HFB Series

IEC61850-3 Industrial Ethernet Switches

Description:

HFB IEC 61850-3 Ethernet switches are designed specifically for substation environments. The entire line of PowerTrans series has passed IEC 61850-3 and IEEE 1613 (conducted by KEMA) for GOOSE compliance and zero packet loss performance. The series also supports IEEE 1588 protocol for timing accuracy over substation LAN, which is highly favorable for large-scale distributed power grids.

* IEC 61850-3, IEEE1613 (power substations),
* Smart web-based management makes configuration easy
* Port-based VLAN to enhance security/network performance and ease network planning
* 802.1p priority queues and port-based QoS to increase determinism
* -40 to 85°C operating temperature range

Introduction

The HFB6128 is designed to meet the demands of power substation automation systems (IEC 61850-3, IEEE 1613), and railway applications (EN50155/EN50121-4). The MX6000's Gigabit and fast Ethernet backbone, redundant ring, and 48 VDC or 110/220

VDC/VAC dual isolated redundant power supplies increase the reliability of your communications and save on cabling/wiring costs.

The switches design of the MX6000 also makes network planning easy, and allows greater flexibility by letting you install up to 12 fast fiber ports and 20 fast Ethernet ports.

Features and Benefits

- RingOn (recovery time < 15 ms), RSTP/STP for network redundancy
- IGMP snooping for filtering multicast traffic
- Port-based VLAN, IEEE 802.1Q VLAN to ease network planning
- QoS (IEEE 802.1p/1Q) and TOS/DiffServ to increase determinism
- Port Trunking for optimum bandwidth utilization
- RMON for efficient network monitoring and proactive capability
- SNMP v1/v2c/v3 for network management of different levels
- Bandwidth management to prevent unpredictable network status
- Lock port function for blocking unauthorized access based on MAC address
- Automatic warning by exception through e-mail or relay output
- Port mirroring for online debugging
- -40 to 85°C operating temperature range (W models)

Cyber-security Features

- User passwords with multiple levels of security protect against unauthorized configuration
- 802.1Q VLAN allows you to logically partition traffic transmitted between selected switch ports
- Secure switch ports so that only specific devices and/or MAC addresses can access the ports
- SNMP v3 provides encrypted authentication and access security

Technology

Standards:

IEEE802.3 10Base-T

IEEE802.3u 100BaseT(X) and 100BaseFX IEEE802.3x Flow Control

IEEE802.1p Classe of Service

IEEE802.1Q VLAN Tagging

IEEE802.1D for Spanning Tree Protocol

IEEE802.1W for Rapid STP IEEE802.1X for Authentication

Flow Control: Full/Half Duplex Back Pressure Flow Control Protocols: SNMP V1/V2c/V3, DHCP Server, SNTP, SMTP, IGMP Snooping, RMON, HTTPS,

