

# T(P)ES-0006CA

## 6 10/100TX (w/4 PoE at/af) EN50155 Ethernet Switch

- IEEE802.3at/af up to 30W PoE output (for PoE model)
- Wide range redundant dual power input 16.8V~137.5V (WV model) and 9~36V (24V model) compliant with ISO 7637-2
- Wide Operating Temperature from -40°C to 75°C
- IP54/IP41 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 (24V model)
- ITxPT\* compliance w/ignition function (24V-IGN model)



## OVERVIEW

Lantech T(P)ES-0006CA is a 6 10/100 Base-TX with M12-connectors unmanaged EN50155 Ethernet switch with IP54/IP41 rated protection which meets the high reliability requirements demanded by industrial rolling stock applications.

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

The T(P)ES-0006CA 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 compliant 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 a greater flexibility in application the T(P)ES-0006CA supports an extended operating temperature range from -40°C to 75°C.

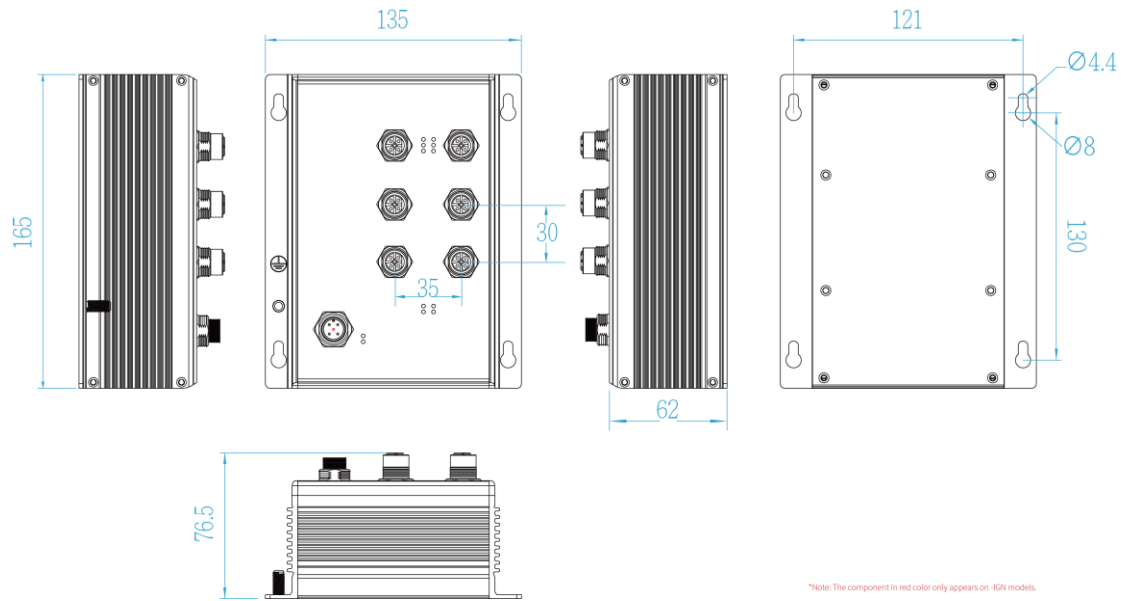
The E-marking certificate makes it the most suitable switch for bus, carriage, other vehicles application as well as for industrial areas where the power source is limited with 12V or 24V but has demand of IP surveillance or VoIP applications.

