

# CEM20

## Channel Expansion Module

# dataTaker®

### Intelligent Data Logging Products

- Compact size
- Extremely low power
- Cost effective method of adding analog channels to a data logger.
- Each CEM20 multiplexes 20 analog channels into one analog channel on the data logger.

### Increased channel capacity

Increasing the channel capacity of the dataTaker DT80 range is made very easy by adding dataTaker Channel Expansion Modules (CEM20). Each CEM20 connects 20 universal data logging channels to the dataTaker data logger. A dataTaker CEM20 connects to one analogue channel of the dataTaker data logger. This effectively expands the total channel capacity of the DT80 to 300 analog inputs and the DT85 to an incredible 800 inputs.

Incorporating the same dual isolation technology as the DT80 range dataTaker data loggers each channel of the CEM20 can be used for two isolated inputs or three common reference inputs so the maximum inputs increases further.

Maximum Input Capacity

	Four wire Isolated Input	Two wire Isolated Input	Two wire Common Reference Input
DT80	100	200	300
DT85	300	600	800

### Easy set up and connection

Connecting a channel expansion module to a dataTaker data logger is very easy. The CEM20 is powered directly from the dataTaker data logger 12V output. Analog output connections of the CEM20 connect to an analog channel of the data logger. See sample wiring diagram shown.

### Solid construction and design

The construction of the CEM20 is similar to the rugged dataTaker DT80 range. The case is made from an anodized aluminium extrusion with powder coated steel end plates. Removable screw terminals provide flexible options for installation and maintenance.

### Compatibility

The dataTaker CEM20 is compatible with the following dataTaker data loggers:  
dataTaker DT80 Series 2  
dataTaker DT80G Series 2  
dataTaker DT85 Series 2  
dataTaker DT85G Series 2



### Applications

#### Building & Construction Industry

Concrete cure monitoring  
Building services

#### Geotechnical

Dam monitoring  
Land Slip  
Mining  
Tunnels

#### Scientific & Research

Thermal Profiling  
Thermistor arrays  
Static load testing

#### General Industry

Thermal Profiling  
Oven calibration  
Refrigeration monitoring  
Process monitoring

Specifications

**FREE**  
Software &  
Technical  
Support

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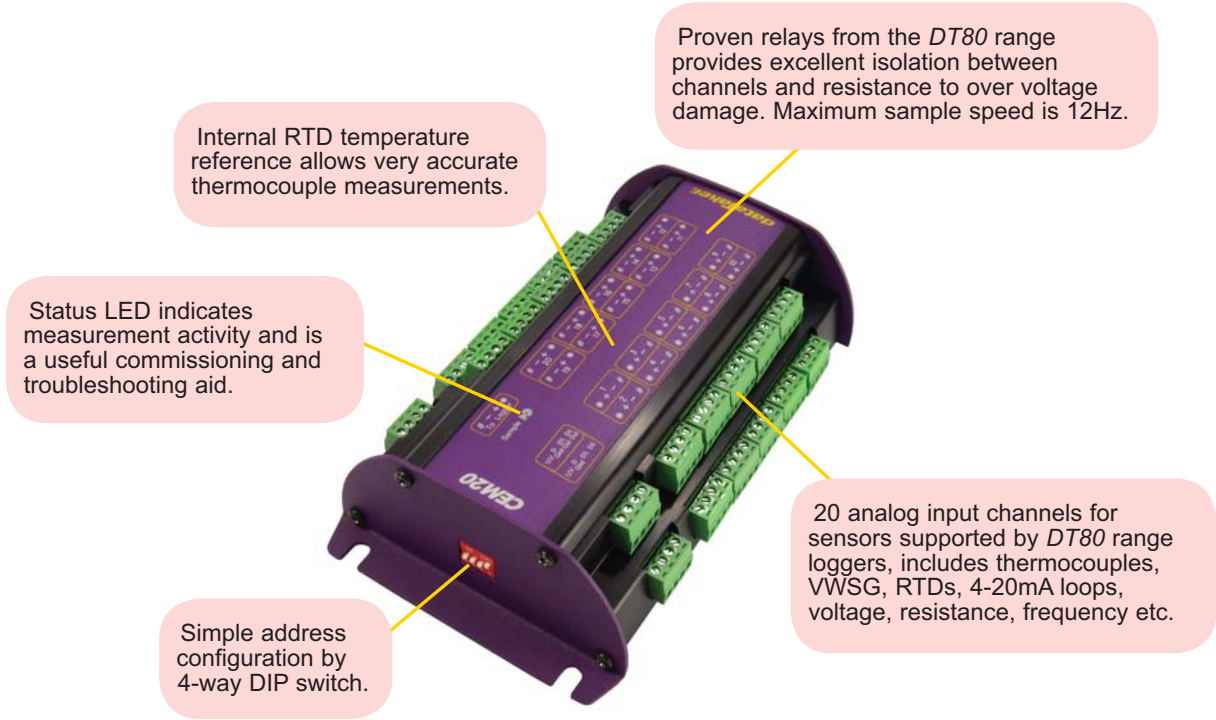
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### Connections to Logger

