



INJ-IG60-24

Gigabit Ethernet PoE + Injector
IEEE802.3at/af, 15.4/30/36/60/72W



INJ-IG60-24 is an industrial grade, single port, gigabit Ethernet PoE (Power over Ethernet) injector. PoE technology describes a system to pass electrical power safely, along with data, on Ethernet cabling. The original IEEE 802.3af-2003 PoE standard provides up to 15.4 W of DC power to each device. The updated IEEE 802.3at-2009 PoE standard also known as PoE+ or PoE plus, provides up to 30 W of power. Additionally, INJ-IG60-24 can provide up to 36/60/72W through the non-standard use of all 4 pairs of category 5 cable. Housed in a rugged DIN rail or wall mountable enclosure, this product is designed for harsh environments, such as industrial networking, security, intelligent transportation systems (ITS) and is also suitable for many military and utility market applications where environmental conditions exceed commercial product specifications. Standard operating temperature range models (-10 to 60°C) and wide operating temperature range models (-40 to 75°C) fulfill the special needs of industrial automation applications.

Features

- Provides 1 port IEEE802.3at/af PoE Injector
- Power output 15.4W, 30W, 36W, 60W, 72W select by DIP SW
- 24/48VDC (20~57VDC) redundant dual input power with built-in very high efficiency booster (94~96%) to rise up 55 VDC for PoE output
- Constant and regulated PoE output voltage at 55VDC
- PoE Mode A/B Select by DIP SW
- 4 Pairs (60W/72W) PD handshake mode select by DIP SW (Such as AXIS® IP cam)
- Wide operating temperature -40 ~ 75°C (INJ-IG60-E24)
- UL60950-1, CE, FCC, Railway traffic EN50121-4 certification
- Industrial Grade EMS, EMI, EN61000-6-2, EN61000-6-4 certified
- IP30 rugged metal housing and fanless

Specifications

| | |
|------------------------------------|---|
| IEEE Standard | IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3ab 1000Base-T Gigabit Ethernet IEEE 802.3at, IEEE802.3af |
| PoE Standard | IEEE802.3at, IEEE802.3af |
| PoE RJ-45 Pin Assignment | RJ-45 support IEEE 802.3at/af Middle-Span Alternative B mode or End-Span Alternative A mode, set by DIP SW End-Span, Alternative A mode Positive (V+): RJ-45 pin 1, 2. Negative (V-): RJ-45 pin 3, 6. Data (1, 2, 3, 6, 4, 5, 7, 8) Middle-Span, Alternative B mode Positive (V+): RJ-45 pin 4, 5 Negative (V-): RJ-45 pin 7, 8 Data (1, 2, 3, 6, 4, 5, 7, 8) |
| Network Connector | 1 RJ-45 for 10/100/1000Base-T Data, and 1 RJ-45 for 10/100/1000Base-T Data with PoE Output power |
| Network Cable | UTP/STP above Cat. 5e cable EIA/TIA-568 100-ohm (100m) |
| LED | Per unit: Power 1 (Green), Power 2 (Green), Fault (Amber) End-Span, Alternative A mode Positive (V+): RJ-45 pin 1, 2. Negative (V-): RJ-45 pin 3, 6. Data (1, 2, 3, 6, 4, 5, 7, 8) 4/2 Pairs (Green) ON: 4 Pairs PoE Power output for 60W PoE OFF: 2 Pairs PoE Power output |
| DIP SW | SW1 Reserved SW2 ON: Hi Power 36W 36W PoE output OFF: Standard PoE 802.3af (15.4W), 802.3at (30W) SW3 ON: 4 Pair PoE Pin Ultra-High Power 60W/72W PoE Output OFF: 2 Pair PoE Pin depend on DIP SW 1,2 SW4 ON: Alternative B mode PoE Power Pin 4, 5, 7, 8 (When DIP SW 3 Off) OFF: Alternative A mode PoE Power Pin 1, 2, 3, 6 (When DIP SW 3 Off) |
| Reserve Polarity Protection | Present |
| Overload Current Protection | Present |

