

Product Specification

4-Port 10/100Base-TX + 2-Port 100Base-FX
Wide-Temperature Unmanaged Industrial Fast Ethernet Switch

ISW-621T / ISW-621TS15 / ISW-621TF

Version 1.2

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Change History:

Revision	Date	Author	Change List
Version 1.0	2010/3/31	Bryant Wu	Initial release
Version 1.1	2010/10/31	Bryant Wu	1. Update power consumption 2. Update Regulatory
Version 1.2	2011/2/17	Bryant Wu	3. Add ISW-621TF Model

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Reviewed by:	Kent Kang	Approved by:	Tom Shih

1. PRODUCT DESCRIPTION



ISW-621T / ISW-621TS15



ISW-621TF

The PLANET entry level Industrial Ethernet Switch is industrially hardened Ethernet Switch specifically designed to operate reliably in electrically harsh and climatically demanding environments.

Highly Convenient and Feasible Industrial Robust Switch

In the PLANET ISW-621 series Industrial Ethernet Switch, PLANET nowadays has upgraded and provided three new models named ISW-621T, ISW-621TS15 and ISW-621TF for wide temperature operation environment ranging from -40 up to 75 Degrees C. As we know the temperature in many places and countries of the world are lower than -10 Degrees C, these three new models, ISW-621T, ISW-621TS15 and ISW-621TF will be the right products for Transportation, Manufactory, Security and Surveillance network deployment on those harsh environments. The ISW-621T / ISW-621TS15 / ISW-621TF also provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb side traffic control cabinets.

Distance Extendable and Flexibility

PLANET ISW-621T and ISW-621TS15 includes 4 x 10/100Base-TX Auto-Negotiation ports and 2 x SC interfaces 100Base-FX ports. The ISW-621T equips two 100Base-FX multi-mode SC interfaces for transmission distance up to 2km and ISW-621TS15 equips two 100Base-FX single-mode SC interfaces for transmission distance up to 15km.

PLANET ISW-621TF includes 4 x 10/100Base-TX Auto-Negotiation ports and 2 x 100Base-FX SFP interfaces. The distance will depend on your need, Single Mode for Long distance and Multi Mode for short distance.

With two 100Base-FX interfaces provide more flexibility for Transportation, Manufactory, Security and Surveillance with distance extension without any limitation, making the ISW-621T / ISW-621TS15 / ISW-621TF to be suitable model either for long or short distance network deployment.

Easy Installation and Wide Range of Power Usage

The ISW-621T / ISW-621TS15 / ISW-621TF are designed with a compact case that allows either DIN rail or panel mounting for efficient usage of cabinet space. It provides an integrated power supply with a wide range of voltages for worldwide

operation. It also offers dual-redundant, reversible polarity 12V DC to 48V DC power supply inputs for high availability applications requiring dual or backup power inputs.

2. PRODUCT FEATURES

➤ **Physical Port**

ISW-621T

- 4-Port 10/100Base-TX RJ-45
- 2-Port 100Base-FX interfaces for up to 2km (SC Interface Multi-mode fiber 62.5/125µm or 50/125µm)

ISW-621TS15

- 4-Port 10/100Base-TX RJ-45
- 2-Port 100Base-FX interfaces for up to 15km (SC Interface Single mode fiber 9/125µm)

ISW-621TF

- 4-Port 10/100Base-TX RJ-45
- 2-Port 100Base-FX SFP interfaces (LC Interface within optional of Single / Multi-Mode SFP module)

➤ **Industrial Design**

- Slim type IP-30 Metal case
- -40°C~75°C Operating Temperature
- DIN Rail and Wall Mount Design
- 12 to 48V DC, redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
- Supports EFT protection 6000 VDC for power line
- Supports 6000 VDC Ethernet ESD protection

➤ **Data Communication**

- Complies with the IEEE 802.3, IEEE 802.3u, Fast Ethernet standard
- Auto-MDI/MDI-X detection and Auto-negotiation with Half-Duplex/Full-Duplex modes for all 10 /100Base-TX RJ-45 ports
- Store-and-Forward Switching Architecture
- Features Store-and-Forward mode with wire-speed filtering and forwarding rates
- Prevents packet loss with back pressure (Half-Duplex) and IEEE 802.3x PAUSE frame flow control (Full-Duplex)
- Backplane (Switching Fabric): 1Gbps
- 1Mbit on-chip frame buffer
- Integrated address look-up engine, support 2K absolute MAC addresses
- CSMA/CD Protocol
- Automatic source address learning and aging
- Support to handle up to 1522 bytes packet size

