Isolated Timing Repeater (ITR)

Copper, Fiber, HV MOSFET

The Isolated Timing Repeater is a compact DIN rail mountable signal repeater that performs several tasks, including converting time sync signals from fiber to copper (and vice versa), boosting signal strengths, and converting one type of signal to another.

Electrically isolated, the ITR provides your Intelligent Electronic Devices (IEDs) with an additional layer of electrical protection.

Left: Fiber/HV MOSFET, Right: Copper

Key Features

- Extends the distance of an IRIG-B or Pulse signal
- Provides isolation between A & B Protection Systems or between IEDs
- Converts a copper signal to a fiber signal (or vice versa)
- Converts low voltage (0-5 V) signal to a high voltage digital output
- Reduces wiring to panels of equipment

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 608 572
Sales Freephone: (North America) 1800 256 2309

*Some optional features may incur extra costs

WORLD WIDE WARRANTY 10 YEARS

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Physical

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

(W) 55 mm x (D) 60 mm x (H) 90 mm, 0.15 Kg

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

LED Indicators

Two LEDs indicating multiple statuses, including:

- Power
- Input signal indicator

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: 2 kV
Input to Earth: 3.5 kV (min)

Copper Version

Inputs

The Input accepts a Digital Logic signal or
DCLS IRIG-B 1 x Copper 5 V, 2 mA max

Outputs

Outputs echo the same signal data as on the input

1 x Copper TTL	0 - 5 V, 150 mA, fused
1 x Copper RS232	±10 V (typical unloaded), 15 mA (max)
1 x Copper RS422/RS485	±5 V, 50 RS422 unit loads (RS485 compatible)

Optional Output

1 x Copper AM IRIG- B 8V, 120Ω output impedance
Internal Signal delay:
Input to Copper output 85±10 ns

Fiber Version

Inputs

Both inputs accept a Digital Logic signal or DCLS IRIG-B

1 x ST Fiber	62.5/125 um, λ = 820 nm, multi-mode Receiver sensitivity -34.4 dBm 1 x Copper 5 V, 2 mA max

Outputs

Outputs echo the same signal data as on the input

1 x ST Fiber	62.5/125 um, λ = 820 nm, multi-mode Power budget 17.5 dB (typical)
1 x Copper TTL	0 - 5 V, 150 mA, fused
1 x Copper RS232	±10 V (typical unloaded), 15 mA (max)
1 x Copper RS422/RS485	±5 V, 50 RS422 unit loads (RS485 compatible)

Optional Output

1 x Copper AM IRIG- B 8 V, 120Ω output impedance
Internal Signal delay:
Input to Copper/Fiber output 85±10 ns

HV MOSFET Version

Inputs - See Fiber Version above

Outputs

Outputs echo the same signal data as on the input
1 x ST Fiber as per Fiber Version above
1 x HV MOSFET, 300 Vdc (+0V tolerance), 100mA, high speed MOSFET, fused with reverse polarity and ESD protection.

Internal Signal delay: Input to HV MOSFET output 60 µs (typical)

*Some optional features may incur extra costs