

Datasheet XDL500

Universal Modbus Datalogger



Datasheet 09/2026

Subject to change

www.cad-computer.de

Data sheet XDL500

Intention:

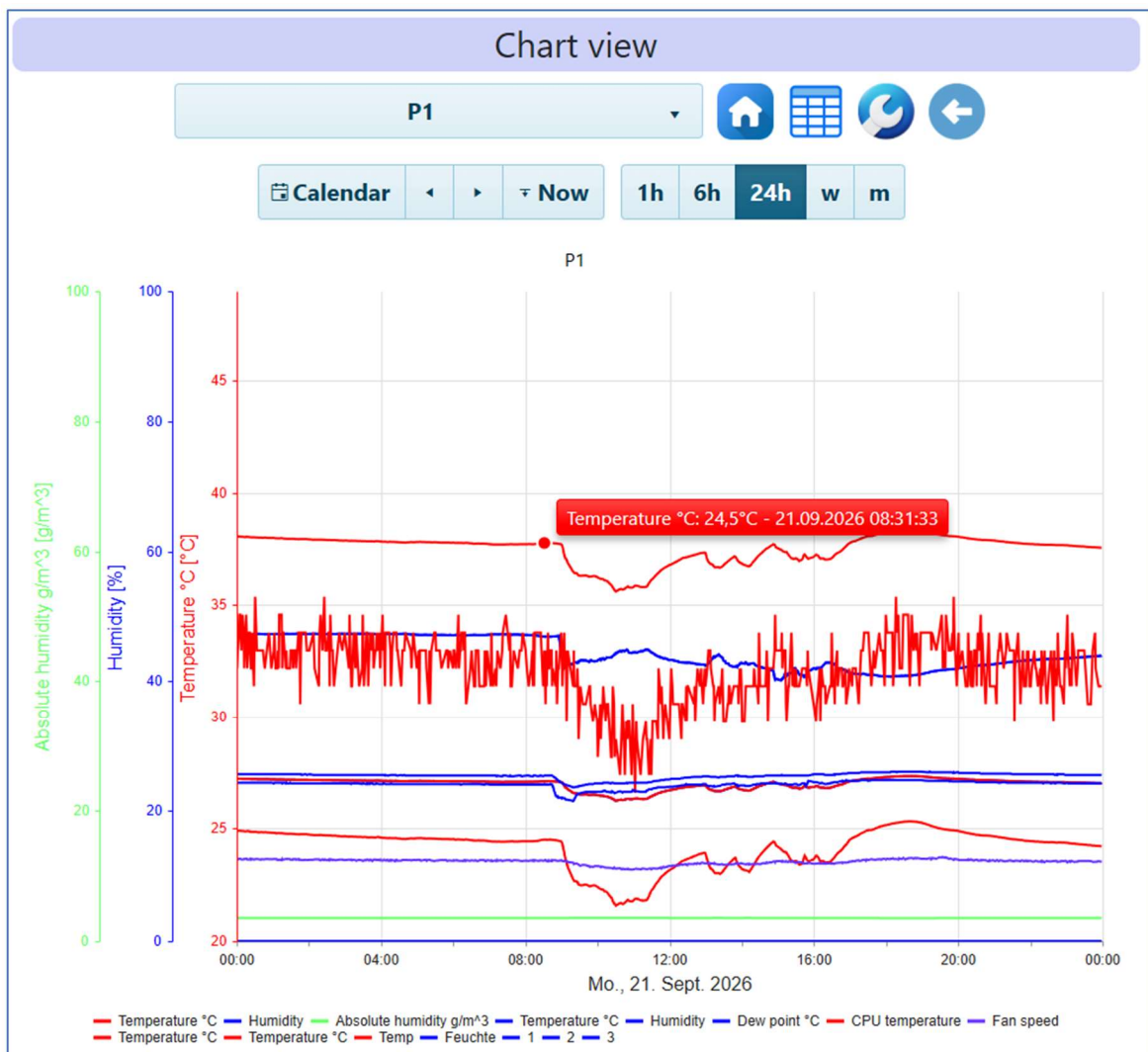
The XDL500 is a high-performance, self-contained data logger with a 5-inch touchscreen display. Its two RS485 interfaces and Ethernet connection allow for the integration of virtually all Modbus/RTU and TCP devices. Temperature, humidity, pressure, current, particle count, wind direction, and other parameters are queried from compatible Modbus sensors or devices. Because Modbus is a standard protocol, the XDL500 is manufacturer-independent. A wide variety of measuring devices can be combined, and existing sensors can be used.