3. PRODUCT SPECIFICATION

3.1 MAIN COMPONENT

Switch MAC + PHY	IC Plus IP178D x1	
Fiber Transceiver	ISW-621T	AXFE-1311-0127 Transceivers 3.3V x1
	ISW-621TS15	LS32-A3C-PI-N Transceivers 3.3V x1
	ISW-621TF	Vary on SFP module

3.2 Functional Specifications

Product	ISW-621T	ISW-621TS15	ISW-621TF
Hardware Specification			
10/100Base-TX Ports	4 RJ-45, Auto-MDI/MDI-X		
100Base-FX Port	2	2	2
Fiber Port Type	SC / Multi-Mode	SC / Single Mode	LC Single / Multi-Mode
Cable Distance	2km	15km	Depend on SFP Module
Optical Frequency	850nm	1310nm	
Launch Power (dBm)	Max: -14 Min: -20	Max: 0 Min: -20	
Receive Sensitivity (dBm)	-32	-32	
Maximum Input Power (dBm)	-14	0	
Installation	DIN Rail Kit and Wall Mount Ear		
Enclosure	IP-30 Slim Type Metal Case		
LED	System: <ul style="list-style-type: none"> • Power 1 (Green), • Power 2 (Green), • Fault (Green) 4 x port copper: <ul style="list-style-type: none"> • 10/100 (Green) • Link/Activity (Green) 1 x 100FX port: <ul style="list-style-type: none"> • 100 (Green), • LNK/ACT (Green) 		
Protection	ESD (Ethernet): 6KVDC Surge (Power): 6KVDC		
Switch Specification			
Switch Architecture	Store-and-Forward		
Switch Fabric	1.2Gbps / Non-blocking		
Switch Throughput	0.89Mpps@64bytes		
Address Table	2K entries		
Share Data Buffer	1Mbit on-chip frame buffer		
Maximum Frame Size	1522 Bytes packet		
Flow Control	Back pressure for Half Duplex IEEE 802.3x Pause Frame for Full Duplex		
Standards Conformance			

Standards Compliance	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX / 100Base-FX IEEE 802.3x Flow Control and Back pressure
Stability testing	IEC60068-2-32(Free fall) IEC60068-2-27(Shock) IEC60068-2-6(Vibration)
Network cables	10/100Base-TX: <ul style="list-style-type: none"> • 2-Pair UTP Cat. 3, 4, 5, 5e and 6 (100meters, max.) EIA/TIA-568 100-ohm STP (100meters, max.) 100Base-FX: <ul style="list-style-type: none"> • Multi-mode optic fiber 62.5/125µm / 50/125µm • Single-mode optic fiber 9/125µm

