ACE DLG89

Wireless data logger
For outdoor applications
compliant to IEC61724-1:2021

DLG89, part of the ACE logger family, adept at acquiring measurements from multiple sensors through diverse analog and digital interfaces. Ensuring secure data transmission to the cloud . This powerful device is designed for precision data acquisition in a wide range of applications.

▰ DESCRIPTION

The DLG89, part of the ACE logger family comprises advanced and intelligent data loggers designed to capture measurements from diverse sensors through various analog and digital interfaces. With a sampling frequency of 1 Hz and a logging frequency of at least 1 minute, the device adheres to the high-precision Class A standards for sampling and recording intervals according to IEC 61724-1:2021. Secure data transmission to the cloud is facilitated through the built-in 2G GSM/GPRS modem, while real-time monitoring with SCADA systems is achieved via RS485 Modbus RTU.

Utilizing an industry-leading ADC, boasting a 24-bit resolution for precise data acquisition. The data logger features an onboard memory of 8GB, complemented by a micro SD card slot expandable up to 32GB, ensuring data storage and retention for over 5 years in operational settings.

Powered by a robust 32-bit, 900 MHz processor architecture, the DLG89 data logger supports edge computing capabilities for Industrial Internet of Things (IIOT) applications. Accessing logged data is convenient by using a pen drive into the device, providing flexibility and ease of use for diverse data management needs.

◢ PRODUCT FEATURES

Compliance

The device complies with Class A sampling and logging intervals as per the IEC61724-1:2021 standards.

24 Bit ADC Resolution

The data Logger features a 24-bit ADC, ensuring precise data acquisition, and measures voltage levels <10µV for accuracy.

Multiple Input Channels

Supports 16/8 single-ended or 8/4 differential analog channels for 0-100µV, 0-5V, 4-20mA, PT100, and PT1000 inputs.

Multiple Interfaces

The device offers various interfaces including SDI12, RS232 and RS485 Modbus RTU for easy integration with any external devices.

Communication

The data logger enables web server communication through a built-in 2G Quad band GSM modem.

Time Synchronization

The device ensures precise time synchronization via built-in GPS, supplemented by NTP and RTC methods for accuracy and reliability.

Memory

The device stores data for over 5 years on 8GB internal memory in .csv format. It supports up to 32GB micro SD card for extra storage.

Built-in Display

The data logger has an integrated graphic display making it easier for the user to view live data on field and set a few critical settings.

Power Consumption

The device functions as an energy-efficient data logger, operational within a voltage range of 9 to 28 V DC.

◢ APPLICATIONS

- ◉ Solar WMS
- ◉ Water Quality Monitoring

◩ TECHNICAL SPECIFICATIONS

ACE	DLG89 AC	DLG89 8C	DLG89 4C
ANALOG INPUT			
Single Ended Channels	16	8	4
Differential Channels	8	4	2
Additional Channels	Davis® Rain Bucket		
	Davis® Anemometer		
	Aeron / Davis® Air Temperature Humidity		
	Davis® Solar Radiaion		
On-board Sensors #	Barometric Pressure		
Range of I/P sensors	0 - 10 V		
	0 - 100 mV		
	0 - 20mA		
	80 - 200Ω (PT 100)		
	800 - 2000Ω (PT 1000)		

ANALOG TO DIGITAL CONVERTER (ADC)

Resolution	24 bit
Accuracy	±0.1% of FS
Type	Sigma - Delta
Sampling Rate	Upto 10 Hz

PARAMETERS

Simultaneous Parameters	up to 176 parameters (including sensor and calculated parameters)
Data Rate	1minute (min.) to 24 hours (max.)
Digital I/P	2
Digital O/P	2
Serial I/P	RS232, SDI12

COMMUNICATION

Network Type	Quad-Band GSM
Frequency Band	850/900/1800/1900 MHz
Data Rate	85.6 Kbps upload
	42.8Kbps download

Data Security	AES (128 bit)
Interfaces	RS232 Serial
	RS485 MODBUS RTU & USB as mass storage
Micro-processor	32 bit
Display	Graphic LCD Display
	(128 x 64 resolution)
LED Indicators	Power, Network Health
	MODBUS Communication
Keypad	3 button Keypad
Date & Time	RTC with backup battery (replaceable)
	Accuracy: 10 ppm/$^{\circ}$C RTC with backup battery (replaceable)
	GPS (configurable 2 hours to max 23 hours)
Time Synchronization	Server

ELECTRICAL

Voltage Input	+9 V to +28 V DC
Charge Current	< 500mA
Batteries	2.6 Ah Rechargeable Li-ion batteries

STORAGE

Internal Flash	8 GB
External Flash	8 GB Micro SD (default) (expandable to 32 GB)

ENVIRONMENT

Operating Temperature	-20 ^{o}C to +70 ^{o}C
Storage Temperature	-40 ^{o}C to +80 ^{o}C
Protection	IP65
Housing	ABS UV Protected
Dimensions	150 mm (L) x 150 mm (W) x 110.6 mm (H)
Weight	740 gms

- refer ordering information

ORDERING INFORMATION

ACE - DLG89 - **XC** - **YY**

4C - 4 Analog Channels (Product Code: 23001)

8C - 8 Analog Channels (Product Code: 23002)

AC - 16 Analog Channels (Product Code: 23003)

00 - without Barometric Sensor

01 - onboard Barometric Sensor