

CEM20

Channel Expansion Module

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 |
|-------------|--------------------------|-------------------------|---------------------------------|
| <i>DT80</i> | 100 | 200 | 300 |
| <i>DT85</i> | 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 a 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

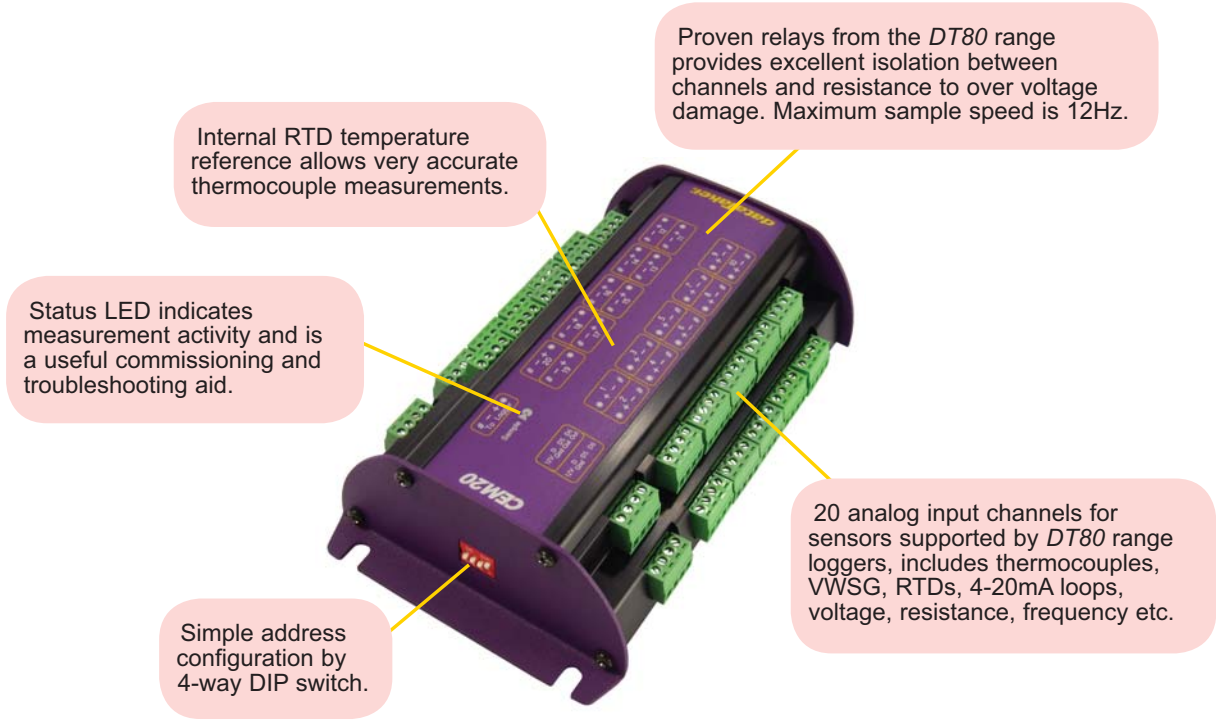
Thermal Profiling
Oven calibration
Refrigeration monitoring
Process monitoring

Specifications

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SENSORS & SYSTEMS

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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.
 Max distance for digital control signals: 500mm
 Max 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.

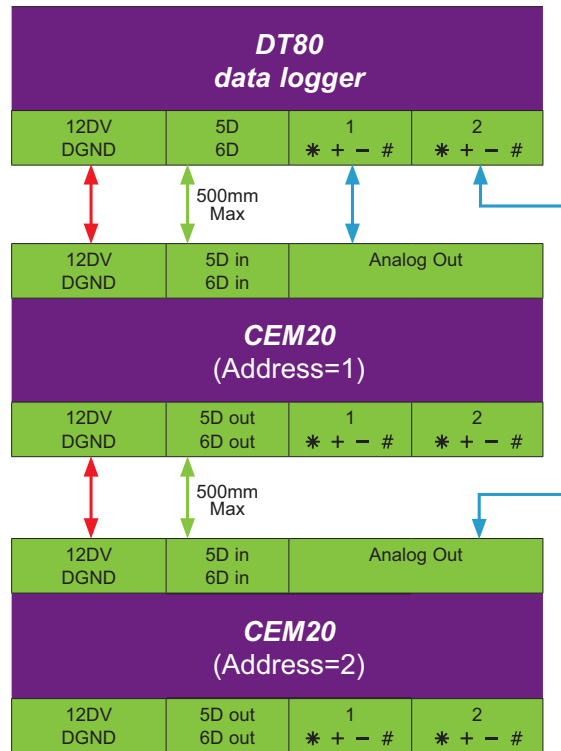


Diagram shows functional connections for DT80 data logger and two CEM20 units.



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