

LMSW – 10 Ruggedized Field Switch

LMSW 10 ruggedized switch has been developed as a part of solution: Integrated System (ISSŘ) for Armed Forces of the Czech Republic

Description:

The interconnection networks, based on fiber optic components, are designed to connect the nodes of tactical networks with the help of optical fiber cables. The Expanded Beam technology used preserves all advantages of signal transmissions through optical lines in harsh environmental field conditions.

For example, the tactical fiber optic cables with Expanded Beam connectors allow arranging the connection between headquarters and subaltern points in field conditions in a very short time. The flexible 2 – 6 fiber 6 mm outer diameter optical cables have a high crush and strain relief resistance and a rugged field repairable connector design. The wide range of cable drums has been developed to facilitate storage and handling with cable coils. The drums are designed to store up to 500 m tactical cable and the low weight of the cable coils allows easy network reconfiguration in field conditions.

The optical interface of the active networking device should be based on the same Expanded Beam technology, preferably on the same standards used for installation of the passive infrastructure of the tactical fiber optic network.

The LMSW-10 ruggedized field switch has been developed according to the above mentioned requirements. The switch combines all advantages: excellent optical network performance and rugged construction designed for operation in harsh environmental conditions. The LMSW-10-282 includes a 10 port switch (2 fiber optic, 8 UTP LAN ports) and a VoIP gateway with 2 FXS ports. The LAN1-4 ports offer PoE (Power over Ethernet) capability.

Features:

- Robust compact design
- Resistant to harsh environmental conditions and rough handling
- 2 fiber optic ports, 8 UTP ports, 2 FXS ports
- PoE – Power over Ethernet (LAN 1-4 ports)
 - Pre-standard PoE(IP phones 7960G series)
- IEEE 802.3/802.3u auto-negotiation function
- QoS function for each port
- LED signalization
- VLAN support for each port
- Support of STP (Spanning Tree Protocol)
- Autocross function for UTP ports
- Power supply from 12 – 32 V, DC
 - backup battery - 4 hours operation
 - AC/DC adaptor included
- Complies with STANAG 4643 standards
- Hard carrying case for transportation

NATO supplier code: 1583G

**Czech Army Technical specifications:
TP-LMSW10-OPT01-08**



Specifications:

| | | |
|--|--------------|---|
| Standard | data VoIP | IEEE 802.3 10Base-T, 802.3u 100Base-TX a 100Base-FX H323 (SIP ¹ , Call Manager ¹) |
| Protocol | | CSMA/CD |
| Interface | | Metallic - mechanical resistant, watertight connectors Optical - HMA 62.5/125 µm or 50/125 µm MM optical cable 9/125 µm SM optical cable |
| PoE | | PSE – power sourcing equipment, LAN port 1-4 Pre-standard PoE ² |
| Wavelength | | MM: 1300 nm, SM: 1310 nm, 1550 nm |
| Distance | | UTP cable (10Base-T, 100Base-TX): 100 m MM optical cable, full duplex: 2 km, SM optical cable, full duplex: 10, 30, 50, 80 or 120 km |
| Environmental temperature humidity | | Fulfils MIL-STD 810E operating -30 °C to +50 °C, storage -50 °C to + 70 °C 10% to 95% |
| Mechanical | | Fulfils MIL-STD 810E, IP 63 protection |
| Power supply | | 12 to 32 V DC |
| Dimensions | | 576 x 305 x 335 mm (W x D x H), 795 x 518 x 393 mm including transporting box |

Note: 1) on request
2) PoE - IEEE 802.3af standard on request

Ordering code:

| | | | | | | | | |
|--|-----------|------------|------------|-----------------------|----------------------|---------------------|---------------------------------|-----------|
| LMSW-10 | - | XXX | - | XX | - | XX | - | XX |
| Ports configuration³ | | | | Fiber optic | Distance (FO) | | Power supply⁴ | |
| Type | FO | UTP | FXS | M: Multimode | 02: 2 km (MM) | DC: external | | |
| 282 | 2 | 8 | 2 | S3: SM 1310 nm | 10: 10 km | | | |
| | | | | S5: SM 1550 nm | 30: 30 km | | | |
| | | | | | 50: 50 km | | | |

Note 3) other – on request

4) AC, DC without battery backup – on request

Tests:

| 1. Environmental and mechanical tests | | 2. Electromagnetical compatibility tests | |
|--|---|---|--|
| MIL-STD 810E Method 501.3 High temperature | working temperature +50°C storage temperature +65°C | EMC – electromagnetical compatibility according to EMC Test Regulations: EN 55022/1998 + A1:2000 + A2:2003, Class A EN 55024/1998 + A1:2001 EM emission, EM compatibility | |
| MIL-STD 810E Method 502.3 Low temperature | working temperature -40°C storage temperature -50°C | | |
| MIL-STD 810E Method 503.3 Change of temperature | High storage temperature +65°C Low storage temperature -50°C | | |
| MIL-STD 810E Method 506.3 | Rain | | |
| MIL-STD 810E Method 507.3 | Humidity cyclic 95% RH max | | |
| MIL-STD 810E Method 513.4 | Acceleration | | |
| MIL-STD 810E Method 514.4 | Vibration | | |
| MIL-STD 810E Method 516.4 | Impact | | |

Standard Accessories:

- Documentation and User Manual
- Cables
 - 8x LAN-RJ45 (CANON IP/67)/RJ-45 ... (5-8 m)
 - 2x FXS-RJ45 (CANON IP/67)/RJ-11 ... (5-8 m)
 - 1x CONSOLE SWITCH-RJ45/DB9-IP65 ... (1,5 m)
 - 1x CONSOLE GATEWAY – RJ45/DB9-IP65 ... (1,5 m)
 - 1x power supply cable (3 pins connector)... (3 m)
- Ruggedized Transport Box
- External power supply SPS-PWAC-150-IP63, AC/DC 230 V/24 V

Military Optical Network

