

# Industrial Ethernet Switch - FL SWITCH SFNT 6TX/2FX ST-C - 2891049


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Wide-temperature 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, autocrossing function, reads QoS priority messages, accepts security frames. Conformal coating for harsh environments.



## Key Commercial Data

|              |   |
|--------------|---|
| Packing unit | 1 pc  |
| GTIN         | <br>4 046356 651141 |
| GTIN         | 4046356651141   |

## Technical data

### Note

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

### Dimensions

|        |        |
|--------|--------|
| Width  | 50 mm  |
| Height | 130 mm |
| Depth  | 100 mm |

### Ambient conditions

|  |  |
|--|--|
| Degree of protection                     | IP20   |
| Ambient temperature (operation)          | -40 °C ... 75 °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)                 | 62 kPa ... 108 kPa (up to 4160 m above mean sea level) |
| Air pressure (storage/transport)         | 62 kPa ... 108 kPa (up to 4160 m above mean sea level) |

### Interfaces

|              |                 |
|--------------|-----------------|
| Interface    | Ethernet (RJ45) |
| No. of ports | 6 (RJ45 ports)  |

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## Technical data

### Interfaces

|                               |  |
|-------------------------------|--|
| Note on the connection method | Auto negotiation and autocrossing                      |
| Transmission physics          | Ethernet in RJ45 twisted pair                          |
| Transmission speed            | 10/100 Mbps  |
| Interface                     | Fiber optic interface                                  |
| No. of ports                  | 2 (ST multi-mode)                                      |
| Transmission physics          | multi-mode fiberglass                                  |
| Transmission speed            | 100 Mbps (full duplex)                                 |
| Transmission length           | 12.1 km (fiberglass with F-G 62.5/125 0.7 dB/km F1000) |
|                               | 3.3 km (fiberglass with F-G 62.5/125 2.6 dB/km F600)   |
|                               | 7.1 km (fiberglass with F-G 50/125 0.7 dB/km F1200)    |
|                               | 3.1 km (fiberglass with F-G 50/125 1.6 dB/km F800)     |

### Function

|                                  |  |
|----------------------------------|--|
| Basic functions                  | Unmanaged switch / autonegotiation, complies with IEEE 802.3, store and forward switching mode, includes QoS and alarm contact |
| Additional functions             | Autonegotiation  |
| Status and diagnostic indicators | LEDs: U <sub>S1</sub> , U <sub>S2</sub> (redundant voltage supply), 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 (redundant)                                      |
| 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 | 250 mA (at U <sub>S</sub> = 24 V DC)                     |

### General

|                  |   |
|------------------|---|
| Mounting type    | DIN rail  |
| Type AX          | Block design  |
| Net weight       | 652.9 g   |
| Housing material | Aluminum  |
| MTTF             | 53.9 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                               |
| Conformance                   | CE-compliant                               |
| ATEX                          | # II 3 G Ex nA nC IIC T4 Gc                |
| IECEX                         | Ex nA nC IIC T4 Gc                         |
| UL, USA/Canada                | Class I, Div. 2, Groups A, B, C, D         |

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### 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 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 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   | 43172901 |
| 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

### Approvals

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Approvals

UL Listed / cUL Listed / EAC / cULus Listed

# Industrial Ethernet Switch - FL SWITCH SFNT 6TX/2FX ST-C - 2891049

## Approvals

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Ex Approvals

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

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### 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 *-<br>DE.A*08.B.00739 |
|-----|--|--|--------------------------|

|              |  |  |  |
|--------------|--|--|--|
| cULus Listed |  |  |  |
|--------------|--|--|--|

## Accessories

Accessories

Assembly adapter

Mounting plate - FL PA SFNT 5-8 - 2891012



Mounting plate for SFNT switches

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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

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## Accessories

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

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



PROFINET patch cable, shielded, star-quad, 22 AWG stranded (7-wire), green, straight RJ45 male connector/IP20 to straight RJ45 male connector/IP20, length: 1.0 m

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



PROFINET patch cable, shielded, star quad, 22 AWG stranded (7-wire), green, straight RJ45 plug/IP20, to straight RJ45 plug/IP20, length: 2 m

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



PROFINET patch cable, shielded, star quad, 22 AWG stranded (7-wire), green, straight RJ45 plug/IP20 to straight RJ45 plug/IP20, length: 5 m

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## Accessories

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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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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# Industrial Ethernet Switch - FL SWITCH SFNT 6TX/2FX ST-C - 2891049

## Accessories

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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## 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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# Industrial Ethernet Switch - FL SWITCH SFNT 6TX/2FX ST-C - 2891049

## Accessories

Patch cable - FL CAT5 PATCH 2,0 - 2832289



Patch cable, CAT5, assembled, 2 m

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## PCB plug

Printed-circuit board connector - MSTB 2,5/ 6-ST - 1754520



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 6, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

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## Protective cap

Dust protection - FL RJ45 PROTECT CAP - 2832991



Dust protection caps for RJ45 socket

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## 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

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## 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+) "Mode A" and "Mode B". RJ45 attachment plug with separate grounding cable and ground connection snap-on foot for NS 35 DIN rails.



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PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>

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