| Power Supply | Redundant Dual DC 24/48V (20~57VDC) Input power (Removable Terminal Block) Built-in very high efficiency booster(97~99%) to rise up 55 VDC for PoE output | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|---|--------------------------|-------------------------|--------------------------|------------------|------------------|-------|-----|------|-----|--------|-------|------|------|-----|--------|---------------|-------------------------|--------------------------|------------------|------------------|-------|-------|------|-----|--------|-------|-------|------|-----|--------|
| PoE Power Output | Maximum Ultra High Power 60W, IEEE802.3at 30W, IEEE802.3at High power 36W, IEEE802.3af 15.4W | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Power Consumption | INJ-IG60-24 in 30W mode (2 Pair) <table border="1"> <thead> <tr> <th>Input Voltage</th> <th>Input Power Consumption</th> <th>Device Power Consumption</th> <th>PoE Power Budget</th> <th>Boost Efficiency</th> </tr> </thead> <tbody> <tr> <td>24VDC</td> <td>33W</td> <td>1.4W</td> <td>30W</td> <td>94.90%</td> </tr> <tr> <td>48VDC</td> <td>33.2</td> <td>1.9W</td> <td>30W</td> <td>95.80%</td> </tr> </tbody> </table> INJ-IG60-24 in 60W mode (4 Pair) <table border="1"> <thead> <tr> <th>Input Voltage</th> <th>Input Power Consumption</th> <th>Device Power Consumption</th> <th>PoE Power Budget</th> <th>Boost Efficiency</th> </tr> </thead> <tbody> <tr> <td>24VDC</td> <td>65.2W</td> <td>1.4W</td> <td>60W</td> <td>94.10%</td> </tr> <tr> <td>48VDC</td> <td>64.7W</td> <td>1.9W</td> <td>60W</td> <td>95.50%</td> </tr> </tbody> </table> | Input Voltage | Input Power Consumption | Device Power Consumption | PoE Power Budget | Boost Efficiency | 24VDC | 33W | 1.4W | 30W | 94.90% | 48VDC | 33.2 | 1.9W | 30W | 95.80% | Input Voltage | Input Power Consumption | Device Power Consumption | PoE Power Budget | Boost Efficiency | 24VDC | 65.2W | 1.4W | 60W | 94.10% | 48VDC | 64.7W | 1.9W | 60W | 95.50% |
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| 24VDC | 65.2W | 1.4W | 60W | 94.10% | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 48VDC | 64.7W | 1.9W | 60W | 95.50% | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Alarm Relay Contact | Relay outputs with current carrying capacity of 1 A @24VDC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Removable Terminal Block | Provide 2 redundant power, alarm relay contact, 6 Pin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Temperature | -10 ~ 60°C (INJ-IG60-24) -40 ~ 75°C (INJ-IG60-E24) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Humidity | 5% to 95% (Non-condensing) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Storage Temperature | -40 ~ 85°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Housing | Rugged Metal, IP30 Protection and fanless | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dimensions | 106 x 31.6 x 142 mm (D x W x H) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Weight | 0.425kg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Installation Mounting | DIN Rail mounting and Wall Mounting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MTBF | 763,725Hrs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Warranty | 5 years | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Certification | |
|---|---|
| EMC | CE |
| EMI | FCC Part 15 Subpart B Class A, CE EN55022 Class A |
| Railway Traffic | EN50121-4 |
| Immunity for Heavy Industrial environment | EN 61000-6-2 |
| Emission for Heavy industrial environment | EN 61000-6-4 |

