

FEATURE HIGHLIGHTS

- 16G + 8G combo + 4G F(x) SFP Slot
- RSTP, MSTP, ERPS, LACP for Network Redundancy
- QoS CoS/DSCP to increase determinism
- Supports IGMP Snooping v1/v2/v3, up to 512 groups
- DHCP Relay Option 82 for IP address assignment
- SNMP v1/v2c/v3 for network management
- Supports Storm Protection
- USB storage for configuration-free replacement
- Industrial protocols Ethernet/IP, Profinet, Modbus TCP
- Compliant to IEEE1613 and IEC61850-3



DESCRIPTION

FLC-2028G-8C4F-I series has up to 24 RJ-45 gigabit ports and 8 Gigabit SFP ports, which consist of 16 gigabit, 8 giga combo, and 4 giga SFP port configuration. Its industrial design makes the equipment fanless and operating wide temperature for most of the industrial applications.

FLC-2028G-8C4F-I series provide superior security software feature sets, ie Radius, TACACS+, SSH, SSL and network redundancy such as RSTP, MSTP, G.8032 ERPSv2.

For industrial automation application, industrial protocols Ethernet/IP and Modbus TCP could be handled via this particular switch for connecting PLC network. Time synchronization is also provided by IEEE1588v2. The variety of redundant dual power input in AC and DC gives more flexibility and reliability in different industrial environments.

FLC-2028G-8C4F-I series also has full L2 software feature set as a managed switch for the network management. FLC-2028G-8C4F-I is particularly designed for power substation and energy market and certified with IEEE1613 and IEC61850-3.

SPECIFICATIONS

Technology	
Standards	IEEE 802.3 10BaseT
	IEEE 802.3u 100BaseTX
	IEEE 802.3ab 1000BaseT
	IEEE 802.3z 1000BaseX
	IEEE 802.3x Flow Control
	IEEE 802.3az Energy Efficient Ethernet
	IEEE 802.3ad/802.1AX LACP
	IEEE 802.1D Spanning Tree Protocol
	IEEE 802.1w Rapid STP
	IEEE 802.1s Multiple STP
	ITU-T G.8032 / Y.1344 ERPS
	IEEE 802.1Q VLAN Tagging
	IEEE 802.1ad Stacked VLANs
	IEEE 802.1p Class of Service
	IEEE 802.1X Network Authentication
IEEE 802.1AB LLDP	
IEEE 1588 PTP	
Processing Type	Store and Forward
Switch Properties	
Switch Fabric	56Gbps
Priority Queues	8 Queues
Jumbo Frame	9216bytes
MAC Table Size	16K
Packet Buffer	12Mbits
VLAN Table Size	4094
IGMP Group	512
ACL Group	512
Software Feature	
Network Redundancy	RSTP, MSTP, G.8032 ERPSv2, Port Trunking with LACP
Security	802.1X, RADIUS, TACACS+, SSL, SSH
Management	IPv4, IPv6, Web, Telnet, Serial Console, CLI, SNMP v1/v2c/v3, uPnP
Diagnostics	RMON,SNMP Inform/Trap,Syslog, SMTP, Port Mirroring, LLDP,RSPAN
Configuration	DHCP Server/Client, Relay Option 82, TFTP, USB
Filter	802.1Q VLAN, Q-in-Q, IGMP Snooping v1/v2/v3, IGMP Querier, Independent VLAN Learning
Time Sync.	NTP, IEEE1588v2 OC (Software Timestamp), TC (Hardware Timestamp)
QoS	CoS, DSCP, WRR/SPQ Queuing, Storm Protection
Industrial Profiles	Ethernet/IP, Modbus TCP, Profinet
L3 Switching (L3 model)	Static Routing, RIP v1/v2, RIPng, OSPF v2, OSPF v3, VRRP v2

SPECIFICATIONS

Interface

RJ45 Port	16x 10/100/1000T(x), auto negotiation speed duplex mode, auto MDI/MDI-X
Combo Port	8 x 10/100/1000 T(x) with dual speed SFP combo port, auto media detect
Fiber Port	4x 1000F(x) SFP Slot
LED Indicators	Per unit: PWR1, PWR2(AC2/DC2), Fault, Ring Master, Ring State Ports: Link/Active with Green LED on the left, Speed on the right with highest speed (Amber), low speed (Off)
Alarm Contact	1x relay output with current carrying capacity of 1A @ 24 VDC
Digital Inputs	1x isolated input from the electronics. +13 to +30V for state "1" -30 to +3V for state "0" Max. input current: 8mA
Button	Multiple functions reset button
Serial Console	1x RS232 in RJ45 connector with console cable, 115.2Kbps, 8N1
Storage	1x USB 2.0 storage for firmware update, configuration backup, restore, boot up and syslog

