MES106 & 110 managed ethernet switch

Technical specifications

06/2013

- Ideal for video networking
- Multicast and IGMP support
- Very high MTBF
- Industrial and rail EMC
- Dual power input
- uplinks 100/1000 Mbps SFP
- -40...+70 ºC

MES106 and MES110 layer 2 Ethernet switches are perfect choices for high capacity IP video streaming networks. For fluent multicast video operation specific attention is given to Internet Group Management Protocol operation (IGMP). In this respect the MES series switches are optimised to manage even 1200 simultaneous multicast group entries. In terms of video sources the figure can be translated into around 600 cameras when assuming two video streams per IP encoder/camera. In addition to IGMPv2/v3 snooping the MES switches support a wide set of essential protocols such as class of service, flow control, VLAN tagging and finally STP/RSTP features for network resiliency. As for example, the video recovery time is less than 60 seconds in case of sudden network topology change.

Depending on the model the switch has either 4 or 8 local ports with electrical RJ-45 interfaces with 10/100 Mbit/s rate interfaces. For uplink operation the switch offers two SFP slots for either 100 Mbps or 1000 Mbps transceivers. By selecting the SFP transceivers from Teleste portfolio both electrical or optical uplink services can be accomplished. All ports do follow the standard Ethernet protocols.

On the compact housing design a wide operating temperature range –40 to +70ºC (–40 to +158ºF) has been achieved without any moving parts or cooling openings in the case. The inner switch fabric is aggregated with industrial grade components to provide a long service life. MES series switches have been tested to meet strict EMC, isolation, vibration and shock standards, all to the highest levels suitable to industrial environments or rail trackside applications, as for example.

For easy device mounting the housing is equipped with a DIN rail clip. A basic wall mounting is an option by means of a separate accessory kit. Dual power inputs are available for industrial level redundant powering. For simple monitoring purposes the switch has a configurable I/O interface to monitor both internal and external events.

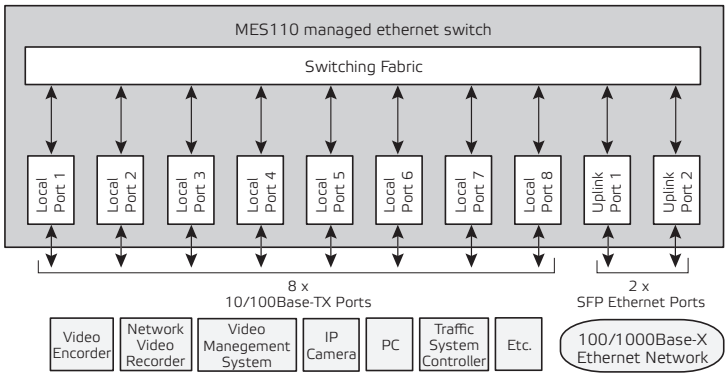
The operating system is allowing complex video and other multimedia solutions to be created. An RSTP ring can support more than 20 MES series switches in total. A “ring-within-a-ring” network configuration is also supported. The switch has a very fast startup time of 15 seconds. The graphical user interface is based on ergonomic WebUI.

MES series is among the most compact line of Ethernet switches in the market which have also the lowest power requirements in this class of devices. MES series meets the tight quality and performance requirements specified by several Marine, Railway and IT equipment standards.

Benefits

- Advanced switch operation for multicast video
- Compact ethernet switch design
- Advanced Layer 2 functionality
- Low power consumption
- Dual power input, wide voltage range
- Highly configurable fault I/O contact
- Robust metal DIN rail housing
- 550.000 hours MTBF to MIL-HDBK-217K
- Operational temperature -40 to +70ºC, passive cooling
- Industrial EMC, shock and vibration testing
- Fast reconnect for multicast protocols

Block diagram *(example for 10-port model)*



Technical specifications *(Typical values unless otherwise stated)*

Up-link ports (SFP)*		
Number of ports	2 pcs	
Standard	100Base-TX	CAT5 /CAT5e/CAT6
	100Base-FX	MMF & SMF
	1000Base-TX**	CAT5 /CAT5e/CAT6
	1000Base-FX	MMF & SMF
Connector types		
RJ-45	electrical	
simplex-LC	optical	
duplex-LC	optical	

Local ports		
Number of ports	8 pcs	MES110
	4 pcs	MES106
Standard	10/100Base-TX	
Connector type	RJ-45	electrical

Protocols		
802.3	10Base-T	
802.3u	100Base-TX, -FX	
802.3ab	1000Base-T	
802.3z	1000Base-SX, -LX	
802.1q	VLAN	
802.1d	STP	
802.1w	RSTP	
802.1p	QoS	layer 2
802.3p	QoS	layer 3 (IP ToS)
802.3x	flow control	
IGMP	version 1, 2 & 3	
FRNT v0	redundant ring	proprietary protocol
SNMP	version 2c	
DHCP		IP address adquisition

Management	
WebUI	local via ethernet port & remote via network
SNMP	remote via network

General		
Supply voltage	19...60 V DC	nominal 24 V DC
Power consumption	6 W	at 24V DC
PSU connector type	4-pin removable screw terminal	
Dimensions (H x W x D)	100 x 52 x 101 mm (3.93 x 2.04 x 3.97")	
Weight	0.7 kg (1.54 lbs)	
Degree of protection	IP 40	
Housing	DIN-rail mount	
MTBF	550 000 h	MIL-HDBK-217F
Operating temperature	-40...+70 ºC (-29...+165 ºF)	temperature hardened
Storage temperature	-50...+85 ºC (-40...+176 ºF)	
Humidity	95 %	non condensing
Vibration	IEC60068-2-6 (sine)	
Shock	IEC60068-2-27	
Damp heat	BS2011 p2.1	
EMC compatibility	EN61000-6-1, Immunity residential environments	
	EN61000-6-2, Immunity industrial environments	
	EN61000-6-4, Emission industrial environments	
	EN55022 +A1, Emission IT equipment	
	EN55024, Immunity IT equipment	
	FCC part 15 class A	
	EN50121-4, Railway signalling and telecommunications apparatus	
	IEC62236-4, Railway signalling and telecommunications apparatus	
Safety	UL/IEC/EN 60950-1, IT equipment	
Marine	DNV standard for certification no. 2.4	

Notes

* To be ordered separately, please check available models from MWF and MWG series.

** If your existing CAT5 cable was installed before 1995, make sure that it has been fully tested for use with 1000Base-TX.

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