3.3 Physical Specification

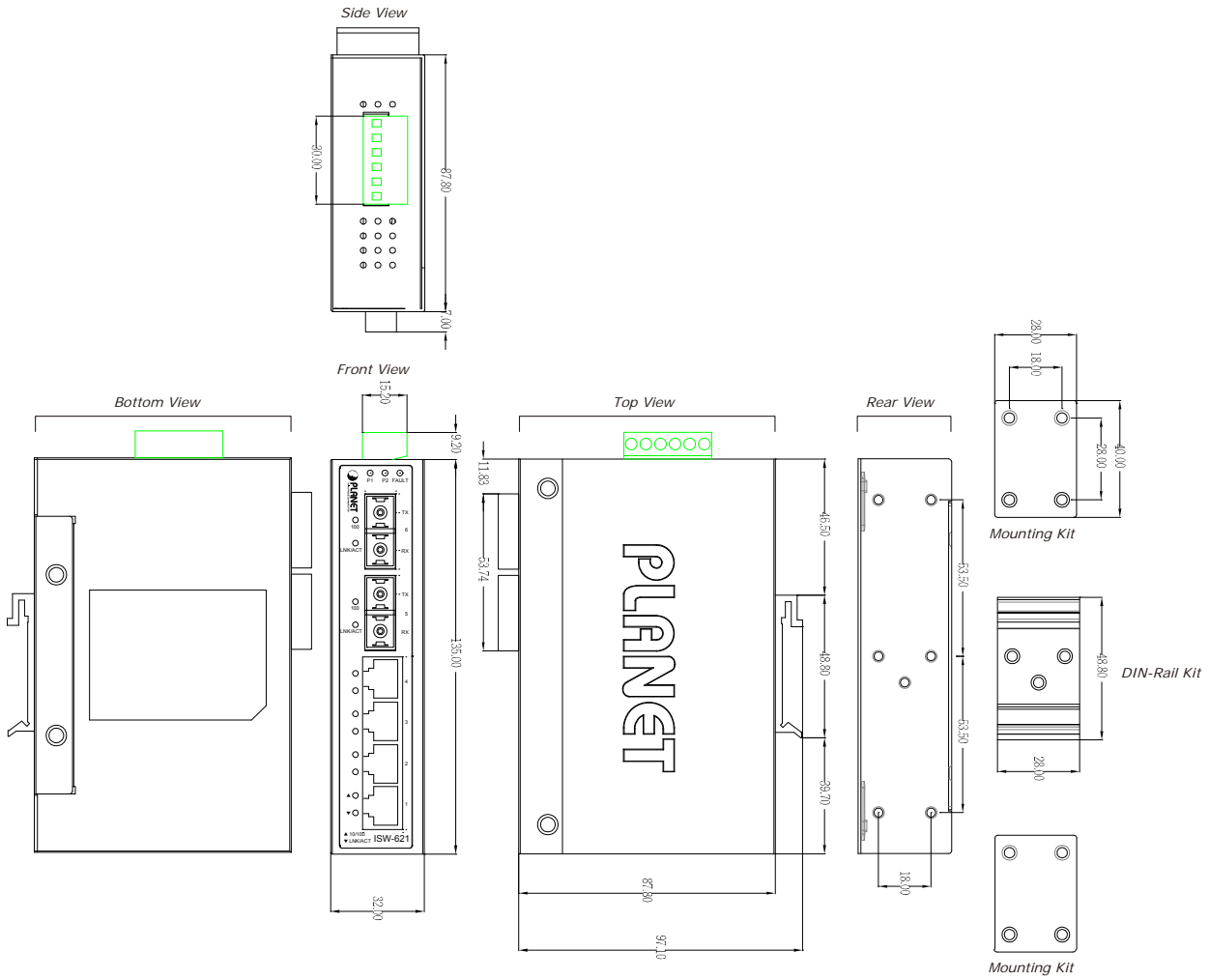
Dimensions:

135mm x 97mm x 32mm (W x D x H)

Weight:

