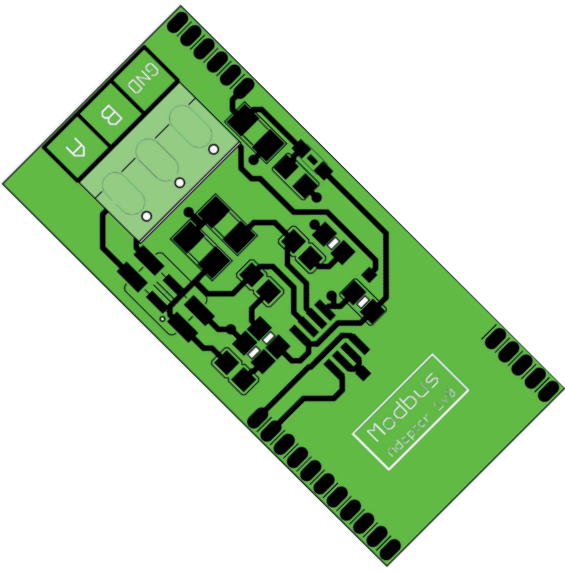
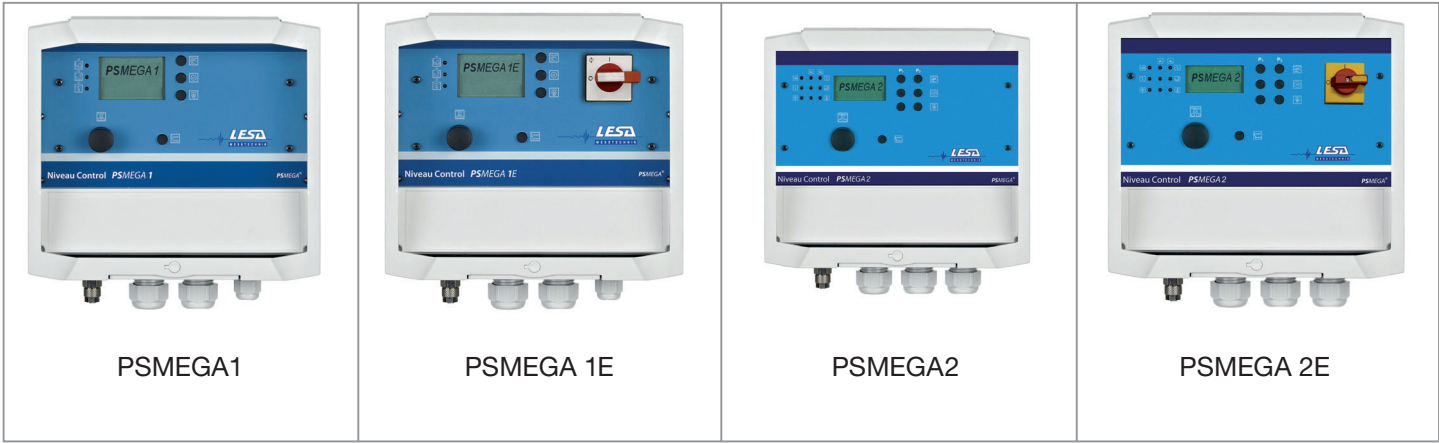


Modbus Module

Module for operation with PSmega controllers



Options



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1.0 Warning and safety instructions for installing and commissioning the module

Please read through these safety instructions carefully before installing the module in the controller to prevent damage to the product and avoid possible injury. Keep these safety instructions and operating instructions to hand for anyone using this product.

The warnings and precautions set out in these instructions are indicated by the following symbols:



Caution, important notice. (Should be read before commissioning.)



Caution, high voltage, danger to life!

1.1 Areas of use, intended use

The module is only designed for use with the controllers provided. No other use is envisaged.

The Modbus module is intended to operate the controller it is extending as a slave within a network suitable for this purpose. The appropriate bus parameters must be adhered to.

1.2 Personnel qualifications

Personnel installing, commissioning and maintaining the switchgear must have the appropriate qualifications.

1.3 Safety instructions for the operator

The existing accident prevention regulations, issued by the German Electrotechnical Society (VDE) and the local energy supply companies must be complied with. When opening the device (removing the cover or terminal cover) or working on the pumps, the controller must always be disconnected from the power supply via the fuse or a separate main switch.

For safety reasons, the unused cable glands must be sealed off with dummy caps or blanking elements.



DANGER due to hazardous voltage!

