iRBX6GF

Intelligent 6 Port HSR/PRP Ethernet Switch
IEC 61850 and IEEE 1613 Compliant

Features

iRBX6GF-S shown

- **Fully compliant with:**
  - **IEC 62439-3 HSR (High-availability Seamless Redundancy)**
  - **IEC 62439-3 PRP (Parallel Redundancy Protocol)**
- **Supports:**
  - **2 Combo ports: 2 x 10/100/1000Base-T(X) RJ45 or 2 x 100/1000Base-X SFP, and 4 x 100/1000 SFP**
  - **Single HSR/PRP Redundancy Box (RedBox),** (single QuadBox configuration—future implementation)
  - **IEEE 1588v2 two-step transparent clocks**
- **PPS and IRIG-B ports (future implementation)**
- **Zero time to recovery in case of failure**
- **Redundancy with no single point of failure and supervised continuously for network and device management**
- **DIN rail or panel mounting options**
- **Available with dual power supplies**

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Toll Free : **+1 844-520-0588**
Technical Support: **+1 844-475-8324**
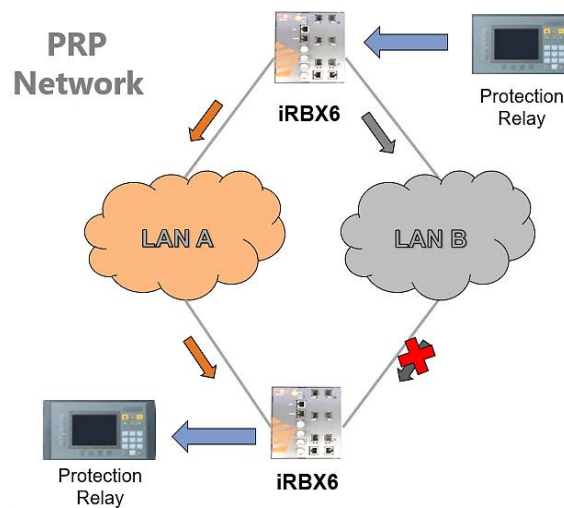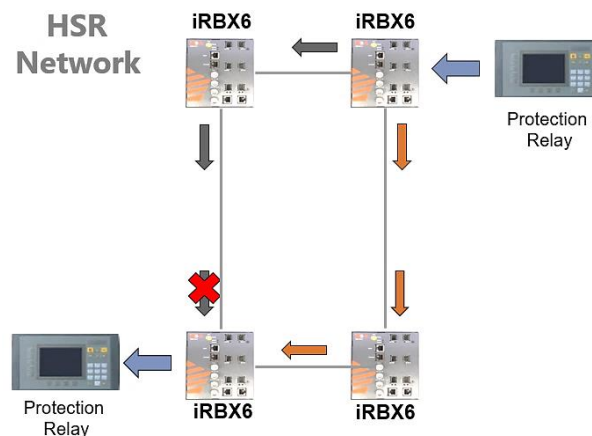Email: **info@is5com.com**
www.is5com.com

Introduction

The iRBX6GF switch provides redundant ports for critical and high-availability networks. It supports both high-availability seamless redundancy (HSR) (IEC 62439-3 Clause 5) and parallel redundancy protocol (PRP) (IEC 62439-3 Clause 4).

PRP and HSR provide redundant paths with no single point of failure and zero packet loss. Therefore, single network faults in the ring will not result in any frame loss. The network is fully operational during maintenance and any device can be disconnected and replaced without breaking network connectivity.

PRP Architecture—to ensure a zero-packet loss redundancy network, duplicate packets are sent to the receiving node over two independent LANs.