Power Requirements

Operation Voltage	90~264VAC, 88~370VDC, 18~36VDC, 36-75VDC, redundant dual inputs
Connection	AC socket, DC 4-pin terminal block
Power Consumption	0.46A@110VAC, 0.77A@24VDC (Combo for RJ), 0.86A@24VDC (Combo for SFP)
Protection	Overload Current Protected, Reverse Polarity Protected

Mechanical Construction

Enclosure	Aluminum / Steel metal
Protection Class	IP30
Dimensions	440x44x331 mm (WxHxD)
Weight	4.8 kg
Mounting	Rack Mounting

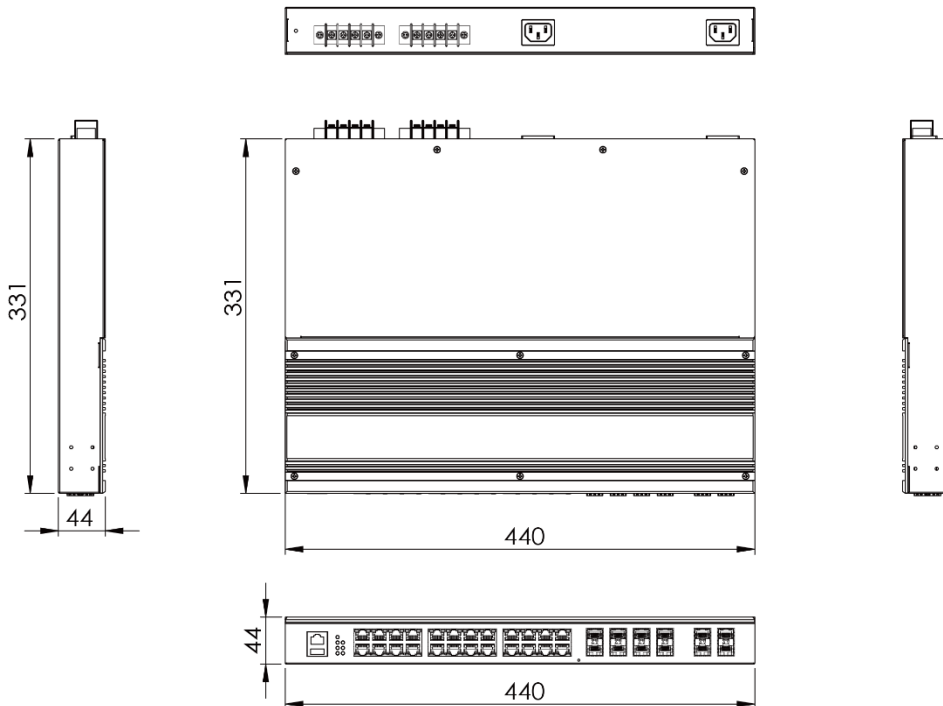
Environmental Limits

Operating Temperature	Extended: -40°C ~ 75°C (-40°F ~ 167°F)
Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Ambient Relative Humidity	5 to 95%, (Non-Condensing)

SPECIFICATIONS

Regulatory Approvals	
EMI	FCC Part 15 Subpart B Class A
	CE EN 55032 Class A
EMS	IEC61000-4-2 (ESD)
	IEC61000-4-3 (RS)
	IEC61000-4-4 (EFT)
	IEC61000-4-5 (Surge)
	IEC61000-4-6 (CS)
	IEC61000-4-8 (Magnetic Field)
Free Fall	IEC60068-2-32
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
Green	RoHS Compliant
Certifications	IEC61850-3, IEEE1613
MTBF	>100,000 hours
Warranty	5 Years

DIMENSIONS (Unit=mm)



FLC-2028G-8C4F-I-X2 | 28 Port Industrial Managed Gigabit Switch

ORDERING INFORMATION

Model Name	Software (L2/L3)	10/100/1000 TX	Giga SFP	Power input
FLC-2028G-8C4F-I-AD-T-X2	L2	16	12 SFP(8 combo)	90-264VAC x 1 12~48VDC x 1
FLC-2028G-8C4F-I-AC-T-X2	L2	16	12 SFP(8 combo)	90-264VAC redundant
FLC-2028G-8C4F-I-DC-T-X2	L2	16	12 SFP(8 combo)	12~48VDC redundant
FLC-3028G-8C4F-I-AD-T-X2	L3	16	12 SFP(8 combo)	90-264VAC x 1 12~48VDC x 1
FLC-3028G-8C4F-I-AC-T-X2	L3	16	12 SFP(8 combo)	90-264VAC redundant
FLC-3028G-8C4F-I-DC-T-X2	L3	16	12 SFP(8 combo)	12~48VDC redundant