2 Ch. 600 Ohm Analog & Bi-Directional Dry Contact over T1/E1 Multiplexer   TC8614-2

- **Up to 2-ch 600Ω Analog & Dry Contact**
- **2-Wire or 4-Wire Analog**
- **ESF Framing Support for T1**
- **PCM31C Framing Support for E1**
- **Very Low Latency**
- **Dry contact detectors with Isolated Ground**
- **Built-in Power Redundancy**
- **Rack Mount or Stand Alone**

TC8614S Front Panel

TC8614S Rear Panel

TC COMMUNICATIONS®
FIBER OPTIC CONNECTIVITY

The TC8614-2 is a 2-channel 600Ω Analog & Dry Contact over T1/E1 Multiplexer that allows network managers the flexibility of leveraging their existing T1/E1 circuits by adding low cost analog or dry contact links as needed. It is economical, simple to install and comes standard with built-in power redundancy.

The TC8614-2 is available in the following configurations:

Configuration Options	# of 4-Wire	# of 2-Wire	# of Bi-Directional Dry Contact	T1 or E1
TC8614-20-41	2		2	T1
TC8614-20-21		2	2	T1
TC8614-20-61	1	1	2	T1
TC8614-20-42	2		2	E1 75 Ohm
TC8614-20-22		2	2	E1 75 Ohm
TC8614-20-62	1	1	2	E1 75 Ohm
TC8614-20-43	2		2	E1 120 Ohm
TC8614-20-23		2	2	E1 120 Ohm
TC8614-20-63	1	1	2	E1 120 Ohm

Applications

A low cost and immediate solution, the TC8614-2 is typically used to link or extend various 600Ω analog, audio and intercom devices (e.g. FSK modems, E&M, teleprotection relay controllers, etc.), and dry contacts over existing T1/E1 links. It is also used as a backup network to ensure business continuity.

It is also used to improve voice quality and increase system reliability in harsh environments, to replace unreliable leased phone circuits and to stabilize voice level settings for 600Ω audio channels.

The device requires no additional equipment for T1/E1 link and device verification. Extensive diagnostics are available to quickly identify issues with your analog or digital lines. Three different types of loopbacks: local, remote, and T1/E1 loopback assist in isolating whether an issue lies on your analog line or your T1/E1 line. CSU Loop Code Up/Down is also supported. Each unit provides TX/RX and RLY/DET LEDs for verifying analog signals, Power LEDs for verifying power inputs, Alarm LEDs for verifying T1/E1 signal, and a Remote LED to monitor the remote unit.

All products part of the Mini Channel Bank series are equipped with the "R2" button. The "R2" button, was developed to isolate causes of disruptions, leveraging the Alarm LEDs and allows users to clear the history on the local unit and mirror and reset the Alarm LEDs on the remote unit. Each of the Alarm LEDs have the ability to show current T1/E1 errors and a history of up to 3 errors.

The TC8614-2 is compatible with standard 100Ω T1 and 75Ω / 120Ω E1. The T1/E1 uses a RJ48 connector and the analog and dry contact channels use RJ-11 connectors. Optional BNC adapter cable is available for 75 Ohm E1. Power is 12VDC standard or optional 24VDC, -48VDC, 125VDC, or 115/230VAC with an external power cube. Optionally, a high temperature version (-20°C to 70°C) and extreme temperature version (-40°C to 80°C) are also available.
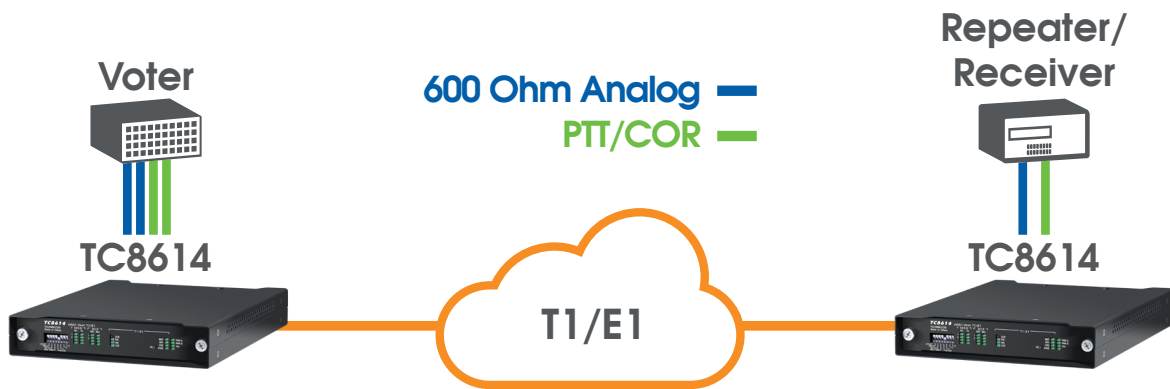
Typical Application using the TC8614 600Ω Analog & Dry Contact-over-T1/E1

Connection Capacity

600Ω (2/4 Wire) .... 2 Ports
Bi-Directional Dry Contact... 2 Ports

T1/E1

T1

Receiver sensitivity. .... 0dB to -36dB
Line Code ....AMI / B8ZS
Framing.. ESF (Only)

E1

Receiver sensitivity .... 0dB to -43dB
Line Code .... AMI / HDB3
Framing.. PCM31C

Electrical

Dry Contact Interface
  Normal open.. standard
  Normal close .... optional
  Load Voltage (peak AC) 60V
  Load Voltage (DC) 60V
  Continuous load current.. 0.55A
  Peak load current 1.2A
  Max On Resistance .... 2.5 Ω
  Output Capacitance 150pF

600Ω analog interface
  Impedance... 600Ω
  Max Input.. 3Vp-p
  Frequency band .... 300 to 3400Hz

Visual Indicators

Channel Status...TX/RX or RLY/DET
System .... PWR A, PWR B, Vcc, ALM, RMT
T1/E1... AMI, RAI, AIS, CRC,
.... BPV, LOS, SYNC

System

Bit Error Rate .... 1 in 10^9 or better

Alarm

Dry Contact... NormalOpen/Closed

Power

Standard .... 12VDC @200mA
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

TC COMMUNICATIONS®
FIBER OPTIC CONNECTIVITY

Certified System ™

SAI GLOBAL
ISO 9001
Quality

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