

## Industrial Ethernet Switch - FL SWITCH SFN 6TX/2FX ST - 2891411

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Ethernet switch, 6 TP RJ45 ports, 2 FO ports, 100 Mbps full duplex in ST-D format, automatic detection of data transmission speed of 10 or 100 Mbps (RJ45), autocrossing function

### Your advantages

- ✓ Auto negotiation and autocrossing detection simplifies installation and setup
- ✓ The switch also offers cable locking and port blocking
- ✓ Local diagnostic indicators with LEDs
- ✓ RJ45 ports support a transmission speed of 10/100 Mbps; fiber optic ports support 100 Mbps
- ✓ QoS-prioritized (Quality of Service) messages



### Key Commercial Data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 1 pc  |
| GTIN                                 | <br>4 046356 100861 |
| GTIN                                 | 4046356100861   |
| Weight per Piece (excluding packing) | 520.600 g   |
| Custom tariff number                 | 85176200  |
| Country of origin                    | Taiwan  |

### Technical data

#### Dimensions

|        |        |
|--------|--------|
| Width  | 50 mm  |
| Height | 120 mm |
| Depth  | 70 mm  |

#### Ambient conditions

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## Technical data

### Ambient conditions

|  |   |
|--|---|
| Degree of protection                     | IP20  |
| Ambient temperature (operation)          | 0 °C ... 60 °C                                    |
| Ambient temperature (storage/transport)  | -20 °C ... 70 °C                                  |
| Permissible humidity (operation)         | 5 % ... 95 % (non-condensing)                     |
| Permissible humidity (storage/transport) | 5 % ... 95 % (non-condensing)                     |
| Air pressure (operation)                 | 86 kPa ... 108 kPa (up to 1500 m above sea level) |
| Air pressure (storage/transport)         | 66 kPa ... 108 kPa (up to 3500 m above sea level) |

### Interfaces

|                               |                                   |
|-------------------------------|-----------------------------------|
| Interface                     | Ethernet (RJ45)                   |
| No. of ports                  | 6 (RJ45 ports)                    |
| Note on the connection method | Auto negotiation and autocrossing |
| Transmission physics          | Ethernet in RJ45 twisted pair     |
| Transmission speed            | 10/100 Mbps                       |
| Transmission length           | 100 m (per segment)               |
| Signal LEDs                   | Data receive, link status         |
| Interface                     | Fiber optic interface             |
| No. of ports                  | 2 (ST multi-mode)                 |
| Transmission physics          | multi-mode fiberglass             |
| Transmission speed            | 100 Mbps (full duplex)            |
| Transmission length           | 2000 m (Fiberglass 50/125)        |
|                               | 2000 m (Fiberglass 62.5/125)      |
| Wavelength                    | 1300 nm                           |

### Function

|                                  |   |
|----------------------------------|---|
| Basic functions                  | Unmanaged switch / auto negotiation, complies with IEEE 802.3, store and forward switching mode |
| Additional functions             | Autonegotiation   |
| Status and diagnostic indicators | LEDs: U <sub>S</sub> , link and activity per port   |

### 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  |
| Residual ripple             | 3.6 V <sub>PP</sub> (within the permitted voltage range) |
| Supply voltage range        | 9 V DC ... 32 V DC                                       |
| Typical current consumption | 230 mA (at U <sub>S</sub> = 24 V DC)                     |

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## Technical data

### General

|                  |   |
|------------------|---|
| Mounting type    | DIN rail  |
| Type AX          | Block design  |
| Net weight       | 365 g   |
| Housing material | Aluminum  |
| MTTF             | 56.8 Years (MIL-HDBK-217F standard, temperature 25°C, operating cycle 100%) |

### Standards and Regulations

|                               |  |
|-------------------------------|--|
| Electromagnetic compatibility | Conformance with EMC Directive 2004/108/EC |
| Noise emission                | EN 61000-6-4                               |
| Noise immunity                | EN 61000-6-2:2005                          |
| Vibration (storage/transport) | 5g, 150 Hz, in acc. with IEC 60068-2-6     |
| Vibration (operation)         | in acc. with IEC 60068-2-6: 5g, 150 Hz     |

### Environmental Product Compliance

|            |   |
|------------|---|
| REACH SVHC | Lead 7439-92-1  |
| China RoHS | Environmentally Friendly Use Period = 10;   |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

## Classifications

### eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 19170402 |
| eCl@ss 11.0   | 19170402 |
| eCl@ss 4.0    | 27250500 |
| eCl@ss 4.1    | 27250500 |
| eCl@ss 5.0    | 19030100 |
| eCl@ss 5.1    | 19030100 |
| eCl@ss 6.0    | 19170100 |
| eCl@ss 7.0    | 19170106 |
| eCl@ss 9.0    | 19170106 |

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000734 |
| ETIM 3.0 | EC000734 |
| ETIM 4.0 | EC000734 |
| ETIM 6.0 | EC000734 |
| ETIM 7.0 | EC000734 |

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## Classifications

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 43172015 |
| UNSPSC 7.0901 | 43201404 |
| UNSPSC 11     | 43172015 |
| UNSPSC 12.01  | 43201410 |
| UNSPSC 13.2   | 43222612 |
| UNSPSC 18.0   | 43222612 |
| UNSPSC 19.0   | 43222612 |
| UNSPSC 20.0   | 43222612 |
| UNSPSC 21.0   | 43222612 |

