

# PTC1000



## PTP Clock Converter

- Support IEEE1588v2, the synchronization accuracy reaches  $\pm 100\text{ns}$ .
- Support ITU-T.G.8261/G.8262 SyncE, the synchronization accuracy can reach  $\pm 50\text{ns}$  with SyncE enabled.
- Support 1 100Base-FX SC/ST/FC or 1 10/100Base-TX RJ45 IEEE1588 input.
- Support PPS output, IRIG-B TTL outputs, and IRIG-B AM modulation.
- Supports IRIG-B000,B001,B002,B003,B004,B005,B006,B007,B120,B121,B122,B123,B124,B125,B126,B127.
- Complies with IEC61850-3 and IEEE1613.
- CE, UL508 certificates.



## » Overview

PTC1000 Clock Converter realizes the conversion from PTP to IRIG-B and PPS (Pulse Per Second). This allows the industrial devices that are equipped with IRIG-B clock interfaces and PPS interface to conveniently access PTP network. This provides economic solution for evolving legacy network into future-proofing PTP network and achieve high precision synchronization required in industrial control system.

## » Software Functions

### Management & Maintenance

Supports Console, Telnet, and Web management methods.  
Supports SNMPv1/v2c and can managed by Kyvision.  
Supports software update over FTP.  
Supports the power failure alarm, power alarm

### Clock Management

Supports PTPv2 (IEEE1588-2008).  
Supports Power profile (C37.238).  
Supports Telecom profile (in special version).  
Supports synchronous Ethernet (ITU-T.G.8261/G.8262).

## » Product Specifications

### Technical Specifications

- Standard
- ▼ IEEE 802.3i(10Base-T)
  - ▼ IEEE 802.3u(100Base-TX and 100Base-FX)
  - ▼ IEEE1588-2008(PTPv2)
  - ▼ ITU-T.G.8261/G.8262 (synchronous Ethernet)

### Interface

#### PTP port

- ▼ 100Base-FX, single/multi mode, SC/ST/FC connector
- ▼ 10/100Base-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

#### Clock Signal

- ▼ PPS: TTL level +5V, 50 $\Omega$ , Rising edge based, pulse width 20ms-200ms, stepped by 20ms (configurable in software), BNC connector
- ▼ IRIG-B DC: TTL level +5V, 600 $\Omega$ , Rising edge based, BNC connector or 2-pin 5.08mm-spacing plug-in terminal block
- ▼ RS422, 2-pin 5.08mm-spacing plug-in terminal block
- ▼ IRIG-B AM: Vp-p, 3V-10V (configurable in software, default Vp-p: 4.5V), 600 $\Omega$ , Modulation Ratio 3:1, 4:1, 5:1, 6:1 (optional, default modulation ratio is 3:1), BNC connector or 2-pin 5.08mm-spacing plug-in terminal block

### LED

#### LED on front panel

- ▼ Running LED: Run
- ▼ Alarm LED: Alarm
- ▼ Power LED: PWR1, PWR2
- ▼ Port LED: Link/ACT, Speed
- ▼ PTP Sync LED: Sync

### Power Requirements

#### Power input

- ▼ 24DCW(18-72VDC)
- ▼ 110DC(77-154VDC)
- ▼ 220AC/DCW(85-264VAC/77-300VDC)

#### Power terminal

- ▼ 5-pin 5.08 mm-spacing plug-in terminal block
- Power consumption <4W
- Overload protection Support
- Reverse connection protection Support
- Redundancy protection Support

### Physical Characteristics

|  |                                 |
|--|---------------------------------|
| Housing                                  | Metal                           |
| Cooling                                  | Natural cooling, fanless        |
| Protection Class                         | IP40                            |
| Dimensions(WxHxD)                        |                                 |
| ▼ 62.4x139x119.5 mm (2.45x5.47x4.70 in.) |                                 |
| Weight                                   | 0.75kg (1.653 pound)            |
| Mounting                                 | Vertical or Horizontal Din-Rail |

### Environmental Limits

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

### Quality Assurance

|          |             |
|----------|-------------|
| MTBF     | 332,600 hrs |
| Warranty | 5 years     |

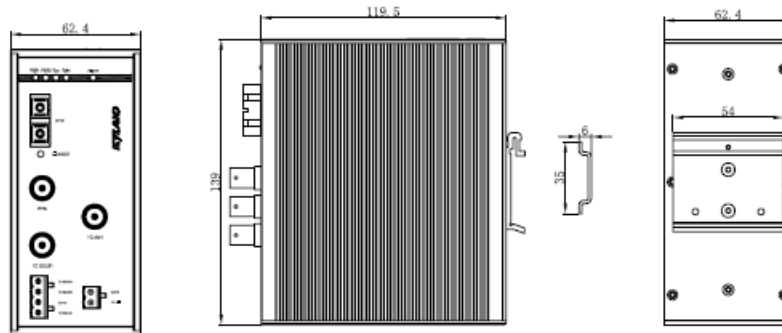
### Approvals

CE, UL508  
Please visit [www.kyland.com](http://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



## » Ordering Information

| <b>PTC1000-Ports-Connector-XX-PS</b>       |  |
|--|--|
| <b>Ports</b>                               |  |
| 1S   | 1x100Base-FX, single-mode fiber port;  |
| 1M   | 1x100Base-FX, multi-mode fiber port;   |
| 1T   | 1x10/100Base-T(X) RJ45 port  |
| <b>Connector</b>                           |  |
| <b>100M fiber port specifications</b>      |  |
| SC05                                       | SC connector, multi-mode, 1310nm, 5km  |
| ST05                                       | ST connector, multi-mode, 1310nm, 5km  |
| FC05                                       | FC connector, multi-mode, 1310nm, 5km  |
| SC40                                       | SC connector, single-mode, 1310nm, 40km  |
| ST40                                       | ST connector, single-mode, 1310nm, 40km  |
| FC40                                       | FC connector, single-mode, 1310nm, 40km  |
| SC60                                       | SC connector, single-mode, 1310nm, 60km  |
| SC80                                       | SC connector, single-mode, 1550nm, 80km  |
| <b>XX</b>                                  |  |
| <b>Connector of the second IRIG-B port</b> |  |
| None                                       | The second channel of IRIG-B out is 2-pin 5.08 mm-spacing plug-in terminal block |
| 01   | The second channel of IRIG-B out is BNC connector                                |
| <b>PS</b>                                  |  |
| <b>Power supply</b>                        |  |
| HV   | 220AC/DCW(85-264VAC/77-300VDC),single power input                                |
| H2-H2                                      | 110DC(77-154VDC), dual redundant power inputs                                    |
| L2-L2                                      | 24DCW(18-72VDC), dual redundant power inputs                                     |

## » Accessories

| <b>Accessory Model</b> | <b>Description</b>         |
|------------------------|----------------------------|
| DT-FCZ-RJ45-01         | Single-port RJ45 dust plug |