CBL

Communication by light

Gesellschaft für optische Kommunikationssysteme mbH

Multiservice optical transport
FLE-2700 "Anyspeed"

The new FLE-2700 „Anyspeed" transponder card increases the maximum transfer rate of the FiberMultiplier products up to 2,7 Gbps per channel. Therefore it becomes an optical multiservice transport platform, which is no longer only interesting for enterprise applications but also for city and regional carriers. Several applications like LAN coupling, connecting remote storage applications or integration in SDH/Sonet backbones can be realised with the protocol transparent cards. On the local port the cards are equipped with one small form-factor pluggable interface (SFP) with either a dLC or a RJ45 1000BaseT connector available. On the link port the card offers two changeable SFP interfaces. This fully pluggable system design provides a maximum of flexibility in choosing the interfaces and an immediate investment protection.

The new FLE-2700 card works with the "Anyspeed" technology. This means, that the FLE-2700 supports any transfer rate from 0,1 to 2,7 Gbps. On this reason any common application from Fast Ethernet to STM-16 can be transferred with one single FLE-Card.

Features of the new FLE-2700 "Anyspeed"

☑ All pluggable system design
      local port: multimode/singlemode/copper SFP
      two link ports: singlemode SFP

☑ "Anyspeed" technology from 100 Mbps ... 2700 Mbps
      LAN - Gigabit/Fast Ethernet, FDDI, ATM
      SAN - Fibre Channel, FICON, Escon, Infiniband
      WAN - SDH/STM-1...STM-16, Sonet/OC-3...OC-48

☑ Intelligent bidirectional 3R (re-timing, re-shaping, re-clocking)

☑ 33 dB link budget @ 1 Gbps at 1270...1610 nm, 60...120 km
☑ 28 dB link budget @ 2,7 Gbps at 1270...1610 nm, 50...80 km

☑ Migration from standard wavelength to CWDM and DWDM

☑ Extensive digital diagnostics:
      inline optical receive power monitoring, launched optical power, bias current,
      temperatur, end of life alarm, inventory data, transfer rate

☑ Buildin BER-Test, remote loop

Modular construction - succeeded

The FLE-2700 card can be easily integrated in existing CWDM/DWDM environments. CBL offers three different types of chassis: a stand-alone desktop chassis and three 19" chassis with either 1, 3 or 4 rack units. They can carry 1, 3, 8 or 16 FLE-modules. An upgrade to the next bigger solution can be done at any time by replugging the card. All chassis are equipped with redundant power supplies.

FLE management - total remote access

For easy configuration and extensive monitoring while the system is in actual operation, different management solutions are available. Beneath the web interface a SNMP interface allows the management to be integrated in common network management solutions. An unique feature of CBLs FLE system is the ability of monitoring the optical receiving level of the link ports.
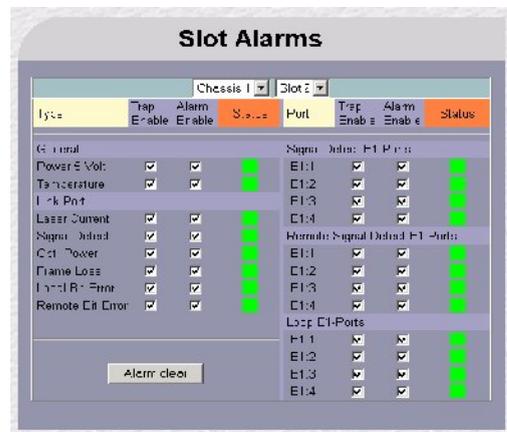
✓ SNMP management for an easy integration in existing management solutions like HP Openview;

✓ Web based management via web browser;

✓ Local and remote management and diagnostics;

✓ Configurable alarms with one dry alarm contact.

Specifications of the FLE-SFPs for the FLE-2700 "Anyspeed" transponder card

Local interfaces[23]	FLE-SFP-270-x		FLE-SFP-622-x		FLE-SFP-1250-x[1]			FLE-SFP-2700-x		Unit
Transfer rate	100..270		100..622		1000..1250			1000..2700		Mbps
Local extension	M13	S13	M13	S13	1000Base-T	M8 (-SX)	M/S13 (-LX)	M8	S13	
Wavelength	1310	1310	1310	1310	RJ45	850	1310	850	1310	nm
Opt. output power[4]	-19..-14	-15..-8	-20..-14	-15..-8		-9,5..-4	-9..-3	-9..-3	-8..-3	dBm
Opt. receiving level[5]	-28..-14	-30..-7	-26..-14	-29..-7		-18..0	-20..-3	-18..0	-20..-3	dBm
Link interfaces[3]	FLE-SFP-1250-Cxxxx-H, FLE-SFP-1250-Cxxxx-V				FLE-SFP-2700-Cxxxx-H, FLE-SFP-2700-Cxxxx-V					
Wavelength	1270,1290...1590,1610, DWDM ITU-Band C									nm
Opt.. link budget, km	H: 24 dB - 0 ...70 km, V: 33 dB – 20...120 km				H: 19 dB - 0 ...40 km, V: 28 dB – 20..80 km					dB, km
Protocol transparent	Yes, 100..2700 Mbit/s									
Bit error ratio	$<10^{-12}$									
Connector	Duplex LC plug (GBIC: dSC)									

[1] according to IEEE-802.3z standard for Gigabit Ethernet and the ANSI specifications for Fiber Channel with 1.062 Gbaud
[2] M = Multimode fiber (50..62.5/125 m)
[3] S = Singlemode fiber (7..10/125 m)
[4] Measured, averaged launched power into a 62.5/125 m, 0.275 NA Multimode or 9/125 singlemode fiber
[5] at an attenuation of 0.5 dB/km
[6] at an attenuation of 0.25 dB/km

(C)WDM-Modul	Transmission loss	Order information
WDM2-Modul for FLE/1-Chassis	≤ 2,5 dB	FLE/1-WDM2
CWDM4-Modul for FLE 3/4-Chassis	≤ 2,5 dB	FLE-CWDM4
CWDM8-Modul for 19" 1RU-Frame	≤ 3,5 dB	FLE-CWDM8