LOGBOX SE

Applications

Solar Monitoring for PV
Weather Services and Research
Climatology
Agriculture

Data Logger

For recording solar and atmospheric radiation and weather data

Compact, user-friendly and IP65 weatherproof
Low power, internal batteries or external DC supply
Analog and digital inputs
Connect up to 8 compatible Modbus® RTU devices
4G LTE remote data transmission built-in
Optimized for Kipp & Zonen and Lufft instruments

All-in-one logging solution

LOGBOX SE is a small weatherproof data logger for field use, such as solar energy site prospecting and energy balance studies, or for fixed installations. It can run for several weeks from 6 x AA internal batteries, or 12-24 VDC external power can be used.

Analog, digital and serial inputs

LOGBOX SE allows connection of multiple instruments. It has 4 high accuracy differential voltage inputs, 4 single-ended and 4 digital pulse inputs. The RS-485 serial port allows data collection from up to eight compatible Modbus® devices.

It can sample once per second and measurements are converted into engineering units. At the chosen interval it logs the average, maximum, minimum and standard deviation to an internal 512 MB SD memory card that can store up to 2 years of data.

Wireless remote data access

An internal GSM/GPRS quad-band 2G, 3G, 4G modem accepts a full-size SIM card, the weatherproof antenna plugs into the logger enclosure. It can transmit logged data at intervals, from 1 to 24 hours, to a designated e-mail address or FTP server. There is also a USB port for configuration and downloading data files.

Compatible with Kipp & Zonen and Lufft

LOGBOX SE has setup configurations for all Kipp & Zonen radiation instruments, the DustIQ soiling measurement system and Lufft all-in-one weather stations.

Technical Specifications

	WS500-UMB
Differential inputs 24 bit	4 x ±19 to ±2500 mV selectable
Single ended inputs 12 bit	2 x 0 to 2500 mV
	2 x 0 to 3000 mV
Digital inputs	4 x time, frequency or counter
	Max. 1500 Hz
	3 x 3 V level
	1 x 0.5 V level for CSD3
Max. number of 10k thermistors	4 x using 2 wires on single ended input
Max. numbers of Pt-100 thermistors	1 x using 4 wires on 2 differential inputs
RS-485 inputs	1 physical input for max. 8 devices in parallel SMP, SHP, SGR, SUV,
	RT1, DustIQ, Lufft WS supported
Input offset differential max.	0.5 V
Inaccuracy differential	0.05 %
Inaccuracy single ended	0.1 %
Memory	SD card (512 MB supplied)
Measurement interval	From 1 to 3600 seconds
Logging period	1 to 3600 seconds with average and optionally Min, Max and StdDev
Converting to engineering units	Using up to 16 dierent programmable 3rd order polynomials
Communication	USB with box open for setup RS-232 for setup and data transfer
	GSM modem for scheduled data transfer via email or FTP every 1 to 24 hours
Internal power supply	6 x AA battery
Power connection (PWR)	4 to 24 VDC
Solar power connection (SOLAR)	12 to 20 VDC solar panel
Battery power connection (BATT)	12 VDC lead acid battery
Charger connection (CHARGER)	6 to 13 VDC for lead acid battery
Battery out (BATOUT)	12V -750mA
Temperature range	-40 to 60 °C
Dimensions	170 x 145 x 50 mm
Protection	IP65
Mounting	ø 45 mm pole mount
RTC accuracy (without synchronization)	10 ppm
Time synchronization	Once a day over internet when GSM is activated
GSM modem	Cinterion PLS62-W, full-size SIM card
Modem bands	4G LTE with fall-back to 3G and 2G

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