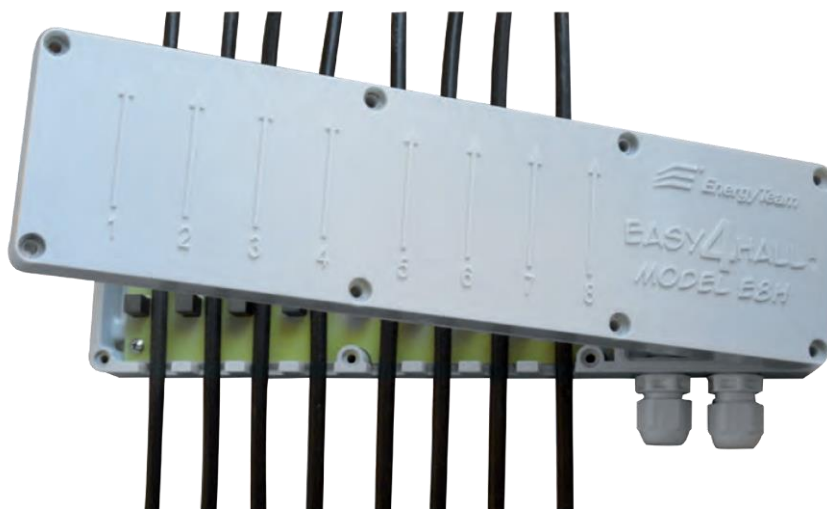


Easy4Hall

Split core outdoor multichannel device for string current measurement in photovoltaic systems



All solutions currently available on the market are open modules or devices with low degree of humidity protection, designed to be installed inside of closed and waterproof electrical panels. These devices take up much space and are not compatible with installations in pre-existing electrical panels; it is almost impossible to monitor existing systems with the devices currently available without replacing the parallel electrical panels with existing strings. In most cases, the increased volume of new panels makes the installation not possible.

- Easy to install
- Minimum impact for installations on pre-existent plant
- No need for recertification of existing panels
- No need for plant shut down during installation
- Precise and accurate data reading without stopping or disconnecting any strings or terminals
- Monitor up to 8 strings per module
- Integrated Modbus communication module
- The lack of terminals and physical connections on the strings eliminates all preventive maintenance
- Can be used outdoor with no need for any waterproof cases
- No electrical contacts with existing circuits, maximum electrical safety and low electromagnetic susceptibility
- The most simple and cost effective solution on the market
- Patent request registered.

The device is made up of two rectangular half-shells.

The bottom half-shell holds half the magnetic circuits of the sensors and has comb-shaped grooves to insert and hold the cables in place; it is designed to be coupled with precision to the remaining part of the magnetic circuits located in the top half.

The top half of the shell is divided into two compartments: the first one containing magnetic elements with a thin air-gap and a magnetic field sensor inside to measure the induced flow and directed it from the magnetic circuit.

To get the required degree of insulation, magnetic and electronic circuits in the first compartment of the shell are embedded with epoxy resin while the accessible side for sensor connection and data output is properly protected.

- Measures up to 8 string currents without interrupting the connection.
- Current readings using Hall sensors and 14 bit analogic/digital converter.
- Internal temperature measurements in Celsius degrees (from -30°C to +80°C, 1°C accuracy).
- 16 bit microcontroller technology.
- Power supply 12/24Vdc, 500mA max.
- Temperature and current data sent through RTU Modbus
- on insulated RS485 serial port (with the possibility of internal jumper terminations).

- Select the data to acquire and Modbus protocol parameters (baud rate, parity, address, stop bit).
- Enter "Config. Mode" laying a magnet (included) on the container for 5 seconds and select Modbus parameters writing the special registries.
- Printed plastic container, double PG9 cable glands, insulating resin and O-rings on the lock give the device its IP65 rating.
- Current reading range: +/-16 A.
- Minimum accuracy: 100mA.
- Dimensions (without cable gland): 244x64x37mm.

General	
Dimensions	6244x64x37 mm (with cable gland) (244x84x37mm)
Weight	About 150g
Case material	Grey polycarbonate
Protection rating	IP65
Power supply	12-24Vdc, 500mA max (5W)
Operating temperature	From -20 a +75°C
Cable to use	BELDEN 9841 (1 pair + shield, multi conductor, low capacity)
ModBus Connection	Through 2 terminals (double connection)
Features and Performance	
Current measurement	8 direct currents +/- 16A, Hall effect technology
Internal Temperature	From -30°C to +80°C, accuracy 1°C
Communications	Slave RTU Modbus on galvanically insulated RS485
Configurable parameters	Baud rate (1200-2400-4800- 9600-14400-19200-28800-38400-57600-115200), parity (None, Even, Odd), stop bit (1 or 2), address (1-247)
Select operating mode	Through magnetic key and Modbus registries
Signal operating mode	Through audible signal (buzzer)
Installation characteristics	Optional wall-mounting brackets