HSR Architecture—to ensure a zero-packet loss redundancy network, duplicate packets are sent to the receiving node in opposing directions over multiple devices

Specifications

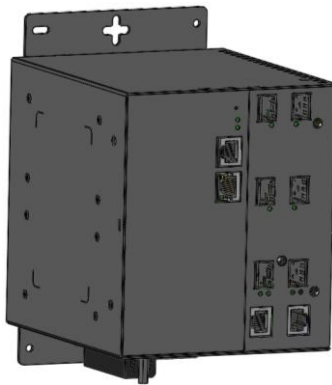| Model Number iRBX6GF	
Physical Ports	
10/100/1000Base-T(X) RJ45 and 100/1000Base-X SFP	**2 Combo Ethernet ports (Port 5 & 6)**
100/1000Base-X SFP	**2 Ethernet ports**
100/1000Base-X SFP	**2 HSR/ PRP ports (Port 1 &2)**
PPS and IRIG-B Outputs (for future releases)	**BNC Connector (based on request)**
Technology	
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX and 100Base-FX IEEE 802.3ab for 1000Base-T IEEE 802.z for 1000Base-X
Priority Queues	4
Time Synchronization	Supports IEEE 1588v2 transparent clock
Network Redundancy	HSR, PRP as per IEC62439-3; RSTP - Rapid Spanning Tree Protocol
Software Features	IEEE 802.1Q for VLAN Tagging IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol) IEEE 1588v2 PTP clock synchronization HSR (High-availability Seamless Redundancy) PRP (Parallel Redundancy Protocol) NTP Time Synchronization Multi User support (Admin/Guest) SNMP support SSH Support Login Banner for CLI and WebUI Inband and dedicated Management interface LLD support WebUI Management
Power	
Input Power	Redundant Power Supplies: Dual DC Inputs 9-36VDC, Dual DC Inputs 36-75VDC, or Dual Input 110-370VDC or 90-264VAC
Power Consumption (Typ.)	Up to 20 W
Overload Current Protection	Present
Reverse Polarity Protection	Internal
Physical Characteristics	
Enclosure	IP-40 Galvanized Steel
Dimensions iRBX6GF (W x D x H)	133.7 (W) x 159.4 (D) x 203.2 (H) mm (5.27 x 6.28 x 8.00 inches) (for panel mount option)
Dimensions iRBX6GF (W x D x H)	133.7 (W) x 167.4 (D) x 175.7 (H) mm (5.27 x 6.59 x 6.92 inches) (for dinrail mount option)
Unit Weight (g)	~ 2700 g
Dimensions iRBX6GF-S (W x D x H)	88.9 (W) x 159.4 (D) x 203.2 (H) mm (3.50 x 6.28 x 8.00 inches) (for panel mount option)
Dimensions iRBX6GF-S (W x D x H)	88.9 (W) x 167.4 (D) x 203.2 (H) mm (3.50 x 6.59 x 8.00 inches) (for dinrail mount option)
Unit Weight (g)	~ 2000 g
Environmental	
Storage Temperature	-40 to +85°C (-40 to 185°F)

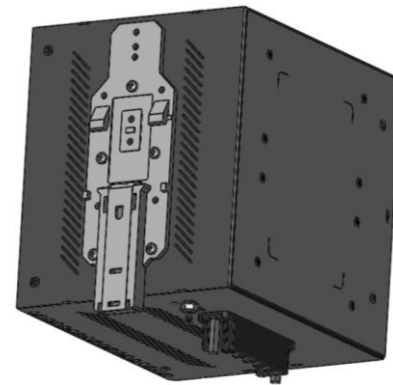| Model Number iRBX6GF	
Operating Temperature	-40 to +85ºC (-40 to 185ºF) No fans
Operating Humidity	5% to 95% Non-condensing
Regulatory Approvals	
IEC & IEEE	IEC 61850-3, IEEE 1613, IEC 62439-3
EMI	FCC Part 15, Class A, CISPR Class A (EN55022)
EMS	IEC 61000-4-2 (ESD), IEC 61000-4-3 (Radiated RFI), IEC 61000-4-4 (Burst), IEC 61000-4-5 (Surge), IEC 61000-4-6 (Induced (Conducted) RFI), IEC 61000-4-8, IEC 61000-4-11
Warranty	**5 years**

Dimensions

All dimensions are shown in inches. This drawing is for general visual reference only.

