

Opal20

Preliminary



18+2G Port Entry-level Unmanaged DIN-Rail Switches

- Flexible port combinations, supporting max 2 10/100/1000 Base-TX ports, 2 100Base-FX ports, 16 10/100Base-TX ports
- Both standard and wide operating temperature models are available
- IP30 protection class
- UL508 (Pending), Class I Div 2 (Pending), ATEX Zone 2 (Pending), IECEx (Pending), CE, FCC



Overview

Opal20 series is a well-designed entry level unmanaged switches with compact structure, flexible port combinations and reliable performance, fulfilling different demands in automation control applications. Opal20 supports 2 optional 10/100/1000Base-TX ports, 2 optional 100Base-FX ports and up to 16 10/100Base-TX RJ45 ports. Opal20 support SC/ST/SFP type fiber ports, redundant power inputs, metal housing with IP30 protection class, thus ensuring fast and reliable data transmission in harsh industrial environments. Opal20 provide both standard (-10°C to 60°C) operating temperature range model and wide (-40°C to 75°C) operating temperature range models to meet different applications.

- ▼ 100Base-X, SFP slot
- ▼ 10/100Base-T(X), RJ45 port

LED

LED on Front Panel

- ▼ Power LED: PWR1, PWR2
- ▼ Interface LED: Link/ACT, Speed (RJ45 port); Link/ACT, Speed (Fiber port)

DIP-Switch

Enable/Disable broadcast storm protection

Power Requirements

Power Input	12-48VDC/18-30VAC
Power terminal	▼ 4-pin 5.08mm-spacing plug-in terminal block
Power Consumption	<21W
Overload protection	Support
Reverse protection	Support
Redundancy protection	Support

Technical Specification

Technical Parameters

Standard

- ▼ IEEE 802.3i (10Base-T)
- ▼ IEEE 802.3u (100Base-TX and 100Base-FX)
- ▼ IEEE 802.3ab(1000Base-T)

Switch Properties

MAC Table	8K
Packet Buffer	2Mbit
Packet Forwarding Rate	5.7Mpps
Switching Delay	<10µs

Interface

Gigabit Port	10/100/1000Base-T(X), RJ45 port
Fast Ethernet Port	
▼ 100Base-FX, SM/MM, SC/ST connector	

Physical Characteristics

Housing	Metal
Cooling	Natural convection, fanless
Protection Class	IP30
Dimension	80mm×134mm×106mm (W×H×D)
Weight	0.5Kg
Mounting	DIN-Rail or Panel mounting

Environmental Limits

Operating Temperature	
▼ -10°C to +60°C(Opal20-E)	
▼ -40°C to +75°C	

Storage Temperature -40°C to +85°C
Ambient Relative Humidity 5-95% (non-condensing)

Warranty

MTBF 1,587,575 hrs
Warranty 5 years

Approvals

UL508 (Pending), Class I Div 2 (Pending), ATEX Zone 2 (Pending), IECEx (Pending), CE, FCC

Industry Standard

EMI

▼ FCC CFR47 Part 15, EN55022/CISPR22, Class A

EMS

▼ IEC61000-4-2(ESD): ±6kV (contact), ±8kV (air)

▼ IEC61000-4-3(RS): 10V/m (80MHz - 2GHz)

▼ IEC61000-4-4(EFT): Power Port: ±2kV; Data Port: ±1kV

▼ IEC61000-4-5(Surge): Power Port: ±1kV/DM, ±2kV/CM; Data Port: ±2kV

▼ IEC61000-4-6(CS): 10V (150kHz - 80MHz)

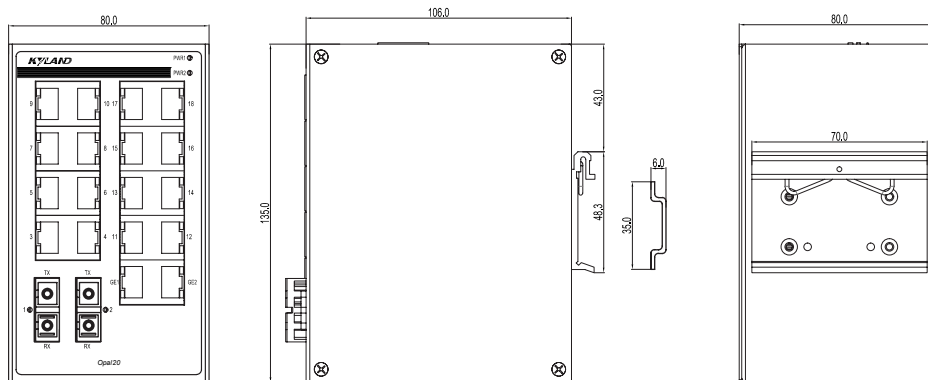
Machinery

▼ IEC60068-2-6(Vibration)

▼ IEC60068-2-27(Shock)

▼ IEC60068-2-32(Free Fall)

➤ Mechanical Drawing



➤ Ordering Information

Opal20-Ports-Connector-PS1-PS2

Opal21-E-Ports-Connector-PS1-PS2

Operating temperature range

E -10°C+60°C operating temperature
None -40°C+75°C operating temperature

Ports

2GE2S16T 2X10/100/1000Base-T(X) RJ45 ports; 2X100Base-FX, single mode fiber ports; 16X10/100Base-T(X) RJ45 ports
2GE2M16T 2X10/100/1000Base-T(X) RJ45 ports; 2X100Base-FX, multi mode fiber ports; 16X10/100Base-T(X) RJ45 ports
2GE2SFP16T 2X10/100/1000Base-T(X) RJ45 ports; 2X100Base-X, SFP slots; 16X10/100Base-T(X) RJ45 ports
2GE16T 2X10/100/1000Base-T(X) RJ45 ports; 16X10/100Base-T(X) RJ45 ports
2S16T 2X100Base-FX, single mode fiber ports; 16X10/100Base-T(X) RJ45 ports
2M16T 2X100Base-FX, multi mode fiber ports; 16X10/100Base-T(X) RJ45 ports
2SFP16T 2X100Base-X, SFP slots; 16X10/100Base-T(X) RJ45 ports
16T 16X10/100Base-T(X) RJ45 ports

Connector

100M fiber port specifications

SC05 SC connector, multi-mode, 1310nm, 5km
ST05 ST connector, multi-mode, 1310nm, 5km
SC40 SC connector, single-mode, 1310nm, 40km
ST40 ST connector, single-mode, 1310nm, 40km
SC60 SC connector, single-mode, 1310nm, 60km
SC80 SC connector, single-mode, 1550nm, 80km
None No 100M fiber port

PS

LV-LV 12-48VDC/18-30VAC, redundant power inputs

Accessories

Model	Description
100Base SFP module	Please refer to the 100Base SFP module ordering list
DT-BGAZ-12	Panel for Panel mounting
DT-FCZ-RJ45-01	Dustproof cover for RJ45 port