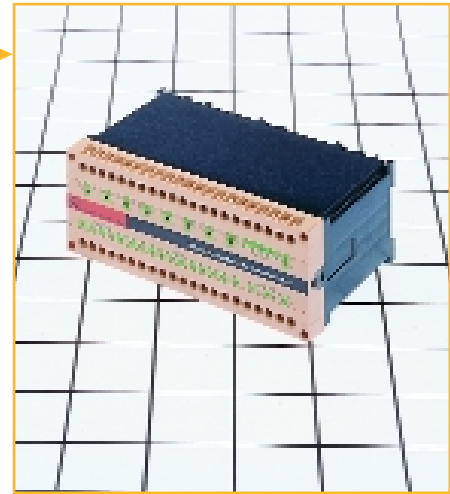# Digital to 8 Channel Current Loop Converter   DCC-8

Function: The DCC-8 is a digital input to 8 channels current loop output converter designed to enhance small PLC units which have limited analogue output capabilities. The inputs can either be 16 bit parallel (12 data, 3 address, 1 enable) or one of two full duplex serial options, RS232c or RS422. The latter option allows up to eight DCC-8 units to be addressed in a multi-drop configuration. In the parallel input string the Enable bit can be strobed allowing synchronous operation of the DCC-8, or it can be left in a permanently ON state to allow continuous update operation. In this state the digital inputs are continuously monitored and compared to the stored values. When new data is encountered, the old data is replaced and the relevant output updated. The DCC-8 has several user definable options. An internal DIP switch array is used to select: 1) Communications Baud Rate; 2) Unit ID; 3) Digital Input mode (Parallel or Serial) and 4) Output Ranges, either 0 to 20mA or 4 to 20mA.

SPECIFICATIONS

INPUTS:

Parallel
12 Data bits
 3 Address bits
 1 Enable bit

Logic Levels
"Low"   < 0.4 Volts DC
"High" > 5 Volts DC
        < 40 Volts DC

Data Hold Time
> 150 microseconds

Input Rate
6000 updates per second maximum

Serial
RS232c   Full Duplex
RS422   Full Duplex

Baud Rates
19.2K, 9600, 4800, 2400 baud
Parity: Even
Stop Bits: One

Multi-Drop Capability
Up to 8 units using RS422

Unit Identification
Between numbers 0 and 7

OUTPUTS:

DC Current
8 continuous current loops - user selectable 0 to 20mA or 4 to 20mA

Settling Time
4.2 milliseconds maximum for 99.3% step change

Loop Resistance
Maximum calculated as follows
$R_{MAX} = (V_{SUPPLY} - 6) / 0.02$

SUPPLY:

Power Supply Voltage
15 to 32 Volts DC
(reverse polarity protected)

Current Consumption
Less than 90mA

Fuse
5 x 20mm quick blow
Main Fuse: 630mA

Pilot Lights
Yellow LED shows Power ON
Red LED per active output channel

GENERAL:

Accuracy
< ±0.2% of span maximum

Resolution
12 bit = ±0.025% of span

Operating Temperature Range
-10 to +60ºC

Storage Temperature Range
–25 to +85ºC

Operating/Storage Humidity Range
5 to 95% RH non-condensing

Housing
DIN Rail mounting plastic, polycarbonate

Protection Level
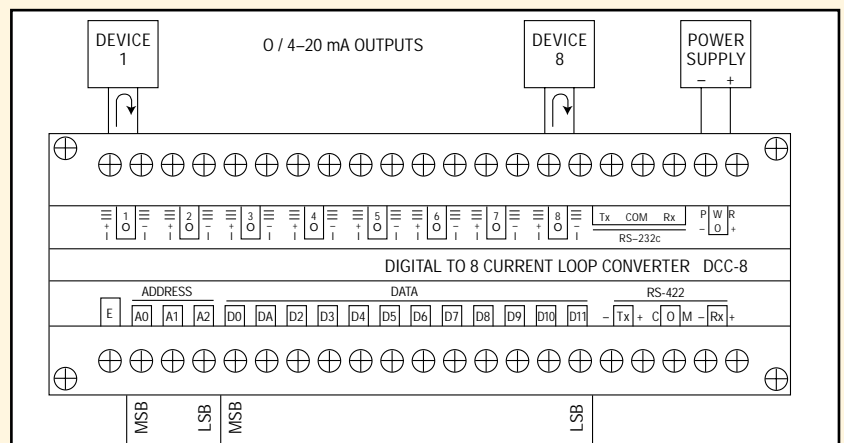Housing: IP50 DIN40050
Terminals: IP20 DIN40050

Weight
700gms

MECHANICAL DETAILS

For Mechanical Details see page 7.6.

TERMINATION DETAILS

ORDERING DETAILS

(a) Give identification code, i.e.DCC-8
     If Lee-Dickens to configure:
(b) Specify digital data format, i.e. RS422

(c) Specify Baud Rate, i.e. 9600 baud
(d) Specify Unit ID, i.e. number 3
(e) Specify output required per channel, i.e., Ch 1: 0 to 20mA, etc.

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