Opal8

8 Port Entry Level Unmanaged Din-Rail Switch

- Entry level industrial Ethernet switch
- 8 100M fiber/copper ports with optional 8T, 1S/M-7T and 2S/M-6T
- Supports Auto-Sensing, Auto-Negotiation, Auto-Crossing
- Uplink port supports optional broadcast storm control (selectable through dip switch)
- Support both standard temperature models (-10 to 60^{0}C) and wide temperature models (-40 to 75^{0}C)
- EMC industrial level 3
- IP30 protection class
- Certification: UL508(pending), Class 1 Div 2(pending), ATEX II(pending), CE, FCC

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Overview

The Opal8 series 8 port unmanaged Din-Rail switches are Kyland new entry level products specially designed for all industrial applications. The Opal8 switches are available with a standard operating temperature range from -10 to 60°C, or with a wide operating temperature range from -40 to 75°C. All models are with IP30 protection class and meet EMC industrial level 3 requirements.

Opal8 series support IEEE 802.3i and IEEE802.3u with 10/100M full/half-duplex, MDI/MDI-X auto-sensing. The Opal8 switches provide 9-60VDC/9-40VAC power supply with up to 2.64w full load power consumption. These switches are specially designed for harsh industrial environments certified by UL508, UL Class 1 Div 2, and ATEX II certifications.

Technical Specifications

Standard
IEEE 802.3i
IEEE 802.3u
IEEE802.3x

Switch Properties
MAC table: 2K
Packet Buffer: 1Mbit
Packet Forwarding Rate: 0.8Mpps
Switching Delay: <5µs

Interface
Fast Ethernet Fiber Ports: 1 or 2 100Base-FX, SM/MM ports, SC/ST connector
Fast Ethernet RJ45 Ports: max 8 10/100Base-TX RJ45 ports

LED
LEDs on Front Panel:
Power LED: PWR1, PWR2
Interface LED: Link/ACT, Speed (RJ45 port); Link/ACT(fiber port)

Transmission Distance
Twisted Pair:
100m (Standard CAT5, CAT5e network cable)
Multi Mode Fiber:
1310nm, 5km (100M)
Single Mode Fiber:
1310nm, 40km (100M)

Power Requirements

Power Input:
9-60VDC/9-40VAC
Power Terminal:
4-pin 5.08mm-spacing plug-in terminal block
Power Consumption:
Full load 2.64w, standby 1.7w

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

Physical Characteristics

Housing: Metal, fanless
Protection Class: IP30
Dimensions (W×H×D):
46×115×68 mm (1.81×4.53×2.68 in.)
Weight: 0.25kg (0.55 pound)
Mounting: DIN-Rail

Environmental Limits

Operating Temperature:
Standard Models: -10 to 60℃ (14 to 140°F)
Wide Temperature Models: -40 to 75℃ (-40 to 167°F)
Storage Temperature: -40 to 85℃ (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

MTBF

361,000 hrs

Warranty

5 years

Approvals

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

Industrial 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: ±1kV
IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz)

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

Industry: IEC61000-6-2
Railway: EN50155, EN50121-4
Industry: IEC61000-6-2

Mechanical Drawing
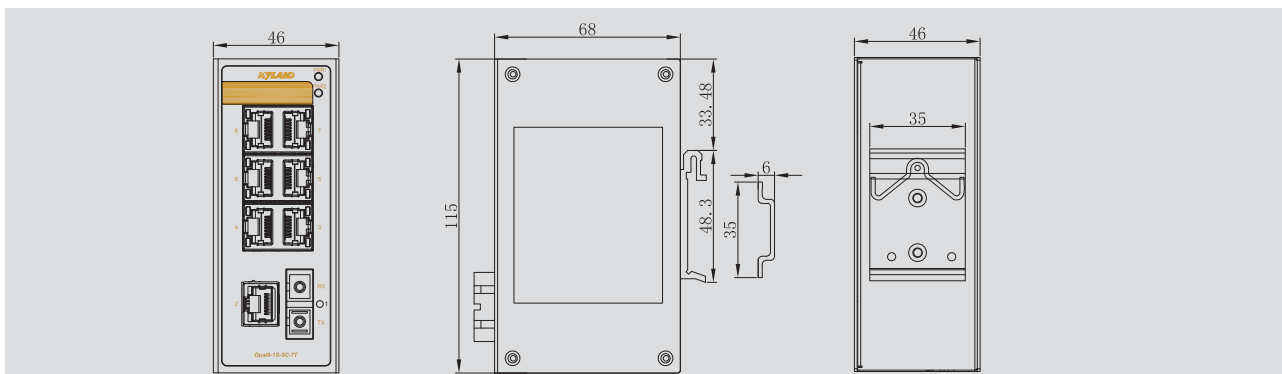
Ordering Information

Opal8 - _____ - _____ - _____
         Temp   Ports Connector

Temp: Working Temperature

E = Standard temperature models with working temperature of -10 to 60℃
None = Wide temperature models with working temperature of -40 to 75℃

Ports

8T = 8 10/100Base-TX RJ45 ports
1M-7T = 1 100Base-FX multi mode fiber port, 7 10/100Base-TX RJ45 ports
1S-7T = 1 100Base-FX single mode fiber port, 7 10/100Base-TX RJ45 ports
2M-6T = 2 100Base-FX multi mode fiber ports, 6 10/100Base-TX RJ45 ports
2S-6T = 2 100Base-FX single mode fiber ports, 6 10/100Base-TX RJ45 ports

Connector: Fiber Connector

SC = SC Connector
ST = ST Connector

Example Order Codes

Opal8-E-1M-7T-SC
1 100Base-FX multi mode fiber port with SC connector, 7 10/100Base-TX RJ45 ports, -10 to 60℃ working temperature