GS7000 DOCSIS Status Monitor Transponder

DOCSIS® based transponders enable cable operators to proactively monitor and control fiber nodes using existing DOCSIS infrastructure. The Cisco® GS7000 DOCSIS Status Monitor Transponder uses standards adopted by the SCTE-HMS subcommittee for fiber node monitoring, and provides easy access to information and control through standard SNMP MIBs. The transponder continuously monitors and reports out-of-tolerance conditions via SNMP traps and user-definable alarming thresholds. It also features the optional ability to conduct HSIA and VoIP testing through embedded firmware.

Figure 1. GS7000 DOCSIS Status Monitor Transponder

Features

- Ethernet port
- Optical tamper switch
- Standard cable modem LEDs
- Web page access
- eMTA emulation
- Embedded VoIP testing (optional)

Features (continued)

Monitored Parameters

- Receiver Optical Power (mW)
- Transmitter Laser Power (mW)
- Power Supply Voltage (24, 8, 5, and -6)
- Node Internal Temperature
- Receiver Optical Alarm
- A/B Switch Status and Alarm
- Tamper
- Reverse Path Ingress Attenuation Control (Wink Switch)
- Modulation Error Rate (MER), Error Vector Magnitude (EVM), and Codeword Error Rate (CER)
- Optical Amplifier Input and Output Power (dBm), Laser Bias Current, and Laser Temperature
- Optical Switch Input and Output Power (dBm), Module Temperature, and Switch Temperature
- HMS Compliant

Available Controls

- A/B Switch Control
- Reverse Path Ingress Attenuation Control (Wink Switch)

Node Monitoring Applications

- Support for the Cisco GS7000 series nodes
- Differentiate between RF problems in the HFC network and headend problems
- Control attenuators (wink switches) to troubleshoot RF return path issues
- Control A/B switches to select redundant fiber paths
- Alarm on loss of light or degradation of fiber path
- Alarm on automatic receiver switching
- Provide optional VoIP testing capability at the point in the network where fiber becomes RF
- Downstream DOCSIS constellation, MER, EVM, and CER measurement ability
- Provide analysis of network congestion via optional HSIA testing

Features (continued)

Table 1. Key Features

Feature	Description
Ethernet Port	Provides local access to an embedded configuration page for control.
Optical Tamper Switch	Embedded in transponder, reports on the status of the node (open or closed lid).
Cable Modem LEDs	Display the registration status of the transponder in the DOCSIS network.
Embedded Web Page	Displays both cable modem and HMS node data gathered from the transponder. Optional HSIA testing is supported through the web page and can be accessed either locally via the Ethernet port or remotely via a web browser application.
eMTA VoIP Testing (Optional)	When configured as a VoIP test point, the transponder is capable of receiving and originating calls, determining MOS scores, and measuring RTP statistics through the embedded firmware. At the end of each call, the test results are available through RTCO Extended reports. Some of the measured parameters are MOS listening quality, MOS conversion quality, R factor, external R factor, network packet loss, packets discarded due to jitter, RTP round trip delay (ms), and end system delay (ms).

Product Specifications

Table 2. Product Specifications

Specification	Value
General	
DOCSIS	Version 2.0
HMS Monitoring Protocol	SNMP v1
DOCSIS Monitoring Protocol	SNMP v1, v2, v3
RF Interface	Internal
RF Internal Padding	Configurable JXP pad for 15 dB upstream
Ethernet Interface	RJ45
Operating Temperature	-40 to +75°C
Humidity	10 to 90% (non-condensing)
EMI/EMC	FCC Part 15 Class A, CE EN50022 Class A
RF Transmit/Receive	
Tx Frequency Range	5 to 42 MHz
Tx Output Power	+8 to +58 dBmV
Rx Frequency Range	88 to 860 MHz
Rx Input Level	-15 to +15 dBmV
Channel Bandwidth	6 and 8 MHz

Ordering Information

Table 3. Ordering Information

Description	Part Number
GS7000 DOCSIS Status Monitor Transponder	4036793
Downstream RF Cable Kit	4038028

Service and Support

Using the Cisco Lifecycle Services approach, Cisco and its partners provide a broad portfolio of end-to-end services and support that can help increase your network's business value and return on investment. This approach defines the minimum set of activities needed by technology and by network complexity to help you successfully deploy and operate Cisco technologies and optimize their performance throughout the lifecycle of your network.

For More Information

To learn more about this product, contact your local account representative.

To subscribe to receive end-of-life/end-of-sale information, go to http://www.cisco.com/cgi-bin/Support/FieldNoticeTool/field-notice.

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