

BLUE'LOG X-SERIES

Art.Nr.: 532.001 X-1000

Art.Nr.: 532.003 X-3000

Art.Nr.: 532.006 X-6000



DESCRIPTION OF FUNCTIONS

The data loggers in the X-series for monitoring and controlling photovoltaic systems offer outstanding performance and flexibility as well as intuitive handling. The device records all relevant system data and also has analog and digital interfaces in order to communicate with inverters, measuring devices and sensors.

With the MX expansion modules, the data logger can be adapted to any system size and specific system requirements and offers the flexibility needed to cope with the energy scenario of the future. The plug-in system allows rapid installation and modifications with additional modules.

If system malfunctions are detected, an alert is immediately sent via e-mail or text message.

In conjunction with the meteocontrol Web Portal, the blue'Log offers the ideal basis for professional monitoring. The close links between the hardware and the portal allow the system to be configured and controlled directly using live data. The fact that the blue'Log stores system data locally and automatically retrieves data via the portal ensures maximum reliability.

TECHNICAL DATA

Power supply	20-60 V DC SELV
Power consumption	Typically 5 W max. 80 W, incl. MX module
ESD protection	Tested in accordance with DIN EN 61000-4-2 (4 kV contact discharge, 8 kV air discharge)
Operating temperature	-20 °C to 70 °C
Storage and transport temperature	-20 °C to 85 °C
Protection class	IP 20
Elevation	max. 2000 m
Rel. air humidity.	max. 80%
Degree of soiling	max. 2
Installation	Wall mounting, Top-hat rail installation in electrical distribution board, in control cabinets
Dimensions (W x H x D)	146 mm x 110 mm x 63 mm (including side parts)
Weight	385 g

DISPLAY / OPERATION

Display	1 (291 x 118 pixels)
LED display	3
Operating buttons / directional pad	2 / 1
Reset button	1
DIP switches (bus termination)	3 (2 x RS485/422 and 1 x CAN)

INTERFACES

Communication 2 x RS485/RS422 (interface is automatically switched and can be terminated individually)
 1 x CAN (can be terminated)
 1 x Ethernet (10/100 MBit)

Digital inputs 4 x digital inputs (mode configurable via software for each port)

The following options are available for each input:

Type	Usage	Range	Precision	Resolution
Digital	Potential-free contact	24 V DC / 20 mA		
Digital	S0	S0-compliant		

Digital outputs / multi inputs

The four ports each have a pin for a digital output, a multi input and a ground:

4 x digital outputs (mode configurable via software for each port)
 4 x multi inputs (mode configurable via software for each port)

The following options are available for each digital output:

Type	Usage	Range
Digital	Open Collector	max. 60 V DC / 200 mA
Digital	Voltage output	20-60 V DC (corresponding to supply voltage), max. 45 W, in total of all digital outputs (basic module and MX modules) max. 200 mA per output

The following options are available for each multi input:

Type	Usage	Range	Precision	Resolution
Digital	Voltage level input	0-24 V DC		
Digital	Potential-free contact	24 V DC / 20 mA		
Digital	S0	S0-compliant		
Analog	Voltage input	0-10 V DC	2 mV DC	40 μ V DC
Analog	Voltage input	0-1 V DC	0,5 mV DC	4 μ V DC
Analog	Voltage input	0-100 mV DC	50 μ V DC	0,4 μ V DC
Analog	Current input	0-20 mA	4 μ A	100 nA
Analog	Resistor (PT1000)	600-1800 Ω	2 Ω	0,5 Ω

Storage SD card slot

Service interface USB front socket (type A)

EXPANDABILITY

The system can be expanded with additional interfaces by connecting MX modules. Refer to the table below which and how many MX modules can be connected to the respective basic device of the X-series.

MX-Modules	X-1000	X-3000	X-6000
Multi I/O	1	3	5
RS485/422	3	3	3
GPRS	1	1	1

POWER CONTROL

Active power process

$P()$ (DI), (AI), (fix)

Intelligent power limiting (IPL): To maintain specific active power target values at the grid connection point (e.g. taking into account on-site energy consumption).

Reactive power process

$\cos\varphi()$ (DI), (AI), (fix), (U), (P)

$Q()$ (DI), (AI), (fix), (U), ($P \times \tan\varphi(\text{fix})$)

$Q(\cos\varphi())$ (DI), (AI), (fix), (U), (P)

Control

Control of reactive power at the grid connection point with power analyzer.

DRIVERS

Supported inverters

The system is supplied with all inverter drivers available at the time of production. These can be assigned variably to the corresponding interface on the blue'Log. The number of supported inverter manufacturers is increasing all the time. You will find further information in the blue'Log driver data sheets at

<http://www.meteocontrol.com/en/industrial-line/datenlogger-blue-log-x-serie/blue-log-all-in-one-treiber/>

SOFTWARE FEATURES	X-1000	X-3000	X-6000
Maximum monitor- and control power (power control) ¹⁾	≤ 100 kWp	≤ 1000 kWp	unlimited
Number of bus devices monitored ^{2,3)}	max. 50	max. 100	max. 100
Number of inputs (DI/AI) monitored Basic module only ⁴⁾	max. 8	max. 8	max. 8
Number of inputs (DI/AI) monitored Basic module and expansion modules ⁴⁾	max. 12	max. 20	max. 28
Web Portal compatibility			
safer'Sun: Professional	✓	✓	✓
Virtual Control Room (VCOM)	✓	✓	✓
Remote access via portal ⁵⁾	✓	✓	✓
Visualization via websites	✓	✓	✓
Live values	✓	✓	✓
Websites optimized for PC and tablet	✓	✓	✓
Online firmware update	✓	✓	✓
ftp push ⁶⁾	✓	✓	✓
Power Control active power	✓	✓	✓
Intelligent power limiting (IPL)	✓	✓	✓
Power Control reactive power	—	✓	✓
Remote Power Control (direct marketing)	optional	optional	optional

¹⁾ The controlled pv plant power (control power) is relevant if the blue'log is used as a master or standalone device for the grid feed-in management (power control). Limit applies to basic module and basic module with expansion modules

²⁾ Limit applies to basic module and basic module with expansion modules

³⁾ E.g. inverter, energy meter, power quality analyzer, string measurement / generator junction box (GJB) (see blue'Log driver data sheet for max. number)

⁴⁾ E.g. sensors, ripple control receiver

⁵⁾ Function available in safer'Sun Professional and VCOM virtual control room

⁶⁾ Data transfer via ftp-push once a day, for a license fee a more frequent data transfer is possible

STORAGE

Type	SD card
Size	X-1000: 16 GB X-3000: 16 GB X-6000: 32 GB

MTBF

Telcordia Issue 3 - SR-332	73,9 years	/	T _{ambient} = 45 °C
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meteocontrol GmbH | Spicherer Straße 48 | 86157 Augsburg | Germany | phone +49 (0)821 34666 - 0 | fax +49 (0)821 34666 - 11
 e-mail info@meteocontrol.com | web www.meteocontrol.com