

**SICOM3216**

Layer 2 16+2G Port Managed Din-Rail IEC61850 Switch



- Green Ethernet solution with ultra low power consumption design
- As low as 8 watts full load power consumption
- 2 Gigabit Combo ports, 14 10/100Base-TX ports and 2 Fast Ethernet fiber/RJ45 optional ports
- Supports IEC62439-6, DT-Ring protocols and MSTP
- Supports one-key recovery
- Provides Mini USB Console port, supports setting backup and recovery through USB
- Supports VCT (Virtual Cable Test)
- UL508 (pending), Class 1 Div 2 (pending), CE, FCC certificates

**Features & Benefits**

- Redundancy Technology: supports IEC62439-6 (recovery time<20ms), DT-Ring protocols (recovery time<50ms) and MSTP
- Multicast Protocol: supports IGMP Snooping, GMRP and static multicast
- Network Partition: supports VLAN, GVRP, PVLAN
- Service Quality: supports QoS
- Bandwidth Management: supports port trunking, port speed limit, broadcast storm control
- Network Management and Monitoring: supports CLI, Telnet, WEB management methods, Kyvision centralized management, SNMPv1/v2/v3, RMON, LLDP, STP, DHCP
- Network Security: supports MAC address binding with port, IEEE802.1X, SSH, SSL, TACACS+, ACL
- Device Management: supports FTP/TFTP upgrade, also supports Syslog upload and download
- Device Maintenance: supports port mirroring, VCT (Virtual Cable Test)
- Alarm Output: supports IP/MAC conflicts, power, port and ring alarms
- Special Function: supports Link Check and Loop Status Check

**Technical Specifications****Standard**

IEEE 802.3i, IEEE 802.3u, IEEE 802.3ab, IEEE802.3ac, IEEE 802.3ad, IEEE 802.3z, IEEE 802.3x, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1s, IEEE 802.1X

**Protocols**

DT-Ring, DT-Ring+, DT-VLAN, MSTP, DRP;  
IGMP Snooping, GMRP;  
VLAN, GVRP, PVLAN;  
Telnet, HTTP, HTTPS, SNMPv1/v2/v3, RMON, LLDP, STP, BootP, DHCP server/relay/client, DHCP Option 82;  
SSH, SSL, TACACS+, ACL;  
Syslog, FTP, TFTP;  
LACP, ARP, QoS, Modbus TCP

**Switch Properties**

Priority Queues: 4  
Number of VLANs: 256  
VLAN ID: 1-4094  
Number of Multicast Groups: 256  
MAC Table: 8K  
Packet Buffer: 2Mbit  
Packet Forwarding Rate: 5.4Mpps  
Switching Delay: <5μs

**Interface**

Gigabit Ethernet Ports: 2 combo 1000Base SFP slots or 10/100/1000Base-TX ports  
Fast Ethernet Fiber Ports: max 2 100Base-FX, SM/MM ports, FC/SC/ST connector  
Fast Ethernet RJ45 Ports: max 16 10/100Base-TX RJ45 ports  
Console Port: Mini USB  
Alarm Contact: 3-pin 5.08mm-spacing plug-in terminal block, 250VAC/220VDC Max, 2A Max, 60W Max

**LED**

LEDs on Front Panel:  
Running LED: Run  
Alarm LED: Alarm  
Power LED: PWR1, PWR2  
Ring LED: Ring  
Interface LED: Link/ACT, Speed (RJ45 port)

**Button**

Reset: Reboot and restore default configuration

**Transmission Distance**

Twisted Pair: 100m (Standard CAT5, CAT5e network cable)  
Multi Mode Fiber: 1310nm, 5km (100M)  
850nm, 550m (1000M)  
Single Mode Fiber: 1310nm, 40km/60km (100M)  
1550nm, 60km/80km (100M)  
1310nm, 10km/40km (1000M)  
1550nm, 60km/80km (1000M)

