# TPES-0008CB

## 8 FE PoE Rail & Vehicle Unmanaged Ethernet Switch

## OVERVIEW

Lantech TPES-0008CB is an 8 10/100 Base-TX with M12-connectors EN50155, ITxPT, E-mark unmanaged Ethernet PoE switch with IP54 rated protection which meets the high-reliability requirements demanded by onboard applications.

**Redundant dual 24VI/24TVI input with max PoE 80W budget; inrush current prevention and polarity reverse protection**

TPES-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 (@24Vdc) . 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; ISO 16750-2 P5A compliant**
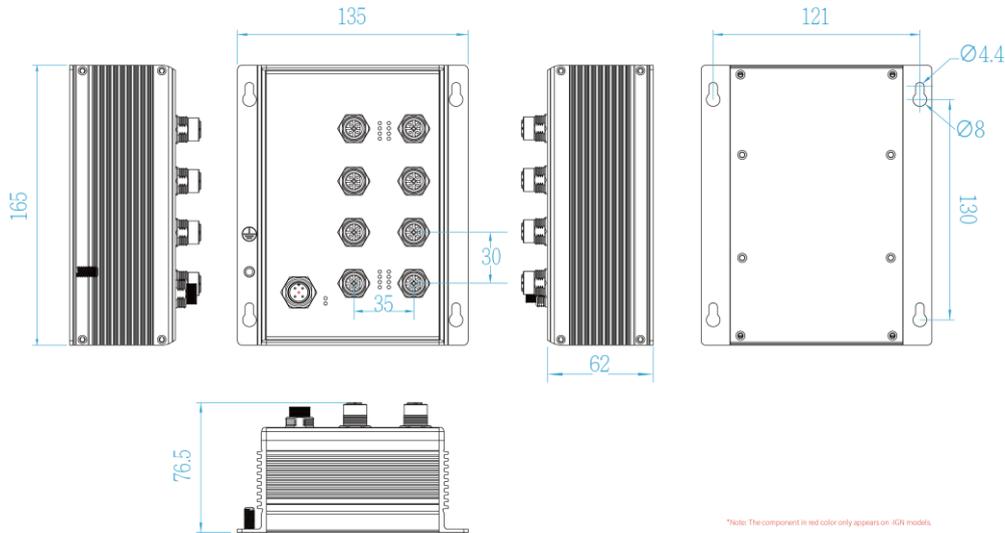
Certified with ITxPT and ISO 7637-2, it safeguards against high voltage surges during vehicle crank starts. Supporting -40°C to 75°C operation and ISO 16750-2 P5A compliance, it effectively minimizes high-frequency pulse voltages from motor applications.

**Sleep Mode & efficient PoE timer under Ignition-Off State**

Compliant with ITxPT standards, the -IGN model features a 60-minute standby mode after ignition-off, maintaining network operation before entering sleep mode(0.048W)—preventing unnecessary reboots when power is restored.

The PoE ignition model also supports a configurable PoE timer, with a default delay of 10 minutes after ignition-off.

## DIMENSIONS (unit=mm)



*Note: The component in red color only appears on -IGN models.

## SPECIFICATIONS

### Hardware Specification

| | |
|---|---|
| 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 |
| Mac Address | 16K MAC address table |
| 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)<br><br>Power<br>PWR1        PWR2<br>V+  2  5  1  V+<br>V-  3     4  V-<br>Ignition |
| LED | Per unit: Power 1 (Green), Power 2 (Green), Ethernet: Link/Activity (Green)<br>PoE: (Green) |
| PoE pin assignment | M12 port # 1~ # 8 support IEEE 802.3at/af End-point. Per port provides up to 30W<br><br>10/100TX<br>1:TX+<br>2:RX+<br>3:TX-<br>4:RX- |
| Power Supply | Dual input<br>9~36VDC (24VI model)<br>16.8~56VDC (24TVI model) |
| Power Consumption | 3.5W without PoE |
| Power Budget | 80W @ 24VDC and above |

| | |
|---|---|
| | 40W @ 12VDC |
| Operating Humidity | 5% to 95% (Non-condensing) |
| Operating Temperature | -40℃ ~ 75℃ (-40℉ ~ 167℉) |
| Storage Temperature | -40℃ ~ 85℃ (-40℉ ~ 185℉) |
| 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,<br>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 |
| Stability Testing | EN 61373:2010 (Shock and Vibration) |
| Verifications & Report | EN 50155:2021,<br>EN 50121-4:2016/A1:2019,<br>EN 50121-3-2:2016/A1:2019,<br>EN 50124-1:2017,<br>EN 45545-1, EN 45545-2 Fire & Smoke verification |
| Vehicle certificate | E24 marked (24VI model),R118<br>ITxPT labeled (24VI-IGN model) |
| MTBF | 1,240,250 hours<br>1,502,043 hours (Non PoE) |

*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. IGN model has two shut-down periods totaling 60 min, including a default PoE OFF timer of 10 min. *PoE timer can be customized on request.

- **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 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

## OPTIONAL ACCESSORIES

**M12 Connector & Cable**

<u>Connector</u>

- **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

<u>Cable</u>

- **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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