

PTP Translator

The PTP Translator is a compact DIN-rail mount device that translates PTP (Default, Power, Utility and Telecommunications profiles) to common time codes such as IRIG-B.

It enables you to migrate to PTP without the expense of replacing non-PTP equipment.

Key Features

- Compact DIN-rail mounting form factor
- Allows IED's equipped with IRIG-B, Pulse or other common time code inputs to conveniently access a PTP network
- Input: Default, Power, Utility or Telecommunications PTP profiles, or SNTP client
- Output: AM IRIG-B, RS232/422, TTL programmable and ST Fibre, NTP server
- Intuitive Configuration Software
- Enhanced Security and encryption that exceed NERC CIP requirements

About Tekron

Tekron is a leading developer of accurate GPS/GLONASS clocks and time synchronisation solutions for use in industrial applications.

Contact Us

www.tekron.com

Phone: +64 4 566 7722

Sales Freephone: (Australia)

1800 506 311

Sales Freephone: (North

America) 1800 256 2309



Physical

UL94-V0 polycarbonate flame retardant DIN-rail mount case with IP40 compliance (Ingress Protection rating).

(W) 72 mm x (D) 60 mm x (H) 90 mm, 0.2 Kg

Rising clamp terminals: Wire size (max): 1.5 mm Ø

LED Indicators

- PTP Status / Availability
- Power
- Ethernet ACT and LNK LEDs

Environment and Electrical

Power supply:

L = 14 - 36 Vdc
M = 20 - 75 Vdc
H = 90 - 300 Vdc

Power Drain:

5 W max

Operating temperature:

-10 to +65°C

Humidity:

To 95%
non-condensing

Isolation

Power to I/O: 1.6 kV (LV)
1.6 kV (MV)
3.75kV (HV)

Standard Outputs

TTL

1 x TTL programmable output, 2-pin, 0-5 V, 150 mA, self-resetting fuse

Fibre

1 x programmable output, Fibre Tx (λ 820 nm). Compatible with 50/125 μ m, 62.5/125 μ m, 100/140 μ m, and 200 μ m HCS multi-mode fibre cable (ST Fibre connectors)

Alarm

1 x Sync relay (2 pin - Form A contact)
Contact rating: 275 V, 100 mA AC or DC

Optional Outputs

In addition to the standard output, one of the following output options are also available for the PTP Translator

TTL

1 x TTL programmable output, 2-pin, 0-5 V, 150 mA, self-resetting fuse
Or

AM IRIG-B

1 x AM IRIG-B output, 2-pin, 8 Vpp, 120 Ω
Or

Serial Strings

1 x RS232, 2-Pin +/- 9 V, 15 mA.

Serial time messages can be configured to be output at 1200, 2400, 4800, 9600, 19200 and 38400 baud.

Timing accuracy of RS232 port:
Serial Message <1 bit time

Accuracy at Port

Fixed Outputs:

TTL \pm 100 ns
Fibre \pm 100 ns

Optional Outputs:

TTL \pm 100 ns
AM IRIG-B \pm 2 μ s
RS232 < 200 μ s



*Some optional features may incur extra costs

Oscillator – TCXO

Holdover characteristics operating at 25°C:

- TCXO 1PPS drifts 0.55 ms over a 24 hour period.
- Drift rate: 7 ppb per second



Ethernet Connection

- 1 x RJ-45 10/100 Ethernet UTP connectors

or

- 1 x ST multi-mode 100BASE-FX Fibre (62.5/ 125 μm , $\lambda=1300\text{ nm}$) Ethernet available

Timing accuracy: <100 ns

Protocols Supported

General

- DHCP auto-configuration with fallback to ARP tested link-local address
- VLAN packet tagging

SNMP

- v1, v2c, and v3 support can be independently enabled
- Configurable v1, v2c community names and security groups
- Fully configurable via SNMP
- v3 User-based Security Module (USM) supports USM authentication methods: MD5, SHA
- USM privacy methods: DES, AES
- USM MIB support

Notifications

- SNMP trap generation v1, v2c, and v3
- SNMPv3 traps can be authenticated and privatised via USM
- Syslog (RFC-3164 and 5424 verities)

IEEE 1588-2008 (PTPv2) Support

- PTPv2 (IEEE 1588-2008) slave operation
- Slave only profile selection:
 - Default Profile (E2E and P2P)
 - IEEE C37.238 Power Profile (2011 and 2017)
 - IEC 61850-9-3 Power Utility Profile
 - ITU-T G.8265.1 Telecom Profile (Slave only)
 - ITU-T G.8275.1 Telecom Profile (Full support)
- One-step or Two-step Operating Modes, and Layer 2 or Layer 3 mapping
- Peer to Peer, End to End and Fixed delay support

Configuration Software

Windows based configuration software is available to be downloaded from the Tekron website.

User adjustable features include:

- Multi-level access control
- Privacy and authentication methods equivalent to SNMP USM
- “Supervisor-mode” prevents non-approved changes
- Test mode
- Commissioning tool