Datalogger DL844

Overview

The DL844 is a versatile analog and digital signal logger which can be used for various applications. The basic version comprises 8 single ended / 4 differential analogue input channels which can be used in any combination, 4 digital input channels supporting 1-wire bus for digital sensors, 4 current source outputs for sensor biasing. The analogue data are acquired by a 24-bit sigma-delta AD converter with adjustable sampling rate up to 1 s and stored to the SD memory device in a corresponding file.. Data files can be read by PC via USB (Mass storage device), RS-485 or RS-232. The DL844 can be powered from internal Li-Ion battery or external battery/DC power source. All configuration settings for standalone operation are stored in configuration file in a SD card and can be changed by any text editor. Alternatively, DL844 can be used as a data acquisition instrument controlled in a real time via RS-485/RS-232. The internal computing capabilities allow automatic signal recalculation by using predefined transfer functions of different types of sensors, such as thermocouples and RTDs.

Specifications

Analog inputs

Number	8 single ended / 4 differential, any combination possible
Max scanning rate	1 S/s
Resolution	24 bits
Absolute input range[1]	0 … 3 V
Input protection	-10 … 10 V
Differential input range	±5 V / PGA
PGA gains	1, 2, 4, 8, 16, 32, 64
Input impedance	80 MΩ
Accuracy (gain = 1)[2]	± (0.01 % + 15 µV)
Evaluation	Platinum RTDs

*[1] – Higher input ranges (in different combinations) are available on request.

Current source outputs

Number	4
Current[3]	1 mA
Accuracy[2]	±0.25 %
Voltage range	-40 … 3.8 V

*[2] – Reference voltage tolerance should be added for absolute measurements.

*[3] – Other values (in different combinations) are available on request.

Digital inputs

Number	4
Low level	0 … 0.8 V
High level	2 … 5 V
Input protection	-4 … 8.5 V
Input resistance	50 kΩ typical
Protocol supported	1-wire temperature sensors

Supply and reference outputs

+5V accuracy	±2.5 % (linear regulation)
Maximal current	100 mA
+3.3V accuracy	±3 % (switch mode regulation)
Maximal current	500 mA
Ref. voltage accuracy Temp. coefficient	±0.05 %, ±0.01 % on request 10 ppm/°C
Maximal current	9 mA

Data storage

Medium	Secure Digital (SD) card (up to 2 GB)
File system	FAT12, FAT16 or FAT32
Data format	Comma Separated Value (CSV) with user defined formatting

Interfaces

USB	Standard	USB 1.1
	Class	Mass Storage Class access to SD card
RS-232	Connector	DB9 DTE (male)
	Lines	TxD, RxD, RTS, CTS, DSR
RS-485	Operation	multi-drop device
	Speed	250 kb/s

Power supply

External voltage	10 … 60 V
Power (external supply)	5 W maximal (battery charging) 0.5 W typical 0.05 W in sleep mode
Battery (optional)	Pb 3-cell (6 V, 1.2 Ah)[4] or Li-ion 2-cell (7.4 V, 2.2 Ah) - connector for external battery
RTC battery	Lithium cell CR2032
USB supply	100 mA typical (for SD card access only)
Options	- different voltage range - MPP tracking (for PV module power supply) - USB battery charging

[4] – Requires higher case.

Dimensions

Width x Depth	190 x 140 mm^2
Height	30 (50, 70) mm
Weight	320 g without, 420 g with Li-ion, 650 g with Pb battery

Ordering and more info:

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