

# IPES-0016

## 16 10/100TX PoE at/af Industrial Unmanaged Ethernet Switch

- Support IEEE802.3at/af up to 30W per port
- Dual 9V~36VDC input compliant with ISO 7637-2\* (24V model)
- Dual 44~56VDC input (48V model)
- Galvanic isolation protection (power input /Ethernet port to system/case ground; power input to Ethernet port)
- Max PoE budget 100W at 24V input; 240W at 48V input
- Relay alarm output for power fail and alarm
- E-marking\* certificate for vehicle application (-24V model)



### OVERVIEW

Lantech IPES-0016 is a high performance 16 10/100TX industrial Ethernet switch w/16 PoE 802.3af/at ports.

#### **Galvanic isolation for dual 24V/48V wide input range**

The IPES-0016 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. Maximal PoE budget supports up to 100W at 24V input.

The IPES-0016-24V accepts power input 9~36VDC and is compliant with ISO 7637-2\* which protects switch from being damaged by high voltage that could be found at vehicle cranky start.

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

#### **E-marking\* certificate, High reliability and extended working temperature**

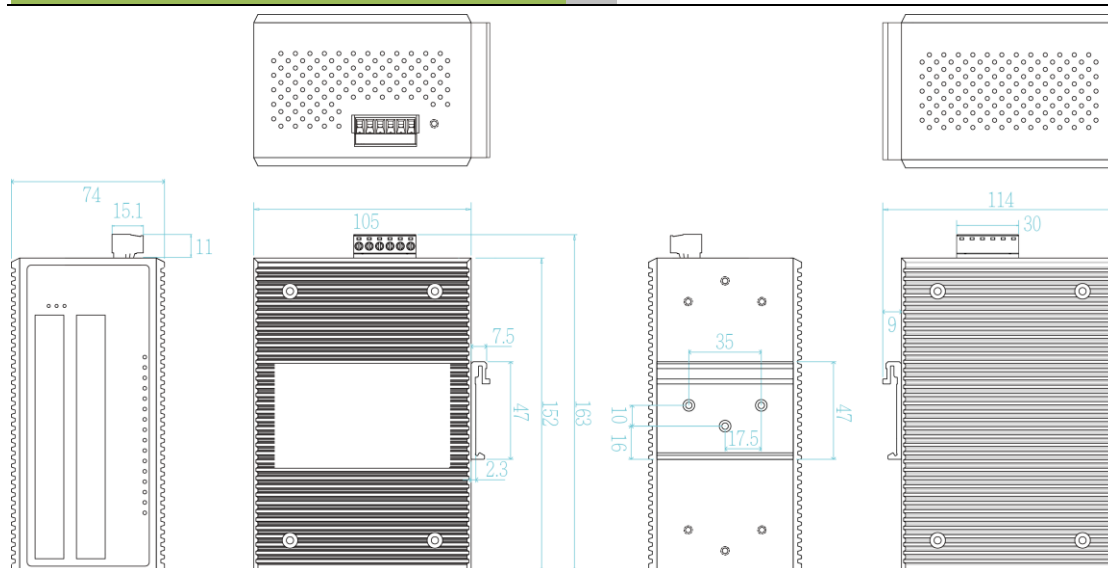
Lantech IPES-0016 provides  $\pm 2000V$  EFT and  $\pm 6000V$  ESD protection, which can reduce unstable situation caused by power line and Ethernet. It has high reliability and robustness coping with extensive EMI/RFI phenomenon, environmental vibration and shocks usually found in Automation, transportation, 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 switch for bus, carriage, other vehicles application as well as for industrial areas.

### FEATURES & BENEFITS

- 16 10/100TX industrial Ethernet switch w/16 PoE 802.3af/at ports (Total 16 Ports Switch)
- PoE budget 100W at 24V input; 240W at 48V input
- Dual 9V~36VDC with ISO7637-2\* compliance (24V model)
- Dual 44~56VDC input (48V model)
- Back-plane (Switching Fabric): 3.2Gbps
- Provides EFT protection  $\pm 2000$  VDC for power line
- Supports  $\pm 6000$  VDC Ethernet ESD protection
- Galvanic isolation between power input and system/case ground; between Ethernet port and system/case ground; between power input and Ethernet port
- E-marking\* certificate for vehicle application (-24V model)
- Relay alarm output for power fail and alarm
- IP30 metal housing with DIN rail and Wall-mount\*\* design

