BPI-SYS

Measurement System Platform

Black Photon Instruments

SYS

Technical Specification

Application: Black Photon's measurement system platform collects the sensor data from various sources and transmits it to a central database where all recorded information can be viewed, stored and exported.

25 High Precision Input Channels
- Measurement of V/mV, mA, temperature (RTD, Thermo-couple)
- Differential inputs with 24 bit resolution, 0.1 % measurement accuracy
- Automatic temperature-triggered recalibration for full accuracy within operating range of -20 °C .. +60 °C
- Galvanic isolation of all channels

High-Reliability Data Transfer
- 1 GB Internal storage capacity for buffering data
- Data transfer via Ethernet or GSM/GPRS mobile network with VPN-Tunnel
- LCD-Display for standalone operation

Expandable to 1000 channels
- Expandable with additional analog input or output channels
- RS232 / RS485 / ModBus / Profibus / TCP/IP connectivity
- High-Speed module with maximum sampling rate 200 kHz

Customizable for (almost) every application
- Meteorological sensors: Rainfall / wind / temperature / humidity
- Solar energy sensors: Global (GHI), in-plane (IPR), direct (DNI), circumsolar (CSR), spectral, isotype
- PV module monitoring: Voltage, current, temperature, efficiency
- Expandable to IV-Curve monitoring with 4-quadrant source/sink
- Programmable logic funktionallity for data preprocessing, event-triggered recording, PID-control
- Backup battery power for up to 12 hours of grid-independent operation
- Satellite uplink for remote locations

Ready to run out of the box
- Outdoor proof cabinet (IP-65) with rail-mounted terminal blocks
- 24 V and +/- 15V DC power supplies for driving active sensor electronics
- All channels preconfigured and ready for immediate use in the field

Specification Version 1.20

About Black Photon Instruments GmbH:
Black Photon Instruments is a Freiburg (Germany) based company which offers new ways for solar radiation measurements. Our technology is developed in close cooperation with the Fraunhofer Institute for Solar Energy Systems (ISE) in Freiburg and other leading research institutes.

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