

dataTaker®

CEM20 Channel Expansion Module

Intelligent Data Logging Products



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

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 or contact your nearest dataTaker office or distributor.

Quality Statement: dataTaker operates a Quality Management System complying with ISO9001:2008. 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.

Trademarks: dataTaker is a registered trademark.

Specifications: dataTaker reserves the right to change product specifications at any time without notice. **Designed and Manufactured in Australia.**

*Our ability to provide free software and support is dependent on applicable export control laws (including those of the United States) and the export policy from time to time of Thermo Fisher Scientific Inc.

Applications include:

Building & Construction

Concrete Cure Monitoring
Building Services

Geotechnical

Dam Monitoring
Land Slip
Mining
Tunnels

Scientific & Research

Thermal Profiling
Thermistor Arrays
Static Load Testing

General Industry

Refrigeration Monitoring
Oven Calibration
Process Monitoring

***FREE Software & Technical Support**

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 960 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.

	<i>Four wire Isolated Input</i>	<i>Two wire Isolated Input</i>	<i>Two wire Common Reference Input</i>
DT80	100	200	300
DT85	320	640	960

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 all variants of the DT80 and DT85 data loggers series 2 and above.

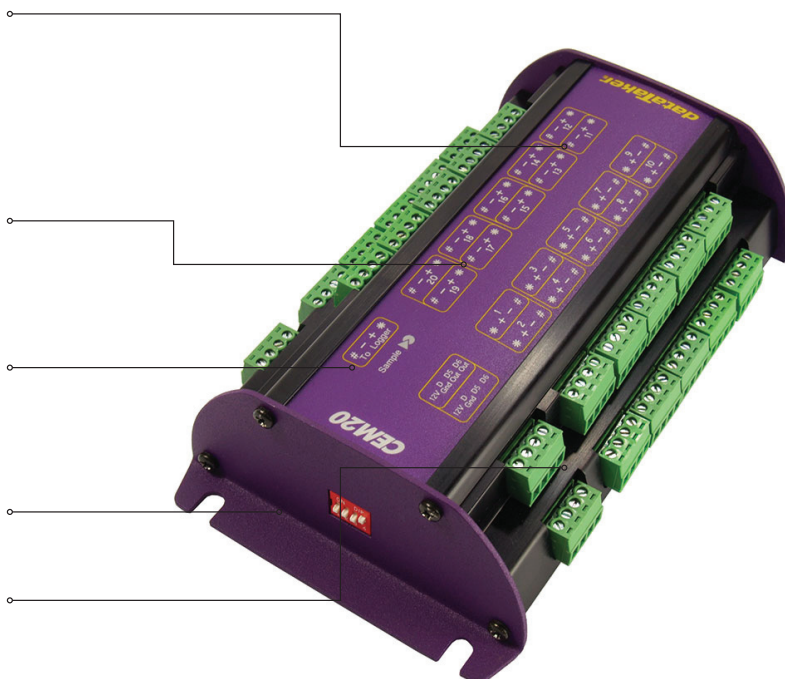
Proven relays from the DT80 range provides excellent isolation between channels and resistance to over voltage damage. Maximum sample speed is 12Hz.

Internal RTD temperature reference allows very accurate thermocouple measurements.

Status LED indicates measurement activity and is a useful commissioning and troubleshooting aid.

Simple address configuration by 4-way DIP switch.

20 analog input channels for sensors supported by DT80 range loggers, includes thermocouples, VWSG, RTDs, 4-20mA loops, voltage, resistance, frequency etc.



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 Variants (Series 2 and above)

DT85 Variants (Series 2 and above)

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.

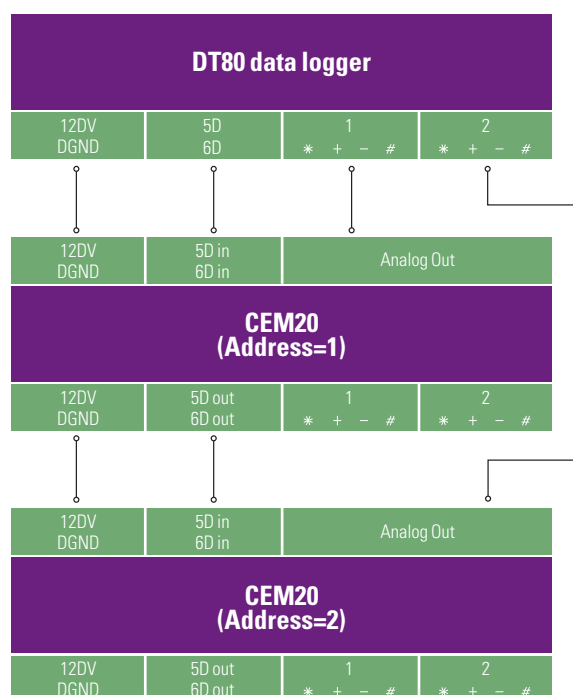


Diagram shows functional connections for DT80 data logger and two CEM20 units. Cable lengths should always be kept as short as possible to minimise noise and signal losses.

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