Working on the open switchgear carries

the risk of a fatal electric shock. For all work on the open device (cover or terminal cover removed), or work on the pumps, the controller must always be disconnected from the power supply via the fuse or a separate main switch and must be secured against reconnection. Such work may only be performed by qualified electricians.

1.3.1 Electrical work



DANGER due to hazardous electrical voltage!

All work on the open switchgear carries the risk of a fatal electric shock. The device must also always be disconnected from the power supply by means of a fuse or separate main switch, and must be secured against reconnection. All work may only be performed by a qualified electrician.

1.4 Risks of failing to comply with the safety instructions

Failure to comply with the safety instructions may result in danger to people and the product/system. Failure to comply with the safety instructions may result in the loss of any claims for compensation.

1.5 Operating instructions

These operating instructions must be observed when installing, commissioning and maintaining the switchgear. The content therein must be strictly observed.

1.6 Unauthorised modifications and spare parts supply

The product may only be modified by agreement with the manufacturer. Original spare parts and accessories authorised by the manufacturer serve to ensure safety. The use of other parts may set aside any liability for the resulting consequences.

1.7 Improper operation

The operational safety of the product supplied is only guaranteed when used as intended in accordance with section 1.1 of the operating instructions. The limit values specified in the data sheet must be adhered to at all times.

1.8 Transportation and storage

The module must be stored and transported in a manner that prevents any damage caused by shocks or blows and exposure to temperatures outside the range of -10°C to +50°C.

Modbus Module

2.0 General product description, features and optional functions

2.1 Product description

The Modbus module is used to expand the PSMEGA series. It enables connection of the device series to a Modbus network. The pump controller is treated as a slave in the Modbus. This expansion enables all operating parameters to be modified, controlled and monitored. The accessibility of the parameters depends on the Modbus master design.

2.2 Display / operation within the controller

The Modbus control in the pump controller menu is limited to two parameters:

Menu item	Explanation
Modbus	Enables / disables the bus
MB slave addr.	Configured slave address

2.2.1 Modbus

The Modbus is enabled or disabled by enabling/disabling the menu item.

2.2.2 MB slave addr.

The slave address can be selected by the user within the range of 10 to 240. The default address is 10.

2.2.3 The menu settings cannot be changed

Check that service mode has been enabled in the menu.

3.0 Connection

The module is situated on the back of the upper plate. The outer 6 screws on the cover must be removed to connect the bus lines to the controller (see diagram 1)

The cover and plate can now easily be moved upwards. The module is visible on the left-hand side.

The control system is connected via the screw terminal labelled A / B / GND

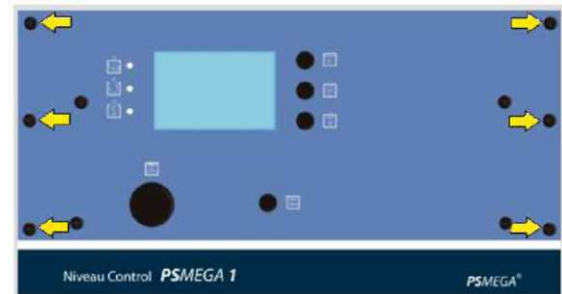


Diagram 1

4.0 Modbus parameters

4.1 Modbus configuration

Bus type:	RTU
Baud rate:	9600 baud
Data bits:	8 bit
Stop bits:	1 bit
Parity	Even
Register Size:	16 bit
Slave ID:	10 - 240

Modbus Module

40001-99	Read status values (level,current,uptime)
40101-199	Read error messages
40201-299	Control via pumps & reset fault
40301-399	Read and write settings

