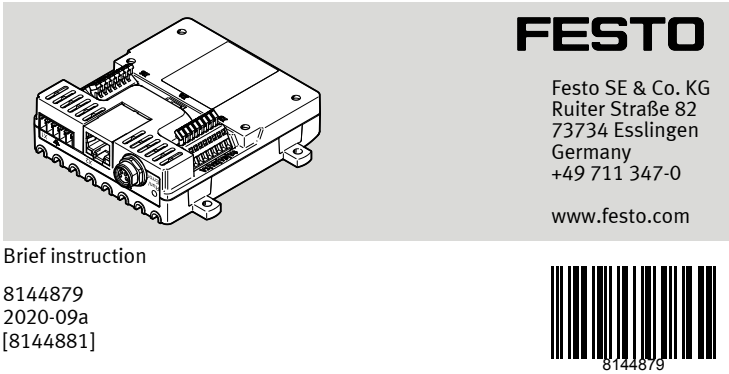


VAEM-V-S8EPRS2
Valve control module



Brief instruction

8144879
2020-09a
[8144881]

Translation of the original instructions

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1 Applicable documents

All available documents for the product -> www.festo.com/sp.

Table with 3 columns: Documents, Product, Contents. Rows include Operating instructions, Assembly instructions, Application Note, Software, and their respective contents.

Tab. 1 Applicable documents

2 Safety

2.1 Safety instructions

- Only use the product in original status without unauthorised modifications.
- Only use the product if it is in perfect technical condition.
- Take into consideration the ambient conditions at the location of use.
- Prior to mounting, installation and maintenance work: Switch off power supply and secure it from being switched back on.

2.2 Intended use

The product is designed for control of solenoid valves by holding current reduction and it is intended for industrial operation in enclosed spaces.

2.3 Training of skilled personnel

Installation, commissioning, maintenance and disassembly should only be conducted by qualified personnel. The specialized personnel must be familiar with the installation and operation of electrical and pneumatic control systems.

3 Additional information

- Accessories -> www.festo.com/catalogue.

4 Service

Contact your regional Festo contact person if you have technical questions -> www.festo.com.

5 Product overview

The product is an electronic control with integrated, adjustable holding current reduction for controlling solenoid valves. Communication takes place via a COM interface using the ASCII protocol or via an Ethernet interface using the Modbus TCP protocol in accordance with the client-server principle.

5.1 Functions

The product offers multiple system and valve functions. See the applicable operating instructions for a description of the functions and the parameterisation -> Tab. 1 Applicable documents.

5.2 Product design

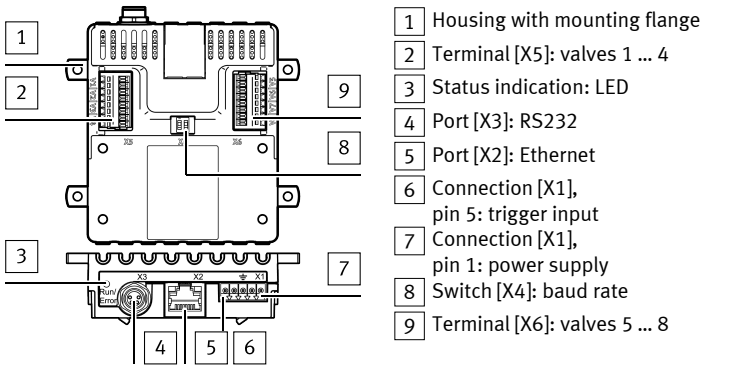


Fig. 1 Product design and connections

5.2.1 Display components

The status indication contains a green LED (Run) and a red LED (Error).

5.2.2 Control elements

Switch [X4]

The transmission speed of the communication interface [X3] is set at switch [X4].

Table with 5 columns: baudrate [kBd], 9.6, 19.2, 57.6, 115.2. Rows show switching position diagrams for each baud rate.

Tab. 2 Setting the baud rate

5.2.3 Connecting elements

WARNING!

Risk of injury due to electric shock.

- For the electrical power supply with extra-low voltages, use only PELV circuits that guarantee a reinforced isolation from the mains network.
- Observe IEC 60204-1/EN 60204-1.

NOTICE!

Material damage due to incorrect or incomplete installation.

The following conditions must be fulfilled for commissioning:

- The system must be fully assembled.
- The electrical installation must be complete and checked.

Connection [X1]

The connection [X1] shows the power supply and the trigger input.

Table with 3 columns: Plug pattern, Pin, Function. Rows show pin assignments for power supply and trigger input.

Tab. 3 Pin allocation connection [X1]

Ports [X5] and [X6]

The connections [X5] and [X6] are each provided with a terminal to connect the valves.

