

# 8 Channel DIO Over T1/E1 Multiplexer

# TC8612

- 8ch Bi-directional Dry Contact
- Very Low Latency – 1.5ms
- ESF Framing Support for T1
- PCM30C Framing Support for E1
- Isolated Ground for Detectors
- Supports 120Ω & 75Ω E1
- Built-in Power Redundancy
- Rack Mount or Stand Alone
- Optional “Dry Contact Status Hold”\*



TC8612S Front Panel



TC8612S Rear Panel

The model TC8612 8-Channel DIO over T1/E1 multiplexer features built-in power redundancy and extensive diagnostics.

Diagnostics include DIP switches for Local & Remote Loopback and other application configuration switches. Each unit also provides multiple LEDs for Alarm, Power, Vcc, T1/E1 Status, and RLY & DET status LEDs for each channel.

Optional “Dry Contact Status Hold”\*. When this feature is enabled, the dry contact will retain the last “Open” or “Close” status if the T1/E1 link is broken.

A built-in sync mechanism verifies both device and T1/E1 link operation. No other test equipment is required for link and device verification.

The TC8612 is compatible with standard 100Ω T1 and 75Ω / 120Ω E1 copper line. RJ48 connector is used for T1/E1. RJ11 connectors are used for dry contact channels.

An optional BNC adapter cable is available for 75 Ohm E1. Standard power is 12VDC or optional 24VDC, -48VDC, 125VDC, or 115/230VAC with an external power cube. A high temperature version (-20°C to 70°C) and extreme temperature version (-40°C to 80°C) are available for harsh environments.



## Applications

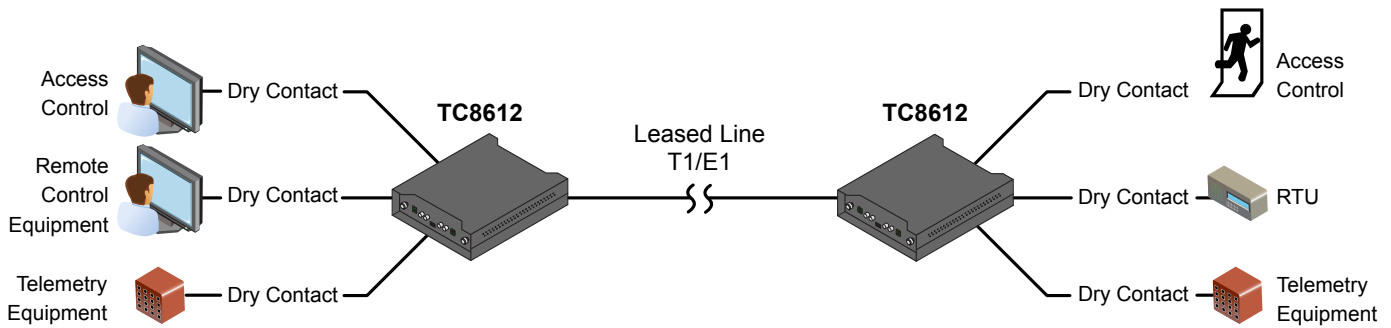
The TC8612 offers a simple and effective method to transport dry contacts over T1/E1. It replaces complex T1/E1 channel banks for small scale applications and provides a plug and play solution.

The bi-directional dry contacts typically link up RTUs, Relays, Controllers, Telemetry and other equipment with Digital I/Os.

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\*Contact factory for options



Typical Application Using TC8612 Dry Contact-over-T1/E1 Multiplexer

**Dry Contact**

Type..... Normally Open  
 Load Voltage (peak AC)..... 60V  
 Load Voltage (DC) ..... 60V  
 Continuous Current..... 0.55A  
 Peak Load Current..... 1.2A  
 Max on Resistance..... 2.5 Ω  
 Output Capacitance ..... 150pF  
 Detector Max Input Voltage..... 9V

**T1/E1**

**T1**  
 Line Length..... Up to 6000ft  
 Receiver sensitivity ..... 0dB to -36dB  
 Line Code ..... AMI / B8ZS  
 Latency ..... < 1.5ms  
 Framing..... ESF Only  
 \*Unframed is not supported

**E1**

Line Length..... Up to 2.5km  
 Receiver sensitivity ..... 0dB to -43dB  
 Line Code ..... AMI / HDB3  
 Latency..... < 1.5ms  
 Framing..... PCM30C Only  
 \*Unframed is not supported

**Visual Indicators**

Channel Status (each ch.)... RLY, DET  
 System..... PWR A, PWR B, Vcc, ALM  
 T1/E1... BPV, LOS, RAI AIS, CRC, SYNC

**System**

Bit Error Rate..... 1 in 10<sup>9</sup> or better

**Electrical**

**T1/E1**  
 Connector ..... RJ48F

**Dry Contact**

Connector ..... RJ11F  
 Interface (standard) ..... Dry Contact

**Alarm**

Dry Contact..... Normal Open/Closed

**Power**

Standard ..... 12VDC @300mA  
 Optional... 24VDC, -48VDC, 125VDC,  
 ..... or 115/230VAC w/ power cube

**Temperature**

Operating ..... -10°C to 50°C  
 Hi-Temp (optional) ..... -20°C to 70°C  
 Extreme (optional) ..... -40°C to 80°C  
 Storage..... -40°C to 90°C  
 Humidity ..... 95% non-condensing

**Physical (Standalone Unit)**

Height ..... (3.53cm) 1.40"  
 Width ..... (18.14cm) 7.20"  
 Depth ..... (24.89cm) 9.80"  
 Weight ..... (907g) 2.0lbs



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Note: Information contained in this data sheet is subject to change without prior notice.