Register	Access	Name	Unit	Controller	Comment
4001	READ	Level/floater switch	Level in centimetres	PSMEGA1/ PSMEGA2	With floater switch PSMEGA1: Bit0=OFF Bit1=ON Bit2=High-Water PSMEGA2: Bit0=OFF Bit1= BLP ON Bit2= PLP ON Bit3= High-Water
4002	READ	Relay status		PSMEGA1/ PSMEGA2	PSMEGA1: Bit0 SSM relay - Bit1 Pump working PSMEGA2: Bit0 SSM relay - Bit1 Fault relay 1 Bit2 Fault relay 2 - Bit3 High-Water relay Bit4 Pump 1 working - Bit5 Pump 2 working
40003	READ	Uptime P1 1	Seconds	PSMEGA1/ PSMEGA2	Lower 16Bit
40004	READ	Uptime P1 2	Seconds	PSMEGA1/ PSMEGA2	Upper 16Bit
40005	READ	Uptime P2 1	Seconds	PSMEGA2	Lower 16Bit
40006	READ	Uptime P2 2	Seconds	PSMEGA2	Upper 16Bit
40007	READ	Pump starts P1		PSMEGA1/ PSMEGA2	
40008	READ	Pump starts P2		PSMEGA2	
40009	READ	Transformer P1 L1	Deciamps	PSMEGA1/ PSMEGA2	e.g. 12.0A is conveyed without the point as 120dA
40010	READ	Transformer P1 L2	Deciamps	PSMEGA1/ PSMEGA2	e.g. 12.0A is conveyed without the point as 120dA
40011	READ	Transformer P1 L3	Deciamps	PSMEGA1/ PSMEGA2	e.g. 12.0A is conveyed without the point as 120dA
40012	READ	Transformer P2 L1	Deciamps	PSMEGA2	e.g. 12.0A is conveyed without the point as 120dA
40013	READ	Transformer P2 L2	Deciamps	PSMEGA2	e.g. 12.0A is conveyed without the point as 120dA
40014	READ	Transformer P2 L3	Deciamps	PSMEGA2	e.g. 12.0A is conveyed without the point as 120dA
40101	READ	Last fault 1		PSMEGA1/ PSMEGA2	PSMEGA1 standard configuration: 0=OVERLOAD_ERR, 1=UNDERLOAD_ERR, 2=PHASE_ERR, 3=UPTIME_ERR, 4=THERMO_TWO_ERR, 5=THERMO_ONE_ERR, 6=RELCONTACT_ERR
40102	READ	Last fault 2		PSMEGA1/ PSMEGA2	7=HW_LEVEL_ERR, 8=HW_FSWITCH_ERR, 9=ROTFIELD_ERR, 10=LEVEL_20_MA_ERR
40103	READ	Last fault 3		PSMEGA1/ PSMEGA2	PSMEGA2 standard configuration: 0=P1_OVERLOAD, 1=P1_UNDERLOAD, 2=P1_PHASE, 3=P1_UPTIME, 4=P1_THERMO_TWO, 5=P1_THERMO_ONE, 6=P1_RELCONTACT
40104	READ	Last fault 4		PSMEGA1/ PSMEGA2	7=P2_OVERLOAD, 8=P2_UNDERLOAD, 9=P2_PHASE, 10=P2_UPTIME, 11=P2_THERMO_TWO, 12=P2_THERMO_ONE, 13=P2_RELCONTACT, 14=HW_LEVEL, 15=HW_FSWITCH 16=ROTFIELD, 17=LEVEL_20_MA, 18=PUMP_ALTERNATE, 19=I2C 255=No error message
40110	READ	SSM1		PSMEGA1/ PSMEGA2	0=OVERLOAD P1, 1=UNDERLOAD P1, 2=PHASE P1, 3=UPTIME P1 4=THERMO_TWO P1, 5= THERMO_ONE P1, 6=RELCONTACT P1 7=OVERLOAD P2, 8=UNDERLOAD P2, 9=PHASE P2, 10=UPTIME P2 11=THERMO_TWO P2, 12= THERMO_ONE P2, 13=RELCONTACT P2 14=HW_LEVEL, 15= HW_FSWITCH
40111	READ	SSM2		PSMEGA1/ PSMEGA2	0=ROTFIELD, 1=LEVEL_20mA, 2=PUMP_ALTERNATE, 3=I2C