### Power Requirements

Power Input: 12VDC (9-36VDC), 24VAC/DC (18-50VAC/18-72VDC)  
Power Terminal: 5-pin 5.08mm-spacing plug-in terminal block  
Power Consumption:  
SICOM3216-16T: 8.0W  
SICOM3216-2S/M-14T: 8.6W  
SICOM3216-2GX/GE-16T: 10.5W  
SICOM3216-2GX/GE-2S/M-14T: 11.1W

Overload Protection: Support  
Reverse Connection Protection: Support  
Redundancy Protection: Support

### Physical Characteristics

Housing: Metal, fanless  
Protection Class: IP40  
Dimensions (W×H×D): 88×135×137mm (3.46×5.31×5.39 in.)  
Weight: 1.25kg (2.756 pound)  
Mounting: DIN-Rail or panel mounting

### Environmental Limits

Operating Temperature: -40 to 85°C (-40 to 185°F)  
Storage Temperature: -40 to 85°C (-40 to 185°F)  
Ambient Relative Humidity: 5 to 95% (non-condensing)

### MTBF

410,000hrs

### Warranty

5 years

### Approvals

UL508 (pending), Class 1 Div 2 (pending), CE, FCC

### Industrial Standard

EMI:  
FCC CFR47 Part 15, EN55022/CISPR22, Class A

### EMS:

IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air)  
IEC61000-4-3 (RS): 10V/m (80MHz-2GHz)  
IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV  
IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV  
IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz)  
IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)

### Machinery:

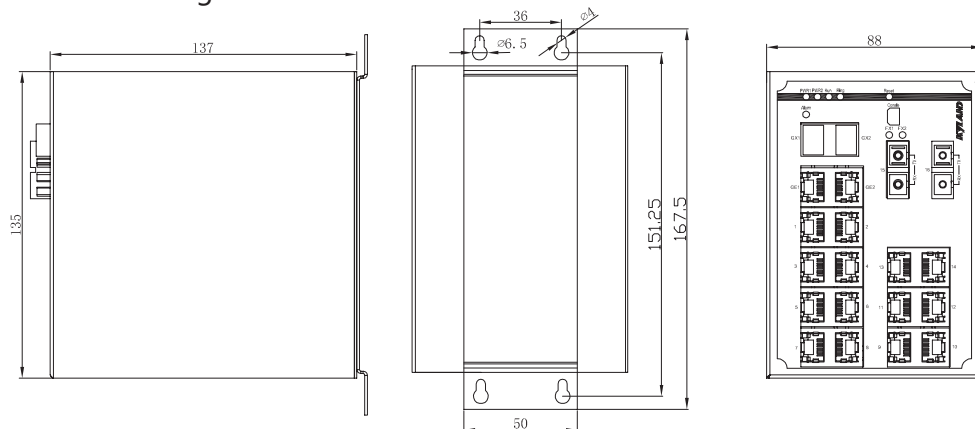
IEC60068-2-6 (Vibration)  
IEC60068-2-27 (Shock)  
IEC60068-2-32 (Free Fall)

### Industry: IEC61000-6-2

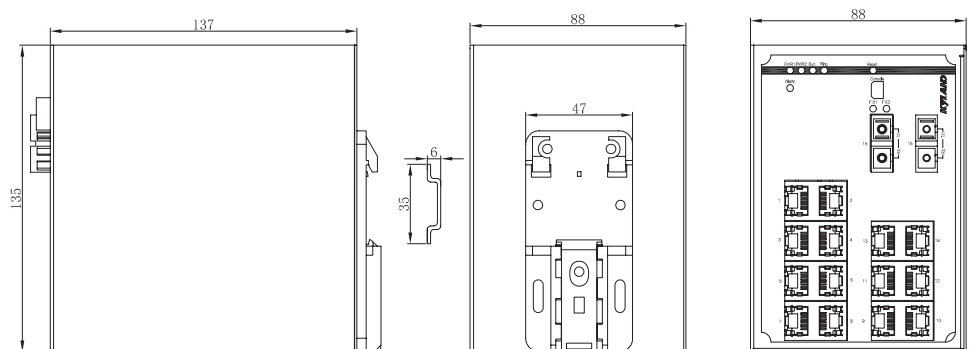
Railway: EN50155, EN50121-4  
Traffic Control: NEMA TS-2

