

FCS-155

Fibre Channel to STM-1/OC-3 Converter



FEATURES

- Next-generation carrier-class storage over SONET/SDH device
- Enables transport of Fibre Channel with high throughput and carrier grade reliability over extended distances for business continuity and disaster recovery applications
- Support of Generic Framing Procedure (GFP), Virtual Concatenation (VCAT) and Fibre Channel BB standards
- High order payload virtual concatenation – mapping the FC traffic over VC4/STS-1 links
- Management via ASCII terminal, Telnet host, Web terminal
- Optional redundant power supply (FCS-155E only)
- STM-1/OC-3 system clock synchronization to the network port or internal oscillator

DESCRIPTION

- FCS-155 is customer located equipment that enables transport of Fibre Channel over SDH/SONET networks. Using the GFP and FC-BB standards, FCS-155 utilizes the SDH/SONET infrastructure for cost-effective storage extension.
- The unit includes one Gigabit Fibre Channel interface and one STM-1/OC-3 interface.
- Using new standards of Generic Framing Procedure (GFP), Virtual Concatenation (VCAT) and FC-BB FCS-155 enables reliable storage extension over existing SONET/SDH infrastructure.
- Remote units can be managed in the following ways:
 - IP over DCC protocol
 - Out-of-band, via direct connection to the LAN management port.

- Status and diagnostic information is defined, configured, and monitored using one of the following methods:
 - ASCII terminal connected to the V.24/RS-232 control port
 - Telnet
 - ConfiguRAD via a Web browser
 - TFTP applications for software update and remote configuration download and upload.

DIAGNOSTICS

- Real-time alarms to alert the user on fault conditions. Alarms are reported to the management station.
- Ethernet and SDH/SONET link monitoring.

GENERAL

- FCS-155 is available in two versions, providing a choice of form factors and power supplies:
 - FCS-155: Half-19" unit with fixed internal AC power. Available interfaces: SONET/SDH OC-3/STM-1 to FC (1G) B
 - FCS-155E: Same as above, but in a 19" housing with two optional field-replaceable AC power supplies.

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SPECIFICATIONS

STM-1/OC-3 INTERFACE (WAN)

- **Number of Ports**
1
- **Bit Rate**
155.52 Mbps \pm 20 ppm
- **Fiber Optic Interface**
Characteristics: see *Table 1*
- **Connector**
SFP transceiver
- **Timing**
Internal clock recovered from the STM-1/OC-3 interface
- **Compliance**
SDH: ITU-T G.957
SONET: GR-253-core
- **Framing**
SDH: ITU-T G.707, G.708, G.709, G.783
SONET: ANSI T1.105-1995 and GR-253-core

FIBRE CHANNEL INTERFACE

- **Number of Ports**
One
- **Data Rate**
1.06 Gbps
- **Fiber Optic Interface**
Characteristics: see *Table 1*
- **Compliance**
FC-BB-SONET/SDH
- **Type**
SFP transceiver

GENERAL

- **Indicators**
PWR (green): Power status
RDY (green/red): Operation status
LINK (green/red): SDH/SONET status
FC LINK (green/red): FC Link status
FC ACT (green blinking): FC activity status
10/100BaseT LINK (green): Management LAN status
10/100BaseT ACT (green blinking) – Management LAN activity status
- **Power**
AC: 100–240 VAC (\pm 10%), 50 to 60 Hz
- **Power Consumption**
30W max
- **Alarms**
Last 255 time-stamped events.
- **Physical**
FCS-155:
Height: 44.0 mm (1.7 in)
Width: 220 mm (8.5 in)
Depth: 240 mm (9.45 in)
Weight: 2.4 kg (5.3 lb)
FCS-155E same as FCS-155, except:
Width: 440 mm (19 in)
Weight: 3.4 kg (7.5 lb)
- **Environment**
Temperature: -5–50°C (23–122°F)
Humidity: Up to 90%, non-condensing

ORDERING

FCS-155/AC/+/#

Fibre Channel to STM-1/OC-3 converter

FCS-155E/AC/\$/+/#

Fibre Channel to STM-1/OC-3 converter with redundant power supply

\$ Specify second power supply type (FCS-155E only):

AC for 100 to 240 VAC

+ Specify FC optical interface:

850 for 850 nm, multimode, diode

Specify **VCAT** for VCAT support (SONET only)

RM-35/@

Hardware for mounting one or two FCS-155 units in a 19" rack

@ Specify rack mounting kit type:

P1 for mounting one unit

P2 for mounting two units

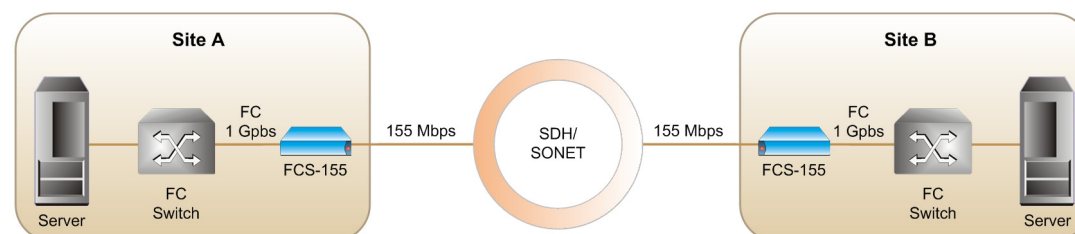
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Hardware for mounting one FCS-155E unit in a 19" rack

Table 1. Fiber Optic Characteristics

Interface, Wavelength [μm]	Fiber Type [nm]	Power [dBm]		Receiver Sensitivity [dBm]	Typical Range	
		Min	Max		[km]	[miles]
SDH/SONET, 1310	9/125 single mode	-15	-8	-30	15	9.3
Fibre Channel, 850	50/125 multimode	-9	-2.5	-17	0.5	0.3
	62.5/125 multimode	-9	-2.5	-17	0.3	0.2

APPLICATION



data communications

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