Modbus Module

40201	READ/WRITE	Pump control P1		PSMEGA1/ PSMEGA2	0=Off, 1=Manual, 2=Auto
40202	READ/WRITE	Pump control P2		PSMEGA2	0=Off, 1=Manual, 2=Auto
40203	WRITE	Reset fault		PSMEGA1/ PSMEGA2	With 1 specify how to reset/confirm a fault
40301	READ/WRITE	Level ON / BLP ON	Centimetres	PSMEGA1/ PSMEGA2	
40302	READ/WRITE	Level OFF / BLP OFF	Centimetres	PSMEGA1/ PSMEGA2	
40303	READ/WRITE	PLP ON	Centimetres	PSMEGA2	
40304	READ/WRITE	PLP OFF	Centimetres	PSMEGA2	
40305	READ/WRITE	High-water level	Centimetres	PSMEGA1/ PSMEGA2	
40306	READ/WRITE	High-water delay	Seconds	PSMEGA1/ PSMEGA2	
40307	READ/WRITE	Operating limit	Minutes	PSMEGA1/ PSMEGA2	
40308	READ/WRITE	Operating interruption	Minutes	PSMEGA1/ PSMEGA2	
40309	READ/WRITE	Start delay	Seconds	PSMEGA1/ PSMEGA2	
40310	READ/WRITE	Operation stop delay		PSMEGA1/ PSMEGA2	
40311	READ/WRITE	Stop delay time		PSMEGA1/ PSMEGA2	
40312	READ/WRITE	Stop delay range		PSMEGA1/ PSMEGA2	
40313	READ/WRITE	Stop delay	Seconds	PSMEGA1/ PSMEGA2	
40314	READ/WRITE	Current limit P1	Deciamps	PSMEGA1/ PSMEGA2	
40315	READ/WRITE	Current limit P2	Deciamps	PSMEGA2	
40316	READ/WRITE	Inspection		PSMEGA1/ PSMEGA2	0=Switched off, 1=90days, 2=180days, 3=365days
40317	READ/WRITE	24hr switch on	Seconds	PSMEGA1/ PSMEGA2	
40318	READ/WRITE	Forced emptying	Seconds	PSMEGA1/ PSMEGA2	
40319	READ/WRITE	Audible alarm		PSMEGA1/ PSMEGA2	0/1 OFF/ON
40320	READ/WRITE	Interval alarm		PSMEGA1/ PSMEGA2	0/1 OFF/ON
40321	READ/WRITE	Thermal fault 1 P1		PSMEGA1/ PSMEGA2	0/1 OFF/ON
40322	READ/WRITE	Thermal fault 1 P2		PSMEGA2	0/1 OFF/ON
40323	READ/WRITE	Rotary field fault		PSMEGA1/ PSMEGA2	0/1 OFF/ON
40324	READ/WRITE	3~ monitoring		PSMEGA1/ PSMEGA2	0/1 OFF/ON
40325	READ/WRITE	20mA floater switch		PSMEGA1/ PSMEGA2	0/1 OFF/ON
40326	READ/WRITE	Light automatically off		PSMEGA1/ PSMEGA2	0/1 OFF/ON
40327	READ/WRITE	Atex mode		PSMEGA1/ PSMEGA2	0/1 OFF/ON
40328	READ/WRITE	Service mode		PSMEGA1/ PSMEGA2	0/1 OFF/ON
40329	READ/WRITE	Modbus		PSMEGA1/ PSMEGA2	0/1 OFF/ON
40330	READ/WRITE	Level control		PSMEGA1/ PSMEGA2	0= Internal converter, 1=4-20mA interface, 2=Floater switch

Modbus Module

40331	READ/WRITE	20mA level	Centimetres	PSMEGA1/ PSMEGA2	
40332	READ/WRITE	LCD contrast		PSMEGA1/ PSMEGA2	
40333	READ/WRITE	Max. bar level	Centimetres	PSMEGA1/ PSMEGA2	
40334	READ/WRITE	Max. bar current P1	Deciamps	PSMEGA1/ PSMEGA2	e.g. 12.0A is conveyed without the point as 120dA
40335	READ/WRITE	Max. bar current P2	Deciamps	PSMEGA2	e.g. 12.0A is conveyed without the point as 120dA
40336	READ/WRITE	Language		PSMEGA1/ PSMEGA2	0=German,1=English,2=French,3=Italian,4=Spanish 5=Portuguese, 6=Dutch,7=Norwegian,8=Danish 9=Polish,10=Czech

4.0 Technical data

Operating voltage: 5V

Compatible with: PSMEGA 1; PSMEGA1E
PSMEGA 2; PSMEGA2E

Control voltage

(common mode input voltage range): -7 V to 12 V

Max. short-circuit current: 250 mA

Typ. input hysteresis: 70 mV

The module has a short-circuit current limit and is protected against excessive power losses.

When opening the device (removing the cover or terminal cover) or working on the pumps, the controller must always be disconnected from the power supply via the fuse or a separate main switch.

Subject to technical modifications

weitere Produkte



PSMEGA1



Messglocke V4A



LESA Micro-Kompakt



PLC TOUCH Grossanlage



LESA- GSM 8



**Kompaktschaltschrank
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**Kompaktschaltschrank
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- * Verschraubungen für pneumatische Leitung
- * Schwimmschalter
- * Tauchsensoren
- * Ultraschallsensoren
- * Stabsonden
- * Druckschalter
- * Anzeiger, elektrisch, mechanisch
- * Kompressoren, Einperltechnik

- * Schaltanlagenbau - Automatisierung - Fernwirktechnik
- * Freiluftsäulen komplett bestückt mit PS1.LCD / PS2.LCD
- * Kompaktschaltschrank LCD2 - System Metall
- * GfK- Außenschränke / Leersäulen
- * EVU- Anschlusssäule