

Telecode TDM Time Division Multiplex System

'The electronic equivalent of a multicore cable'

Technical Data

The System

The basic system comprises a master fifteen bit transmitter and receiver. The number of I/O bits transmitted can be increased by adding –

- Digital extender units in 32 bit increments
- Analogue extender units with options to scan 2 or 4 channels (4-channel version) or 2, 4, 6 or 8 channels (8-channel version)
- The total number of bits that can be transmitted is only limited by factors such as I/O update time and the quality of the transmission link.
- Either single or fully duplicated systems with auto/manual changeover can be provided.

Input Characteristics

Digital Inputs

- 10 to 50 volt nominal dc input signal level (other dc voltages available on request) + coded inputs up to 110 V dc for secure controls

Analogue Inputs

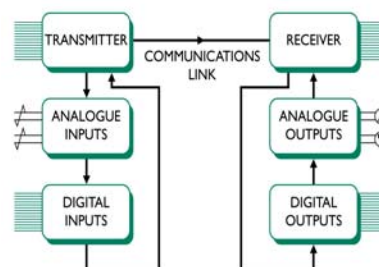
- 0-10 mA
- 0-20 mA (includes 4-20 mA)
- 0-1 V
- The analogue extenders feature
- 500 V isolation
- Resolution of 8 bits unipolar or 12 bits bipolar plus sign

Contact: Peter Webster for full product support and further information

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Telecode TDM block diagram (one way) of digital and analogue system

Output Characteristics

Digital Outputs

- Open collector transistor, relay and solid state relay outputs available
- Coded digital – for secure control

Analogue Outputs

- 8 or 12 bit resolution plus sign
- 0-1V
- 0-10 mA
- 0-20 mA (includes 4-20 mA)

Transmission Media

Telecode TDM can transmit I/O in both directions using a variety of media including -

- Optical fibre
 - Multimode
 - Monomode (single mode)
- Up to 64 kilobits/s X21 Communications
- RS422/485 link
- Radio/microwave link
- Customers' own cables (2-wire/4-wire)
- Rented private telephone circuit (2-wire/4-wire)

DIN Rail Termination Modules

- Types include -
- Straight through connection
- Single pole output relay*
- Reed relay output*
- Solid state inputs and outputs*
- * 2kV ac isolation
- LED indication when selected. Coupled to subrack master or extender unit by ribbon cable and DIN rail mountable.

Approvals

- Environmental
- Generally to BS 2011 pt 2 (IEC 68.2), EES 1989 Class B/C, and prEN50125-3 (Rail)
- Temperature -10°C to +55°C
- Storage -25°C to +70°C
- Humidity <95% RH at 40°C (without condensation)
- Vibration 0.5 g 10-500Hz
- Drop Height 50 mm EMC
- Complies with European Directive 89/336/EEC when installed as specified
- BS EN 50121-4 for Rail Applications
- IEC 255-4 HF Disturbance (Power)



Telecode TDM 19" subrack for Electricity Distribution inter-tripping systems

- IEC 834-1 VF Modem Performance Low Voltage Directive
- Complies with European Directive 73/23/EEC when installed as specified

Network Rail Product Acceptance

- Please contact Unipart Rail for Acceptance Certificates
- Quality
- Manufactured to BS EN ISO 9001: 1994

Power Supplies

AC Mains Power Supplies

- Input voltage range - 88-132 Vac 176-265 Vac
- Frequency 48-450 Hz
- Back-up battery charging facility available

DC Power Supplies

- Input voltage range 11-14 V 18-36 V 36-72 V
- Higher voltage supplies are available. A solar powered option is available for smaller systems.

Physical Dimensions

- Subrack to IEC297 (19" Rackmount) with optional security door
- 483 mm wide x 266 mm deep x 264 mm (6U) high
- Projections:
- Security door in front of mounting flange 38 mm
- Behind mounting flange 228 mm
- With VF modem fitted 275 mm
- A range of free standing and wall mountable cabinets are available depending on the application. A typical cabinet for a fully duplicated system is 600 mm wide x 800 mm deep x 1,850 mm high.

Year 2000

The equipment does not contain any time dependent hardware, firmware or software.

Timings for typical systems

15 digital inputs

- 0.8 ms at 64 kilobits/s
- 50 ms with 1200 baud modem

239 digital inputs

- 9 ms at 64 kilobits/s
- 530 ms with 1200 baud modem

15 digital plus 40 analogue signals (12 bit resolution)

- 1.5 s with 1200 baud modem

Times for specific configurations are available.

Available from:

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