Digital control connections: 5D & 6D in/out terminals  
 Power Connections: 12V & DGND twin terminals  
 Analog Connections: \*, +, -, #  
 Each CEM20 attached to a logger uses a separate 4 wire analog channel on the logger.  
 Maximum distance between logger and last CEM20: 100m  
 Maximum number of CEM20 units per data logger:  
 DT80 & DT80G (Series 2 only): 5  
 DT85 & DT85G (Series 2 only): 15

### Multiplexer

Type: Relay multiplexer  
 Maximum Input Voltage: 30Vdc  
 Maximum Sampling Speed: 12Hz

### System

Status LED: Sample activity  
 Address Selection: 4-way DIP switch. Address 1-15

### Power Supply

Recommended: Logger's switched 12V output  
 Alternative: External regulated 12Vdc  $\pm$  5%

### Power Consumption

Sampling: 0.36W (12V 30mA)  
 Idle: CEM20 is automatically turned off when not sampling.

### Physical and Environment

Construction: Powder coated steel and anodized aluminium  
 Dimensions: 180 x 100 x 50mm  
 Weight: 0.55kg  
 Temperature Range: -45°C to 70°C  
 Humidity: 85% RH, non-condensing

### Assessories Included

Analog and control cables for connection to the dataTaker data logger.

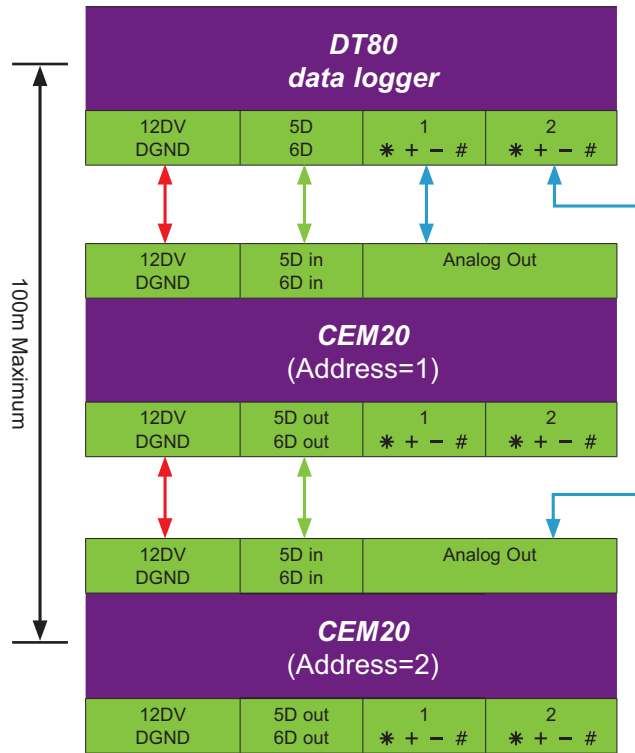


Diagram shows functional connections for DT80 data logger and two CEM20 units. Cable lengths should always be kept as short as possible to minimise noise and signal losses.

For full technical specifications download the user's manual from our website.

[www.datataker.com](http://www.datataker.com)



Your local distributor

**Warranty:** All dataTaker Data Loggers are covered by a 3 year warranty on workmanship and parts. For further information on the dataTaker range, or for useful downloads, visit the Datataker web site at [www.datataker.com](http://www.datataker.com) or contact your nearest Datataker office or distributor.

**Quality Statement:** Datataker operates a Quality Management System complying with ISO9001:2000. It is Datataker's policy to supply customers with products which are fit for their intended purpose, safe in use, perform reliably to published specification and are backed by a fast and efficient customer support service.

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