PANEL MOUNT
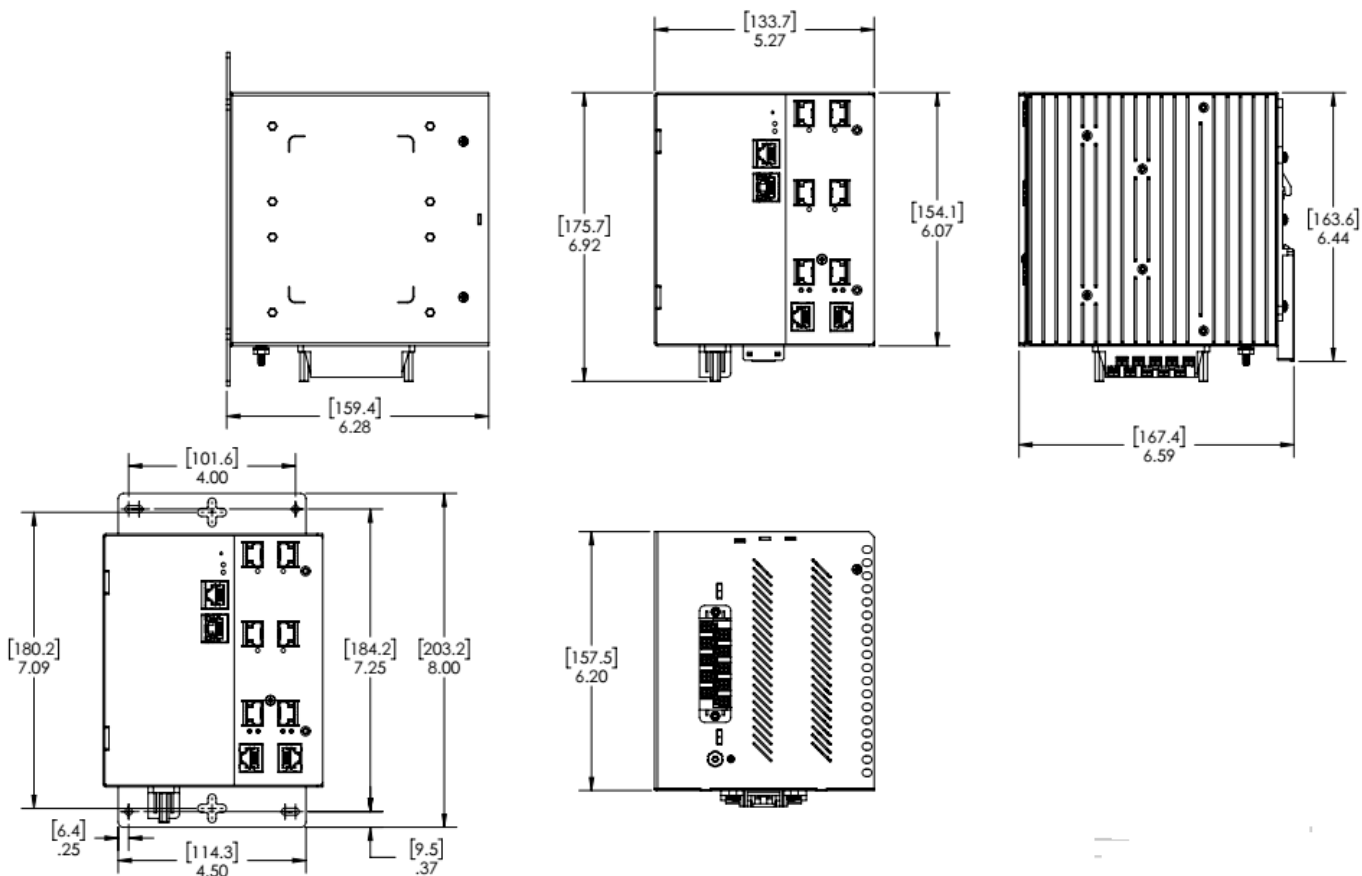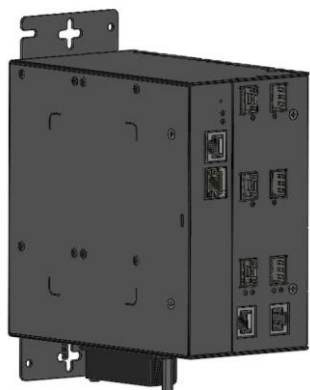