Storage:

The storage and display of measured (including historical) data is handled entirely by the data logger. Thanks to the enormous storage capacity of 128 GB on an SSD hard drive, data can be archived over a very long period of time. No additional PC software or computer is required. This allows completely independent systems.

Visualization:

Both the current measured values and the historical data can be accessed either directly on the device or via the integrated web interface using a PC browser.



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Measuring device/sensor support:

The XDL500 offers various drivers as standard, meaning that sensors from different manufacturers are directly supported. Various temperature, humidity and pressure sensors as well as particle counters are already integrated.

Modbus-RTU devices

Device: **#1: Meeting Room**

Base settings [More settings](#) [Info](#)

Sample rate: 1min [Channel configuration](#)

RTU address: 231 RS485-1

Display name: Meeting Room

Comment: Tower

[Save](#) [Back](#) [Add device](#) [Delete device](#)

XDL500		22.9.2026, 14:25:37
Meeting Room		
Temperature °C	24.2	°C
Humidity	41.0	%
Dew point °C	-3.1	°C
Frost point °C	-2.8	°C
Absolute humidity g/m ³	3.5	g/m ³
Mixing ratio g/kg	9999.0	g/kg



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Integration of external devices:

In addition, it is possible to integrate third-party devices by entering the channels and register addresses in the XDL according to the device manufacturer's operating manual. In a sense, you define your own driver, which can then be added to the RTU/TCP devices.

Modbus custom devices

Driver index:

#1: GX20

Base settings

Scaling

Driver name:

GX20

Channel:

1

Register:

31001

Data type:

Float

Swap mode:

None

Save

Back

Channel +

Channel -

Interfaces:

The XDL500 has two independent RS485 interfaces. The Modbus is connected via a standard M12 screw connection. The applied operating voltage of 12-24V is looped through to these sockets so that the sensors can be supplied directly.

The integrated Ethernet interface is connected via an RJ45 socket and is used to access the web server, Modbus server and database, as well as to communicate with Modbus devices for data acquisition.

A special feature is Modbus/RTU communication via TCP. The XDL500 can retrieve data from an RTU sensor that is only accessible in the network via an Ethernet/RS485 coupler. This allows an XDL to query sensors in different rooms, floors or buildings.

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Data access from remote:

- Integrated Modbus server: External programs can access the device data via port 502 and read the current values. Any system with a Modbus client (master), such as SCADA programs, is capable of doing this.
- Integrated database: Data is stored using MariaDB, which is MySQL-compatible. Corresponding DB tools with MySQL drivers can access the data accordingly (e.g. the Grafana® dashboard program).
- CSV download: In the download area, the stored data can be generated as CSV files and downloaded directly to the PC via the browser. The variable formats for decimal points or separators allow for easy import into Excel®.
- MCPS: For professional applications in the industrial and pharmaceutical sectors, optimal support is provided by our in-house, powerful PC measurement data acquisition and evaluation software MCPS (www.mcps.de).

Security:

The XDL500 uses a current, widely used and tested Linux operating system as its basis. Access is protected by a firewall and unused ports can be deactivated. All security-related access is encrypted (commands, passwords, etc.).

User administration:

Access is password protected. You can create your own users with different rights.