## FEATURES & BENEFITS

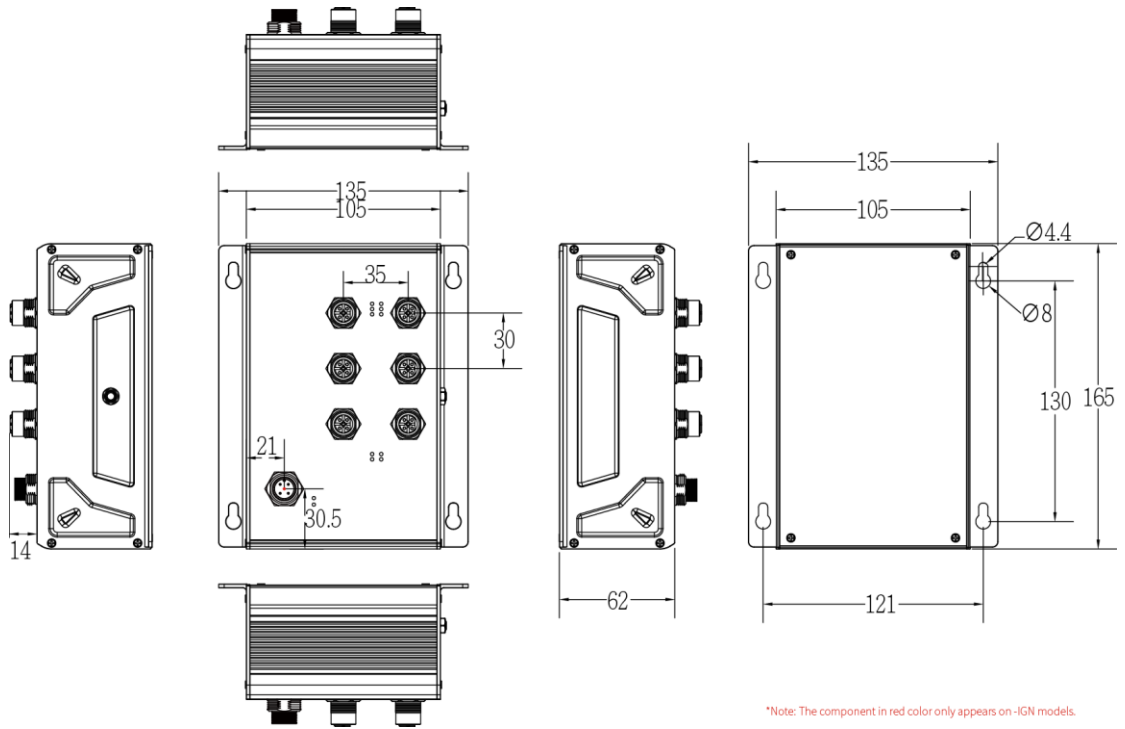
- 6 10/100TX Unmanaged EN50155 Ethernet Switch with M12 connectors and IP54/IP41 rated protection
- Supports IEEE802.3at/af feeding power up to 30W per PoE port (for PoE model)
- Back-plane (Switching Fabric): 1.2 Gbps
- 8K MAC address table
- Wide Operating Temperature (-40°C ~75°C)
- Din rail\*\* and wall mount design
- E-mark certificate for vehicle (24V model)
- EN50155/50121-3-2/50121-4 and EN45545-2 Fire & Smoke verification
- ITxPT\* Compliant w/ ignition function (-24V-IGN model)

**DIMENSIONS (unit=mm)**

**IP54 model**



**IP41 model**



## SPECIFICATIONS

Hardware Specification			
IEEE Standard	IEEE802.3 10BASE-T Ethernet IEEE802.3u 100BASE-T Ethernet IEEE802.3x Flow Control and Back Pressure IEEE802.3at/af Power over Ethernet (for PoE model)	Power	16.8~136.5VDC (WV model)
Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port	Consumption	3.5W without PoE (24V model) 8.5W without PoE (WV model)
Mac Address	8K MAC address table	Power Budget	100W 12V: 60W
Connector	10/100TX: 6 x M12, 4-pole D-coded, Female with auto MDI/MDI-X function Power connector: 1 x M12, 4-pole A coded, Male 1 x M12, 5-pole A-coded, Male (-IGN model)	Operating Humidity	5% to 95% (Non-condensing)
		Operating Temperature	-40°C ~ 75°C (-40°F ~ 167°F)
Rotary Switch	Rotary switch for delay time configuration (-24V-IGN model)	Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
LED	Per unit: Power 1 (Green), Power 2 (Green), Ethernet: Link/Activity (Green) PoE: (Green)	Case Dimension	Aluminum case, 135mm(W)x165mm(H)x76.5mm(D) (IP54 model) 135mm(W)x165mm(H)x76mm(D) (IP41 model)
PoE pin assignment	M12 port # 1~ # 4 support IEEE 802.3at/af Endpoint. Per port provides up to 30W	Weight	700g
		Installation	Wall Mount Design
Power Supply	Dual input 9~36VDC (24 model)	EMC	FCC Class A, CE EN55011, CE EN61000-4-2 (ESD), CE EN61000-4-3 (RS), CE EN-61000-4-4 (EFT), CE EN61000-4-5 (Surge), CE EN61000-4-6 (CS), CE EN61000-4-8 (Magnetic Field), CE EN61000-6-2, CE EN61000-6-4, CE EN55032, CE EN55024
		Stability Testing	EN61373 (Shock and Vibration)
		Verifications & Report	EN50155/EN50121-3-2/EN50121-4 verification EN 45545-1, EN 45545-2 Fire & Smoke verification
		Vehicle certificate	E13 marking (24V model) ITxPT* compliant (24V-IGN model)
		MTBF	TBD
		Warranty	5 years