Table with 3 columns: Plug pattern, Pin, Function. Rows show terminal connections for ports [X5] and [X6] to various valves.

Plug pattern	Pin	Function								
<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr></table>	1	2	3	4	5	6	7	8	8	Connection valve 5
1	2	3	4	5	6	7	8			

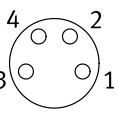
Tab. 4 Pin assignment of terminals [X5] and [X6]

Port [X2]: Ethernet

The port [X2] in the version VAEM-V-S8EPRS2 is a TCP/IP communication interface via Ethernet.

Port [X3]: RS232

The port [X3] is for communications via the RS232 interface.

Plug pattern	Pin	Function
	1	GND - Common Ground
	2	TxD - Transmit Data
	3	RxD - Receive Data
	4	NC - Not connected

Tab. 5 Port pin allocation [X3]

6 Commissioning



Commissioning and parameterisation via Festo software

Easier commissioning and parameterisation via Festo software

➔ www.festo.com/sp.

1. Connect the valves to the ports [X5] and [X6].
2. Connect communications cable with the COM interface and interface [X3]. Alternatively, connect the Ethernet communication cable and interface [X2].
3. Assemble plug in accordance with the plug pattern ➔ Tab. 3 Pin allocation connection [X1] and plug into port [X1].
4. With RS232 communication:
Set required baud rate at the switch [X4].
5. Apply nominal voltage to the product.
🔌 The LED is green.
6. Establish and parameterise communications connection.
Corresponding operating instructions ➔ Tab. 1 Applicable documents.

7 Cleaning

1. Switch off the following energy sources to clean the outside:
 - Operating voltage
2. Clean the outside of the product with a soft cloth. Do not use aggressive cleaning agents.

8 Diagnostics

LED green	LED red	Description
		Error-free operation
		Device identification failed
		Error is present
		System faults
		Bootloader mode This mode shows that a firmware update has failed.
		Firmware update is being run

Tab. 6 Status indicator

9 Disposal

🌿 ENVIRONMENT!

Send the packaging and product for environmentally sound recycling in accordance with the current regulations ➔ www.festo.com/sp.

10 Technical data

VAEM-V-S8EPRS2		
General		
approval		RCM Mark
ambient temperature	[°C]	0 ... 50
storage temperature	[°C]	−20 ... +70
degree of protection		IP20
Pollution degree		2
product weight	[g]	98
dimensions W x L x H	[mm]	92 x 100 x 28
Relative air humidity	[%]	0 ... 95 Non-condensing
Nominal altitude of use	m ASL	≤ 2000
vibration resistance		Shock test with severity level 2 in accordance with EN 60068-2-6 (FN 942017-4)
shock resistance		Shock test with severity level 2 in accordance with EN 60068-2-27 (FN 942017-5)
note on materials		Contains PWIS substances
Cable length		
Valve	[m]	≤ 5
RS232	[m]	≤ 10
Power supply	[m]	≤ 30
Ethernet	[m]	≤ 25
Electronics		
nominal operating voltage DC	[V]	24
internal current consumption, operating voltage	[mA]	~ 36
perm. voltage fluctuations	[%]	± 10
Number of outputs		≤ 8
nominal operating voltage DC of load	[V]	8 ... 24 (PWM)
inrush current, per Output	[mA]	20 ... 1000 (≤ 100 ms)
inrush current, total	[A]	≤ 4 (≤ 100 ms)
holding current, per Output	[mA]	20 ... 400
holding current, total	[A]	≤ 1,8
trigger level	[V]	Level 14 ... 24
Ethernet interface, transmission rate	[Mbit/s]	10/100
Time resolution	[ms]	0,2

Tab. 7 Technical data

Type of severity level (SL)					
Vibration load					
Frequency range [Hz]		Acceleration [m/s²]		Deflection [mm]	
SL1	SL2	SL1	SG2	SL1	SL2
2 ... 8	2 ... 8	–	–	±3.5	±3.5
8 ... 27	8 ... 27	10	10	–	–
27 ... 58	27 ... 60	–	–	±0.15	±0.35
58 ... 160	60 ... 160	20	50	–	–
160 ... 200	160 ... 200	10	10	–	–
Shock load					
Acceleration [m/s²]		Duration [ms]		Shocks per direction	
SL1	SL2	SL1	SL2	SL1	SL2
±150	±300	11	11	5	5
Continuous shock load					
Acceleration [m/s²]		Duration [ms]		Shocks per direction	
±150		6		1000	

Tab. 8 Type of severity level (SL)