

**PTC1000**
4 Port PTP Clock Convertor

CE, FCC, RoHS

Overview

PCC1000 is a clock convertor as a part of Kyland's solution for IEEE1588. As a PTP (Precision Time Protocol) terminal in a precise synchronization network, it is calibrated by the standard timing system and assures the precise synchronization clock to all downlink IEDs and devices. It can support 1 100Base-FX or 1 10/100Base-T(X) input, 2 PPS outputs, and 1 IRIG-B output. Its fanless ribbed casing design and ability to handle a wide range of temperatures ensure high reliability in extreme industrial environments. Based on Kyvision 3.0, CLI, WEB interface, it offers concentrative management.

Features

- As the PTP (Precision Time Protocol) terminal in a precise synchronization network, it is calibrated by the standard timing system, and assures that all downlink IEDs and devices are synchronized with the main clock precisely
- Supports 2 PPS (Pulse per Second) clock outputs, 1 IRIG-B clock output, and 1 10/100Base-T(X) or 1 100Base-FX clock input
- Supports GPS time synchronization, supports PPS clock and IRIG-B clock
- Supports IEEE1588 v1/v2, BC (Boundary Clock), TC-E2E (E2E Transparent Clock), TC-P2P (P2P Transparent Clock)
- Supports hardware setting and getting timestamp in the physical layer
- Supports G.8261 synchronous Ethernet
- Supports CLI, TELNET, WEB, SNMP V1/V2/V3 management functions
- Supports network topology auto-generation, and centralized web management
- Device basic information and system running information query, configuration upload and download
- Necessary data port protection circuit meeting the requirements of industrial level 4
- EMI immunity exceeds industrial level 4 being adaptive to the harsh EMI environment
- Abundant power supply options, able to provide dual redundant power supplies
- Relay alarm output port with power loss alarming function
- Uniform network management software of SICOM series: Kyvision3.0
- Ribbed aluminum case for heat dissipation (patent), fanless design
- Operating temperature: -40 to 85°C (-40 to 185°F)
- DIN-rail or wall mounting
- IP40 protection class

Technical Specifications**Standard**

G.8261
IEEE1588
IEEE802.3
IEEE802.3u
IEEE802.3x

Interface

100M Fiber Ports: 1 x 100Base-FX port, FC/SC/ST
10/100M Copper Port: 1 x 10/100Base-T(X) port, RJ45
PPS port 1: Fiber port output, ST connector
PPS port 2: TTL data output, 2-Pin 3.81mm-spacing terminal block
IRIG-B port: RS422 data output, 3-Pin 3.81mm-spacing terminal block
CONSOLE Interface: RS232, RJ45

Performance

Clock precision: 10^{-11} s
Time keeping precision: 10^{-6} s/d

Cable

Serial Cable: 15m for RS232, 1200m for RS422/485
Twisted pair: 0-100m (Standard CAT5, CAT5e net cable)
Multimode fiber: 1310nm, 0-5km(100Mbps)
Single mode fiber: 1310nm, 0-40km; 1550nm, 0-80km

Power Requirements

Power input: 24VDC (18-36VDC), dual redundant power inputs
Power terminal: 5-Pin 5.08mm-spacing phoenix terminal block
Power consumption: <10W

Physical Characteristics

Casing: Ribbed aluminum case (fanless)
Protection class: IP40
Dimensions (WxHxD): 55.4x139x119.5 mm (2.18x5.47x4.70 in.)
Weight: 0.6kg (1.322 pounds)
Installation: DIN-Rail or wall mounting

Environmental Limits

Operating Temperature: -40 to 85°C (-40 to 185°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 0 to 95% (non-condensing)

