

# T(P)ES-0008CB

## 8 10/100TX (PoE at/af) EN50155 Ethernet Switch

- IEEE802.3at/af up to 30W PoE output (for PoE model)
- Dual power inputs 9~36V (24VI model) or 16.8~56V (24TVI model); with galvanic isolation between input power, PoE (for PoE model) and all Ethernet ports
- Wide Operating Temperature from -40°C to 75°C
- Efficient PoE timer when ignition off (-IGN model)
- Inrush current prevention; polarity reverse protection
- IP54 Aluminum housing for best heat dissipation and preventing moist ingress
- EN50155/50121-3-2/50121-4 and EN45545-2 Fire & Smoke verification
- E-mark certificate for vehicle (24VI model)
- ITxPT\* labeled w/ignition function (24VI-IGN model)



### OVERVIEW

Lantech T(P)ES-0008CB is an 8 10/100 Base-TX with M12-connectors EN50155 unmanaged Ethernet switch with IP54 rated protection which meets the high-reliability requirements demanded by industrial rolling stock applications.

**Redundant dual 24VI/24TVI input with max PoE budget; inrush current prevention and polarity reverse protection**

The T(P)ES-0008CB 24VI model accepts 9~36VDC dual input and 24TVI model accepts 16.8~56VDC with galvanic isolation to PoE and all Ethernet ports. PoE feeding with 80W budget from internal power. The redundant power input design prevents inrush current and safeguards against polarity reversal.

**E-marking certificate, ITxPT\*; ISO 7637-2 compliant and extended working temperature**

The T(P)ES-0008CB is designed to meet with critical network environment with IP54 enclosure and M12 connectors for protection against dust and water. It has passed harsh environmental testing to comply with Industrial EMI and Safety standards as well as stability testing such as Free fall, Shock,

and vibration. It is labeled with ITxPT\* public transport standards and also compliant with ISO 7637-2 which protects switch from being damaged by high voltage that could be found at vehicle cranky start.

For greater flexibility in application the T(P)ES-0008CB supports an extended operating temperature range from -40°C to 75°C.

**Efficient PoE timer when ignition off**

Efficient PoE configuration when ignition off supports optional PoE feeding OFF timer (1/5/10mins or default by 60mins) at ignition off mode to prevent car battery drain-out. (- IGN model)

The E-marking certificate makes it the most suitable switch for bus, carriage, other vehicle applications as well as for industrial areas where the power source is limited with 12V or 24V but has demand of IP surveillance or VoIP applications.

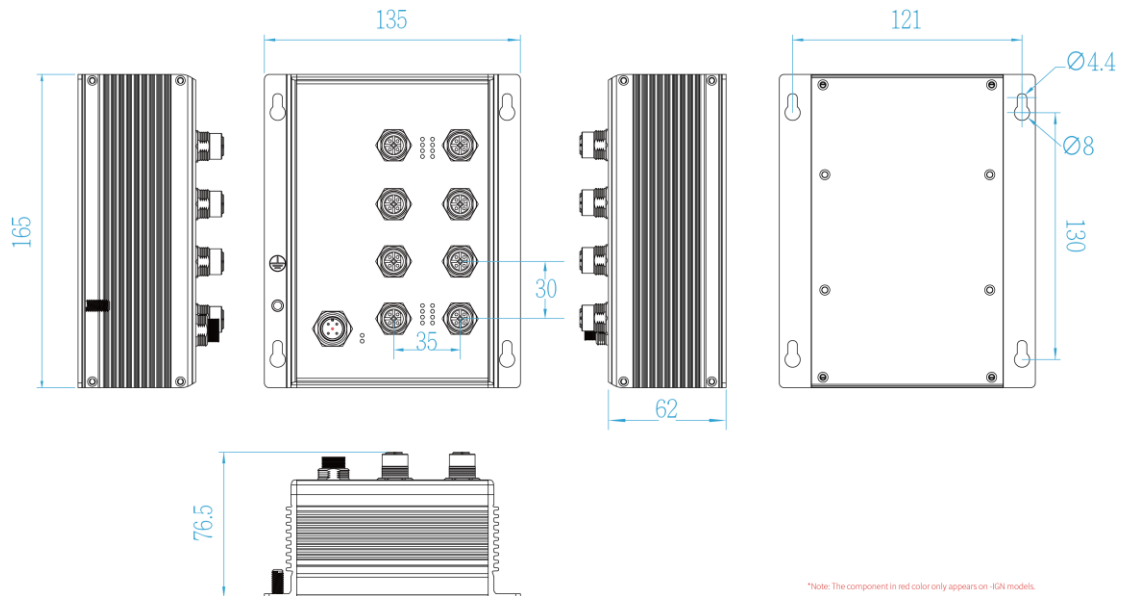
※The optional PoE off-timer is available after February 23, 2024.

