

Datasheet

TereScope®1 Series (All optics wireless link)



TereScope®1

Overview

The TereScope®1 (TS1) is an innovative solution for wireless optical communications without electronics. The TS1 is an optical transceiver, which sits on rooftops and provides fiber-like connection speeds without electronics or electricity power. TereScope®1 responds to today's as well as tomorrow's user services demands, while providing higher potential capacity, license free transmission, at lower costs, over the air.

TereScope®1 Photonic Air Link (PAL) systems (outdoor head) are directly connected via optical fibers to the OptiSwitch® module that functions as the TereScope®1 network interface unit (NIU) or to the Media Converter MC102/p (indoor). Offering data rates of 1-100 Mbps, at distances of up to 470 m, these systems avoid the need for costly and time-consuming fiber runs in developed areas. Easy to install and align, these systems can be deployed almost instantly to expand your network as needed. Designed for short distance connectivity, and offered at low cost, TereScope®1 is an ideal and highly reliable solution for dense urban areas and for Ethernet traffic based networks.

The TereScope®1, like all MRV products is fully managed by MegaVision Web®, MRV's SNMP and Web based software.

Features

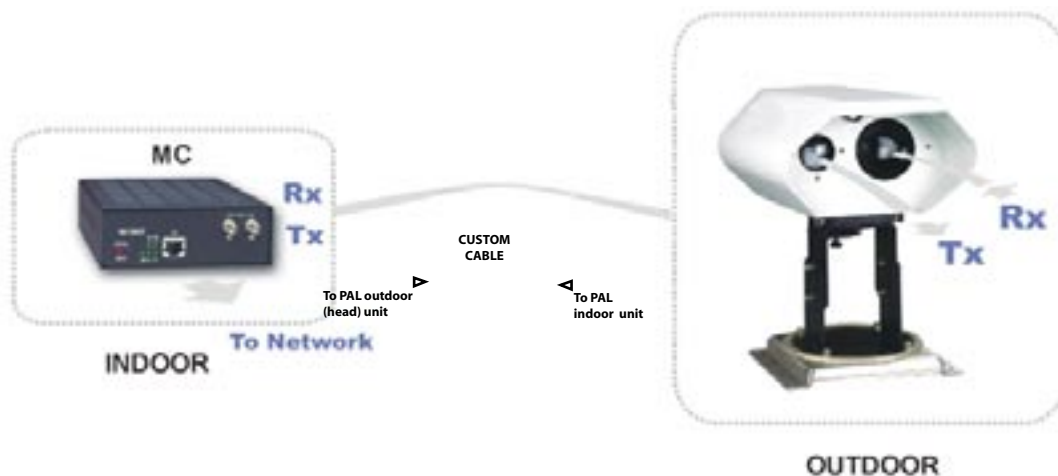
- Accommodates 1-100 Mbps networks, for Fast Ethernet or 4xE1
- Distances up to 470 m
- Immediate deployment
- MTBF over 10 years
- Visual and receive power measurement alignment functionality
- License free
- Secure transmission
- Full eye safety Class 1M
- Weatherproofing: IP66

Characteristics

- All-optics transceiver
- Rooftop unit immune to EMI/RFI
- No need to run power to the roof
- No need for grounding or lightning protection

Applications

- Point-to-point LAN extension
- Access connectivity
- Cellular networks
- Mesh networking
- LAN/MAN environments
- Disaster recovery
- Difficult terrain
- Fiber backup
- Temporary link