Approvals

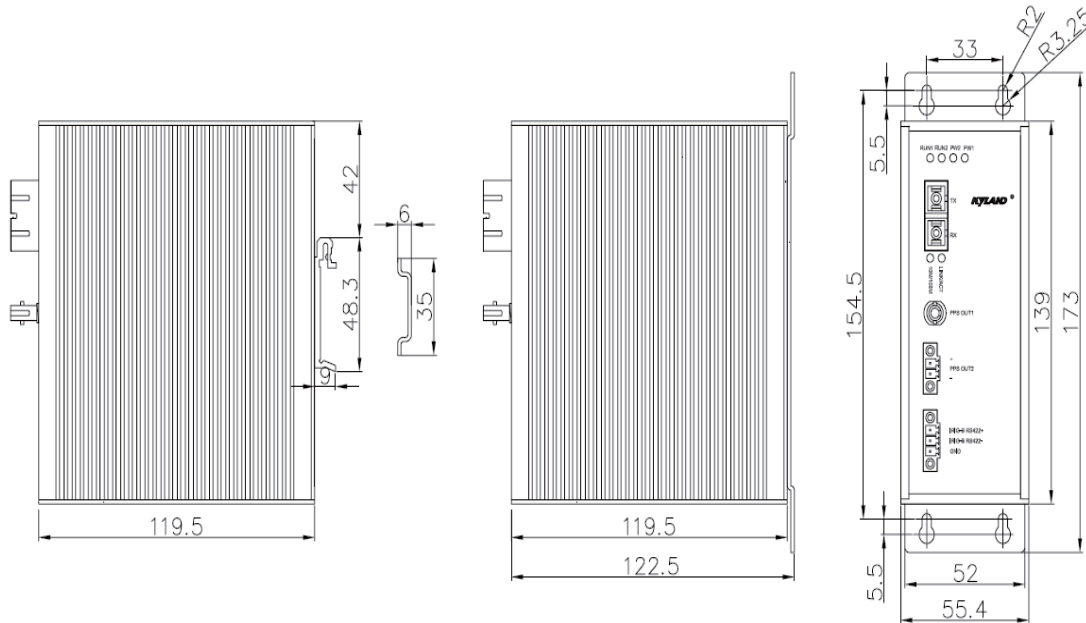
IEC61000-4-2 (ESD): ± 8 KV contact discharge, ± 15 KV air discharge
IEC61000-4-3 (RS): 10V/M (80-1000MHz)
IEC61000-4-4 (EFT): ± 4 KV power line, ± 2 KV data line
IEC61000-4-5 (Surge): power line ± 4 KV CM/ ± 2 KV DM, data line ± 2 KV
IEC61000-4-6 (CS): 3V (10KHZ-150KHZ), 10V (150KHZ-80MHZ)
IEC61000-4-8 (Power frequency magnetic field): 100A/m cont. 1000A/m, 1s to 3s
IEC61000-4-12/18 (Damped oscillatory wave): 2.5KV CM, 1KV DM
IEC61000-4-10 (Damped oscillatory): 30A/m
IEC61000-4-16 (Common mode conduct): 30V cont. 300V, 1s
FCC CFR47 Part 15/EN55022: Class A&B
IEC61000-6-2 (Industrial Standards), IEC61850-3 (Substations), IEEE1613 (Electric Power Substations), EN50121-4 (Railway Applications)

CE, FCC, ROHS

MTBF
35 years

Warranty
5 years

Mechanical Drawing



Ordering Information

Model	Description
PTC1000-S	PTP clock converter with 1 100Base-FX port, single mode, FC/SC/ST connector, 2 PPS interfaces and 1 IRIG-B interface, -40 to 85°C operating temperature
PTC1000-M	PTP clock converter with 1 100Base-FX port, multi mode, FC/SC/ST connector, 2 PPS interfaces and 1 IRIG-B interface, -40 to 85°C operating temperature
PTC1000-T	PTP clock converter with 1 10/100Base-T(X) port, RJ45 connector, 2 PPS interfaces and 1 IRIG-B interface, -40 to 85°C operating temperature

Power supply: 24VDC, dual redundant power inputs