

## Industrial Ethernet Switch - FL SWITCH 2208 - 2702327

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Managed Switch 2000, 8 RJ45 ports 10/100 Mbps, degree of protection: IP20, PROFINET Conformance-Class B

### Your advantages

- Suitable for PROFINET and EtherNet/IP™ networks
- Easy and fast startup and commissioning with the FL NETWORK MANAGER software
- Configuration memory
- RSTP
- DHCP client, DHCP server (pool-based and port-based), DHCP option 82
- VLANs
- MRP (client and master)
- Web-based management, SNMP
- Slim design
- 40°C ... +70°C ambient temperature



### Key Commercial Data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 1 pc  |
| GTIN                                 | <br>4 055626 128931 |
| GTIN                                 | 4055626128931   |
| Weight per Piece (excluding packing) | 230.000 g   |
| Custom tariff number                 | 85176200  |
| Country of origin                    | Germany   |

### Technical data

#### Note

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

#### Dimensions

|       |       |
|-------|-------|
| Width | 45 mm |
|-------|-------|

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### Dimensions

|        |        |
|--------|--------|
| Height | 130 mm |
| Depth  | 115 mm |

### Ambient conditions

|  |   |
|--|---|
| Degree of protection                     | IP20  |
| Ambient temperature (operation)          | -40 °C ... 70 °C  |
| Ambient temperature (storage/transport)  | -40 °C ... 85 °C  |
| Permissible humidity (operation)         | 10 % ... 95 % (non-condensing)  |
| Permissible humidity (storage/transport) | 10 % ... 95 % (non-condensing)  |
| Air pressure (operation)                 | 79 kPa ... 108 kPa up to 2000 m above mean sea level (Without derating) |
| Air pressure (storage/transport)         | 79 kPa ... 108 kPa up to 2000 m above mean sea level (Without derating) |

### Interfaces

|                               |                                   |
|-------------------------------|-----------------------------------|
| Interface                     | Ethernet (RJ45)                   |
| No. of ports                  | 8 (RJ45 ports)                    |
| Note on the connection method | Auto negotiation and autocrossing |
| Transmission physics          | Copper                            |
| Transmission speed            | 10/100 Mbps                       |
| Transmission length           | 100 m (per segment)               |
| Signal LEDs                   | Data receive, link status         |

### Function

|                      |  |
|----------------------|--|
| Basic functions      | Store-and-forward switch, complies with IEEE 802.3 |
| Management           | Web-based management (HTTP/HTTPS)                  |
|                      | SNMPv1/v2/v3                                       |
|                      | Command-line interface (Telnet, SSH)               |
| Diagnostic functions | RMON History                                       |
|                      | LLDP (Link Layer Discovery Protocol)               |
|                      | SNMP-Traps   |
|                      | N:1-Portmirroring                                  |
|                      | ACD (Address Conflict Detection)                   |
|                      | SysLog   |
|                      | CRC-Surveillance                                   |
| Filter functions     | Quality of Service (8 priority classes)            |
|                      | Port-Priorisierung                                 |
|                      | VLAN (up to 32 VLANs)                              |
|                      | IGMP Snooping/Querier (v1/v2)                      |
|                      | Auto-Query-Port                                    |
|                      | Extended Multicast Filtering                       |
| Redundancy           | MRP (Media Redundancy Protocol)                    |
|                      | RSTP (Rapid Spanning Tree Protocol)                |

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### Function

|                                  |   |
|----------------------------------|---|
|                                  | FRD (Fast Ring Detection)   |
|                                  | Large Tree Support  |
|                                  | LACP (Link Aggregation Control Protocol)  |
| Additional functions             | Transmission of MMS and GOOSE (IEC 61850-8-1)   |
| MAC address table                | 8k  |
| IP parameterization              | DHCP-Client   |
|                                  | DHCP Option 82 (Relay Agent)  |
|                                  | DHCP server (pool-based, port-based)  |
|                                  | BootP   |
| PROFINET device function         | PROFINET device   |
|                                  | Fast Startup  |
| PROFINET conformance class       | Conformance-Class B   |
| Time synchronization             | SNTP (Simple Network Time Protocol)   |
| Status and diagnostic indicators | LEDs: US1, US2 (power supply), Fail (alarm contact), 2 LEDs per Ethernet port (Link/Activity and Speed) |
| Signal contact control voltage   | typ. 24 V DC  |

### Network expansion parameters

|   |  |
|---|--|
| Cascading depth                         | Network, linear, and star structure: any |
| Maximum conductor length (twisted pair) | 100 m                                    |

### Supply voltage

|                             |   |
|-----------------------------|---|
| Supply voltage              | 24 V DC (redundant)   |
| Residual ripple             | 3.6 V <sub>pp</sub> (within the permitted voltage range)                    |
| Supply voltage range        | 9 V DC ... 57 V DC  |
| Typical current consumption | 185 mA (at U <sub>S</sub> = 24 V DC and 25 °C ambient temperature)          |
| Max. current consumption    | 1.3 A (U <sub>S</sub> = Min, T <sub>amb</sub> = Max, DO <sub>I</sub> = Max) |
| Current consumption         | 190 mA  |

### General

|                  |  |
|------------------|--|
| Mounting type    | DIN rail   |
| Type AX          | Book type  |
| Net weight       | 230 g  |
| Housing material | Polycarbonate fiber reinforced   |
| Note             | Support by phone or on-site (fee is charged)   |
| MTTF             | 494.02 Years (SN 29500 standard, temperature 25 °C, operating cycle 21 % (5 days a week, 8 hours a day))     |
|                  | 235.18 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day)) |
|                  | 29.73 Years (SN 29500 standard, temperature 70 °C, operating cycle 100 % (7 days a week, 24 hours a day))    |

