# I(P)ES-0016C

**16 FE (PoE) at/af Industrial Ethernet Unmanaged Switch; 24V/48V input models**



## OVERVIEW

Lantech I(P)ES-0016C is a high-performance all 16 10/100TX industrial Ethernet switch with w/8 PoE 802.3af/at ports.

***Dual 48V, 24V input with max PoE budget***

The IPES-0016C supports IEEE802.3at/af standard which can feed HI-power up to 30W at each PoE port for big power consumption devices like PTZ IP camera, High power wireless AP etc.

The IPES-0016C-24V accepts power input 9~36VDC with IEEE802.3at/af standard and feeds up to 30W per PoE port with a maximum 80W@24V and 240W@48V output (at dual input).

PoE 48V model accepts 45~56VDC power input and can feed 48V output for PoE feeding in the vehicle at max 240W @48V input.

***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)

***E-marking certificate, ISO 7637-2 compliant High reliability and extended working temperature***

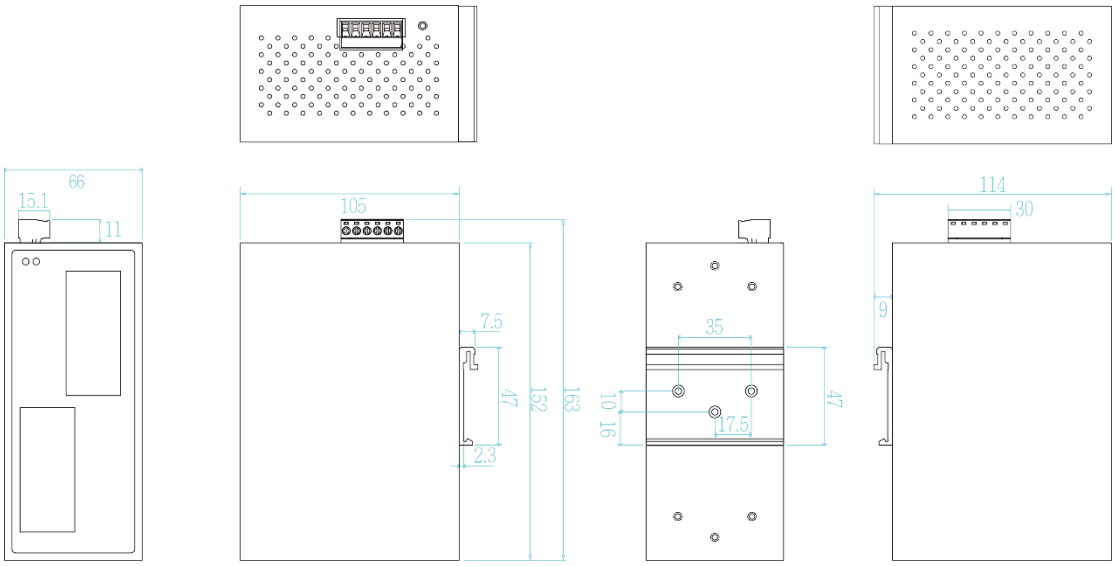
Lantech I(P)ES-0016C can reduce unstable situations caused by power line and Ethernet. It has high reliability and robustness coping with extensive EMI/RFI phenomenon, environmental vibration and shocks usually found in Automation, transportation, surveillance, Wireless backhaul, Semi-conductor factory and assembly lines.

The -E model can be used in extreme environments with an operating temperature range of -40°C to 75°C.

The E-marking certificate makes it the most suitable for bus, carriage, other vehicle applications as well as for industrial areas.

The 24V model is also compliant with ISO 7637-2 (pulse 5A) which protects switch from being damaged by high voltage that could be found at vehicle cranky start.

