

iRBX6GF

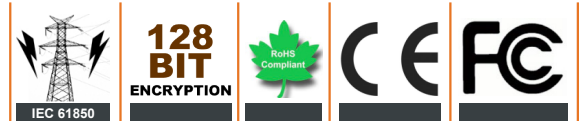
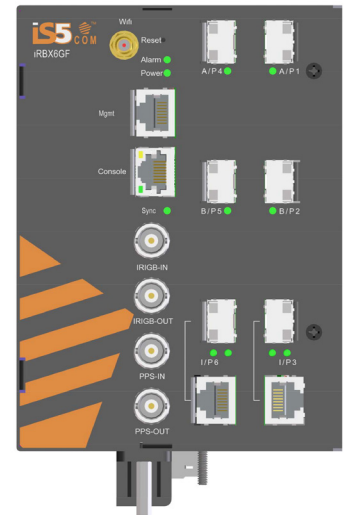


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Intelligent 6 Port HSR/PRP Ethernet Switch IEC 61850 and IEEE 1613 Compliant

Features

- Managed Six ports Gigabit Ethernet Switch
- Fully compliant with IEC 62439-3 HSR "High-availability Seamless Redundancy"
- 4 ports 100/1000 Base-X and 2 ports of (10/100/1000 Base-TX or 100/1000Base-X)
- Wi-Fi IEEE 802.11 B/G/N management port
- Fully compliant with IEC 62439-3 PRP "Parallel Redundancy Protocol"
- Supports two HSR/PRP RedBoxes or single QuadBox configurations
- Supports IEEE 1588v2 one-step transparent, boundary and ordinary clocks
- Provides PPS and IRIG-B Outputs
- Provides redundancy with no single point of failure
- Zero time to recovery in case of failure
- Single network faults in the ring result in zero frame loss
- Network remains fully operational during maintenance
- Any device can be disconnected and replaced without breaking network connectivity
- Redundancy is supervised continuously for network and device management
- DIN Rail or Wall mount option
- Rigid IP-40 Galvanized metal housing
- Available with Dual Power Supplies



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Introduction

The iRBX-D 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).

Both of these standards provide redundant paths with no single point of failure and zero time to recover in case of failure. 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.

