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Routers with intelligent firewall, up to 200 Mbps of data throughput, Gigabit connectivity, SFP Slots Stateful Inspection Firewall for maximum security and very simple configuration, interchangeable configuration memory

### Why buy this product

- ▼ Flexible routing
- Fast operation by means of configuration and remote maintenance portal
- Secure remote services (VPN) according to IPsec standard
- Intelligent stateful inspection firewall



### **Key Commercial Data**

Packing unit	1 STK
GTIN	4 046356 499651
GTIN	4046356499651
Weight per Piece (excluding packing)	660.000 g
Custom tariff number	85176200
Country of origin	Germany

### Technical data

#### Note

Disconsidera	area
Utilization restriction	EMC: class A product, see manufacturer's declaration in the download

#### Dimensions

Width	128 mm
Height	110 mm
Depth	69 mm



### Technical data

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-20 °C 60 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Permissible humidity (operation)	5 % 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % 95 % (non-condensing)
Air pressure (operation)	86 hPa 108 kPa (1500 m above sea level)
Air pressure (storage/transport)	66 hPa 108 kPa (3500 m above sea level)

### Interfaces

Interface 1	Ethernet (combo)
No. of ports	2 (Combo ports)
Connection method	Combo
Note on the connection method	Either SFP port or RJ45 port active
Transmission physics	Copper or SFP module
Transmission speed	10/100/1000 Mbps (SFP module: 100/1000 Mbps)
Transmission length	100 m (per segment)
Signal LEDs	Supply voltage, data transmission, error, link, activity
Interface 2	Serial (RS-232)
Connection method	RS-232-C, 6-pos. MINI-DIN socket (PS/2)
Interface 3	Fiber optic interface
Connection method	SFP ports
Transmission physics	Depending on the SFP module
Transmission speed	1000 Mbps (full duplex)
Transmission length	up to 80 km (Depending on the fiber/SFP module used)

### Function

Basic functions	Router with intelligent firewall and Gigabit connectivity
Supported browsers	HTTPS support required
Status and diagnostic indicators	LEDs: LNK, Mode, Inf, ACT, SPD, FD, US1, US2, Fail, and 7-segment display
Signal contact control voltage	24 V DC (typical)
Signal contact control current	270 mA (typical)

### Security functions

Dynamic Host Configuration Protocol (DHCP) support	Server or Relay Agent
Network Time Protocol (NTP) client	Client
Link Layer Discovery Protocol (LLDP)	As per protocol 802.2
Remote Syslog Logging	On externals server
Virtual private network (VPN) throughput	max. 106 Mbps (Router mode, VPN bidirectional throughput)
Number of VPN tunnels	0 (up to 250 tunnels with additional license as an option)
Encryption methods	DES, 3DES, AES-128, -192, -256
Firewall data throughput	max. 417 Mbps (Router mode, default firewall rules, bidirectional throughput)



### Technical data

### Security functions

	max. 174 Mbps (Stealth mode, default firewall rules, bidirectional throughput)
Firewall rules	Configurable stateful inspection firewall
Filtering	MAC and IP addresses, ports, protocols
Protection against	IP spoofing, DoS and Syn Flood Protection
Routing	Standard routing, NAT, 1:1-NAT, port forwarding

### Network expansion parameters

Maximum conductor length (twisted pair)	100 m
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### Supply voltage

Supply voltage	24 V DC (redundant)
Residual ripple	3.6 V <sub>PP</sub> (within the permitted voltage range)
Supply voltage range	18 V DC 32 V DC
Typical current consumption	270 mA (at U <sub>S</sub> = 24 V DC)
Max. current consumption	270 mA

### General

Mounting type	DIN rail
Type AX	Stand-alone
Net weight	660 g
Housing material	Metal

