



Product Overview

The EMMS3 Rugged Cable Modem is DOCSIS® 3.0 and EuroDOCSIS™ 3.0 compliant and specially designed for installations where temperatures can be extreme, uncontrolled, and typical of the outside plant in an HFC cable network.

It features a Full-Band Capture (FBC) technology which benefits operators with total bandwidth deployment flexibility. Any frequency can be assigned to a given service removing the block tuner restrictions with wideband tuners. FBC also enables new advanced diagnostic capabilities to minimize truck rolls and reduce service cost, the diagnostic data can be collected, viewed and analyzed either on CPE or remotely for instant customer service analysis.

With the minimum size of DOCSIS 3.0 cable modem module, EMMS3 is ideal for system integrations and applications such as TV, Wi-Fi AP, Small Cells, hand-held devices, power meters, Security Cameras, Set-Top-Box, and etc.

Features

- Designed for DOCSIS® & EURODOCSIS™ specifications
- Eight (8) bonded downstream channels with data rates in excess of 340 Mbps. Optional sixteen (16) bonded downstream channel available.
- Four (4) bonded upstream channels with data rates in excess of 120 Mbps.
- Support for BSOD and L2VPN
- Upstream and Downstream Spectrum Analyzer function
- 10/100/1000 BASE-T auto sensing / auto-MDIX Ethernet port
- Temperature Hardened
- LED status access through specialized pins (connected to GPIO)
- Operating Temperature Range -40 to +85°C
- Small size: 110x65 mm
- 20-pin connector for GPIO, SPI, and UART
- Specialized Electroline Exclusive Protection - "4 tier Watchdogs"
- Optional MCX or SMB connectors instead of diplexer (for separate DS and US)

	DOCSIS®	EURODOCSIS™
RF DOWNSTREAM		
DOCSIS Channel Frequency Range (center)	111 to 999 MHz	112 to 1002MHz
Downstream Frequency Range (edge to edge)	54 to 1002 MHz, 85 to 1002 MHz, 108 to 1002 MHz	85 to 1006 MHz, 108 to 1006MHz
Tuner	Full band capture front end with 8 fully independent digital tuners	
Demodulation	8 or 16 demodulators, 64 QAM or 256 QAM	
Maximum (raw) Data Rate	8 or 16 downstream channels, each 6 MHz channel: 42.88 Mbps for 256 QAM and 30.34 Mbps for 64 QAM	8 or 16 downstream channels, each 8 MHz channel: 55.62 Mbps for 256 QAM and 41.71 Mbps for 64 QAM
Bandwidth per Channel	6MHz	8MHz
Operating Level Range	-15 to +15dBmV	+43 to +73 dBµV for 64 QAM +47 to +77 dBµV for 256 QAM
Input Impedance	75 ohms	
RF UPSTREAM		
Operating Frequency Range (edge to edge)	5 to 42 MHz, 5 to 65 MHz, or 5 to 85 MHz	5 to 65 MHz or 5 to 85 MHz
Upstream Transmission	4 upstream channels	
Modulation	QPSK, 8 QAM, 16 QAM, 32 QAM, 64 QAM at ATDMA Mode QPSK, 8 QAM, 16 QAM, 32 QAM, 64 QAM, 128 QAM at SCDMA mode	QPSK, 8 QAM, 16 QAM, 32 QAM, 64 QAM / ATDMA Mode QPSK, 8 QAM, 16 QAM, 32 QAM, 64 QAM, 128 QAM at SCDMA mode
Maximum (raw) Data Rate per channel	Channel width (MHz) - Raw Data Rate (Mb/s)	Channel width (MHz) - Raw Data Rate (Mb/s)
Modulation		
	QPSK 1.6 2.56	1.6 2.56
	16 QAM 1.6 5.12	1.6 5.12
	QPSK 3.2 5.12	3.2 5.12
	16 QAM 3.2 10.24	3.2 10.24
	32 QAM 3.2 12.8	3.2 12.8
	8 QAM 6.4 15.4	6.4 15.4
	16 QAM 6.4 20.5	6.4 20.5
	32 QAM 6.4 25.6	6.4 25.6
	64 QAM 6.4 30.72	6.4 30.72
ELECTRICAL		
Input Voltage	12 volt DC input to modem (range 5-24 VDC).	
Power Consumption (modem module)	Typical <7 Watts	
Surge Protection (F connector) Ring Wave Combination wave	IEEE C62.41-1991, cat A3 6KV 200A IEEE C62.41-1991, cat B3 6KV 3KA	IEC 61000-4-12, Level 4 (4KV/133A) IEC 61000-4-5, Level 4 (4KV/2KA)
Data Ports	Ethernet 10/100/1000BASE-T (Auto-sensing with Auto-MDIX) RJ-45 Ethernet (1)	
RF Connector	2 SMB, or 2 Mcx or Female "F" type with Diplexer module	
20-pin connector	Provides access to GPIO, SPI and UART. The UART can be used for an HMS interface provided an external RS485 driver is used.	
MECHANICAL		
Dimension (W x D x H)	Not including "F" connector: 110x65x25 mm (3.93x2.56x1 inches)	
Weight	70 gr	
Operating Temperature	-40° to 185°F (-40° to 85°C)	
Operating Humidity	0 to 90% RH non-condensing	
DOCSIS / EuroDOCSIS compatibility	3.0, 2.0, 1.1, 1.0	

*Specifications are subject to change without notice.

For more information on our products, please visit: www.electroline.com or call: 800-461-3344