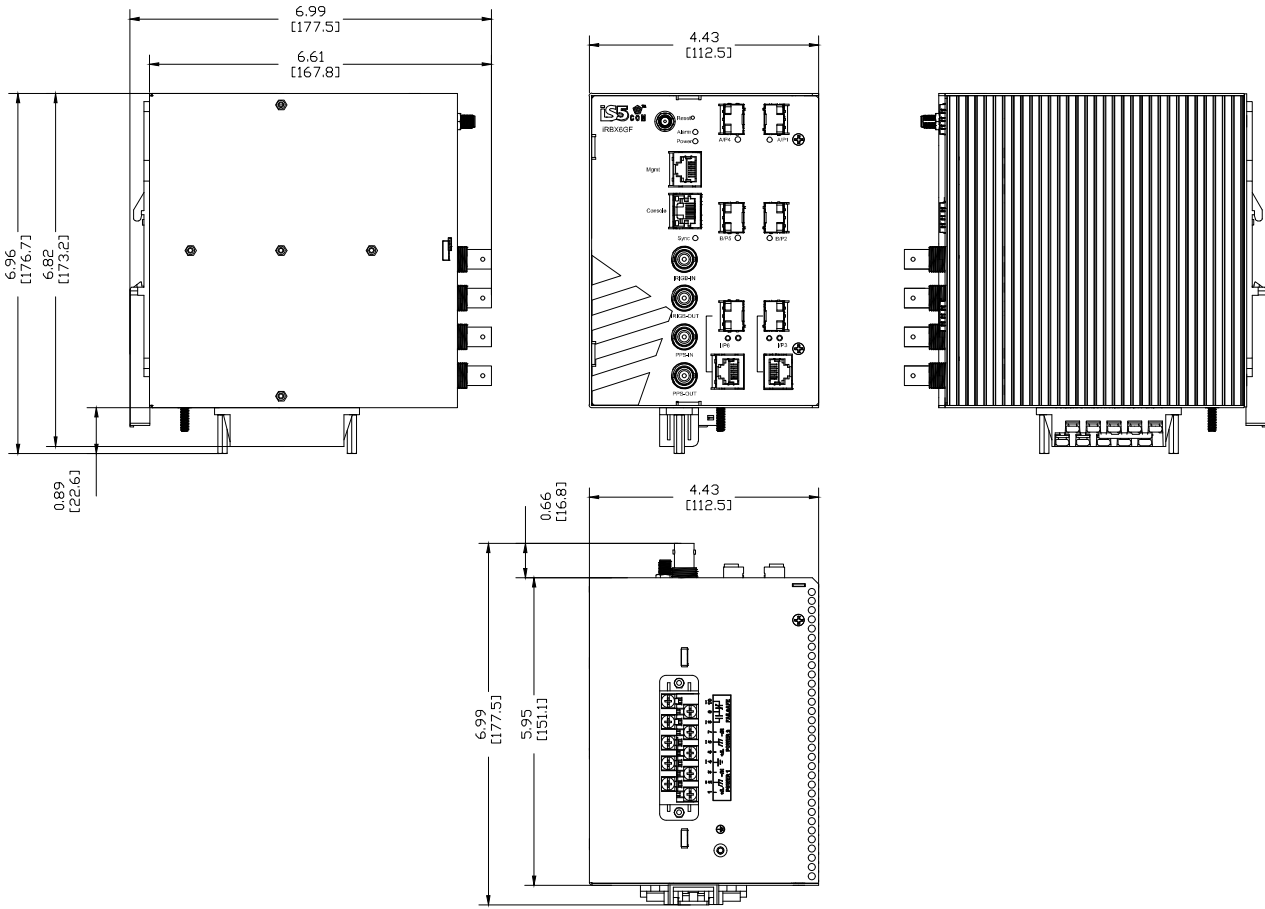
Specifications

Model Number iRBX6GF	
Physical Ports	
Port Types	4 ports 100/1000 Base-X and 2 ports of (10/100/1000 Base-Tx or 100/1000Base-X) BNC Provides PPS and IRIG-B Outputs
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 IEEE 802.1Q for VLAN Tagging IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol) IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol) IEEE 1588v2 one-step transparent, boundary and ordinary clocks IEC 62439-3 HSR "High-availability Seamless Redundancy" IEC 62439-3 PRP "Parallel Redundancy Protocol"
Priority Queues	4
Time Synchronization	Supports IEEE 1588v2 transparent, boundary and ordinary clock
Network Redundancy	HSR, PRP as per IEC62439-3 MRP - Media Redundancy Protocol as per IEC62439-2. RSTP - Rapid Spanning Tree Protocol
Software Features	IEEE 1588v2 PTP clock synchronization IEC 62439-3 HSR "High-availability Seamless Redundancy" IEC 62439-3 PRP "Parallel Redundancy Protocol" Multiple Registration Protocol (MRP) MSTP (RSTP/STP compatible) Quality of Service (802.1p) for real-time traffic IGMP Snooping IEEE 802.1Q VLAN support - 4095 simultaneous VLANs Multicast filtering -16 MAC entries per input port, every entry has configurable mask IGMP multicast groups: 128 for each VLAN
Environmental	
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-40 to 85°C (-40 to 185°F)
Operating Humidity	5% to 95% Non-condensing
Warranty	
Warranty	5 Years



Dimensions

All Dimensions are in Inches



Ordering Information

Base	Power Supply 1	Power Supply 2	Mount	Port 1 - 4 (HSR/PRP)	Ethernet Port 5 - 6	Description
iRBX6GF	HV	XX	D	XX	2GMMSC	
iRBX6GF						Core assembly and packaging
	XX	XX				None
	LV	LV				24VDC (18-36VDC)
	MV	MV				48 VDC (36-72VDC)
	HV	HV				88-300VDC or 85-264VAC
			D			DIN Mount
			P			Panel Mounting
			N			No Mounting Hardware
				XX		None
				4GSFP		4 x 100/1000Base (X) SFP (Blank no SFP transceiver**)
				4MMSC		4 x 100FX Multimode SC, 1310nm, 2Km
				4MMST		4 x 100FX Multimode ST, 1310nm, 2Km
				4SSC15		4 x 100FX Singlemode SC, 1310nm, 15km