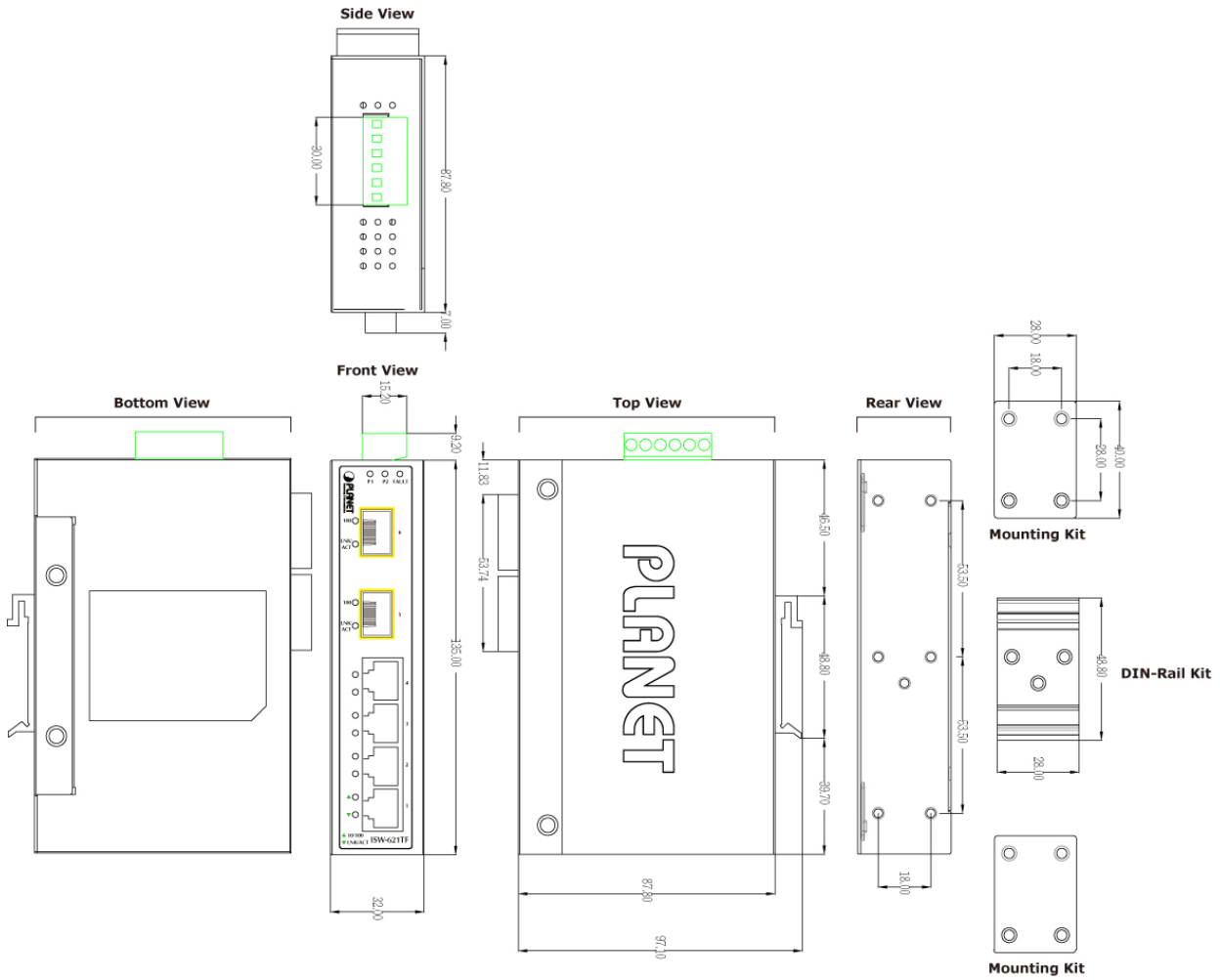
442g

ISW-621T / ISW-621TS15:



Dimensions (unit = mm)

ISW-621TF:



Dimensions (unit = mm)

LED Definition

➤ **System**

LED	Color	Function
P1	Green	Lit: indicate the power 1 has power.
P2	Green	Lit: indicate the power 2 has power.
FAULT	Green	Lit: indicate the either power 1 or power 2 has no power.

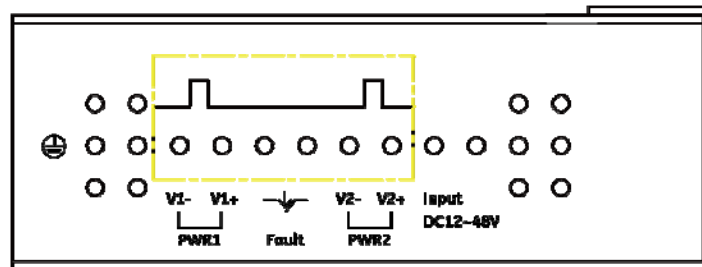
➤ **10/100Base-TX RJ-45**

LED	Color	Function
10/100	Green	Lit: indicate the Switch is successfully connecting to the network at 100Mbps. Off: indicate that the Switch is successfully connecting to the network at 10Mbps.
LNK/ACT	Green	Lit: To indicate the link through that port is successfully established. Blink: To indicate that the Switch is actively sending or receiving data over that port.

➤ **100Base-FX SC / LC Fiber Interface**

LED	Color	Function
100	Green	Lit: indicate the Switch is successfully connecting to the network at 100Mbps.
LNK/ACT	Green	Lit: To indicate the link through that port is successfully established. Blink: To indicate that the Switch is actively sending or receiving data over that port.

■ **Upper panel**



3.4 Environmental Specification

Operating

Model	ISW-621T	ISW-621TS15	ISW-621TF
Temperature:	-40~75 Degree C		
Relative Humidity:	0~90% RH (non-condensing)		

Storage

Temperature: -40~85 Degree C

Relative Humidity: 10~90% RH (non-condensing)

3.5 Electrical Specification

	ISW-621T	ISW-621TS15	ISW-621TF
Power requirement:	12~48 VDC, Redundant power with polarity reverse protection function		
Power Consumption:	9.7Watts / 31BTU max	9.8Watts / 33.4BTU max	

3.6 Regulatory Compliance

EMI:

EN 55022 CLASS A:2006

EN61000-3-2:2006

EN61000-3-3: 1995+1A:2001+A2:2005

EMS:

EN 55024:1998+A1:2001+A2:2003

IEC 61000-4-2:2001

IEC 61000-4-3:2008

IEC 61000-4-4:2004

IEC 61000-4-5:2005

IEC 61000-4-6:2008

IEC 61000-4-8:2001

IEC 61000-4-11:2004

3.7 Reliability

MTBF > 100,000Hrs @ 25°C

3.8 BASIC PACKAGING

- Industrial Fast Ethernet Switch x 1
- User's Manual x 1
- DIN Rail Kit x 1
- Wall Mount Kit x 1

3.9 PACKING DIMENSION

Dimension: 410mm (W) x 310mm (D) x 265mm (H)

Weight: 10.6kg (Gross weight)

18pcs in one carton