



Touchstone® DOCSIS® 3.0 8x4 Telephony Modem TM822A/S

Specifications

Physical

Operating Temperature °F (°C)	32 to 122 (0 to 50)
Operating Relative Humidity (Min-Max)	5-95% (non-condensing)
Storage Temperature °F (°C)	-40 to 158 (-40 to 70)
Dimensions (H x W x D) in. (cm)	7.3 x 1.7 x 6.2 (18.5 x 4.3 x 15.8) - excluding F-connector
Weight lbs (kg)	1.0 (0.45)
Diagnostic LEDs	Power, DS, US, Online, Link, Tel 1, Tel 2

Interfaces

RF Interface	External 75 ohm 'F' type connector
Data Interface	10/100/1000 Base-T Ethernet RJ-45
Telephony Interface	2 lines; RJ-11
Input Voltage (nominal)	115-240 VAC 50/60 Hz
Power Switch Equipped	On TM822S model only
Power Consumption (W)	5.5 (idle)

Telephony

Supervisory Voltage	48 V _{DC} nominal
Maximum Loop Length to CPE	1000 ft (305M) of 26 AWG (0.4 mm) wire
Ringing Load Capacity	10 REN total; 5 per line
Provisionable High Loop Current Mode	Yes
Telcordia™ GR 1089 (Lightning and Power Surge) Tested	Yes
Programmable Interface for Worldwide Applications	Yes

RF Downstream

Frequency Range (MHz)	108-1002 (edge-to-edge)
Bonded Channels	up to 8
Number of Tuners	2
Capture Bandwidth (MHz)	96 (per tuner, 192 MHz total)
Modulation (QAM)	64 or 256
Data Rate (Mbps, Theoretical)	up to 343 <i>Note: Maximum raw DOCSIS rate; actual data throughput is less due to overhead, configuration, and RF conditions</i>
RF Input Sensitivity Level (dBmV)	-15 to +15
Carrier Bandwidth	6 MHz (DOCSIS mode) or 8 MHz (EuroDOCSIS mode)
Embedded MoCA® Immunity Filter	Yes

Touchstone® DOCSIS® 3.0 8x4 Telephony Modem, TM822G Technical Specification

Specifications Continued

RF Upstream

Frequency Range (MHz)	5-42 (DOCSIS mode) or 5-65 (EuroDOCSIS mode)
Bonded Channels	up to 4
Modulation	QPSK, 8QAM, 16QAM, 32QAM, 64QAM, 128QAM (S-CDMA only)
Modulation Bandwidth (kHz)	200, 400, 800, 1600, 3200, 6400 (TDMA) 1600, 3200, 6400 (S-CDMA)
Data Rate (Mbps, Theoretical)	up to 122 <i>Note: Maximum raw DOCSIS rate; actual data throughput is less due to overhead, configuration, and RF conditions</i>
RF Output Level (dBmV – one channel)	TDMA: +17 to 61 (QPSK); +17 to 58 (8QAM, 16QAM); +17 to 57 (32QAM, 64QAM) <i>Note: A-TDMA max output power reduced 3dB when transmitting 2 channels and 6dB when transmitting 3 or 4 channels.</i> S-CDMA: +17 to +56 (all modulations) <i>Note: S-CDMA max output reduced 3dB when transmitting 2 or more channels.</i>
Automatic Level Adjust	Yes
Frequency Stability (kHz)	±5
Output Impedance (Ohms)	75

Standards

DOCSIS 3.0 / EuroDOCSIS 3.0	RoHS, WEEE
PacketCable 1.0 and 1.5	IEEE 802.3, IEEE 802.3ab
UL® 60950	RFC3261 SIP: Session Initiation Protocol
FCC Part 15 Class B	Codec: G.711, 64 kbps, μ -law and A-law encoded speech
CE	Enhanced codec support (G.726, G.728, G.729E)
CB	T.38 Fax Relay

Ordering Information

Part Number	Description
799090	Touchstone TM822A/NA, DOCSIS 3.0 / PacketCable 1.5 compliant E-MTA with integrated 115-240 VAC, 50/60 HZ power supply. Includes NEMA 1-15 power cord, Cat-5E Ethernet cable, and End User License.
799091	Touchstone TM822A/CE, DOCSIS 3.0 / PacketCable 1.5 compliant E-MTA with integrated 115-240 VAC, 50/60 HZ power supply. Includes CEE 7/16 power cord, Cat-5E Ethernet cable, and End User License.
799092	Touchstone TM822S/CE, Dual Mode (DOCSIS 3.0 & EuroDOCSIS 3.0) / PacketCable 1.5 compliant E-MTA with integrated 115-240 VAC, 50/60 HZ power supply. Includes CEE 7/16 power cord, Cat-5E Ethernet cable, and End User License.

Specifications are subject to change without notice.

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