

Ruby3A

3G port managed redundancy box



» 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.

» Key Features

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

» Product Specifications

> 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 and maintenance

Support Console and Web management

Support Telnet

Support CLI

Support SNMPv1/v2c

Support SNMPv3

Support LLDP

Support DHCP client

Support software update

Support configuration download

Support configuration upload

Support FTP

Support Syslog

Support Alarm

Support Cable test

Support Port speed auto-negotiation

Support IEC61850 MMS server

-Time synchronization

Support PTPv2(IEEE1588-2008) transparent precision<1us

Support NTP server/client

Support SNTP

-Security

Support SSH

Support SFTP

Support HTTPs/SSL

Support Radius/Tacacs+

Support AAA, Line

>Product Specifications

-Standard

IEEE 802.3ab(1000Base-T)

IEEE 802.3z(1000Base-SX/LX)

IEEE 802.3u(100Base-TX和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/HV-HV)

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; 88 x 137 x 135 mm(HV-HV)

Weight : 1.25Kg

Mounting : Din-rail or panel mounting

-Environmental limits

Operating temperature: -40°C to +85°C

Storage temperature: -40°C to +85°C

Ambient Relative Humidity: 5% - 95% (non-condensing)

-Quality assurance

MTBF : 351889h

Warranty : 5 years

-Approvals

CE, FCC

EMC: EN 55032/35, EN 61000-6-4, EN 61000-6-2

Rail Traffic: EN 50121-4

IEC61850-3, IEEE1613

IEC 62368-1, EN 62368-1

-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)

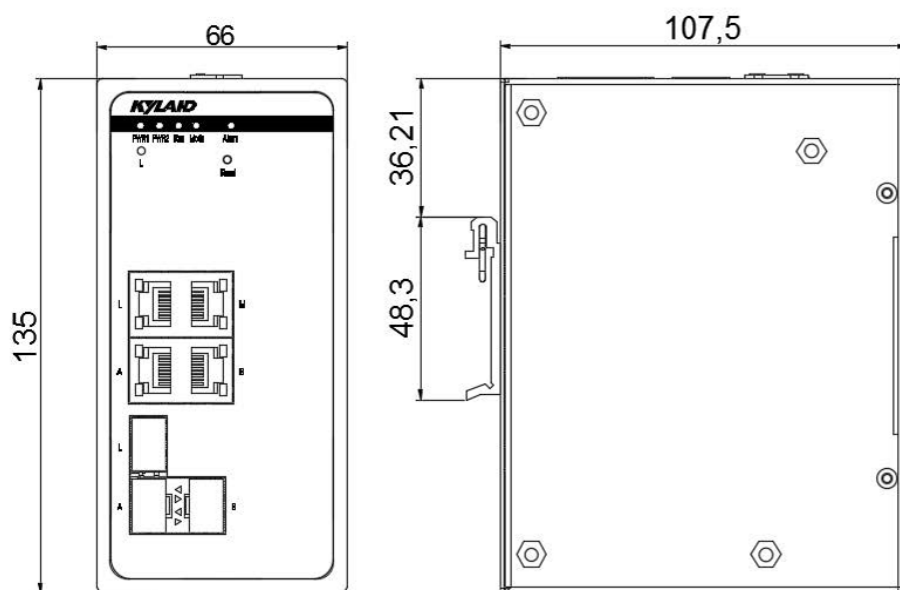
Machinery :