### FEATURES & BENEFITS

- 8 10/100TX Unmanaged EN50155 Ethernet Switch with M12 connectors and IP54 rated protection
- Supports IEEE802.3at/af feeding power up to 30W per PoE port (for PoE model), total PoE budget 80W
- Back-plane (Switching Fabric): 1.6 Gbps
- 16K MAC address table

- Wide Operating Temperature (-40°C ~75°C)
- Wall mount design
- E-mark certificate for vehicle (24VI model)
- EN50155/50121-3-2/50121-4 and EN45545-2 Fire &
- Smoke verification
- Inrush current prevention; polarity reverse protection
- ITxPT\* labeled w/ ignition function (24VI-IGN model)

**DIMENSIONS (unit=mm)**



**SPECIFICATIONS**

| Hardware Specification |  | 10/100TX              |  |
|------------------------|--|-----------------------|--|
| IEEE Standard          | IEEE802.3 10BASE-T Ethernet<br>IEEE802.3u 100BASE-T Ethernet<br>IEEE802.3x Flow Control and Back Pressure<br>IEEE802.3at/af Power over Ethernet (For PoE Model)        |                       |  |
| Transfer Rate          | 14,880pps for Ethernet port<br>148,800pps for Fast Ethernet port   | Power Supply          | Dual input<br>9~36VDC (24VI model)<br>16.8~56VDC (24TVI model)   |
| Mac Address            | 16K MAC address table  | Power Consumption     | 3.5W without PoE   |
| Connector              | 10/100TX: 8 x M12, 4-pole D-coded, Female with auto MDI/MDI-X function<br>Power connector: 1 x M12, 4-pole A coded, Male<br>1 x M12, 5-pole A-coded, Male (-IGN model) | Power Budget          | Total 80W @ 24VDC and above  |
| LED                    | Per unit: Power 1 (Green), Power 2 (Green), Ethernet: Link/Activity (Green)<br>PoE: (Green)  | Operating Humidity    | 5% to 95% (Non-condensing)   |
| PoE pin assignment     | M12 port # 1~ # 8 support IEEE 802.3at/af End-point. Per port provides up to 30W   | Operating Temperature | -40°C ~ 75°C (-40°F ~ 167°F)   |
|                        |  | Storage Temperature   | -40°C ~ 85°C (-40°F ~ 185°F)   |
|                        |  | Case Dimension        | Aluminum case, IP54 rated<br>135mm(W)x165mm(H)x76.5mm(D)   |
|                        |  | Weight                | 700g   |
|                        |  | Installation          | Wall Mount Design  |
|                        |  | EMC                   | FCC Part 15, Subpart B ICES-003 Issue 7,<br>EN 55035:2017/A11:2020,<br>EN 55032:2015/A11:2020,<br>IEC 61000-4-2:2008,<br>IEC 61000-4-3:2020,<br>IEC 61000-4-4:2012,<br>IEC 61000-4-5:2014+AMD1:2017 CSV, |

