

# Datataker

## CHANNEL EXPANSION MODULE



The Datataker Channel Expansion Module connects to the Datataker 500, Datataker 505, Datataker 600, Datataker 605, Geologger 515 and Geologger 615 data loggers to increase the number of analog and digital input channels, and the number of digital output channels.

Up to four Channel Expansion Modules can be connected to a Datataker, providing 50 differential analog input channels, 84 digital input channels and 44 digital output channels. Since applications will not use all available channels, the Datataker supports up to 110 of the channels in any mix.

All input signal types and sensors supported by the Datataker are also supported by the Channel Expansion Module.

### Analog Inputs

- 10 differential or 30 single ended, can be used in any mix.
- Relay multiplexer.
- Input impedance  $1M\Omega$  or  $>100M\Omega$ , selectable.
- Common mode range is dependent on Datataker model
  - Datataker 500/600,  $\pm 3.5VDC$
  - Datataker 505/605,  $\pm 100VDC$
  - Geologger 515/615,  $\pm 100VDC$
- Input withstanding voltages for unselected channels
  - 1.5KV for 10 $\mu$ S
  - 500V for 50mS
  - 100V continuously
- Input withstanding voltages for selected channels
  - Datataker 500/600, 5VDC
  - Datataker 505/605, 100VDC
  - Geologger 515/615, 100VDC
- Sensor excitation of 4.5V, 250.0 $\mu$ A, 2.500mA each channel.
- Provision for externally supplied sensor excitation.
- 4, 3 and 2 wire resistance, RTD and thermistor measurement.
- Full, half and quarter bridge, voltage and current excitation.
- Floating common input for single ended measurements.

### Thermocouples

- Internal temperature sensor monitors module temperature for thermocouple reference junction compensation.

### Digital Inputs

- 20 TTL/CMOS compatible digital inputs for digital state.
- Accept voltage free contact closure inputs.
- Analog inputs also read digital states, definable thresholds.

### Digital Outputs

- 5 changeover relay outputs, rated to 110VAC/DC at 5A.
- 5 open collector outputs, rated to 30VDC at 200mA.

### Power Supply

- Powered directly from the Datataker power supply.
- Enters low power mode (sleeps) when Datataker sleeps.
- Current draw 100 $\mu$ A when asleep, 60mA when scanning, 175mA when all relays activated.

### Connection to Datataker

- Up to 4 modules can be chained to a single Datataker.
- Interconnection by ribbon cable, 500mm (20 inches) length
- Maximum total cable length 2 metres (6 feet).

### Mechanical Specification

- Robust modular construction using powder coated steel.
- Can be used on a laboratory bench, or housed in enclosures.
- Length 270mm (10.5 inches), Width 110mm (4.3 inches), Height 50mm (2.0 inches), Weight 1.0 Kg.
- Signal input / output connection by screw terminals.
- Operating temperature -20 to 70 Deg C, humidity 95%

### Ordering

- Channel Expansion Module (Analog/Digital) CEM-A/D

