

Ruby3A

Managed Redundancy Box



- Compliant implementation of both PRP (IEC62439-3-4) and HSR (IEC62439-3-5)
- Supports combo ports as HSR/PRP port
- Supports hardware based IEEE1588v2.
- Supports reset button for system reboot
- Out of Band Management Port.
- Complies with IEC61850-3 and IEEE1613.

Overview

Ruby3A from Kyland is specially designed for reliable industrial networking realizing both PRP (Parallel Redundancy Protocol) and HSR (High-availability Seamless Redundancy) which are defined in IEC62439-3. The Ruby3A provides the ultimate in network reliability and zero failover time from network faults. Full FPGA hardware solution enables Kyland Ruby3A low switching latency and PRP/HSR is selectable via software with the same hardware platform. Precision time synchronization in accordance with IEEE 1588v2 is supported on Kyland Ruby3A.

Software Functions

Redundancy protocol

Support HSR and the recovery time is 0 ms.
 Support PRP and the recovery time is 0 ms.
 Support PRP/HSR Coupling
 Support Quadbox mode

Management & Maintenance

Support Console, and Web management
 Support Telnet*
 Support Manage VLAN
 Support SNMPv1/v2c
 Support SNMPv3*
 Support RMON*
 Support LLDP*
 Support DHCP client*
 Support software update
 Support configuration upload/download
 Support FTP/TFTP*
 Support Syslog
 Support Alarm
 Support DDM*
 Support Cable test*

Time synchronization

Support PTPv2(IEEE1588-2008) transparent precision<1us
 Support power profile(IEC 61850-9-3 2016)*
 Support NTP*
 Support SNTP*

Security

Support SSH
 Support SFTP*
 Support SSL*
 Support user grading*

Other

Support IEC61850 MMS server*

* Functions being developed

Product Specifications

Technical Specifications

Standard
 ▼ IEEE 802.3ab(1000Base-T)
 ▼ IEEE 802.3z(1000Base-SX/LX)
 ▼ IEEE 802.3u(100Base-TX & 100Base-FX)
 ▼ IEC62439-3-5(HSR, Edition 3.0 update ready)
 ▼ IEC62439-3-4(PRP, Edition 3.0 update ready)

Interface

Gigabit ports
 ▼ 1000Base-X, 100Base-FX, SFP port
 ▼ 100/1000Base-T(X), RJ45 port
 Console port RS232,RJ45

Alarm contact

- 3-pin 5.08mm-spacing plug-in terminal block, 250 VAC/220 VDC Max, 2 A Max, 60 W Max

LED

LED on front panel

- Running LED: Run
- Alarm LED: Alarm
- Power LED: PWR1, PWR2
- Local port link LED: L
- HSR/PRP mode LED: Mode
- Port LED: Link/ACT

Button

Reset: supports system reboot

Power Requirements

Power input

- 24-48VDC(18-72VDC),
- 100-240VAC,50/60Hz;110-220VDC(85-264VAC/77-300VDC)

Power terminal

- 5-pin 5.08 mm-spacing plug-in terminal block (L2)
- 3-pin 7.62 mm-spacing plug-in terminal block (HV)

Power consumption	<8W
Overload protection	Support
Reverse connection protection	Support
Redundancy protection	Support

Physical Characteristics

Housing	Metal
Cooling	Natural cooling, fanless
Protection Class	IP40
Dimensions(WxHxD)	
	66×135×107.5 mm (2.60×5.31×4.23 in.)
Weight	1.25Kg (2.756pound)
Mounting	Din-rail or panel mounting

Environmental Limits

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

Ordering Information

Product Model

Ruby3A-3G-HV

Ruby3A-3G-L2-L2

Description

3x1000Base-X, 100Base-FX, 100/1000Base-T(X) Combo ports;
100-240VAC,50/60Hz;110-220VDC(85-264VAC/77-300VDC)

3x1000Base-X, 100Base-FX, 100/1000Base-T(X) Combo ports;
24-48VDC(18-72VDC), redundant power inputs

Accessories

Accessory Model

Gigabit SFP module

100M Fiber SFP Module

DT-FCZ-RJ45-01

DT-BGAZ-09

Description

See the selection table of industrial gigabit SFP module.

See the selection table of industrial 100M Fiber SFP module.

Single-port RJ45 dust plug

Panel mounting board

Quality Assurance

MTBF	351,889 hrs
Warranty	5 years

Approvals

Please visit www.kyland.com for the latest news

Industry 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)

Mechanical Drawing