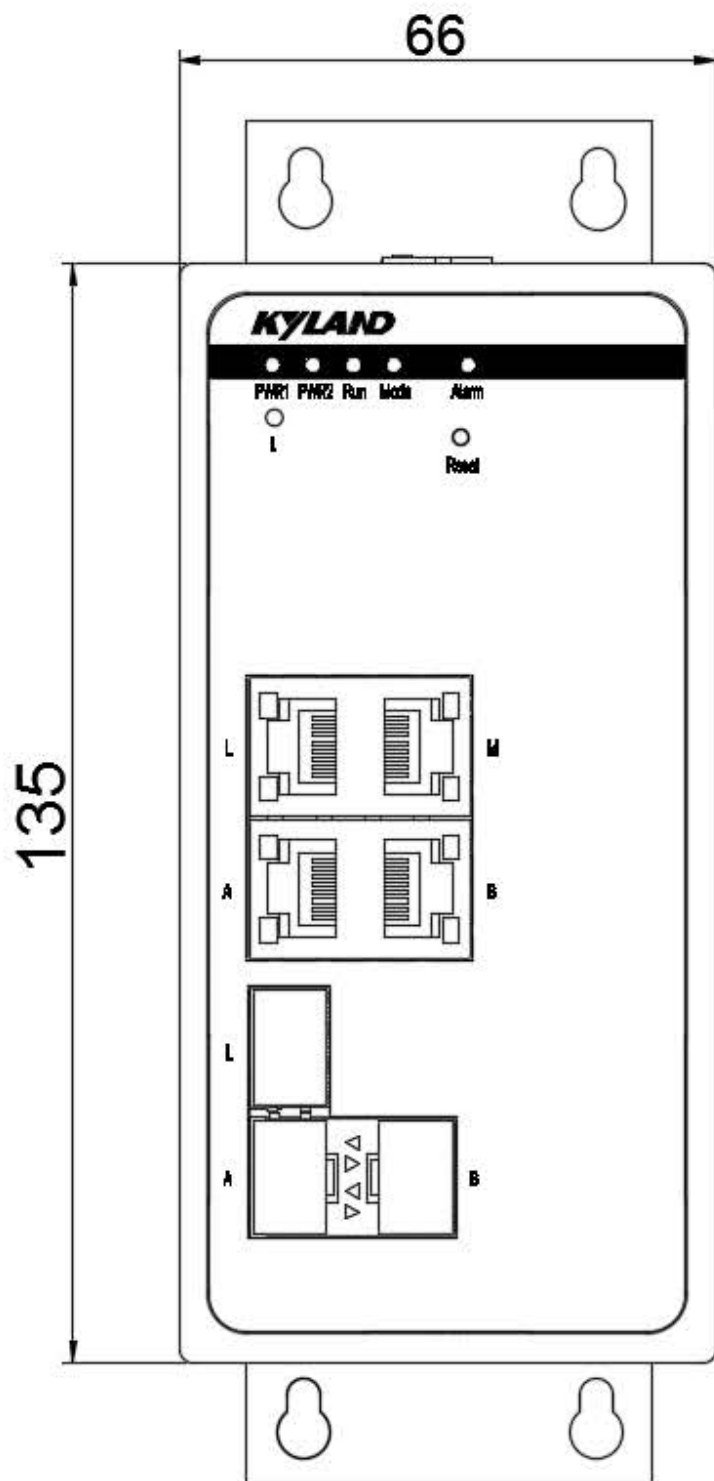
IEC60068-2-6 (vibration)

IEC60068-2-27 (shock)

IEC60068-2-32 (free fall)

» Mechanical Drawing





» Ordering Information

Product Model	Description
Ruby3A-3G-HV	3x1000Base-X, 100Base-X, 100/1000Base-T(X) Combo ports; 100-240VAC,50/60Hz; 110-220VDC(85-264VAC/77-300VDC), single power input

Ruby3A-3G-HV-HV	3x1000Base-X, 100Base-X, 100/1000Base-T(X) Combo ports; 100-240VAC,50/60Hz; 110-220VDC(85-264VAC/77-300VDC), redundant power inputs
Ruby3A-3G-L2-L2	3x1000Base-X, 100Base-X, 100/1000Base-T(X) Combo ports; 24-48VDC(18-72VDC), redundant power inputs
Accessory Model	Description
Gigabit SFP module	See the selection table of industrial gigabit SFP module.
100M Fiber SFP Module	See the selection table of industrial 100M Fiber SFP module.
DT-BGAZ-02	Panel for panel mounting
DT-FCZ-RJ45-01	Single-port RJ45 dust plug

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