ACE DLG80

Rugged Data Logger for C&I Solar Plants and Agrivoltaic Weather Monitoring



The ACE DLG80 is an IEC 61724-1:2021 compliant outdoor data logger engineered for high-precision weather and performance monitoring in Commercial & Industrial (C&I) and agrivoltaic solar installations. It supports versatile sensor integration and delivers reliable, bankable data for performance analytics and reporting.

DESCRIPTION

The ACE-DLG80 is a high-performance multichannel data logger and IoT gateway designed to meet the rigorous demands of solar resource and environmental monitoring in C&I and agrivoltaic applications. Equipped with 8 single-ended / 4 differential analog input channels and a 24-bit ADC, it supports seamless interfacing with sensors using 4–20 mA, 0–1 V, or resistive (e.g., PT1000) outputs. Dual RS485 Modbus RTU ports allow the device to function simultaneously as a Master—polling data from instruments such as inverters and energy meters—and as a Slave, forwarding aggregated system data to local SCADA networks.

Beyond on-site integration, the DLG80 securely transmits high-resolution, real-time data to the Aeron cloud platform (Live3), enabling advanced analytics including real-time Performance Ratio (PR) and Capacity Utilization Factor (CUF).

These insights support operators in improving system performance, diagnosing plant issues, and maximizing energy yield.Designed for harsh environments, the DLG80 is housed in a UV-resistant IP65 enclosure, ensuring long-term durability and stable field performance.

Fully compliant with IEC 61724-1:2021 Class A sampling requirements, it provides precise, bankable data essential for photovoltaic system optimization. The device includes an 8 GB micro-SD card offering over five years of data storage, with convenient offline retrieval via USB pen-drive access.

PRODUCT FEATURES

Compliance

Adheres to Class A sampling and recording standards, delivering the precision required for PR calculations and bankable solar performance reporting.

24 Bit ADC Resolution

Features a 24-bit ADC for accurate, low-noise measurements across a wide range of analog sensors, ensuring high-integrity datasets for critical performance analysis.

Advanced System Integration

Dual Modbus RTU ports enable simultaneous Master/Slave operations, supporting secure LTE cloud transmission for real-time data delivery and advanced analytics.

Broad Sensor Compatibility

Interfaces with a wide variety of analog voltage, current, and resistive sensors, supporting diverse meteorological and agricultural monitoring applications.

Time Synchronization

The device ensures precise time synchronization via built-in GPS.

Flexible Data Storage & Access

Includes an 8 GB micro-SD card capable of storing over five years of data. Offers simple on-site retrieval by connecting a standard USB pen drive.

Rugged Outdoor Design

Encased in a UV-protected, IP65-rated enclosure engineered for long-term operation in harsh and dusty outdoor environments.

Power Consumption

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

APPLICATIONS

- Solar Weather Monitoring Station
- Environment Monitoring
- Industrial Monitoring and Automation
- Remote Sensing
- Energy Management and Process Monitoring
- Renewable Energy Monitoring

TECHNICAL SPECIFICATIONS

ACE DLG80

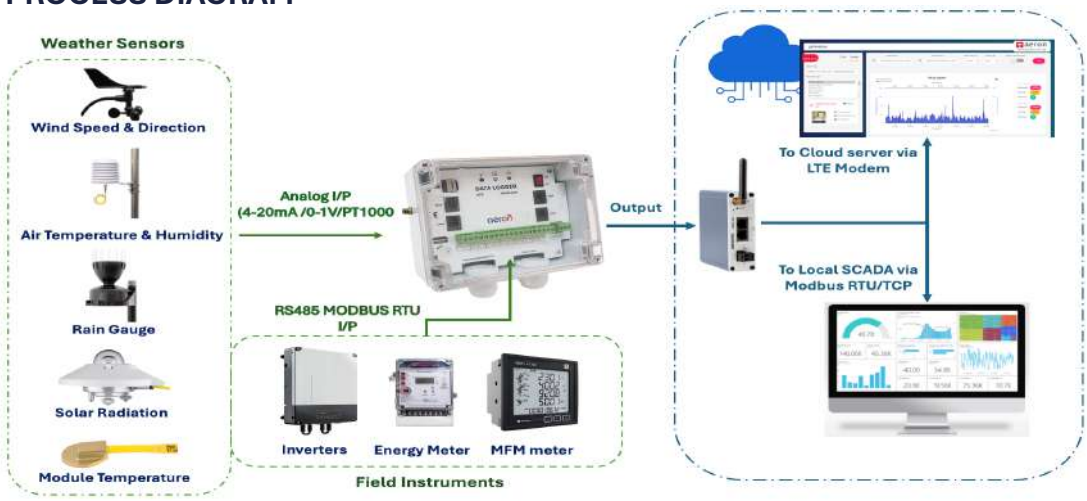
ANALOG INPUT

Channels	8 single ended / 4 differential channel
ADC	24 bit
Resolution	0.001
Accuracy	±0.1% of FS
Channel type	mV (0-500mV)
	V (0-1 V)
	4-20mA
	RTD 80-200 Ohms for PT100 type sensors
	RTD 800-2000 Ohms for PT1000 type sensors