## DIMENSIONS (unit=mm)




## SPECIFICATION

### Hardware Specification

| | |
|---|---|
| Standards | IEEE802.3 10Base-T Ethernet<br>IEEE802.3u 100Base-TX<br>IEEE802.3x Flow Control and Back Pressure<br>IEEE802.3at/af Power over Ethernet |
| Switch Architecture | Back-plane (Switching Fabric): 3.2Gbps |
| Transfer Rate | 14,880pps for Ethernet port<br>148,800pps for Fast Ethernet port |
| Mac Address | 2K MAC address table |
| Connectors | 10/100TX: 16 x ports RJ-45 with Auto MDI/MDI-X function<br>Power connector: 1 x 6-pole terminal block (includes 1x Ignition sense pin on IGN models) |
| Network Cable | 10Base-T: 2-pair UTP/STP Cat. 3, 4, 5/ 5E/ 6 cable EIA/TIA-568 100-ohm (100m)<br>100Base-TX: 2-pair UTP/STP Cat. 5/ 5E/ 6 cable EIA/TIA-568 100-ohm (100m) |
| LED | Per unit: Power 1 (Green), Power 2 (Green);<br>Ethernet port: Link/Activity (Green)<br>PoE: Active (Green) |
| Operating Humidity | 5% ~ 95% (Non-condensing) |
| Operating Temperature | -20°C~60°C / -4°F~140°F (Standard model)<br>-40°C~75°C / -40°F~167°F(-E model) |
| Storage Temperature | -40°C~85°C / -40°F~185°F |
| Power Supply | 9~36VDC (24V model);<br>45~56VDC (48V model) |
| PoE Budget | 240W for 45~56V input (48V model)<br>(50-57VDC input is recommended for 802.3at 30W applications)<br>80W at 24V input<br>A higher PoE budget can be applied upon request. ** |
| PoE pin assignment | RJ-45 port # 1~#8 supports IEEE 802.3at/af End-point, Alternative A mode. Per port provides up to 30W<br>Positive (VCC+): RJ-45 pin 1,2<br>Negative (VCC-): RJ-45 pin 3,6 |
| Power Consumption | 4.8W (full load without PoE) |
| Galvanic Isolation | Between power input and case ground<br>Between the Ethernet port and case ground<br>Between power input and Ethernet port |
| Case Dimension | Metal case. IP-30<br>66 (W) x 105 (D) x 152 (H) mm |
| Weight | 950g |
| Installation | DIN Rail and Wall Mount** Design |
| EMI & EMS | FCC Part 15 Subpart B,<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, |
| Safety | EN 62368 (LVD) |
| Stability Testing | IEC 60068-2-27 (Shock),<br>IEC 60068-2-31 (Shock),<br>IEC 60068-2-64 (Vibration),<br>IEC 60068-2-80 (Vibration) |
| Vehicle certificate | E24 marking ( 24V model) |
| MTBF | 483,162 hrs (IEC62830 standards) |

*Future Release
**Optional

## ORDERING INFORMATION

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.)

- **IPES-0016C-48V……..P/N: 8351-14961**
  16 10/100TX w/16 PoE Mode A 802.3at/af 30W Industrial Ethernet Switch; dual 45~56VDC input; -20°C to 60°C
- **IPES-0016C-48V-E……..P/N: 8351-149601**
  16 10/100TX w/16 PoE Mode A 802.3at/af 30W Industrial Ethernet Switch; dual 45~56VDC input; -40°C to 75°C
- **IPES-0016C-24V……..P/N: 8351-149602**
  16 10/100TX w/16 PoE Mode A 802.3at/af 30W Industrial Ethernet Switch, dual 9V~36VDC input; compliant with ISO7637; -20°C to 60°C
- **IPES-0016C-24V-E……..P/N: 8351-149603**
  16 10/100TX w/16 PoE Mode A 802.3at/af 30W Industrial Ethernet Switch, dual 9V~36VDC input, compliant with ISO7637; -40°C to 75°C
- **IPES-0016C-24V-IGN…….P/N: 8351-14965**
  16 10/100TX w/16 PoE Mode A 802.3at/af 30W Industrial Ethernet Switch, dual 9V~36VDC input; compliant with ISO7637; -20°C to 60°C w/ignition default PoE OFF 60min.
- **IPES-0016C-24V-IGN-E……..P/N: 8351-149604**
  16 10/100TX w/16 PoE Mode A 802.3at/af 30W Industrial Ethernet Switch, dual 9V~36VDC input, compliant with ISO7637; -40°C to 75°C w/ignition default PoE OFF 60min.
- **IES-0016C……..P/N: 8351-149605**
  16 10/100TX Industrial Ethernet Switch, dual 12V~56VDC input; compliant with ISO7637-2; -20°C to 60°C
- **IES-0016C-E……..P/N: 8351-149606**
  16 10/100TX Industrial Ethernet Switch, dual 12V~56VDC input, compliant with ISO7637-2; -40°C to 75°C
- **IES-0016C-24V……..P/N: 8351-14976**
  16 10/100TX Industrial Ethernet Switch, dual 9V~36VDC input; compliant with ISO7637-2; -20°C to 60°C
- **IES-0016C-24V-E……..P/N: 8351-149607**
  16 10/100TX Industrial Ethernet Switch, dual 9V~36VDC input, compliant with ISO7637-2; -40°C to 75°C
- **IES-0016C-24V-IGN……..P/N: 8351-149608**
  16 10/100TX Industrial Ethernet Switch, dual 9V~36VDC input; compliant with ISO7637-2; -20°C to 60°C w/ignition
- **IES-0016C-24V-IGN-E……..P/N: 8351-149609**
  16 10/100TX Industrial Ethernet Switch, dual 9V~36VDC input, compliant with ISO7637-2; -40°C to 75°C w/ignition

*For all detailed part nos. and model names, please refer to

https://www.lantechcom.tw/global/eng/download/datasheet/P-I(P)ES-0016C.pdf

## OPTIONAL ACCESSORIES

### DIN Rail Power

- **NDR-480 Series** 480W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ; Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C)
- **NDR-240 Series** 240W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ; Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C)
- **NDR-120 Series** 120W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ; Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C; For 115VAC, please refer to derating curve on NDR-120 Series datasheet)
- **NDR-75 Series** 75W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ; Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C; For 115VAC, please refer to derating curve on NDR-120 Series datasheet)

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