

Industrial Gigabit Ethernet To Fiber Converter



RUG-118
RUG-118E

Features

- ✓ **High Performance Network Switching Technology**
- ✓ Complies with IEEE 802.3, IEEE 802.3u, IEEE 802.3x, IEEE 803.3ab, IEEE 802.3z
- ✓ Provides 1 x 10/100/1000 Mbps Ethernet ports with RJ-45 connector
- ✓ Provides 1 x 1000 Mbps SFP fiber port for 1000Base-SX/LX module
- ✓ Provides DIP switch for full/half duplex setting
- ✓ RJ-45 Port support auto MDI/MDI-X crossover
- ✓ Supports Link Loss Forwarding function
- ✓ Supports Jumbo frames up to 9 Kbytes
- ✓ **Robust Industrial Design**
- ✓ Robust Aluminum case complying to IP-30 housing standard
- ✓ Supports operating temperature -10 to 70°C & extended temperature -40 to 80°C
- ✓ DIN-Rail, Panel mount or desktop installation
- ✓ High level of immunity to electromagnetic interference typically found in industrial plant environments or external curb side enclosures
- ✓ **Reliable Power Design**
- ✓ Wide range redundant power design
- ✓ Equipped with Redundant power inputs
- ✓ Supports 4,000 VDC Ethernet ESD Protection
- ✓ Provides surge (EFT) protection 3,000 VDC for power line
- ✓ Supports 12 to 48VDC redundant power with polarity reverse protection



Overview

The Retriever RUG-118 is an Industrial Gigabit Ethernet to fiber with one 10/100/1000 Mbps Gigabit Ethernet port and one small form pluggable (SFP) port. With the SFP port, RUG-118 transmits data at high speed for long distances supporting 1000BaseSX/LX/LHX/ZX. RUG-118 is equipped with a terminal block to provide dual power inputs with reverse polarity protection. The built-in Link Loss Forwarding promptly alarms users in case of port breaks or power failure. RUG-118 accepts a wide voltage range from +12 to 48 VDC and provides 3,000 VDC surge (EFT) protection against over-voltage. Its IP-30 housing protection, wide operating temperature of -10 to 70°C and DIN-Rail mounting makes RUG-118 suitable for an industrial environment. The E version has wider temperature range of -40 to 80°C. The RUG-118 is a plug-and-play solution for your Industrial Ethernet applications.

Hardware Specifications

Interface

RJ-45 Ports: 1 10/100/1000Base-TX auto-negotiation speed, Full/Half duplex, auto MDI/MDI-X

Fiber Ports: 1 1000 Mbps SFP fiber port for 1000Base-SX/LX module

LEDs:

Per unit: Power1 (Green), Power2 (Green), Fault (Red)

Fiber: Link/Active (Green)

TX: Link/Active (Green), 1000M (Yellow)

Power Input: VDC 12 to 48V

Redundant power with removable terminal block

Power Protection: Power Reverse Polarity

Overload Current Protection: Present

Power Consumption: 5.28 watts

Dimensions: IP-30, standard, 30 mm (W) x 140 mm (H) x 95 mm (D)

Installation: DIN-Rail, Panel mount or desktop

Environmental

Operating Temp: Regular: -10 to 70°C
Extended: -40 to 80°C

Storage Temp: -40 to 85°C (-40 to 185°F)

Operating Humidity: 5% to 90% RH (non-condensing)

Technical Specifications

Standard:

IEEE802.3 10Base-T

IEEE802.3u 100Base-TX

IEEE802.3ab 1000Base-T

IEEE802.3x Flow Control and Back pressure

IEEE802.3z 1000BaseSX/LX standards

Network Media:

10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m)

100Base-TX: 2-pair UTP/STP Cat. 5/5e cable EIA/TIA-568 100-ohm (100m)

1000Base-T: 2-pair UTP/STP Cat. 5/5e cable EIA/TIA-568 100-ohm (100m)

Protocol Technology: CSMA/CD

Switching Architecture: Store and Forward

DIP Switch:

DIP Switch 1: ON: Enables Power Alarm

OFF: Disables Power Alarm

DIP Switch 2: LLF (Link Loss Forwarding) Disable/Enable

Connector:

Fiber: SFP Mini-GBIC 3.3V

RJ-45 Socket: CAT-5 (10/100/1000Mbps)

Twisted Pair cable Auto MDI/MDI-X and Auto-Negotiation Function Support

Alarm: Relay output for port break and power failure

Link Loss Forwarding:

Any link failure detected by the converter on a failure path will show disconnected alarm so that the switches connected can detect the path failure.

Regulatory Approvals

EMI: FCC Class A

EMS: EN61000-4-2 (ESD), EN6100-4-3 (RS), EN-6100-4-4, EN6100-4-5 (Surge) EN6100-4-6 (CS), EN61000-4-8, EN61000-4-11, EN61000-4-12, EN61000-6-2 EN61000-6-4, IEC61000-4-2/3/4/5/6/8

Safety: UL, cUL, CE/EN60950

Shock: IEC60068-2-27

Vibration: IEC60068-2-6

Free Fall: IEC60068-2-32

Class 1 DIV 2: Pending*

DNV: Pending*

Environmental: WEEE, RoHS

MTBF: 340,000 hrs based on Mil-Hdbk-217F, GB

Warranty: 5 years