

OMTP



Optical multiservice transmission platform

Power System protection and control are critical systems required to maintain and guarantee Power System continuity. The associated telecommunication infrastructure has to be designed to fulfil the specific requirements on service availability and reliability

The fulfilment of the communication requirements needed for optimal operation of Protection and Control networks has only been achieved so far by implementing over-dimensioned and complex telecom systems, that involve large investments and elevated maintenance costs.

OMTP Series addresses that problem by means of a straightforward and compact solution, whose working principle is based on optical multiplexing technology specifically designed to fulfil the requirements needed in Power Utilities.

The compact OMTP system works with up to 8+1 independent bi-directional optical channels per optical fibre pair, in such a way that each of the channels multiplexed over every single link is able to carry any type of broadband communication. Thanks

to this principle, the equipment is capable of providing heterogeneous telecommunication services over a common fibre optic infrastructure.

This means that there are no limitations whether in bandwidth — since every channel can work from 64 Kbit/s up to 2.5 Gbit/s —, or in service profile and protocol — since every transmission channel is fully transparent —.

OMTP Series includes a wide range of access interfaces, from legacy narrowband to broadband. An innovative low velocity optical card can also be included to provide service to local devices equipped with optical communications that need the highest levels of reliability and availability.

Thanks to this virtually any type of service can be provided, without limitations.

KEY ADVANTAGES

Robustness. OMTP Series is specifically designed for harsh environments, as those existing in Power Substations.

Service availability. The number of different equipments and interfaces needed to implement broadband networks is considerably reduced, in comparison with existing architectures. This important simplification yields in a very high MTBF, or service global availability.

Reliability. The use of totally passive multiplexors and the simplification of components result in a design able to fulfil the toughest *delay* and *jitter* requirements.

Unified management. Advanced management functions based upon IETF/SNMP standards.

Flexibility. Capability to offer virtually any type of telecommunication service,

whether standard or proprietary, via transparent interfaces.

Scalability.

Compact solution: up to 6 optical cards in a 2 RU rack. *Scalable solution:* up to 17 cards per 5 RU rack, with the possibility of stacking up to 6 racks.

Integration of legacy systems.

Legacy and advanced systems can be merged in a straightforward manner.

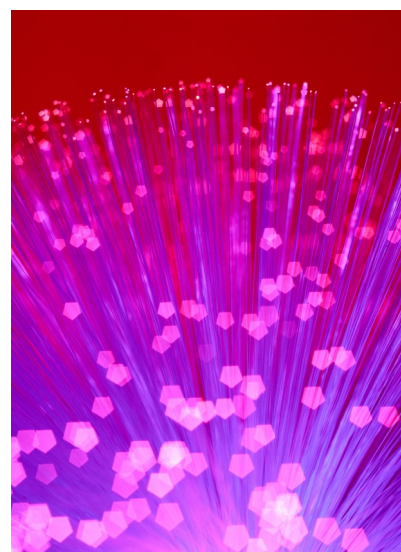
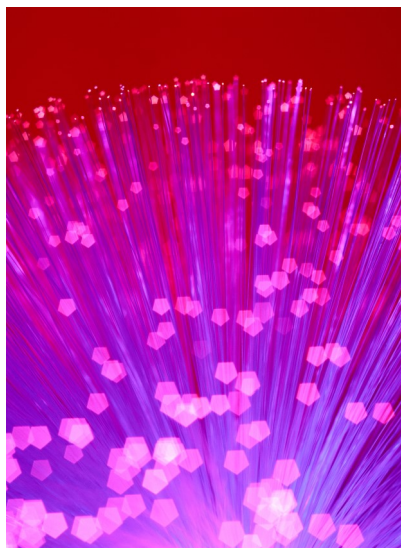
Unified maintenance. Advanced management & maintenance functions that yield to maintenance cost reductions.

DWDM compatible. Capability of combining CWDM and DWDM transport over the same fibre optic link.

Cost-effective solution. Powerful interfaces without capacity limitations.

Low maintenance. Simplified design.





Line interface

CWDM optical interface with 20 nm channel according to ITU-T G.694.2
Standard range up to 100 Km. Up to 300 Km with optional optical amplifier

User interfaces

Electrical E1 according to ITU-T G.703
ANSI C37.94
Ethernet, 10/100 base/T
Ethernet optical 1 Gbit
Optical SDH interface up to STM-16
Electrical SDH interface STM-1
Multimode Bit transparent
Single mode optical transparent transmission

Management interface

Ethernet 3x 10/100 base T + 2x SFP sockets
SNMP agent
Embedded Web server

Line protection

Optical Switch for 1+1 fibre protection
Switching time < 50 ms
Power supply failure protection

Engineering order wire

Implemented with IP telephony technology using the SIP protocol.

Power supply

18 to 36 Vdc
36 to 72 Vdc
100 to 240 Vac
Dual Redundant Power Supply

Alarm

Form C relay 2A @ 250 Vac

Environmental, EMI & EMC

IEC 61000-6-2 Industrial
IEC 61800-3 Industrial (Variable Speed Drive Systems)
IEC 61850-3 Electric Utility Substations
IEE 1613 Electric Utility Substations
IEC-60870-2-1 Class IV
FCC Part 15 (Class A)
EN 55022 (CISPR 22 Class A)
Laser Eye Safety (FDA/CDRH): complies with 21 CFR ch 1- J
CE Marking

Temperature operating range

-10°C +65°C

Mechanical dimensions

Compact model. 482x250x90 mm
Scalable model. 482x250x220 mm

Warranty 5 Years