				4SST15		4 x 100FX Singlemode ST, 1310nm, 15km
				4SSC40		4 x 100FX Singlemode SC, 1310nm, 40km
				4SST40		4 x 100FX Singlemode ST, 1310nm, 40km
				4SSC60		4 x 100FX Singlemode SC, 1310nm, 60km
				4SST60		4 x 100FX Singlemode ST, 1310nm, 60km
				4SSC80		4 x 100FX Singlemode SC, 1550nm, 80km
				4SST80		4 x 100FX Singlemode ST, 1550nm, 80km
				4SSC100		4 x 100FX Singlemode SC, 1550nm, 100km
				4SST100		4 x 100FX Singlemode SC, 1550nm, 100km
				4GMMSC		4 x 1000 SX Multimode ST, 850nm, 550m
				4GMMST		4 x 1000 SX Multimode SC, 850nm, 550m
				4GSST10		4 x 1000 LX Singlemode ST, 1310nm, 10km
				4GSSC10		4 x 1000 LX Singlemode SC, 1310nm, 10km
				4GSST40		4 x 1000 LX Singlemode ST, 1310nm, 40km
				4GSSC40		4 x 1000 LX Singlemode SC, 1310nm, 40km
				4GSST70		4 x 1000 LX Singlemode ST, 1550nm, 70km
				4GSSC70		4 x 1000 LX Singlemode SC, 1550nm, 70km
					XX	None
					2RJ45	2 x 10/100/1000Base TX RJ45
					2GSFP	2 x 100/1000Base (X) SFP (Blank no SFP transceiver**)
					2MMSC	2 x 100FX Multimode SC, 1310nm, 2Km
					2MMST	2 x 100FX Multimode ST, 1310nm, 2Km
					2SSC15	2 x 100FX Singlemode SC, 1310nm, 15km
					2SST15	2 x 100FX Singlemode ST, 1310nm, 15km
					2SSC40	2 x 100FX Singlemode SC, 1310nm, 40km
					2SST40	2 x 100FX Singlemode ST, 1310nm, 40km
					2SSC60	2 x 100FX Singlemode SC, 1310nm, 60km
					2SST60	2 x 100FX Singlemode ST, 1310nm, 60km
					2SSC80	2 x 100FX Singlemode SC, 1550nm, 80km
					2SST80	2 x 100FX Singlemode ST, 1550nm, 80km
					2SSC100	2 x 100FX Singlemode SC, 1550nm, 100km
					2SST100	2 x 100FX Singlemode SC, 1550nm, 100km
					2GMMSC	2 x 1000 SX Multimode ST, 850nm, 550m
					2GMMST	2 x 1000 SX Multimode SC, 850nm, 550m
					2GSST10	2 x 1000 LX Singlemode ST, 1310nm, 10km
					2GSSC10	2 x 1000 LX Singlemode SC, 1310nm, 10km
					2GSST40	2 x 1000 LX Singlemode ST, 1310nm, 40km
					2GSSC40	2 x 1000 LX Singlemode SC, 1310nm, 40km
					2GSST70	2 x 1000 LX Singlemode ST, 1550nm, 70km
					2GSSC70	2 x 1000 LX Singlemode SC, 1550nm, 70km

Example Order Code: iRBX6GF-HV-XX-D-XX-2GMMSC
 Description: Intelligent 6 Port HSR/PRP Ethernet Switch, Power Supply 1: 88-300VDC, or 85-264VAC,
 Power Supply 2: None, DIN Mount, XX, 2 x 1000 Base SX Multimode SC Ports

SFP** SFP's to be ordered separately



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SFP Module #	Description
SFP100-MM-2	SFP 100Mbps Multimode LC Transceiver 2km, 1310nm, -40C - +85C
SFP100-SM-30	SFP 100Mbps Singlemode LC Transceiver 30km, 1310nm, -40C - +85C
SFP100-SM-60	SFP 100Mbps Singlemode LC Transceiver 60km, 1310nm, -40C - +85C
SFP100-SM-100	SFP 100Mbps Singlemode LC Transceiver 100km, 1550nm, -40C - +85C
SFP100-SM-120	SFP 100Mbps Singlemode LC Transceiver 120km, 1550nm, -40C - +85C
SFP100BIDI1-SM-20	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 20km, TX1310 nm, RX1550nm, -40C - +85C
SFP100BIDI2-SM-20	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 20km, TX1550 nm, RX1310nm, -40C - +85C
SFP100BIDI1-SM-40	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 40km, TX1310 nm, RX1550nm, -40C - +85C
SFP100BIDI2-SM-40	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 40km, TX1550 nm, RX1310nm, -40C - +85C
SFP100BIDI1-SM-60	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 60km, TX1310 nm, RX1550nm, -40C - +85C
SFP100BIDI2-SM-60	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 60km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000-MM-550	SFP 1Gbps Multimode LC Transceiver 500m, 850nm, -20C - +85C
SFP1000-MM-2	SFP 1Gbps Multimode LC Transceiver 2km, 1310nm, -40C - +85C
SFP1000-SM-10	SFP 1Gbps Singlemode LC Transceiver 10km, 1310nm, -40C - +85C
SFP1000-SM-20	SFP 1Gbps Singlemode LC Transceiver 20km, 1310nm, -40C - +85C
SFP1000-SM-30	SFP 1Gbps Singlemode LC Transceiver 30km, 1310nm, -40C - +85C
SFP1000-SM-40	SFP 1Gbps Singlemode LC Transceiver 40km, 1310nm, -40C - +85C
SFP1000-SM-50	SFP 1Gbps Singlemode LC Transceiver 50km, 1550nm, -40C - +85C
SFP1000-SM-70	SFP 1Gbps Singlemode LC Transceiver 70km, 1550nm, -40C - +85C
SFP1000-SM-8-	SFP 1Gbps Singlemode LC Transceiver 80km, 1550nm, -40C - +85C
SFP1000BIDI1-SM-10	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 10km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-10	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 10km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000BIDI1-SM-20	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 20km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-20	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 20km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000BIDI1-SM-40	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 40km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-40	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 40km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000BIDI1-SM-60	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 60km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-60	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 60km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000BIDI1-SM-80	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 80km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-80	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 80km, TX1550 nm, RX1310nm, -40C - +85C