



Effective PV Monitoring requires constant, solid and traceable PV Plant monitoring data in order to determine actual performance and fulfil owner/investor expectations.

Operators are interested to identify errors and losses in a reliable way to trigger appropriate actions for maximizing energy harvest during the total system lifetime.

With the monitoring of PV Module strings, design and production errors will be recognized on the DC side with high resolution down to PV Module level.

Using DC shunts (vs. Hall Effect sensors) the string.bloxx provides current measurements typically 10 times more accurate and not susceptible to temperature variance. This equates to higher accuracy measurements and better understanding of true system performance. In addition, string voltage (up to 1000V) and DC power on every string can be continuously monitored ensuring maximum system productivity.

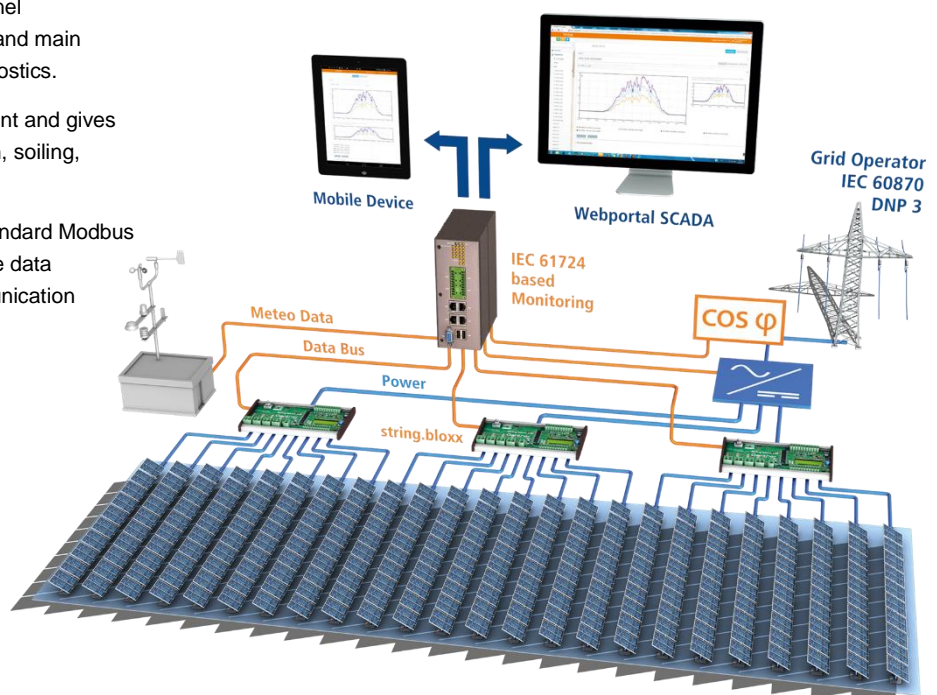
Continuous measurement of both cabinet and panel temperatures, along with overvoltage monitoring and main switch control greatly and improves system diagnostics.

This accurate measurement is inverter independent and gives feedback about losses due to inverter malfunction, soiling, shading, PV Module degradation etc. .

The string.bloxx communication uses industry standard Modbus protocols for easy and fast integration and reliable data exchange with the data logger. For longer communication distances fiber optic technology is used.

Key features:

- **16/32 Solar String Inputs**
- **Variants for 1000 VDC and for 1500 V system design**
1000VDC system design "string.bloxx 116 EM 1000V"
1500VDC system design "string.bloxx 116 EM 1500V"
- **16 Analog inputs for current measurements**
+ 26 A string current (calibrated), + 416 A summary @60°C
- **1 Analog input for voltage measurements**
0-1000 / 0-1500 VDC string voltage
- **2 Digital inputs**
Monitoring of overvoltage protection and main switch
- **Signal conditioning**
Calculated DC Power, linearization, mean value, scaling, alarm
- **RS485 fieldbus interface**
up to 115,2 kbps: Modbus-RTU, (optional OEM protocols)
- **Connectivity**
Data logger (e. g. Q.reader) and www.gantner-webportal.com for worldwide access or other 3rd party applications
- **Electromagnetic Compatibility**
according to EN 61000-4 and EN 55011
- **Power Supply 18 .. 36 VDC**
- **DIN rail or wall mounting according to DIN 50022**



MADE
IN
GERMANY



string.bloxx 116 EM 1000V / 1500V

16/32 Channel String Monitoring

Input Current	
Max. Number	16
Range	-4A to + 26 A EM
Accuracy	0.5 %
Connection	0.25 mm ² - 6 mm ² push-in spring-cage connection
Current measurement	
Max.	416 A (-20°C up to +60°C @ max 384 A current)
Connection	2x M6 bolt connector for cable ring terminals
Voltage measurement	
Number	1
Range	0-1000 VDC / 0-1500VDC
Accuracy	1 %
Connection	0.25 mm ² - 6 mm ² push-in spring-cage connection
cabinet temperature	
Type	1 Digital, onboard, accuracy ±1°C, -40°C to 125°C
Digital Inputs	
Number	2
Input	State
Connection	0.25 mm ² - 1.5 mm ² push-in spring-cage connection
Power Supply	
Power supply	18 up to 36 VDC, overvoltage and overload protection
Power consumption	approx. 1.5 W (0.4W at 30 seconds sample rate)
Connection	0.25 mm ² - 1.5 mm ² push-in spring-cage connection
Communication Interface	
Standard	RS-485, 2-wire
Data format	8n1
Protocols	Modbus-RTU, 19k2 bps up to 115k2 bps
Number of devices on the bus	max. 32
Connection	0.25 mm ² - 1.5 mm ² push-in spring-cage connection
Environmental	
Storage temperature	-40°C up to +85°C
Relative humidity	5 % up to 95 % at 50°C, non-condensing
Electromagnetic Compatibility	according to EN 61000-4 and EN 55011
Maximum operating altitude	6000 m
Mechanical	
Case	Polycarbonate
Dimensions (B x H x D)	(305 x 95 x 55) mm
Weight	approx. 600 g
Mounting	DIN EN-rail or wall mounting

Warm Up Time

All declarations are valid after a warm up time of 45 minutes.

Specification subject to change without prior notice.