

Data sheet

AFS677/AFR677

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Product: AFS677-EE16CNZZX08.0

Configurator: AFS677/AFR677



Configurator Description

Managed Full Gigabit Ethernet 19" Switch with Layer 2 or Layer 3 Software, 16 ports, custom configurable design, Option for Power over Ethernet 4 ports, Option for ports on rear, Industrial fanless design

Technical Specifications

Product description

Description Managed Ethernet/Fast Ethernet/Gigabit Ethernet Industrial Switch, 19" rack mount, fanless Design

Port type and quantity 16 x Combo ports (10/100/1000BASE TX RJ45 plus related FE/GE-SFP slot)

More Interfaces

Power supply/signaling contact Power supply 1: 3 pin plug-in terminal block; Signal contact 1: 2 pin plug-in terminal block ; Power supply 2: 3 pin plug-in terminal block; Signal contact 2: 2 pin plug-in terminal block

V.24 interface 1 x RJ11 socket

USB interface 1 x USB to connect Configuration Recovery Adapter CRA

Network size - length of cable

Twisted pair (TP) 0 - 100 m

Single mode fiber (SM) 9/125 μm see Gigabit and Fast Ethernet SFP modules

Single mode fiber (LH) 9/125 μm (long haul transceiver) see Gigabit and Fast Ethernet SFP modules

Multimode fiber (MM) 50/125 μm see Gigabit and Fast Ethernet SFP modules

Multimode fiber (MM) 62.5/125 μm see Gigabit and Fast Ethernet SFP modules

Network size - cascading

Line - / star topology any

Ring structure (E-MRP) quantity switches 10ms (10 switches), 30ms (50 switches), 40ms (100 switches), 60ms (200 switches)

Power requirements

Current consumption at 230 V AC Power supply 1: 110mA max, if all ports are equipped with SFP ; Power supply 2: 110mA max, if all ports are equipped with SFP

Operating voltage Power supply 1: 110/250 VDC, 110/230 VAC ; Power supply 2: 110/250 VDC, 110/230 VAC

Power consumption max. 26 W

Power output in BTU (IT)/h max. 88

Software

Switching Disable Learning (hub functionality), Independent VLAN Learning, Fast Aging, Static Unicast/Multicast Address Entries, QoS / Port Prioritization (802.1D/p), TOS/DSCP Prioritization, Egress Broadcast Limiter per Port, Flow Control (802.3X), Jumbo Frames, VLAN (802.1Q), GARP VLAN Registration Protocol (GVRP), Double VLAN Tagging (QinQ), Voice VLAN, GARP Multicast Registration Protocol (GMRP), IGMP Snooping/Querier (v1/v2/v3)

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Redundancy	Advanced Ring Configuration for MRP, E-Ring, Link Aggregation with LACP, Media Redundancy Protocol (MRP) (IEC62439-2), Redundant Network Coupling, Sub Ring Manager, RSTP 802.1D-2004 (IEC62439-1), MSTP (802.1Q), RSTP Guards, RSTP over MRP
Management	Dual Software Image Support, TFTP, LLDP (802.1AB), LLDP-MED, SSHv1, SSHv2, V.24, HTTP, HTTPS, Traps, SNMP v1/v2/v3, Telnet
Diagnostics	Management Address Conflict Detection, Address Relearn Detection, MAC Notification, Signal Contact, Device Status Indication, TCPDump, LEDs, Syslog, Port Monitoring with Auto-Disable, Link Flap Detection, Overload Detection, Duplex Mismatch Detection, RMON (1,2,3,9), Port Mirroring 1:1, Port Mirroring 8:1, Port Mirroring N:1, System Information, Self-Tests on Cold Start, Copper Cable Test, SFP Management, Configuration Check Dialog, Switch Dump
Configuration	Automatic Configuration Undo (roll-back), Configuration Fingerprint, BOOTP/DHCP Client with Auto-Configuration, DHCP Server: per Port, DHCP Server: Pools per VLAN, DHCP Server: Option 43, Configuration Recovery Adapter, AFS Finder, DHCP Relay with Option 82, Command Line Interface (CLI), CLI Scripting, Full-featured MIB Support, Web-based Management, Context-sensitive Help
Security	IP-based Port Security, MAC-based Port Security, Port-based Access Control with 802.1X, Guest/unauthenticated VLAN, RADIUS VLAN Assignment, Multi-Client Authentication per Port, MAC Authentication Bypass, Access to Management restricted by VLAN, HTTPS Certificate Management, Restricted Management Access, Appropriate Use Banner, SNMP Logging, Local User Management, Remote Authentication via RADIUS
Time synchronisation	PTPv2 Transparent Clock two-step, PTPv2 Boundary Clock, Buffered Real Time Clock, SNTP Client, SNTP Server
Industrial Profiles	IEC61850 Protocol (MMS Server, Switch Model)
Miscellaneous	PoE (802.3AF), PoE+ (802.3AT), Manual Cable Crossing

Ambient conditions

MTBF (MIL-HDBK 217F: Gb 25 °C)	13.6 years
Operating temperature	0-+60 °C
Storage/transport temperature	-40-+85 °C
Relative humidity (non-condensing)	5-95 %

Mechanical construction

Dimensions (WxHxD)	445 mm x 44 mm x 345 mm
Weight	4.4 kg
Mounting	19" control cabinet
Protection class	IP30

Mechanical stability

IEC 60068-2-6 vibration	1 mm, 2 Hz-13.2 Hz, 90 min.; 0.7 g, 13.2 Hz-100 Hz, 90 min.; 3.5 mm, 3 Hz-9 Hz, 10 cycles, 1 octave/min.; 1 g, 9 Hz-150 Hz, 10 cycles, 1 octave/min
IEC 60068-2-27 shock	15 g, 11 ms duration, 18 shocks

EMC interference immunity

EN 61000-4-2 electrostatic discharge (ESD)	8 kV contact discharge, 15 kV air discharge
EN 61000-4-3 electromagnetic field	35 V/m (80-2700 MHz); 1 kHz, 80% AM
EN 61000-4-4 fast transients (burst)	4 kV power line, 4 kV data line
EN 61000-4-5 surge voltage	DC power line: 2 kV (line/earth), 1 kV (line/line); AC power line: 4 kV (line/earth), 2 kV (line/line); 4 kV data line; IEEE1613: power line 5 kV (line/earth)
EN 61000-4-6 conducted immunity	10 V (150 kHz - 80 MHz)
EN 61000-4-12 damped oscillatory wave	2.5 kV (line/earth), 1 kV (line/line) (1MHz)
EN 61000-4-16 mains frequency voltage	30 V, 50 Hz continuous; 300 V, 50 Hz 1 s

EMC emitted immunity

EN 55032	EN 55032 Class A
FCC CFR47 Part 15	FCC 47CFR Part 15, Class A

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Approvals

Basis Standard CE, FCC, EN61131

Safety of industrial control equipment cUL 508

Hazardous locations ISA 12.12.01 Class 1 Div. 2

Shipbuilding Germanischer Lloyd

Substation IEC 61850; IEEE1613

Railway norm EN 50121-4; EN50155

Scope of delivery and accessories

Accessories Network Management Software AFS View (942 061-xxx), Configuration Recovery Adapter CRA (943 271-502), Terminal cable (943 301-001)

Scope of delivery Device, Installation user manual, 2 brackets, Connectors for power supply and relay contact

For more information please contact:

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