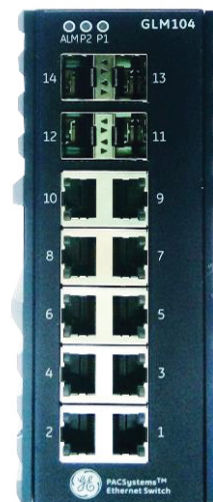# PACSystems*
PROFINET I/O Profile
Gigabit Ethernet Switches

GE's latest innovation in Industrial Ethernet Switches provides control operators another way to manage and monitor their network directly in their control management tools such as Proficy Machine Edition.

With the high-performance capability of 10G ports, this latest series of PROFINET managed switches easily prioritize, partition and organize user's network and provide reliable and good quality services. It is ideal for factory automation applications.

Key Features

- PROFINET enabled

- Full Gigabit

- Managed

- VLAN Mirroring

- -40°C to 75°C

- Provide 6 Gigabit Copper ports plus 4 SFP ports 100FX or 1000BaseF (SX/LX/LH)

- 9K Jumbo frames

- L2 wire-speed switching engine

- 8K MAC forwarding addresses

- Network redundant LACP, Spanning tree STP, RSTP & MSTP

- Port-based /tag-based VLAN, Add/remove VLAN tags,

- SPQ, WRR scheduling, 8 queues per port

- Multicasting support IGMP v1/v2/v3, proxy and snooping

- Multicast/Broadcast/Flooding Storm Control

- PROFINET IO version 2.3, GSDML V2.25

- MRP: Media Redundancy

- PROFINET I/O System Redundancy

- CLI, WEB and SNMP v1/v2/v3 management

- Plug-and-play operation and 100% compatibility with the PROFINET standard v2.3

- Dual power input (12~58 VDC) & Reverse power protection

- DIN-Rail and Wall mounting option

Specifications

Ethernet
- Operating mode
  - Store and forward, L2 wire-speed/non-blocking switching engine
- MAC addresses
  - 8K
- Jumbo frames
  - 9K Bytes

Copper RJ45 Ports
- Speed
  - 10/100/1000 Mbps
- MDI/MDIX Auto-crossover
  - Support straight or cross wired cables
- Auto-negotiating
  - 10/100/1000 Mbps speed auto-negotiation; Full and half duplex
- Ethernet isolation
  - 1500 VRMS 1 minute

SFP (pluggable) Ports
- Port types supported
  - SFP (pluggable) Ports 100/1000BaseSFP slot
  - Support 100/1000BaseT SFP transceiver
- Fiber port connector
  - LC typically for fiber (depends on module)

Redundancy
- MRP
  - PROFINET Media Redundancy
- PROFINET SYSTEM Redundancy
  - PROFINET SYSTEM Redundancy
  - Single & Multiple rings; dual-homing; ring-coupling;
- Spanning Tree Protocol
  - IEEE 802.1D STP, IEEE 802.1w RSTP, IEEE 802.1s MSTP
- Port Trunk with LACP
  - Static trunk or Dynamic via LACP (Link Aggregation Control Protocol)

Bridge, VLANs & Protocols
- Flow control
  - IEEE 802.3x (Full Duplex) and Back-Pressure(Half Duplex)
- Max VLANs
  - 4K
- VLAN Types
  - Port-based VLANs
  - IEEE 802.1Q tag-based VLANs
- Multicast protocols
  - IGMP v1, v2 and V3 with up to 512 multicast groups
  - IGMP snooping and querying
  - Immediate leave and leave proxy
  - Throttling and filtering
- GVRP (GARP Multicast Registration)
  - Yes
- LLDP
  - IEEE 802.1ab Link layer Discovery Protocol (LLDP)
- PROFINET
  - PROFINET standard v2.3, GSDML V2.3

Traffic management & QoS
- QoS
  - IEEE 802.1p QoS
- Number of queues per port
  - 8
- Scheduling schemes
  - SPQ, WRR
- Traffic Shaper
  - Port-based shaping

Security
- Port security
  - IP and MAC-based access control
  - IEEE 802.1X authentication Network Access Control
- Storm Control
  - Multicast/Broadcast/Flooding Storm Control

Management
- User Management interfaces
  - Cisco-like CLI (command line interface)
  - WEB-based Management
  - SNMP v1, v2c, v3
  - Telnet (5 sessions)
- PROFINET
  - PROFINET GSD file, PROFINET I/O parameters, I/O cyclic data
- Management Security
  - HTTPs, SSH
  - Radius Client for Management
- Upgrade & Restore
  - TFTP/FTP for Configuration Import/Export, TFTP/FTP for Firmware Upgrade
- Diagnostic
  - Syslog
  - Ethernet Copper connection diagnostic tool
  - SFP with DDM (Digital Diagnostic Monitoring)
- MIBs
  - RFC 1757 RMON 1,2,3,9; RFC 2674 Q-Bridge MIB
  - RFC-1213 MIB-II; RFC-1493 Bridge MIB; RFC 2233 IF MIB
- DHCP
  - Client
- SNTP
  - Yes

- System status
  - Device info/status; Ethernet port status

Power
- Power input
  - Redundant Input Terminals
- Input voltage range
  - 12-58 VDC
- Reverse power protection
  - Yes
- Transient protection
  - > 15,000 watts peak 14W Indicators

Indicators
- Power Status indication
  - Indication of power input status
- Ethernet port indication
  - Link & Speed

Environmental & Compliances
- Operating temperature range
  - -40 to +75°C (cold startup at -40°C)
- Storage temperature range
  - -40 to +85 °C
- Humidity (non-condensing)
  - 5 to 95% RH
- Vibration, shock & freefall
  - IEC68-2-6, -27, -32
- Certification compliance
  - CE/FCC/UL;
- Electrical safety
  - UL/CSA C22, EN61010-1, CE
- EMC
  - FCC Part 15, CISPR 22 (EN55022) Class A IEC61000-4-2, -3, -4, -5, -6
- RoHS and WEEE
  - RoHS (Pb free) and WEEE compliant
- MTBF
  - > 25 years

Mechanical
- Ingress protection
  - IP30
- Installation option
  - DIN-Rail mounting, Wall mounting

Ordering Information

IC086GLM064   Industrial 10-port PROFINET I/O Profile Managed Gigabit Ethernet Switch, 6x 10/100/1000BaseT(X) ports, 4x 100/1000BaseSFP ports

IC086GLM082   Industrial 10-port PROFINET I/O Profile Managed Gigabit Ethernet Switch, 8x 10/100/1000BaseT(X) ports, 2x 100/1000BaseSFP ports

IC086GLM104   Industrial 14-port PROFINET I/O Profile Managed Gigabit Ethernet Switch, 10x 10/100/1000BaseT(X) ports, 4x 100/1000BaseSFP ports