HDM100 MANAGEMENT MODEM

HDM100 is a management modem in HDO mechanics. It communicates with HFC network transponders via its RF modem, maintains a list of transponder statuses, manages the data link and provides connectivity between element/network management system and transponders.

HDM100 is available in two software versions: HDM100 H and HDM100 T. The versions are field interchangeable.

HDM100 T uses Teleste CATVisor protocol for modem communication and can be used with all Teleste transponders supporting CATVisor protocol.

HDM100 T in cluster mode: Return path segmentation can be accomplished by combining multiple HDM100 T units to a cluster with one HDM100 acting as master with both its transmitter and receiver enabled, and 1…8 HDM100 T units acting as slaves with only their receiver enabled.

HDM100 H uses SCTE HMS protocol for modem communication and can be used with all Teleste transponders supporting HMS protocol, and also with 3rd party transponders conforming to HMS standards.

Features

- RF modem compatible with SCTE 25-1 (HMS005)
- Receive level measurement and ALC functionality
- Intelligent HFC polling enhances data throughput
- Front and rear panel 10/100Base-T Ethernet ports
- HDO bus connection for local configuration
- LED indicators for LAN, module and modem statuses
- Linux architecture with remote software update
- Transponder IP addresses can be assigned remotely
- Manages up to 500 transponders

Technical specifications

Parameter	Specification	Note
RF modem		
Data rate	38400 bps	
Modulation method	FSK, $\Delta f = \pm 67$ kHz	
Channel bandwidth	400 kHz	1)
Downstream frequency range	78...200 MHz and 255…285 MHz	2)
Upstream frequency range	5...65 MHz	
Frequency raster	100 kHz	
Frequency inaccuracy	< 10 kHz	
Downstream output level range	80...105 dBµV	3)
Upstream input level range	45...90 dBµV	4)
Return loss, transmitter port	> 8 dB	5)
Return loss, receiver port	> 12 dB	6)
Transmit power delta ("0" vs. "1")	< 1 dB	
Transmitter spurious	< -65 dBc	7)

Ethernet interface

Connector	RJ-45 socket
Standard	10/100Base-T

General

Power consumption	5 W
Supply voltages	25 V / 200 mA
	6.3 V / 10 mA
RF connectors	F female
Cooling	Free air flow
Dimensions	2U x 7HP x 380 mm h x w x d
	Occupies 1/12 of HDO installation frame
Weight	1.5 kg
EMC compliance	EN 50083-2
Enclosure classification	IP20
Operating temperature range	0...+45 °C
Storage temperature range	-20...+60 °C
Operating relative humidity	0…85 %

Notes

1) Typically < -65 dBc @ channel edge.

2) Additional 255…285 MHz range is supported only by hardware version G and above (manufactured after 04/2016). Older versions support only 78…200 MHz range.

3) Software adjustable, inaccuracy < 1 dB.

4) Data channel level measurement inaccuracy < 2 dB typical.

5) In 5...1218 MHz range.

6) In 5...65 MHz range. In 65…1218 MHz range return loss is > 10 dB.

7) Transmitter spurious in 5...1218 MHz range, outside the 400 kHz transmit channel.

Block diagram