



## Description

### JUMO variTRON 500

The central processing unit JUMO variTRON 500 is based on a new hardware platform with an 800 MHz processor, which is used as a quad-core variant.

Due to the scalability of hardware and software a modular, flexible, and above all sustainable hardware platform is available that is combined with a modern software architecture. Based on this new platform, innovative operating concepts can now be implemented using state-of-the-art display technologies.

The advantages at a glance:

- High speed performance
- Flexible operating philosophy
- Modern communication interfaces (e.g. OPC UA, MQTT)
- Integration of different fieldbus protocols such as PROFINET IO, EtherCAT, and Modbus-TCP/-RTU
- Easy integration of new software functions via PLC (CODESYS V3.5)
- Availability of function and visualization libraries (as of system version x)
- Easy adaptation of hardware inputs and outputs
- Customized operation and visualization with several operator stations via CODESYS remote target visualization or via web visualization (mixed operation is possible)
- Panels in various formats (portrait or landscape, 4:3 or 16:9)
- JUMO Web Services

### Input/output modules

The proven input and output modules (incl. controller module) are available as module variants.

For example: the analog input module with universal inputs for thermocouples, RTD temperature probes, and voltage or current standard signals. As a result the same hardware can be used to precisely record and digitize a highly diverse range of process variables.

JUMO variTRON 500 enables simultaneous operation of more than 120 control loops so that it can also be used for sophisticated processes. Through expansion slots the inputs and outputs of each controller module can be individually expanded and adapted. The control loops here operate fully independently, which means they do not require resources from the central processing unit.

Thyristor power controllers can also be connected via EtherCAT or PROFINET. In addition, JUMO digiLine sensors for liquid analysis can be connected to the central processing unit.

## Technical data

### Interfaces

USB host	
Description	USB
Type	A (socket)
Number	2
Device category	Mass storage class
Application	For connecting a USB flash drive (interfaces cannot be used simultaneously)
Data rate	Low Speed, Full Speed, Hi-Speed
Max. current	500 mA per interface
Ethernet	
Description	LAN1, LAN2 (optional)
Type	RJ45
Number	1 (optional: 2)
Application	Communication with: - PC (setup program, web browser) - Email server - Modbus-TCP master/slave - PROFINET IO device - EtherCAT slave - OPC UA client
Protocol	TCP, IPv4, HTTP(S)  Via CODESYS as an option: Modbus-TCP, PROFINET IO controller, EtherCAT master, OPC UA server
Transfer rate	10 Mbit/s, 100 Mbit/s
Connection cable	Network cable, at least CAT5 (S/FTP)
Cable length	Up to 100 m
RS232 or RS485 (serial interface)	
Description	Depending on the device version Com1, Com2
Type	D-Sub 9-pole
Number	2
Application	Fieldbus applications, communication via modem with a PC or with an email server
Protocol	Via CODESYS: Modbus-RTU master/slave
Data format	8/1/n, 8/1/e, 8/1/o
Transfer rate	9600 Bd, 19200 Bd, 38400 Bd
System bus	
Description	None (side connector)
Type	System specific
Number	1
Application	Connection of a router module 705041 or an input/output module

### Display

Type	LCD, monochrome
Resolution	96 × 64 pixels (8 rows)

## Electrical data

Voltage supply	
Connection	At the front (removable terminal strip, 2-pole with Push-In technology)
Voltage	DC 24 V +25/-20 % SELV
Residual ripple	5 %
Current consumption	Max. 1.16 A (at DC 19.2 V) Current consumption of lined-up modules also has to be considered (see "Hardware configuration" in the setup program)!
Power consumption	Max. 25 W
Conductor cross section (voltage supply)	
Wire or stranded wire without ferrule	Min. 1.5 mm <sup>2</sup> , max. 2.5 mm <sup>2</sup>
Stranded wire with ferrule	Min. 1.5 mm <sup>2</sup> , max. 2.5 mm <sup>2</sup>
2 × stranded wire with twin core-end ferrule with plastic collar	1.5 mm <sup>2</sup>
Stripping length	10 mm
Electrical safety	According to DIN EN 61010-1 Overvoltage category III, pollution degree 2
Protection rating	III
Electromagnetic compatibility	Acc. to DIN EN 61326-1
Interference emission	Class A - only for industrial use -
Interference immunity	Industrial requirement
Data backup	Buffered RAM
Buffer battery service life	Approx. 6 years (lithium battery) Observe fault messages on battery status in the event list (battery almost empty, battery empty)!

## Housing and environmental conditions

Case type	Plastic case for DIN rail mounting in the control cabinet (indoor use); DIN rail acc. to DIN EN 60715, 35 mm x 7.5 mm x 1 mm
Dimensions (W × H × D)	135 mm × 101 mm × 101.5 mm (without connection elements)
Weight (fully fitted)	Approx. 590 g
Protection type	IP 20, according to DIN EN 60529
Ambient temperature range	-20 to +55 °C
Storage temperature range	-40 to +70 °C
Resistance to climatic conditions	Relative humidity ≤ 90 % annual average without condensation (climate class 3K3 acc. to DIN EN 60721-3-3 with extended temperature and humidity range)
Site altitude	Up to 2000 m above sea level
Vibration	Acc. to DIN EN 60068-2-6, table C.2
Amplitude	0.15 mm from 10 to 58.1 Hz
Acceleration	20 m/s <sup>2</sup> from 58.1 to 150 Hz
Shock	Acc. to DIN EN 60068-2-27, table A.1
Peak acceleration	150 m/s <sup>2</sup>
Shock duration	11 ms

## Approvals and approval marks

Approval mark	Test facility	Certificate/certification number	Inspection basis	Valid for
c UL us	Underwriters Laboratories	E201387	UL 61010-1 (3. Ed.), CAN/CSA-22.2 No. 61010-1 (3. Ed.)	All types











