DMCB - DUAL MAGNETIC CONVERTER - GENERAL PURPOSE

Six versions of Dual Magnetic Converters (DMCs) are available (A, B, C, D, E, F). DMCs convert magnetic style signals to an open collector output signal (square wave). This makes a typical magnetic sensor behave as a switched or hall effect sensor, thus making the signals suitable for use with ECUs and loggers.

A single DMC can convert two independent magnetic sensor signals (except DMCF, which is a single sensor converter).

INTENDED USE

This version (DMCB), is intended for use with sensors that have insufficient amplitude to trigger a logic level input

➪ All DMC versions contain trim pots. At manufacture, these are pre-set to specification for the relevant DMC version, they should not be adjusted after purchase.

OPERATION

This model has minimal filtering to avoid delays in the signal. The delay from input to output is approx 20 μs.

The sensor should be connected in a falling edge configuration and the measuring equipment should be configured to use the negative going edge.

The trigger level does not vary significantly at normal operating frequencies. In some applications this could lead to false triggering as the sensor signal level increases, making use of the DMCB unsuitable for these situations.

AVAILABLE DMC VERSIONS

The following six versions are available to cater for different purposes and different trigger levels:

- DMCA — used for fuel flow sensors that have a very low trigger level.
- DMCB — used for sensors that have insufficient amplitude to trigger a logic level input.
- DMCC — used as a conditioner for ignition system inputs.
- DMCD — used on magnetic wheel speed sensors.
- DMCE — used to count ignition events by converting a signal from an inductive sensor on a high tension ignition lead to a digital input.
- DMCF — used for a single magneto-resistive speed sensor.

GENERAL SPECIFICATIONS

Physical

- Built into Deutsch DTM12P connector housing
- Deutsch DTM06-12S (MoTeC #68058) connector

Ambient Operating Temperature

- -10 °C to 85 °C

DMCB SPECIFICATIONS

Input resistance

- 43 kΩ

Maximum input voltage

- 120 Vpp

Minimum input signal level required for triggering

Frequency (Hz)	Peak to Peak level (Vpp)
100	0.8
1000	0.8
5000	1.0
10000	1.5

INPUT CHARACTERISTICS

The signal is not inverted.

OUTPUT CHARACTERISTICS

Characteristic	Description
Type	Open collector MOSFET
On resistance	Approximately 0.2 Ω
Maximum continuous current	0.5 A
Protection	Shut down at approximately 5 A (reactivates on each cycle of the input signal)

PINOUT

Mating connector: Deutsch DTM06-12S (MoTeC #68058)

Pin	Function
1	Power positive (6 V to 16 V — normally 6 V from ADL
2	Not connected
3	Not connected
4	Not connected
5	Input 1
6	Input 2
7	Output 2 (open collector type, no pull-up — normally connected to ADL Digital In)
8	Output 1 (open collector type, no pull-up — normally connected to ADL Digital In)
9	Not connected
10	Not connected
11	0 V to both sensors
12	Power negative (normally 0 V at ADL)