)	(4.8Kbps @ 6.25kHz) & (12.5Kbps @ 12kHz)
Tx Output Power (Software Adjustable)	0.5 - 4 Watts	1 or 2 Watts	0.5 - 4 Watts
Tx Output Impedance	50 ohms	50 ohms	50 ohms
Rx Sensitivity	-110 dBm	-110 dBm	-110 dBm
FCC ID	ENPESTEEM195M	ENPESTEEM195H	ENPESTEEM195C
Industry Canada Type Acceptance	2163 192 195M	N/A	2163 192 195C
LED Indicators	Power (On/Off), Status Multi-Color LED (On/Off), Serial & Ethernet Activity Link (On/Off)	Power (On/Off), Status Multi-Color LED (On/Off), Serial & Ethernet Activity Link (On/Off)	Power (On/Off), Status Multi-Color LED (On/Off), Serial & Ethernet Activity Link (On/Off)
-Data Packet Information-			
Radio Addressing	1-254 Total Units, Supports up to 3 repeaters between end-points	1-254 Total Units, Supports up to 3 repeaters between end-points	1-254 Total Units, Supports up to 3 repeaters between end-points
Data Packet Size	1-1500 Bytes	1-1500 Bytes	1-1500 Bytes
Serial Data Interface Buffer Size	8KB TX/RX	8KB TX/RX	8KB TX/RX
-Power Requirements-			
Receive without Ethernet Link	120ma @ 12VDC	120ma @ 12VDC	120ma @ 12VDC
Receive with Ethernet Link	160ma @ 12VDC	160ma @ 12VDC	160ma @ 12VDC
Transmit @ 2 Watts RF Output	1350ma @ 12VDC	1350ma @ 12VDC	1350ma @ 12VDC
Transmit @ 4 Watts RF Output	1540ma @ 12VDC	1540ma @ 12VDC	1540ma @ 12VDC
External DC Power Input	11 - 15VDC @ 2A	11 - 15VDC @ 2A	11 - 15VDC @ 2A
Input/Output Connectors			
Ethernet Port (10/100)	RJ-45 Female	RJ-45 Female	RJ-45 Female
Serial Data Interfaces (One of four selectable)	RJ-45 Female	RJ-45 Female	RJ-45 Female
Antenna Input/Output	TNC Female	TNC Female	TNC Female
External DC Input Connector	Mini-Combicon, 3-pin Female	Mini-Combicon, 3-pin Female	Mini-Combicon, 3-pin Female
-Protocols-			
Serial Data Interface, Master PLC mode protocols supported by auto-digi-repeater function	Allen Bradley DF1, Modbus RTU/ASCII, Opto22, DNPv3, and Transparent	Allen Bradley DF1, Modbus RTU/ASCII, Opto22, DNPv3, and Transparent	Allen Bradley DF1, Modbus RTU/ASCII, Opto22, DNPv3, and Transparent
Ethernet Interface protocols supported for remote access via ARP proxy on Master Gateway Unit	Modbus TCP, ICMP Echo (Ping), Remote Configuration	Modbus TCP, ICMP Echo (Ping), Remote Configuration	Modbus TCP, ICMP Echo (Ping), Remote Configuration
Ethernet Interface protocols (direct access only)	Telnet, IP Configuration, Firmware upgrades	Telnet, IP Configuration, Firmware upgrades	Telnet, IP Configuration, Firmware upgrades
-Mechanical / Environmental-			
Temperature Range	-30° to 60° C	-30° to 60° C	-30° to 60° C
Humidity	95% Non-condensing	95% Non-condensing	95% Non-condensing
Dimensions	1.9"H x 6.7"W x 6.2"L	1.9"H x 6.7"W x 6.2"L	1.9"H x 6.7"W x 6.2"L
Weight	1.25 lbs	1.25 lbs	1.25 lbs
Product Warranty	1 Year	1 Year	1 Year
-Options-			
Mounting	DIN-Mount	DIN-Mount	DIN-Mount
RJ-45 To DB9 Serial Adaptor	AA0621.1	AA0621.1	AA0621.1
RJ-45 To Terminal Block Adaptor	AA066	AA066	AA066
Antennas/Surge Protectors/Cables, etc.	Contact factory for options	Contact factory for options	Contact factory for options
Security	AES-128	AES-128	AES-128