Technical Specifications: TereScope™ 1 Series

MODEL/ PROD CODE		TS1/A TS1/A/DST	TS1/C TS1/C/DST
Applications/ Data Product		Fast Ethernet, 4xE1	
Performance	Rate	100 Mbps	
	Range(1)	@17 dB/km	240 m
		@30 dB/km	200 m
		@60 dB/km	150 m
Transmitter	Bit error rate	Less than 10 E-12 (unfaded)	
	MTBF	Over 10 years	
Receiver	Wavelength	850 nm VCSEL	
	Beam divergence	6 mrad	3.65 mrad
	Eye safety	Class 1M	
Interface	Field of view	6 mrad	6 mrad
	Lens diameter	85 mm	
Environmental Information Outdoor Unit TS1	Fiber optic cable	Custom Multimode	
	Max cable length	50 m	
	Connectors	ST	
Mechanical Design Outdoor Unit TS1	Operating temperature	-40° C to +60° C	
	Storage temperature	-40° C to +60° C	
	Humidity	Less than 90% non-condensing	
	Housing	Weatherproof IP 65	
Environmental Information Indoor Unit	Dimensions (mm)	248 x 155 x 375	
	Weight	Unit: 3 Kg - Accessories: 1.5 Kg	
Mechanical Design Indoor Unit	Operating temperature	0° C to +40° C	
	Storage temperature	-40° C to +70° C	
	Humidity	Less than 85% non-condensing	
Management	Dimensions (mm)	120 x 180 x 45	
	Weight	0.6 Kg	
Manageable through MegaVision Web™			

(1) @17 dB/km = Moderate rain
 @30 dB/km = Blizzard, cloudburst
 @60 dB/km = Light to moderate fog

Product	Description
TS1/A/DST TS1/C/DST	TS1/x Optical Wireless Link-2 outdoor units.
EM 2003 - 2PAL/A EM 2003 - 2PAL/C	OptiSwitch Dual port 100 BaseFX Plug-in for TS1/x.
FO-xx/PAL/A FO-xx/PAL/C	xx meter fiberoptic cable for TS1/x (xx = 25 or 50 m).
MC-102/P/A MC-102/P/C	10/100 Base TX to 100 BasesFX converter for TS1/x.
OptiSwitch Modules with QoS support for Fast Ethernet connectivity	
EM2004-2PAL/A	Dual port 100 BaseFX Uplink with QoS support of OptiSwitch Family (MM, 850nm) for TS1/A/DST
EM2004-2PAL/C	Dual port 100 BaseFX Uplink with QoS support of OptiSwitch Family (MM, 850nm) for TS1/C/DST
Multiplexers E1 and T1 connectivity	
MM04E112/APAL1	4xE1 Multiplexer with interface for PAL/A - FSO passive link
MM04E112/CPAL1	4xE1 Multiplexer with interface for PAL/C - FSO passive link
MM04E112/APAL2	4xE1 Multiplexer with interface for PAL/A - FSO passive link with redundancy for PAL
MM04E112/CPAL2	4xE1 Multiplexer with interface for PAL/C - FSO passive link with redundancy for PAL
MM04T112/APAL1	4xE1 Multiplexer with interface for PAL/A - FSO passive link
MM04T112/CPAL1	4xE1 Multiplexer with interface for PAL/C - FSO passive link
MM04T112/APAL2	4xE1 Multiplexer with interface for PAL/A - FSO passive link with redundancy for PAL
MM04T112/CPAL2	4xE1 Multiplexer with interface for PAL/C - FSO passive link with redundancy for PAL

Bundles	Includes	TS1/A/DST or TS1/C/DST	EM2003-2PAL/A or EM2003-2PAL/C	FO-xx/PAL/A or FO-xx/PAL/C	MC-102/P/A or MC-102/P/C	NH3003/AC (OptiSwitch-200)	EM2003-4T (OS Module)	MM04E112/APAL1 or MM04E112/APAL1
Bundles	TS1/A/BDL/EM or TS1/C/BDL/EM	1	2	2				
	TS1/A/BDL/LAN or TS1/C/BDL/LAN	1	2	2		2	2	
	TS1/A/BDL/MC or TS1/C/BDL/MC	1		2	2			
	TS1/A/BDL/MM or TS1/C/BDL/MM	1		2				2

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