## Approvals

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#### Approvals

UL Listed / cUL Listed / EAC / KC / UL Listed / cUL Listed

#### Ex Approvals

UL Listed / cUL Listed / UL Listed / cUL Listed

### Approval details

|           |  |   |               |
|-----------|--|---|---------------|
| 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 140324 |
|-----------|--|---|---------------|

|            |  |   |               |
|------------|--|---|---------------|
| 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 140324 |
|------------|--|---|---------------|

|     |  |  |                     |
|-----|--|--|---------------------|
| EAC |  |  | RU*-DE.*.B.00741/19 |
|-----|--|--|---------------------|

|    |  |   |                      |
|----|--|---|----------------------|
| KC |  | <a href="http://eng.kcc.go.kr/user/ehpMain.do">http://eng.kcc.go.kr/user/ehpMain.do</a> | MSIP-REI-PCK-FL28914 |
|----|--|---|----------------------|

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## Approvals

|           |  |   |               |
|-----------|--|---|---------------|
| UL Listed |  | <a href="http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm</a> | FILE E 238705 |
|-----------|--|---|---------------|

|            |  |   |               |
|------------|--|---|---------------|
| cUL Listed |  | <a href="http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm</a> | FILE E 238705 |
|------------|--|---|---------------|

## Accessories

### Accessories

#### Data cable preassembled

Patch cable - NBC-R4AC-R4AC-IE8A/.../... - 1411854



Patch cable, degree of protection: IP20, number of positions: 8, 10 Gbps, CAT6<sub>A</sub>, cable outlet: straight, Ethernet

Patch cable - NBC-R4AC/10G-R4AC/10G-94F/2,0 - 1408360



Patch cable, CAT6<sub>A</sub>, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 2.0 m

Patch cable - NBC-R4AC/10G-R4AC/10G-94F/3,0 - 1408365



Patch cable, CAT6<sub>A</sub>, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 3.0 m

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### Accessories

Patch cable - NBC-R4AC/1,0-93B/R4AC - 1408968



Patch cable, degree of protection: IP20, cable length: 1 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

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Patch cable - NBC-R4AC/2,0-93B/R4AC - 1408969



Patch cable, degree of protection: IP20, cable length: 2 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

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Patch cable - NBC-R4AC/5,0-93B/R4AC - 1408970



Patch cable, degree of protection: IP20, cable length: 5 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

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FO patch cable - FOC-ST:PA-SC:PA-OM2:D01/1 - 1115574



Multi-mode OM2 duplex jumper, ST-SC, UPC polishing, length 1 m

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FO patch cable - FOC-ST:PA-SC:PA-OM2:D01/2 - 1115573



Multi-mode OM2 duplex jumper, ST-SC, UPC polishing, length 2 m

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### Accessories

FO patch cable - FOC-ST:PA-ST:PA-OM2:D01/1 - 1115560



Multi-mode OM2 duplex jumper, ST-ST, UPC polishing, length 1 m

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FO patch cable - FOC-ST:PA-ST:PA-OM2:D01/2 - 1115557



Multi-mode OM2 duplex jumper, ST-ST, UPC polishing, length 2 m

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Fiber optic cable - FOC-LC:PA-ST:PA-OM2:D01/1 - 1115588



Multi-mode OM2 duplex jumper, LC-ST, UPC polishing, length 1 m

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Fiber optic cable - FOC-LC:PA-ST:PA-OM2:D01/2 - 1115587



Multi-mode OM2 duplex jumper, LC-ST, UPC polishing, length 2 m

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### End block

End clamp - E/NS 35 N - 0800886



End clamp, width: 9.5 mm, color: gray

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## Accessories

### Mounting rail adapter

DIN rail adapter - FL DIN RA - 2891053



The FL DIN RA is installed in a standard, 19-inch rack (EIA-310-D, IEC 60297-3-100) to allow DIN rail mounted equipment to be rack mounted.

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### Patch cable

Patch cable - FL CAT5 PATCH 0,5 - 2832263



Patch cable, CAT5, assembled, 0.5 m

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Patch cable - FL CAT5 PATCH 1,0 - 2832276



Patch cable, CAT5, assembled, 1 m

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Patch cable - FL CAT5 PATCH 2,0 - 2832289



Patch cable, CAT5, assembled, 2 m

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### PCB plug

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## Accessories

### Printed-circuit board connector - MSTB 2,5/ 4-ST - 1754481



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 4, Number of rows: 1, Number of positions per row: 4, number of connections: 4, product range: MSTB 2,5/..-ST, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, Locking clip: - Locking clip, plug-in system: CLASSIC COMBICON, Locking: without, mounting: without, type of packaging: packed in cardboard

### Protective cap

#### Dust protection - FL RJ45 PROTECT CAP - 2832991



Dust protection caps for RJ45 socket

### Safety locking

#### Port Guard Security Element - FL SEC PAC 4TX - 2832865



Layer1 security elements for four RJ45 network connections for use with patch boxes and panels

### Surge protection for information technology

#### Surge protection device - DT-LAN-CAT.6+ - 2881007



Surge protection in accordance with Class E<sub>A</sub> (CAT6<sub>A</sub>), for Gigabit Ethernet (up to 10 Gbps), token ring, FDDI/CDDI, ISDN, and DS1. Suitable for Power over Ethernet (PoE++ / 4PPoE) "Mode A" and "Mode B". RJ45 attachment plug with separate grounding cable and ground connection snap-on foot for NS 35 DIN rails.