DINRAIL MOUNT
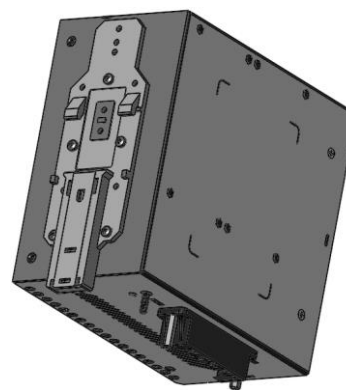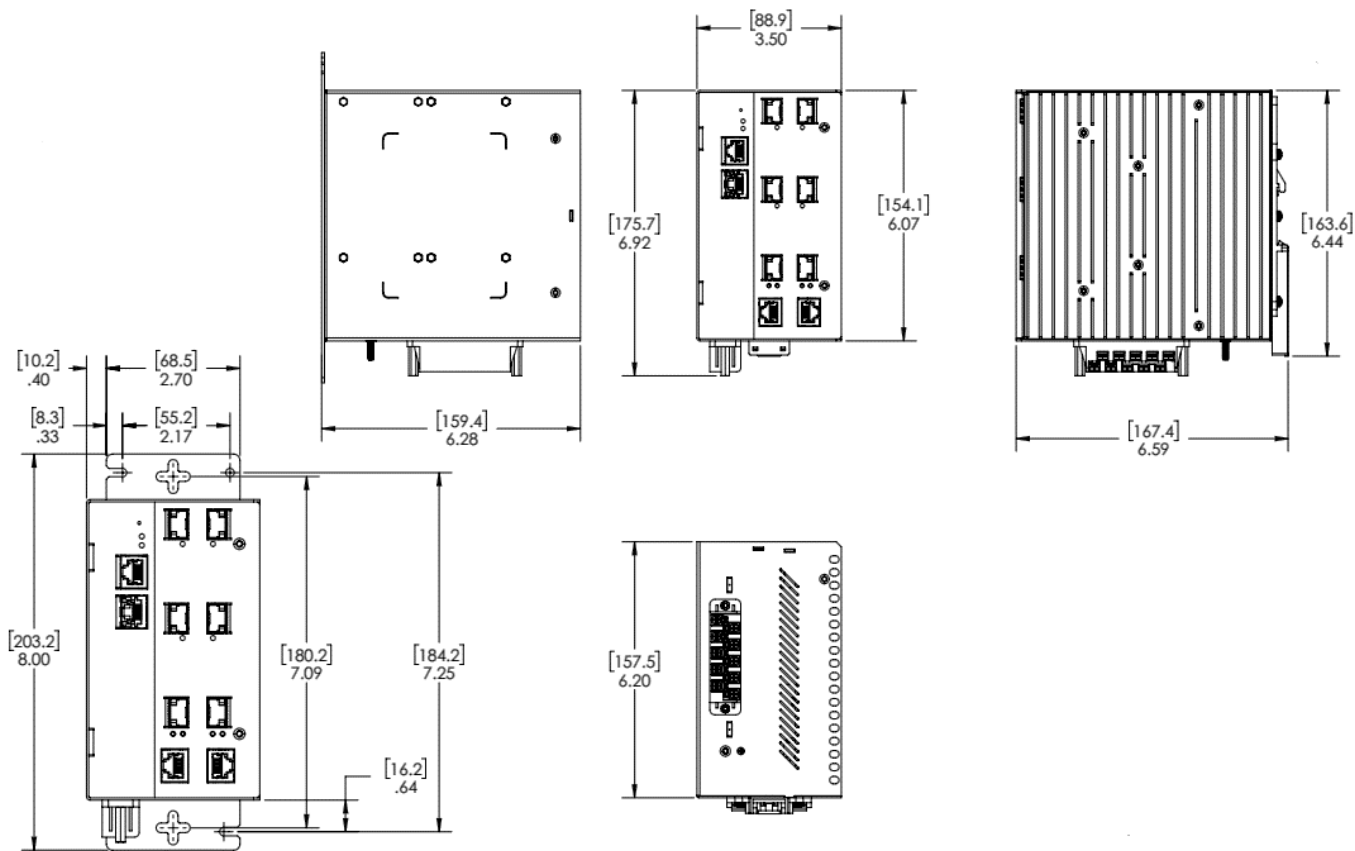