**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                          | 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                                                                |
| Switch Architecture    | Back-plane (Switching Fabric): 3.2Gbps                                                                                                                           | Power Consumption 13W exclude PoE loads                                                                                                                                                                  |
| Transfer Rate          | 14,880pps for Ethernet port<br>148,800pps for Fast Ethernet port                                                                                                 | Galvanic Isolation Between power input and system/case ground<br>Between Ethernet port and system/case ground<br>Between power input and Ethernet port                                                   |
| Mac Address            | 16K MAC address table                                                                                                                                            | Case Dimension Metal case IP-30<br>74 (W) x 105 (D) x 152 (H) mm                                                                                                                                         |
| Connectors             | 10/100TX: 16 x ports RJ-45 with Auto MDI/MDI-X function<br>Power & P-Fail connector: 1 x 6-pole terminal block                                                   | Weight 900 g                                                                                                                                                                                             |
| Network Cable          | 10Base-T: 2-pair UTP/STP Cat. 3, 4, 5/ 5E/ 6 cable<br>EIA/TIA-568 100-ohm (100m)<br>100Base-TX: 2-pair UTP/STP Cat. 5/ 5E/ 6 cable<br>EIA/TIA-568 100-ohm (100m) | Installation DIN Rail and Wall Mount** Design                                                                                                                                                            |
| LED                    | Per unit: Power 1 (Green), Power 2 (Green), P-Fail (Red);<br>Ethernet port: Link/Activity (Green)                                                                | Relay Alarm Provides one relay output for power fail and alarm.<br>Alarm Relay current carry ability: 1A @ DC24V                                                                                         |
| Operating Humidity     | 5% ~ 95% (Non-condensing)                                                                                                                                        | EMI & EMS FCC Class A, CE EN55011,<br>CE EN55032, CE EN55024,<br>CE EN61000-4-2, CE EN61000-4-3,<br>CE EN61000-4-4, CE EN61000-4-5,<br>CE EN61000-4-6, CE EN61000-4-8,<br>CE EN61000-6-2, CE EN61000-6-4 |
| Operating Temperature  | -20°C~60°C / -4°F~140°F (Standard model)<br>-40°C~75°C / -40°F~167°F(-E model)                                                                                   | Stability Testing IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock),<br>IEC60068-2-6 (Vibration)                                                                                                          |
| Storage Temperature    | -40°C~85°C / -40°F~185°F                                                                                                                                         | Vehicle certificate E-Marking* with E13 granted approval (-24V model)                                                                                                                                    |
| Power Supply           | Dual 9~36VDC (24V model)<br>Dual 44~56VDC (48V model)                                                                                                            | MTBF 927,784 hrs (standards: IEC 62380)                                                                                                                                                                  |
| PoE Budget             | 240W at 48V input; 100W at 24V input; 80W at 12V input<br>Higher PoE budget can be applied upon request. **                                                      | Warranty 5 years                                                                                                                                                                                         |
| PoE pin assignment     | RJ-45 port # 1~#16 support IEEE 802.3at/af End-point, Alternative A mode. Per port provides up to 30W (-14 Model: RJ-45 port # 1~#14 support IEEE                | *Future Release<br>**Optional                                                                                                                                                                            |

**ORDERING INFORMATION**

- **IPES-0016-24V.....P/N: 8351-128**  
16 10/100TX Industrial Ethernet Switch w/16 PoE at/af up to 30W, dual 9V~36VDC input; compliant with ISO7637-2\*; -20°C to 60°C
- **IPES-0016-14-24V.....P/N: 8351-1281**  
16 10/100TX Industrial Ethernet Switch w/14 PoE at/af up to 30W, dual 9V~36VDC input; compliant with ISO7637-2\*; -20°C to 60°C
- **IPES-0016-48V.....P/N: 8351-1282**  
16 10/100TX Industrial Ethernet Switch w/16 PoE at/af up to 30W, dual 44V~56VDC input; -20°C to 60°C

- **IPES-0016-14-48V.....P/N: 8351-1283**  
16 10/100TX Industrial Ethernet Switch w/14 PoE at/af up to 30W, dual 44V~56VDC input; -20°C to 60°C
  - **IPES-0016-24V-E.....P/N: 8351-129**  
16 10/100TX Industrial Ethernet Switch w/16 PoE at/af up to 30W, dual 9V~36VDC input, compliant with ISO7637-2\*; -40°C to 75°C
  - **IPES-0016-14-24V-E.....P/N: 8351-1291**  
16 10/100TX Industrial Ethernet Switch w/14 PoE at/af up to 30W, dual 9V~36VDC input, compliant with ISO7637-2\*; -40°C to 75°C
  - **IPES-0016-48V-E.....P/N: 8351-1292**  
16 10/100TX Industrial Ethernet Switch w/16 PoE at/af up to 30W, dual 44V~56VDC input; -40°C to 75°C
  - **IPES-0016-14-48V-E.....P/N: 8351-1293**  
16 10/100TX Industrial Ethernet Switch w/14 PoE at/af up to 30W, dual 44V~56VDC input; -40°C to 75°C
- All part no. with WALL are models with wall mount kit instead of DIN Rail

## 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)

Lantech Communications Global Inc.

[www.lantechcom.tw](http://www.lantechcom.tw)  
[info@lantechcom.tw](mailto:info@lantechcom.tw)

© 2022 Copyright Lantech Communications Global Inc. all rights reserved.  
 The revise authority rights of product specifications belong to Lantech Communications Global Inc.  
 Lantech may make changes to specifications and product descriptions at anytime, without notice.