Product data sheet
Characteristics

TM4ES4
module network TM4 4 Ethernet switchs

Main

Commercial Status	Commercialised
Product or component type	Ethernet unmanaged switch

Complementary

Range compatibility	Modicon M241 Modicon M251
Product compatibility	Modicon M251 logic controller Modicon M241 logic controller
Current consumption	360 mA at 5 V DC for communication bus
Integrated connection type	4 RJ45 Ethernet
Transmission rate	10/100 Mbit/s
Port Ethernet	10BASE-T/100BASE-TX - 4 port(s) copper cable
Web services	Web server
Communication service	FTP SNMP DHCP client Modbus TCP server Modbus TCP client IEC VAR ACCESS Modbus TCP slave device Ethernet/IP slave device NGVL Programming Downloading Updating firmware Monitoring
Maximum number of connections	16 Ethernet/IP device 8 Modbus server
Communication port protocol	SNMP TCP (Transmission Control Protocol) UDP (User Datagram Protocol) Ethernet IP/Modbus TCP
Redundancy	No
Local signalling	1 LED per channel green for Ethernet port activity 1 LED per channel green/yellow for Ethernet link 1 LED green for PWR
Electrical connection	Screw connector - terminal for connecting the functional ground RJ45 - 4 connectors for connecting Ethernet network
Marking	CE

Surge withstand	0.5 kV (I/O) with differential mode protection conforming to EN/IEC 61000-4-5 1 kV (relay output) with differential mode protection conforming to EN/IEC 61000-4-5 1 kV (power lines (AC)) with differential mode protection conforming to EN/IEC 61000-4-5 0.5 kV (power lines (DC)) with differential mode protection conforming to EN/IEC 61000-4-5 1 kV (shielded cable) with common mode protection conforming to EN/IEC 61000-4-5 1 kV (I/O) with common mode protection conforming to EN/IEC 61000-4-5 2 kV (relay output) with common mode protection conforming to EN/IEC 61000-4-5 2 kV (power lines (AC)) with common mode protection conforming to EN/IEC 61000-4-5 1 kV (power lines (DC)) with common mode protection conforming to EN/IEC 61000-4-5
Mounting support	Plate or panel with fixing kit Top hat type TH35-7.5 rail conforming to IEC 60715 Top hat type TH35-15 rail conforming to IEC 60715
Width	25 mm
Height	90 mm
Depth	90 mm
Product weight	0.125 kg

Environment

Standards	EN/IEC 61131-2 UL 508
Product certifications	C-Tick CULus
Resistance to electrostatic discharge	6 kV (on contact) conforming to Marine specification (LR, ABS, DNV, GL) 8 kV (in air) conforming to Marine specification (LR, ABS, DNV, GL) 4 kV (on contact) conforming to EN/IEC 61000-4-2 8 kV (in air) conforming to EN/IEC 61000-4-2
Resistance to electromagnetic fields	1 V/m (2...2.7 GHz) conforming to EN/IEC 61000-4-3 3 V/m (1.4 GHz...2 GHz) conforming to EN/IEC 61000-4-3 10 V/m (80 MHz...1 GHz) conforming to EN/IEC 61000-4-3
Resistance to fast transients	1 kV (serial link) conforming to EN/IEC 61000-4-4 1 kV (Ethernet line) conforming to EN/IEC 61000-4-4 1.5 kV (I/O) conforming to EN/IEC 61000-4-4 2 kV (relay output) conforming to EN/IEC 61000-4-4 2 kV (power lines) conforming to EN/IEC 61000-4-4
Resistance to conducted disturbances, induced by radio frequency fields	10 V (spot frequency (2, 3, 4, 6.2, 8.2, 12.6, 16.5, 18.8, 22, 25 MHz)) conforming to Marine specification (LR, ABS, DNV, GL) 3 V (0.1...80 MHz) conforming to Marine specification (LR, ABS, DNV, GL) 10 V (0.15...80 MHz) conforming to EN/IEC 61000-4-6
Electromagnetic emission	Radiated emissions - test level: 24 dBµV/m QP at 156...165 MHz conforming to Marine specification (LR, ABS, DNV, GL) Radiated emissions - test level: 54 dBµV/m QP at 100 MHz...2 GHz conforming to Marine specification (LR, ABS, DNV, GL) Radiated emissions - test level: 60...54 dBµV/m QP at 30...100 MHz conforming to Marine specification (LR, ABS, DNV, GL) Radiated emissions - test level: 80...50 dµV/m QP at 150 kHz...30 MHz conforming to Marine specification (LR, ABS, DNV, GL) Radiated emissions - test level: 47 dBµV/m QP class A at 230 MHz...1 GHz conforming to EN/IEC 55011 Radiated emissions - test level: 40 dBµV/m QP class A at 30...230 MHz conforming to EN/IEC 55011 Conducted emissions - test level: 63 dBµV/m QP (power lines) at 1.5...30 MHz conforming to EN/IEC 55011 Conducted emissions - test level: 79...63 dBµV/m QP (power lines) at 150 kHz...1.5 MHz conforming to EN/IEC 55011 Conducted emissions - test level: 120...69 dBµV/m QP (power lines) at 10...150 kHz conforming to EN/IEC 55011 Conducted emissions - test level: 73 dBµV/m QP/60 dBµV/m AV (power lines (AC)) at 0.5...300 MHz conforming to EN/IEC 55011 Conducted emissions - test level: 79 dBµV/m QP/66 dBµV/m AV (power lines (AC)) at 0.15...0.5 MHz conforming to EN/IEC 55011
Ambient air temperature for operation	-10...50 °C vertical installation -10...55 °C horizontal installation
Ambient air temperature for storage	-25...70 °C
Relative humidity	10...95 % without condensation in storage 10...95 % without condensation in operation

IP degree of protection	IP20 with protective cover in place
Pollution degree	2
Operating altitude	0...2000 m
Storage altitude	0...3000 m
Vibration resistance	0.7 gn at 13.2...100 Hz on panel mounting 1 mm at 5...13.2 Hz on panel mounting 3 gn at 8.7...150 Hz on symmetrical rail 1 mm at 5...13.2 Hz on symmetrical rail
Shock resistance	15 gn during 11 ms