Telnet, Syslog, HTTP

Switch Properties

Priority Queues: 4

IGMP Groups: 256

Max. Available VLANs: 64

VLAN ID Range: 1~4094

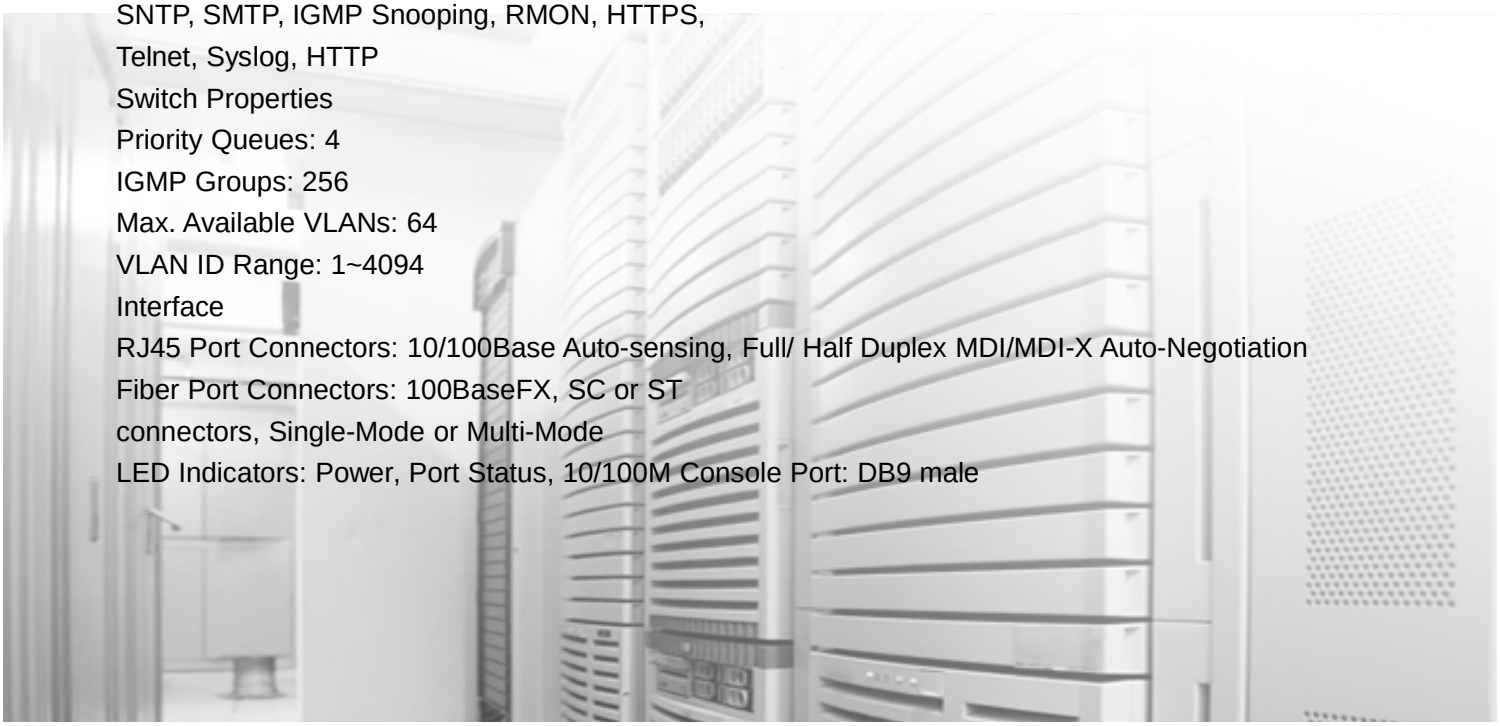
Interface

RJ45 Port Connectors: 10/100Base Auto-sensing, Full/ Half Duplex MDI/MDI-X Auto-Negotiation

Fiber Port Connectors: 100BaseFX, SC or ST

connectors, Single-Mode or Multi-Mode

LED Indicators: Power, Port Status, 10/100M Console Port: DB9 male



Power Requirements
Power Inputs:
200~350VDC @ 20W MAX; 165~265VAC @ 20VA MAX Optical Fiber
100BaseFX
Typical Dist:
Multi-mode: 2km, 1310nm(62.5/125μm) Single-mode: 15km, 1310nm(9/125μm) Min. TX:
Multi-mode: -23.5dBm Single-mode: -15dBm Max. TX:
Multi-mode: -14dBm
Single-mode: -8dBm
RX Sensitivity: <-35dBm(Multi/Single) Physical Characteristics
Case: Slim Metal Case, IP40 Design Dimensions: (W×H×D): 443×44×237.8mm Installation: 19” rack mounting
Environment Limits
Extended Temp Models: -40˚C to 85˚C Storage Temperature: -40 to 85˚C
Ambient Relative Humidity: 10 to 95%(Non-condensing) Agency Approvals
Power Automation: IEC 61850-3, IEEE 1613
EMI:FCC Part15, CISPR(EN55022) Class A
EMS:
EN61000-4-2(ESD), Lv4
EN61000-4-3(RS), Lv4
EN61000-4-4(EFT), Lv4
EN61000-4-5(Surge), Lv4
EN61000-4-6(CS), Lv4
EN61000-4-8
EN61000-4-11
Warranty
Warranty Period: 5 years

Model Selection:

KEMA Standard					
Model	Port	100M	SC Fiber	Gigabit	Work Temperature
HFB6128-24T	24	24			-40 -- +85
HFB6128-20T4MC	24	20	4		-40 -- +85
HFB6128-16T8MC	24	16	8		-40 -- +85
HFB6128-12T12MC	24	12	12		-40 -- +85
HFB6128-8T16MC	24	8	16		-40 -- +85
HFB6128-4T20MC	24	4	20		-40 -- +85
HFB6128-24MC	24		24		-40 -- +85
HFB6128-24T-4G	28	24		4	-40 -- +85
HFB6128-20T4MC-4G	28	20	4	4	-40 -- +85
HFB6128-16T8MC-4G	28	16	8	4	-40 -- +85
HFB6128-12T12MC-4G	28	12	12	4	-40 -- +85
HFB6128-8T16MC-4G	28	8	16	4	-40 -- +85
HFB6128-4T20MC-4G	28	4	20	4	-40 -- +85
HFB6128-24MC-4G	28		24	4	-40 -- +85