

Electric amplifier module

RE 30229/07.12
Replaces: 09.05

1/6

Type VT-MSPA2-525...

Component series 1X

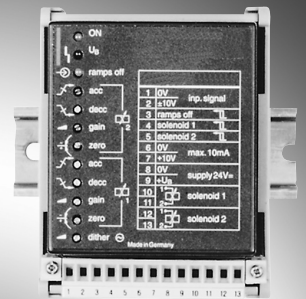


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3	– Differential input for command value voltage 0...+10 V
4	– Ramp generator up and down can be set separately
5	– Zero point potentiometer
5	– Clocked output stage
5	– LED display: • Supply voltage • Ready for operation • Ramp "Off"
	– Removable connector strip

Notice:

The photo is an example configuration.
The delivered product differs from the figure.

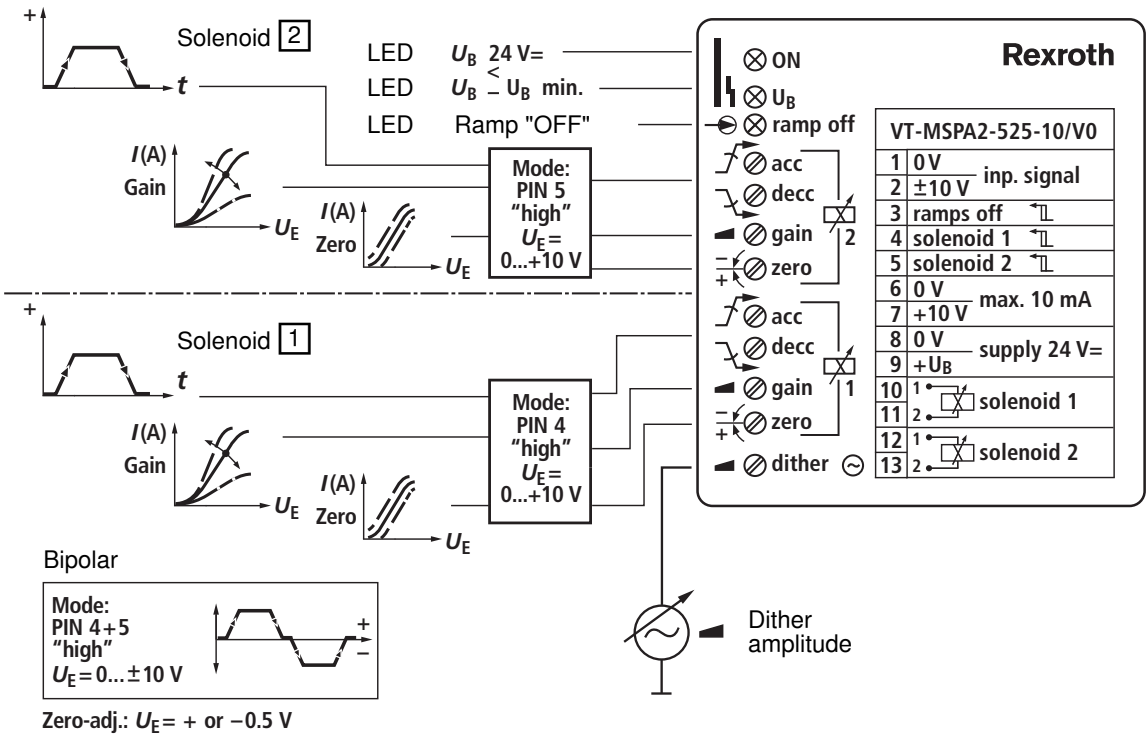
Ordering code

VT-MSPA2-525-1X/V0									
VT-M		S	P	A	2	525	1X	V0	
Hydraulic component		For valves without electrical feedback = S						Customer version	
Valve type		Proportional directional valve = P						Catalog version	
Control		Analog = A						Component series 10 to 19	
Output stages		2 output stages = 2						(10 to 19: Unchanged technical data and pin assignment)	
						525 =		Serial number for types	
								2.5 A solenoid	