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Screenshots:

Numeric view

P1



Calendar

◀ Previous

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⌵ Now

Montag, 21. September 2026

Date	Temperature °C [°C]	Humidity [%]	Absolute humidity g/m ³ [g/m ³]
21.09.2026, 23:58:33	24.2	44.0	3.5
21.09.2026, 23:53:33	24.2	43.9	3.5
21.09.2026, 23:48:33	24.2	43.9	3.5
21.09.2026, 23:47:33	24.2	43.9	3.5
21.09.2026, 23:43:33	24.3	43.9	3.5
21.09.2026, 23:40:33	24.3	43.8	3.5
21.09.2026, 23:35:33	24.3	43.8	3.5
21.09.2026, 23:29:33	24.3	43.7	3.5
21.09.2026, 23:19:33	24.3	43.7	3.5
21.09.2026, 23:18:33	24.3	43.7	3.5
21.09.2026, 23:16:33	24.3	43.7	3.5

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Data download (CSV Export)

Start date: 22.09.2026

End date: 22.09.2026

Start time: 00:00:00

End time: 15:01:02

Time zone: XDL

Column separator: ;

Decimal separator: ,

☐	Name	Comment	Sample rate	Reference-ID
☐	P1		1min	P20260724_074353_0012
☒	Meeting Room	Tower	1min	R20250428_204742_9802
☒	EE310-2		1min	R20250429_060919_8980
☐	XDL System		1min	T20250514_050433_4324
☐	EE074-1		1min	R20250514_150011_6717
☐	Nokeval Flex-nSens	Test	Off	R20250710_074327_7854
☐	W&T		Off	T20250710_111825_3517
☐	EE072-1		1min	R20250711_062421_1030

Home

Download

Statistics

P1

STATISTIC: 22.09.2026, 00:00:00 - 22.09.2026, 23:59:59 [437]

Calendar

Export

Configuration

Channel	Unit	Comment	Minimum	Time	Mean	Maximum	Time
Temperature °C	°C		23.6	22.09.2026, 15:07:19	24.18	25.1	22.09.2026, 15:07:19
Humidity	%		40.3	22.09.2026, 14:48:19	43.74	44.6	22.09.2026, 14:48:19
Absolute humidity g/m^3	g/m^3		3.5	22.09.2026, 13:28:33	3.54	3.5	22.09.2026, 13:28:33
Temperature °C	°C		23.6	22.09.2026, 15:07:19	24.18	25.1	22.09.2026, 15:07:19
Humidity	%		40.3	22.09.2026, 14:48:19	43.74	44.5	22.09.2026, 14:48:19
Dew point °C	°C		-3.1	22.09.2026, 00:03:33	-3.11	-3.1	22.09.2026, 00:03:33
CPU temperature	°C		56.2	22.09.2026, 09:11:33	58.24	62.8	22.09.2026, 09:11:33
Fan speed	rpm		3093	22.09.2026, 09:06:33	3112.7	4504	22.09.2026, 09:06:33
Temperature °C	°C		23.6	22.09.2026, 15:07:19	24.18	25.1	22.09.2026, 15:07:19
Temperature °C	°C		23.5	22.09.2026, 15:07:19	24.18	25.1	22.09.2026, 15:07:19

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Device: #2: EE310-2

Channel:

#1: Temperature °C

Base settings

Alarms

Scaling

Chart

Level:

1

On:

☒

Type:

H

Limit:

8

Delay [s]:

60

Alarm actions

Message:

Temp too high, refrigerator R23, Lab 2

Save

Cancel

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Technical Specification

Measurement parameters	Data from Modbus-RTU / TCP devices
Number of Modbus devices	Depending on license: 1, 5 or 20
Number of projects	Depending on license: 1, 5 or 20
Types of interfaces	Modbus-RTU via RS485 or Modbus/TCP
Max. power consumption	Device <10 W; RTU Devices in total: Max. 30 W
Power supply	24VDC +- 10% mind. 15W + externe Sensoren
Temperature range	5°C-30°C
Storage temperature	0°C-50°C
Protection class	IP64
Case material	PC+ABS FR(40)
Dimensions	180mmx145mmx60mm
Weight	0,8kg
Fire protection class	UL94 V-0
Max. operating height	2000m
Sample interval	1s - 24h
Startup time	<20s
Interfaces	2xRS485 M12, 5-polig A coded, 1x Ethernet RJ45
Max. length of RS485	Max. 100m
Protocols for external access	HTTP, Modbus TCP, MariaDB-SQL
CPU	BCM2712 quad-core Arm Cortex A76 @2.4GHz
Display	5 inch Touch-Display
Modbus TCP data formats	Float32 IEEE
Languages	German, English
Mounting	Wall mounting or as a tabletop device on a stand

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Examples with sensor and table display