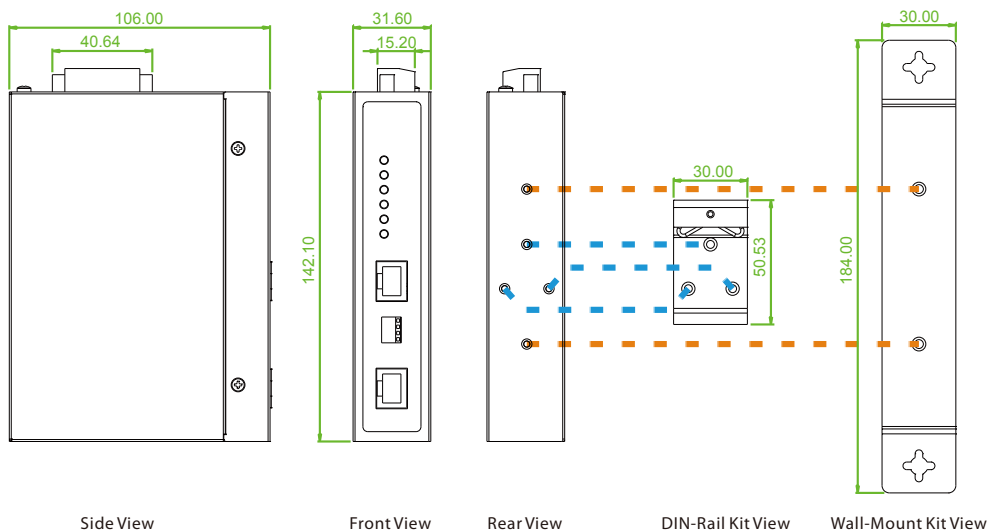
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|-----------|---|
| EMS | EN61000-4-2 (ESD) Level 3, Criteria B |
| | EN61000-4-3 (RS) Level 3, Criteria A |
| | EN61000-4-4 (EFT) Level 3, Criteria A |
| | EN 61000-4-5 (Surge) Level 3, Criteria B |
| Safety | EN 61000-4-6 (CS) Level 3, Criteria A |
| | EN61000-4-8 (PFMF) Field strength 300A/m Criteria A |
| Shock | UL60950-1 (pending) |
| Freefall | IEC 60068-2-27 |
| Vibration | IEC 60068-2-32 |
| | IEC 60068-2-6 |

Application



Figure : INJ-IG60-24 Gigabit Ethernet PoE Injector

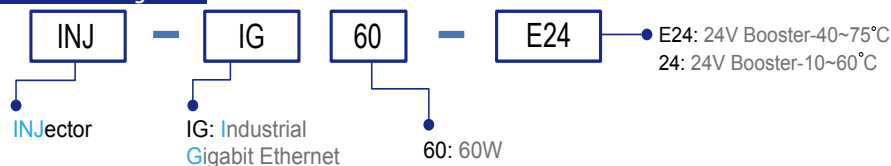
Dimensions



Ordering Information

| Model Name | Ethernet | | PoE Port | | Input Voltage (Boost) | Certification | | | Operating Temperature |
|--------------|--------------------|-------------------|-----------------|--|-----------------------|-------------------|----------------------------|-----------|-----------------------|
| | 10/100/1000 Base-T | IEEE802.3af (PSE) | Power Budget | | | Railway EN50121-4 | EN61000-6-2 EN61000-6-4 | CE FCC | |
| INJ-IG60-24 | 1 | 1 | 15/30/36/60/72W | | 24/48VDC | V | V | V | -10~60°C |
| INJ-IG60-E24 | 1 | 1 | 15/30/36/60/72W | | 24/48VDC | V | V | V | -40~75°C |

Model Naming Rule



Accessories

| | |
|-----------|---|
| DR-120-24 | Industrial Power, Input 88 ~ 132VAC / 176 ~ 264VAC, Output 24VDC, 120W, -10 ~ +60°C |
| DR-4524 | Industrial Power, Input 85 ~ 264VAC, Output 24VDC, 48W, -10 ~ +50°C |
| MDR-40-24 | Industrial Power, Input 85 ~ 264VAC, Output 24VDC, 40W, -20 ~ +70°C |
| MDR-60-24 | Industrial Power, Input 85 ~ 264VAC, Output 24VDC, 60W, -20 ~ +70°C |