\*\*Optional

## ORDERING INFORMATION

All model packages include M12 caps and wall mount bracket. All standard models are non-coating, optional coating models are available with -C model name.

- **TPES-0006CA-4-54-WV.....P/N: 8351-136**  
6 10/100TX w/4 PoE at/af EN50155 Ethernet Switch IP54 rated w/M12 connectors; -40°C to 75°C; 16.8~137.5VDC dual input
- **TPES-0006CA-4-54-24V.....P/N: 8351-1361**  
6 10/100TX w/4 PoE at/af EN50155 Ethernet Switch IP54 rated w/M12 connectors; -40°C to 75°C; 9~36VDC dual input; compliant with E-marking
- **TPES-0006CA-4-54-24V-IGN.....P/N: 8351-1362**  
6 10/100TX w/4 PoE at/af EN50155 Ethernet Switch IP54 rated w/M12 connectors; -40°C to 75°C; 9~36VDC dual input; compliant with E-marking and ITxPT\* w/ignition
- **TPES-0006CA-4-41-WV.....P/N: 8351-1363**  
6 10/100TX w/4 PoE at/af EN50155 Ethernet Switch IP41 rated w/M12 connectors; -40°C to 75°C; 16.8~137.5VDC dual input
- **TPES-0006CA-4-41-24V.....P/N: 8351-1364**  
6 10/100TX w/4 PoE at/af EN50155 Ethernet Switch IP41 rated w/M12 connectors; -40°C to 75°C; 9~36VDC dual input; compliant with E-marking
- **TPES-0006CA-4-41-24V-IGN.....P/N: 8351-1365**  
6 10/100TX w/4 PoE at/af EN50155 Ethernet Switch IP41 rated w/M12 connectors; -40°C to 75°C; 9~36VDC dual input; compliant with E-marking and ITxPT\* w/ignition
- **TES-0006CA-54-WV.....P/N: 8351-13601**  
6 10/100TX EN50155 Ethernet Switch IP54 rated w/M12 connectors; -40°C to 75°C; 16.8~137.5VDC dual input
- **TES-0006CA-54-24V.....P/N: 8351-13611**  
6 10/100TX EN50155 Ethernet Switch IP54 rated w/M12 connectors; -40°C to 75°C; 9~36VDC dual input; compliant with E-marking
- **TES-0006CA-54-24V-IGN.....P/N: 8351-13621**

## EN50155 (PoE) Unmanaged Ethernet Switch

6 10/100TX EN50155 Ethernet Switch IP54 rated w/M12 connectors; -40°C to 75°C; 9~36VDC dual input; compliant with E-marking and ITxPT\* w/ignition

■ **TES-0006CA-41-WV.....P/N: 8351-13631**

6 10/100TX EN50155 Ethernet Switch IP41 rated w/M12 connectors; -40°C to 75°C; 16.8~137.5VDC dual input

■ **TES-0006CA-41-24V.....P/N: 8351-13641**

6 10/100TX EN50155 Ethernet Switch IP41 rated w/M12 connectors; -40°C to 75°C; 9~36VDC dual input; compliant with E-marking

■ **TES-0006CA-41-24V-IGN.....P/N: 8351-13651**

6 10/100TX EN50155 Ethernet Switch IP41 rated w/M12 connectors; -40°C to 75°C; 9~36VDC dual input; compliant with E-marking and ITxPT\* w/ignition

## 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

### Lantech Communications Global Inc.

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