### Conformity with EMC directives

Developed in acc. with standard	IEC 61000-6.2
Test standard	IEC 61000-4-2 (ESD)
Test result	6 kV contact discharge, 8 kV air discharge
Test standard	IEC 61000-4-3 (immunity to radiated interference)
Test result	10 V/m (80 MHz 2000 MHz)
Test standard	IEC 61000-4-4 (burst)
Test result	2 kV power line, 1kV data line
Test standard	IEC 61000-4-5 (surge)
Test result	power line: 2 kV (line/earth), 1 kV (line/line), 1kV data line
Test standard	IEC 61000-4-6 (immunity to conducted interference)
Test result	3 V (10 kHz 150 kHz), 10 V (150 kHz 80 MHz)

### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Developed in acc. with standard	IEC 61000-6.2
Test standard	IEC 61000-4-2 (ESD)
Test result	6 kV contact discharge, 8 kV air discharge
Test standard	IEC 61000-4-3 (immunity to radiated interference)
Test result	10 V/m (80 MHz 2000 MHz)
Test standard	IEC 61000-4-4 (burst)



### Technical data

### Standards and Regulations

Test result	2 kV power line, 1kV data line
Test standard	IEC 61000-4-5 (surge)
Test result	power line: 2 kV (line/earth), 1 kV (line/line), 1kV data line
Test standard	IEC 61000-4-6 (immunity to conducted interference)
Test result	3 V (10 kHz 150 kHz), 10 V (150 kHz 80 MHz)
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2:2005
Vibration (storage/transport)	5g, 10 Hz 150 Hz, in accordance with IEC 60068-2-6
Free from substances that could impair the application of coating	In acc. with VW specification
Shock	DIN EN 60068-2-27
Vibration (operation)	in accordance with IEC 60068-2-6: 5g, 10 Hz 150 Hz

### **Environmental Product Compliance**

China RoHS	Environmentally Friendly Use Period = 50	
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"	

## Classifications

### eCl@ss

eCl@ss 4.0	27240409
eCl@ss 4.1	27240409
eCI@ss 5.0	27242215
eCl@ss 5.1	19030117
eCl@ss 6.0	19170103
eCl@ss 7.0	19170103
eCl@ss 8.0	19170103
eCl@ss 9.0	19170103

### **ETIM**

ETIM 2.0	EC001423
ETIM 3.0	EC001423
ETIM 4.0	EC001478
ETIM 5.0	EC001478
ETIM 6.0	EC001478

### **UNSPSC**

UNSPSC 6.01	20142601
UNSPSC 7.0901	20142601
UNSPSC 11	20142601
UNSPSC 12.01	20142601
UNSPSC 13.2	43222609



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Approvals			
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Approvals	/ CL / ADS / DINA / CL	-SW / EAC / EAC / DNV / BV / ABS / GL / cULus Listed	
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Ex Approvals			
Approval details			
UL Listed	LISTED	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Listed	CUL	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
LR	Lloyds Register	http://www.lr.org/en	08/20033
GL	(GL)	http://exchange.dnv.com/tari/	19910-11 HH
ABS	ABS	http://www.eagle.org/eagleExternalPortalWEB/	08- HG362706-5-PDA
RINA		http://www.rina.org/en	ELE096514XG
GL-SW			19910-11 HH
EAC	EAC		EAC-Zulassung



### Approvals

EAC	ERC		RU *- DE.A*30.B.01735
DNV	ĵů	http://exchange.dnv.com/tari/	A-13984
BV	EXCELSES.	http://www.veristar.com/portal/veristarinfo/generalinfo/ approved/approvedProducts/equipmentAndMaterials	42674/A1 BV
ABS		http://www.eagle.org/eagleExternalPortalWEB/	17-HG1621873-PDA
GL	(L) (BI)	http://www.gl-group.com/newbuilding/approvals/index.html	
cULus Listed			

### Accessories

Accessories

Configuration memory

Configuration memory - FL MEM PLUG - 2891259



Exchangeable configuration memory of the device settings for simple device exchange and set-up

### License

License - FL MGUARD LIC LIFETIME FW - 2700184



License for lifetime software update of FL MGUARD field devices.