## Mechanical Drawing

### Panel Mounting



### DIN-Rail Mounting



### Ordering Information

Model	Gigabit Ethernet Port	Fast Ethernet Port			Fiber Connector			Power Supply	
	1000M Combo	100Base-FX Single Mode	100Base-FX Multi Mode	10/100Base-TX	SC	ST	FC	9-36VDC	18-50VAC/18-72VDC
SICOM3216-16T	--	--	--	16	--	--	--		
SICOM3216-2S-14T	--	2	--	14					
SICOM3216-2M-14T	--	--	2	14	--	--	--		
SICOM3216-2GX/GE-16T	2	--	--	16	--	--	--		
SICOM3216-2GX/GE-2S-14T	2	2	--	14					
SICOM3216-2GX/GE-2M-14T	2	--	2	14					

Please Select

### Accessories

Model	Description
Gigabit SFP module	Refer to Kyland industrial Gigabit SFP list
DT-BGAZ-02	Panel mounting kit
DT-FCZ-RJ45-01	RJ45 dustproof shield
DT-XL- Mini USB-USB-2m	USB console cable, Mini USB to USB, 2m

### Order Codes

SICOM3216 -          -          -          -          -          -           
**GX/GE**    **FX**    **Connector**    **Distance**    **TX**    **PS**

#### GX/GE: Gigabit Ports

2GX/GE=2 1000Base-SFP, 10/100/1000Base-TX combo ports  
None=No Gigabit port

#### FX: Fiber Ports

2M= 2 multi mode fiber port  
2S= 2 single mode fiber port  
None= No fiber port

#### Connector: Fiber Connector

FC= FC connector  
SC= SC connector  
ST= ST connector  
SD= single fiber bi-direction, only for single mode, only SC connector (different price)

#### Distance: Fiber Distance

2= multi mode, 850nm, 2km  
5 (or None)= multi mode, 1310nm, 5km (multi mode default)  
40 (or None)= single mode, 1310nm, 40km (single mode default)  
60= single mode, 1310nm, 60km (different price)  
60L= single mode, 1550nm, 60km (different price)  
80L= single mode, 1550nm, 80km (different price)

5T3R= single fiber bi-direction, 1550T/1310R, 20km (different price)  
5R3T= single fiber bi-direction, 1550R/1310T, 20km (different price)  
40/5T3R= single fiber bi-direction, 1550T/1310R, 40km (different price)  
40/5R3T= single fiber bi-direction, 1550R/1310T, 40km (different price)  
80/5T3R= single fiber bi-direction, 1550T/1310R, 80km (different price)  
80/5R3T= single fiber bi-direction, 1550R/1310T, 80km (different price)

#### TX: Copper Ports

16T= 16 10/100Base-T(X) ports, RJ45 connector  
14T= 14 10/100Base-T(X) ports, RJ45 connector  
(Please refer to the order information on available port combinations.)

#### PS: Power Supply

12W=12VDC/24VDC (9-36VDC)  
24A= 24VAC/24VDC/48VDC (18-50VAC/18-72VDC)

#### Example order codes

SICOM3216-2GX/GE-2M-SC-14T-24A  
2 Gigabit combo ports, 2 multi mode fiber ports, SC connectors, 1310nm 5km, 14 10/100Base-TX RJ45 ports, 24VAC/24VDC/48VDC (18-50VAC/18-72VDC) power supply, dual power inputs

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