|                        |   |  |
|------------------------|---|--|
|                        | IEC 61000-4-6:2023,<br>IEC 61000-4-8:2009,<br>IEC 61000-6-2:2016,<br>IEC 61000-6-4:2018,<br>EN IEC 61000-6-2:2019,<br>EN IEC 61000-6-4:2019,<br>BS EN 55035:2017+A11:2020,<br>BS EN 55032:2015+A11:2020 | EN 50121-3-2:2016/A1:2019,<br>EN 50124-1:2017,<br>EN 45545-1, EN 45545-2 Fire & Smoke verification |
| Stability Testing      | EN 61373:2010 (Shock and Vibration)   |  |
| Verifications & Report | EN 50155:2021,<br>EN 50121-4:2016/A1:2019,  |  |
|                        |   | Vehicle certificate: E24 marking (24VI model)<br>ITxPT* labeled (24VI-IGN model)                   |
|                        |   | MTBF: 1,240,250 hours<br>1,502,043 hours (Non PoE)   |
|                        |   | Warranty: 5 years  |

\*Future release  
\*\*Optional

## ORDERING INFORMATION

All model packages include M12 caps and wall mount brackets. All standard models are non-coating, optional coating models are available with -C model name. Model name -IGN as default 60min., ignition models with PoE OFF timer 1min/5min/10min have different part numbers and descriptions. (IGN1/IGN5/IGN10 mins.)

- **TPES-0008CB-54-24VI.....P/N: 8351-142**  
8 10/100TX IP54 rated PoE at/af Ethernet Switch w/M12 connectors; -40°C to 75°C; 9~36VDC dual input; E-marking certified ; w/PoE & ethernet galvanic isolation
- **TPES-0008CB-54-24TVI.....P/N: 8351-1421**  
8 10/100TX IP54 rated EN50155 PoE at/af Ethernet Switch w/M12 connectors; -40°C to 75°C; 16.8~56VDC dual input ; w/ PoE & ethernet galvanic isolation
- **TPES-0008CB-54-24VI-IGN.....P/N: 8351-1422**  
8 10/100TX IP54 rated EN50155 PoE at/af Ethernet Switch w/M12 connectors; -40°C to 75°C; 9~36VDC dual input; E-marking and ITxPT certified w/ignition; w/PoE & ethernet galvanic isolation
- **TES-0008CB-54-24VI.....P/N: 8351-1426**  
8 10/100TX IP54 rated Ethernet Switch w/M12 connectors; -40°C to 75°C; 9~36VDC dual input; E-marking certified ; w/ ethernet galvanic isolation
- **TES-0008CB-54-24TVI.....P/N: 8351-14261**  
8 10/100TX IP54 rated EN50155 Ethernet Switch w/M12 connectors; -40°C to 75°C; 16.8~56VDC dual input ; w/ethernet galvanic isolation
- **TES-0008CB-54-24VI-IGN.....P/N: 8351-1427**  
8 10/100TX IP54 rated EN50155 Ethernet Switch w/M12 connectors; -40°C to 75°C; 9~36VDC dual input; E-marking and ITxPT certified w/ignition; w/ethernet galvanic isolation

## OPTIONAL ACCESSORIES

### M12 Connector & Cable

#### Connector

- **ECON120005PF** 5 pin M12 (Female) A-coded 180 degree crimp type connector for power supply
- **ECONM12-04A(F)-C-180** 4 pin M12 (Female) A-coded 180 degree crimp type connector for power supply
- **ECONM12-04D(M)-C-180** 4 pin M12 (Male) D-coded 180 degree crimp type connector for data

#### Cable

- **ECONM12-5P(F)70CM CABLE** 5 pin M12 (Female) A-coded 90 degree cable for power supply, 70cm
- **ECONM12-4P(F)1.5M CABLE** 4 pin M12 (Female) A-coded 90 degree cable for power supply, 150cm
- **ECAB124030MJS** 4 pin M12 (Male) D-coded 180 degree RJ45 STP cable for data, 300cm
- **ECONM12-05A(F) to MCP 6P-20CM CABLE** 5 pin M12 (Female) A-coded 180 degree to 6 pin MCP power cable, 20cm (For ignition models)

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