iRBX6GF

All dimensions are shown in inches. This drawing is for general visual reference only.

PANEL MOUNT

DINRAIL MOUNT

iRBX6GF-S

Ordering Information

Base	Power Supply 1	Power Supply 2	Mount	Port 1-2*** (HSR/PRP)	Port 3-4* (Ethernet) †	Port 5-6* (Ethernet) Combo	Conformal Coating	Description
iRBX6GF-S	MV	LV	D	2GSFP	2GSFP	2GCX	C1	
iRBX6GF	|	|	|	|	|	|	|	Core assembly and packaging
iRBX6GF-S	|	|	|	|	|	|	|	Slim Line Core assembly and packaging (DC power only)
	|	XX	|	|	|	|	|	None
	LV	LV	|	|	|	|	|	Input 9-36VDC
	MV	MV	|	|	|	|	|	Input 36-75VDC
	HV	HV	|	|	|	|	|	Input 110-370VDC or 90-264VAC
			D	|	|	|	|	DIN Mount
			P	|	|	|	|	Panel Mounting
			N	|	|	|	|	No Mounting Hardware
				|	XX	|	|	None
				2GSFP	2GSFP	|	|	2 X 100/1000Base-X SFP
						2GCX	|	Combo*** 2 X 10/100/1000Base-T(X) RJ45 and 2 X 100/1000Base-X SFP
						2GSFP	|	2 X 100/1000Base-X SFP
						XX		None
							C1	

† - QUAD Box option is available in future releases - please contact the factory for details.

* ST, SC Fiber Transceivers Options are available in future releases - please contact the factory for details

***SFP Ports and ST/SC Fiber Transceiver Options cannot be mixed

NOTE: Slim version is not available in HV option

SFP-SGMI-TX - SFP 10/100/1000Mbps TX RJ45, SGMII Transceiver 100m, -40°C to +85°C
SFP100-SGMII-MM - SFP 100Mbps SGMII, Multimode LC Transceiver 2km, 1310nm, -40°C to +85°C

Example Order Code Description: **iRBX6GF-S-MV-LV-D-2GSFP-2GSFP-2GCX-C1**
6 Port HSR/PRP Ethernet Switch, Slim line Core assembly, (Power Supply 1) Input 35-75VDC, (Power Supply 2) Input 9-26VDC, DIN Rail Mounting, (Port 1-2*(HSR/PRP)) 2 X 100/1000Base-X SFP, (Port 3-4* (HSR/PRP) or (Ethernet)) 2 X 100/1000Base-X SFP, (Port 5-6* (Ethernet)) Combo*** 2 X 10/100/1000Base-T(X) RJ45 and 2 X 100/1000Base-X SFP, C1 - added for conformal coating.**