### Connection data

|                   |                           |
|-------------------|---------------------------|
| Connection method | Push-in spring connection |
|-------------------|---------------------------|

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### Connection data

|                                       |                      |
|---------------------------------------|----------------------|
| Conductor cross section solid min.    | 0.25 mm <sup>2</sup> |
| Conductor cross section solid max.    | 1.5 mm <sup>2</sup>  |
| Conductor cross section flexible min. | 0.25 mm <sup>2</sup> |
| Conductor cross section flexible max. | 1.5 mm <sup>2</sup>  |
| Conductor cross section AWG min.      | 24                   |
| Conductor cross section AWG max.      | 16                   |
| Stripping length                      | 9 mm                 |

### Standards and Regulations

|   |  |
|---|--|
| Electromagnetic compatibility                                     | Conformance with EMC Directive 2014/30/EU                        |
| Interference emission   | EN 61000-6-2 EN 61000-6-4 (interference) Class A                 |
| Conducted noise emission  | EN 61000-6-2 EN 61000-6-4 (conducted interference) Class A       |
| Immunity to surge   | EN 61000-6-2 EN 61000-4-5 (surge) Criterion B                    |
| Immunity to burst   | EN 61000-6-2 EN 61000-4-4 (EFT burst) Criterion A                |
| Immunity to EF  | EN 61000-6-2 EN 61000-4-3 (electromagnetic fields) Criterion A   |
| Immunity to ESD   | EN 61000-6-2 EN 61000-4-2 (ESD) Criterion B                      |
| Immunity to conducted interference                                | EN 61000-6-2 EN 61000-4-6 (line noise immunity) Criterion A      |
| Type of test  | Free fall in accordance with EN 61131-2                          |
| Noise emission  | EN 61000-6-4   |
| Noise immunity  | EN 61000-6-2   |
| Vibration (storage/transport)                                     | 5g, 150 Hz, in acc. with IEC 60068-2-6                           |
| Free from substances that could impair the application of coating | Yes  |
| Vibration (operation)   | in acc. with IEC 60068-2-6: 5g, 150 Hz                           |
| Shock (operation)   | 30g (EN 60068-2-27)  |
| ATEX  | # II 3 G Ex ec IIC T4 Gc   |
| IECEX   | Ex ec IIC T4 Gc  |
| UL, USA   | UL 60079-0, Ed.6 / UL 60079-7, Ed.5                              |
| UL, USA/Canada  | Class I, Div. 2, Groups A, B, C, D T4<br>Class I, Zone 2, IIC T4 |
| UL, Canada  | CSA C22.2 NO.60079-0, Ed.3 / CSA C22.2 NO.60079-7:16             |
| Noxious gas test  | ISA S71.04.2013 G3 Harsh Group A                                 |

### Environmental Product Compliance

|            |   |
|------------|---|
| REACH SVHC | Lead 7439-92-1  |
| 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 10.0.1 | 19170401 |
|---------------|----------|

<https://www.phoenixcontact.com/gb/products/2702327>

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### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27250501 |
| eCl@ss 4.1 | 27250501 |
| eCl@ss 5.0 | 19030100 |
| eCl@ss 5.1 | 19030100 |
| eCl@ss 6.0 | 19170100 |
| eCl@ss 7.0 | 19170106 |
| eCl@ss 8.0 | 19170106 |
| eCl@ss 9.0 | 19170106 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC000734 |
| ETIM 4.0 | EC000734 |
| ETIM 5.0 | EC000734 |
| ETIM 6.0 | EC000734 |
| ETIM 7.0 | EC000734 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 43172015 |
| UNSPSC 7.0901 | 43201404 |
| UNSPSC 11     | 43172015 |
| UNSPSC 12.01  | 43201410 |
| UNSPSC 13.2   | 43222612 |

### Approvals

#### Approvals

##### Approvals

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DNV GL / LR / ABS / BSH / RINA / UL Listed / cUL Listed / EAC / NK / BV / cULus Listed

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##### Ex Approvals

IECEX / ATEX / UL Listed / cUL Listed / cULus Listed









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#### Approval details

|        |   |   |            |
|--------|---|---|------------|
| DNV GL |  | <a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a> | TAA00000YV |
|--------|---|---|------------|

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### Approvals

|              |   |   |                        |
|--------------|---|---|------------------------|
| LR           |    | <a href="http://www.lr.org/en">http://www.lr.org/en</a>   | 17/20056               |
| ABS          |   | <a href="http://www.eagle.org/eagleExternalPortalWEB/">http://www.eagle.org/eagleExternalPortalWEB/</a>   | 17-<br>HG1592765-1-PDA |
| BSH          |   | <a href="http://www.bsh.de/de/index.jsp">http://www.bsh.de/de/index.jsp</a>   | Nr. 966                |
| RINA         |    | <a href="http://www.rina.org/en">http://www.rina.org/en</a>   | ELE130419XG            |
| UL Listed    |    | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>   | FILE E 238705          |
| cUL Listed   |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>   | FILE E 238705          |
| EAC          |  |   | RU*<br>DE.*.B.00741/19 |
| NK           |  | <a href="http://www.classnk.or.jp/hp/en/">http://www.classnk.or.jp/hp/en/</a>   | TA19464M               |
| BV           |  | <a href="http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials">http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials</a> | 48146/A0 BV            |
| cULus Listed |  |   |                        |



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