### Accessories

License - FL MGUARD LIC CIM - 2701083



License for activating CIFS Integrity Monitoring (CIM) on an FL MGUARD

License - FL MGUARD LIC VPN-250 GROUP - 2700192



License for up to 250 additional VPN online connections

#### License - FL MGUARD LIC VPN-250 - 2700193



License for up to 250 additional VPN online connections

#### License - FL MGUARD LIC VPN-10 - 2700194



License for up to 10 additional VPN online connections

#### Patch cable

Patch cable - FL CAT5 PATCH 0,3 - 2832250



Patch cable, CAT5, assembled, 0.3 m



### Accessories

Patch cable - FL CAT5 PATCH 0,5 - 2832263



Patch cable, CAT5, assembled, 0.5 m

Patch cable - FL CAT5 PATCH 1,0 - 2832276



Patch cable, CAT5, assembled, 1 m

Patch cable - FL CAT5 PATCH 1,5 - 2832221



Patch cable, CAT5, assembled, 1.5 m

Patch cable - FL CAT5 PATCH 2,0 - 2832289



Patch cable, CAT5, assembled, 2 m

Patch cable - FL CAT5 PATCH 3,0 - 2832292



Patch cable, CAT5, assembled, 3 m



### Accessories

Patch cable - FL CAT5 PATCH 5,0 - 2832580



Patch cable, CAT5, assembled, 5 m

Patch cable - FL CAT5 PATCH 7,5 - 2832616



Patch cable, CAT5, assembled, 7.5 m

Patch cable - FL CAT5 PATCH 10,0 - 2832629



Patch cable, CAT5, assembled, 10 m

Patch cable - FL CAT6 PATCH 12,5 - 2891369



Patch cable, CAT6, pre-assembled, 12.5  $\,\mathrm{m}$ 

Patch cable - FL CAT6 PATCH 15,0 - 2891372



Patch cable, CAT6, pre-assembled, 15.0 m



### Accessories

Patch cable - FL CAT6 PATCH 20,0 - 2891576



Patch cable, CAT6, pre-assembled, 20.0 m

### Plug

RJ45 connector - FL PLUG RJ45 GR/2 - 2744856



RJ45 connector, shielded, with bend protection sleeve, 2 pieces, gray for straight cables, for assembly on site. For connections that are not crossed, it is recommended that you use the connector set with gray bend protection sleeve.

#### RJ45 connector - FL PLUG RJ45 GN/2 - 2744571



RJ45 connector, shielded, with bend protection sleeve, 2 pieces, green for crossed cables, for assembly on site. For connections that are crossed, it is recommended that the connector set with green bend protection sleeves is used.

## Protective cap

Dust protection - FL RJ45 PROTECT CAP - 2832991



Dust protection caps for RJ45 socket

### Remote control software

License - MGUARD SECURE VPN CLIENT LIC - 2702579



License for mGuard Secure VPN Client v10.0x

### SFP module



### Accessories

Media module - FL SFP LX - 2891767



Gigabit SFP module for transmission up to 30 km with a wavelength of 1310 nm.

Media module - FL SFP SX - 2891754



Gigabit SFP module for transmission up to 1 km with a wavelength of 850 nm.

Media module - FL SFP LH - 2989912



Gigabit SFP module for transmission up to 80 km with a wavelength of 1,550 nm.

Media module - FL SFP FX - 2891081



The small form-factor plug-in module provides a fiber optic interface with a data transmission speed of 100 Mbps with a wavelength of 1310 nm (long).

Media module - FL SFP FX SM - 2891082



The small form-factor plug-in module provides a fiber optic interface with a data transmission speed of 100 Mbps with a wavelength of 1310 nm (long).

Universal tools



### Accessories

Assembly tool - FL CRIMPTOOL - 2744869



Crimping pliers, for assembling the RJ45 plugs FL PLUG RJ45..., for assembly on site

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