OTHER PARAMETERS

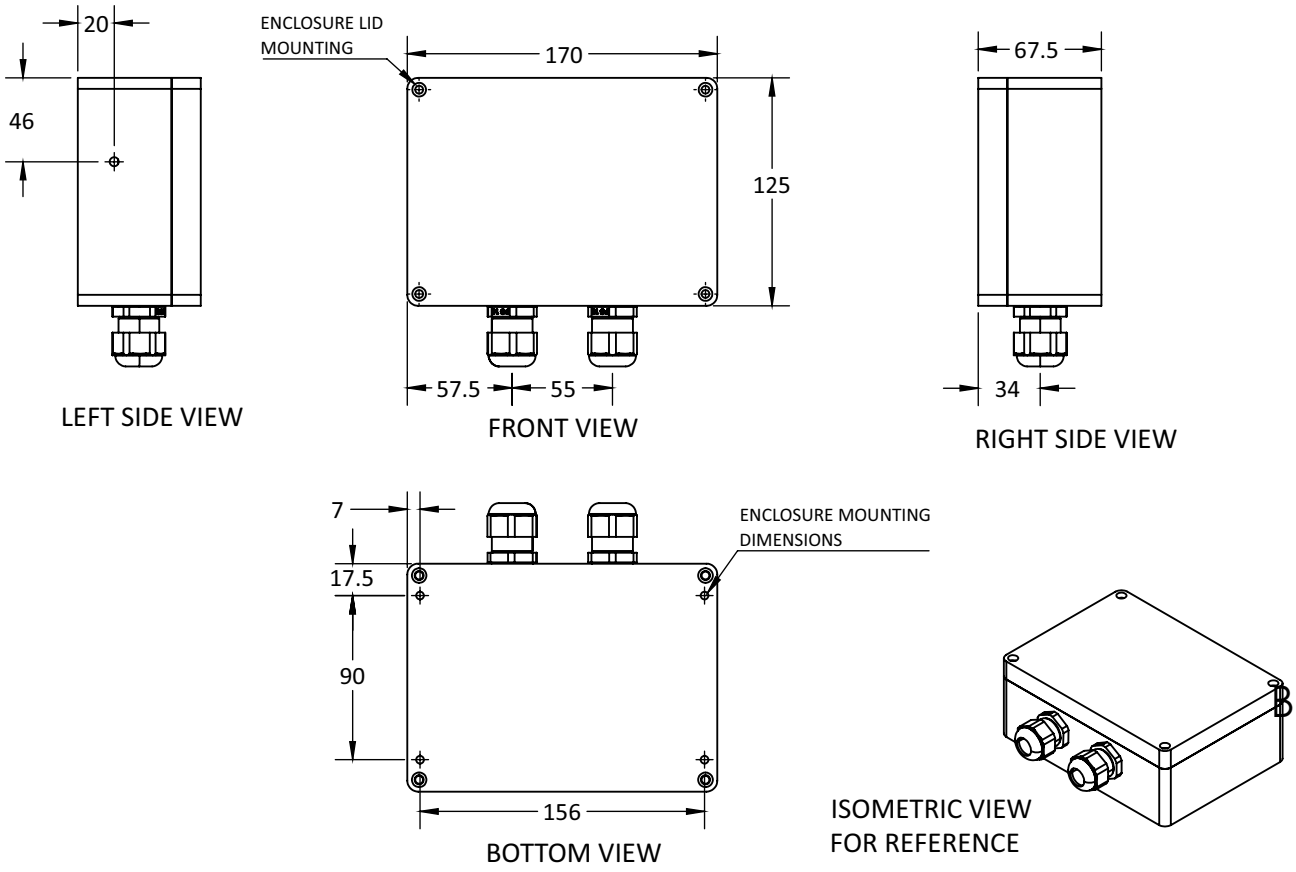
Communication Protocol	2 RS485 Modbus RTU port configured as Modbus Master and as Modbus slave (Isolated)
Baud Rate	9600 to 115200
Data bit / Partity / Stop Bit	8N1
Serial Communication	RS232 for device configuration and data verification on serial port
Other ports	Provision for integration of Davis and Whrlybird make ANM, ATRH, Rain and SRAD
Memory	8 GB micro SD card (min.)
Data logging	1 minute (min.)
Time Synchronization	GPS
Power Supply	9-28VDC
IP Protection	IP65
Housing material	PC/ABS
EU Declaration of Conformity (CE)	EN 61326-1:2021
Voltage Protection	Reverse and Over voltage protection
LED	1 Modbus (Bi color: Orange- Error, Green - Success)
	2 Power - Red
	3 USB - On as soon as connected / Blink when downloading / Blink stops and ON continous when downloading done.

PROCESS DIAGRAM



MECHANICAL DIMENSIONS

All dimensions in mm.



ORDERING INFORMATION

ACE DLG80 (Product Code: 23009)