Ethernet Switch ESC TP08/FX02-SC-SmartCon

ESC TP08/FX02-SC-SmartCon
RJ45 / SC

Advantages

- Robust metal housing
- Individually configurable via USB
- EMC, temperature range and mechanical stability for toughest demands
- Conform to RoHS

Technical Characteristics

The Ethernet switch ESC TP08/FX02-SC-SmartCon has been designed for use in industrial environments and supports Ethernet (10 Mbit/s) and Fast Ethernet (100 Mbit/s). The switch can support linear, star and mixed topologies.

Up to 10 Ethernet devices can be connected: 8 to RJ45 and 2 to SC fibre optic ports (100 Base-FX; Full Duplex, SC connectors).

The Ethernet switch operates as an unmanaged switch in the Store and Forward Switching mode and supports Auto-crossing, Auto-negotiation and Auto-polarity.

<table>
<thead>
<tr>
<th>Identification</th>
<th>Part number</th>
<th>Drawing</th>
<th>Dimensions in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESC TP08/FX02-SC-SmartCon</td>
<td>20 76 110 1100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ethernet switch
8 RJ45 ports
2 SC ports
including set for assembly onto top hat mounting rail

All data given is in line with the actual state of art and therefore not binding.

HARTING reserves the right to modify designs without giving the relevant reasons.
## Technical Characteristics

### Features
- Auto-crossing
- Auto-negotiation
- Auto-polarity
- Store and Forward Switching Mode
- Parallel redundancy
- Port priorisation

### Power Supply
- **Power supply**: 24 V DC
- **Permissible range**: 18 V to 30 V
- **Input current**: 250 mA (at 24 V DC)
- **Power supply termination**: 5-pole pluggable screw contact, for redundant power supply
- **Diagnostics (via LED)**: Power supply

### Alarm signalling contact
- Change-over contact, potential-free, 24 V DC / 0.5 A
- 3-pole pluggable screw contact

### Parameterisation via USB
- Alarm signalling contact
- Auto-negotiation
- 10/100 Mbit/s
- Full/Half duplex
- Parallel redundancy
- Ports enable/disable
- Priority handling

### Ethernet Interface RJ45
- **Number of ports**: 8x 10/100Base-TX, unmanaged
- **Cable types according to IEEE 802.3**: Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
- **Data transmission rate**: 10 Mbit/s or 100 Mbit/s (RJ45)
- **Maximum cable length**: 100 m (Twisted Pair; with Category 5 cable according to EN 50 173-1)
- **Termination**: RJ45 (Twisted Pair)
- **Diagnostics (LED)**:
  - Status Link - Green
  - Status data transfer (Act) - Green flashing
  - Data transmission rate (Speed) - 100 Mbit/s: Yellow / 10 Mbit/s: OFF
- **Topology**: Line, Star or mixed
### Ethernet Switch ESC TP08/FX02-SC-SmartCon

#### Technical Characteristics

**Ethernet Interface - Fibre Optic**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of ports</td>
<td>2x 100 Base-FX, unmanaged</td>
</tr>
<tr>
<td>Cable types acc. to IEEE 802.3</td>
<td>Multimode-fibre, 1300 nm; 50 / 125 µm or 62.5 / 125 µm</td>
</tr>
<tr>
<td>Data rate</td>
<td>100 Mbit/s</td>
</tr>
<tr>
<td>Maximum cable length</td>
<td>2000 m</td>
</tr>
<tr>
<td>Termination</td>
<td>SC-D female</td>
</tr>
<tr>
<td>Diagnostics (LED)</td>
<td>• Status Link - green</td>
</tr>
<tr>
<td></td>
<td>• Data transfer (Act) - green flashing</td>
</tr>
<tr>
<td>Wave length</td>
<td>1300 nm</td>
</tr>
<tr>
<td>Transceive power TX max. (dynamic)</td>
<td>• -14 dBm (50 / 125 µm)</td>
</tr>
<tr>
<td></td>
<td>• -14 dBm (62.5 / 125 µm)</td>
</tr>
<tr>
<td>Transceive power TX min.</td>
<td>• -23.5 dBm (50 / 125 µm)</td>
</tr>
<tr>
<td></td>
<td>• -20 dBm (62.5 / 125 µm)</td>
</tr>
<tr>
<td>Receive power RX typical (dynamic)</td>
<td>• -33.9 dBm (window)</td>
</tr>
<tr>
<td></td>
<td>• -35.2 dBm (centre)</td>
</tr>
<tr>
<td>Receive power RX max. (dynamic)</td>
<td>-14 dBm</td>
</tr>
<tr>
<td>Signal detection (dynamic)</td>
<td>-33 dBm</td>
</tr>
<tr>
<td>Topology</td>
<td>Line, Star or mixed</td>
</tr>
</tbody>
</table>

![Graph showing optical power budget vs. fiber optic cable length](image)
## Technical Characteristics

### Design features
- **Housing material**: Steel panel (grey painted)
- **Dimensions (W x H x D)**: 59 x 104 x 132 mm (without connectors)
- **Weight**: approx. 0.6 kg
- **Degree of protection**: IP 30 (DIN 60 529)
- **Mounting**:
  - 35 mm top-hat mounting rail EN 60 715
  - Wall mounting, vertical

### Mechanical solidness
- **Shock**
  - IEC 60 068-2-27
  - 15 g
  - 11 ms duration
  - Shock form: Half sine-wave
- **Vibration**
  - EN 60 068-2-6
- **Rail-standard**
  - EN 50 155, Class 1

### Environmental conditions
- **Operating temperature**: 0 °C to +70 °C
- **Storage temperature**: -40 °C to +85 °C
- **Relative humidity**: 30 % to 95 % (non-condensing)

### Approvals
- **cUL**: (in preparation)

### EMC standards
- **Interference immunity ESD**: IEC 61 000-4-2
- **Interference immunity, HF radiated**: IEC 61 000-4-3
- **Interference immunity, Burst**: IEC 61 000-4-4
- **Interference immunity, Surge**: IEC 61 000-4-5
- **Interference immunity**: IEC 61 000-4-6
- **Emitted radiation**: EN 55 011, Class A