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 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

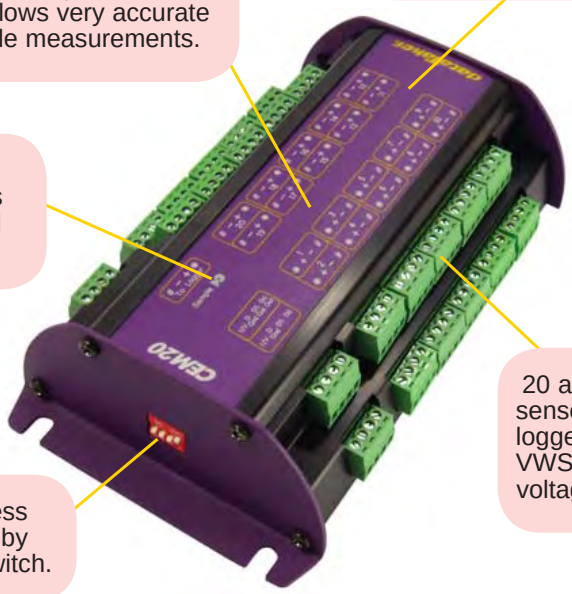
Building & Construction Industry
Concrete cure monitoring
Building services

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



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 ± 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.

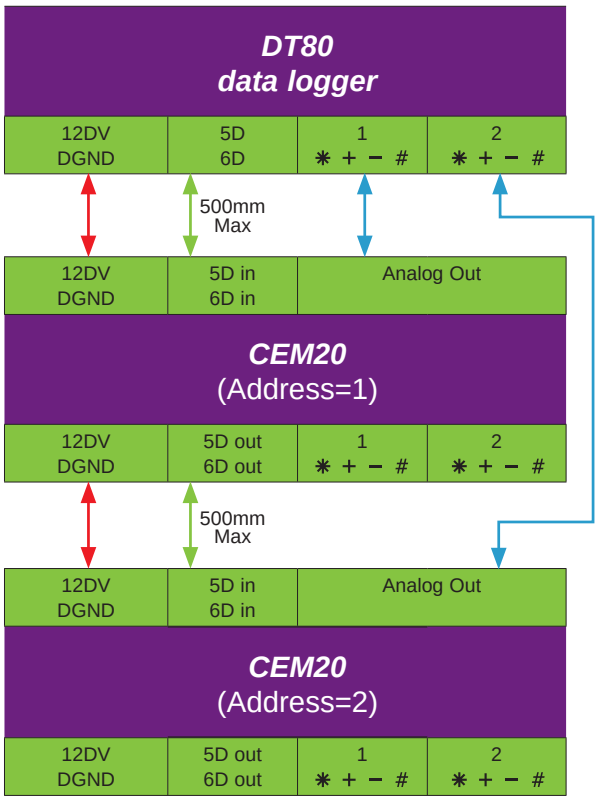


Diagram shows functional connections for DT80 data logger and two CEM20 units.