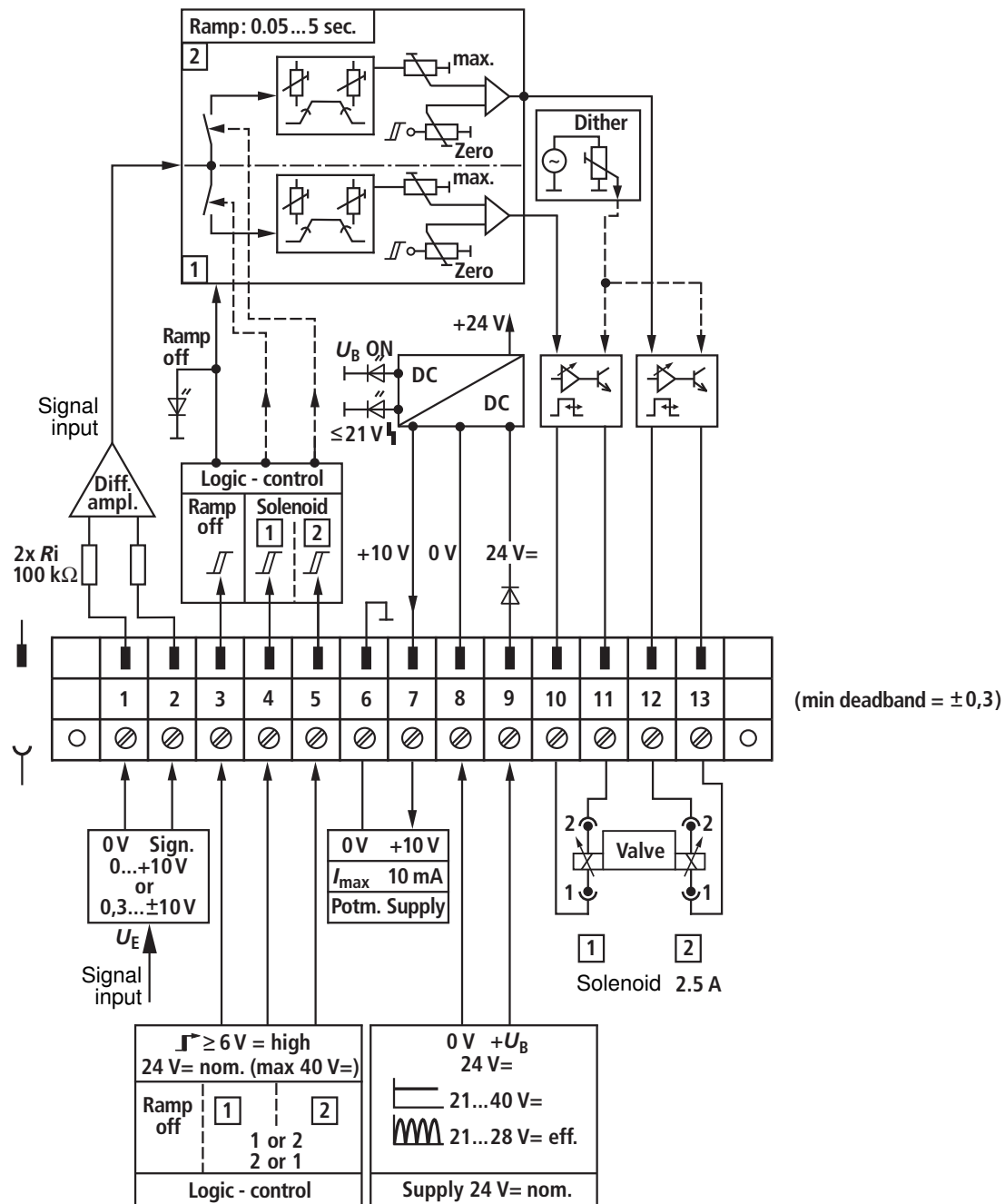
Preferred types

Amplifier type	Material number	For proportional directional valve, direct operated, with two solenoids
VT-MSPA2-525-10/V0	0811405106	4WRBA..E../..W...2X...

Front plate



Block diagram with pin assignment



Notices on terminal 4 and 5

4	5	Solenoid	Command value	
Low	Low	–	–	
High	Low	1	0...+10 V	UNIPOLAR mode
Low	High	2	0...+10 V	
High	High	1 / 2	±10 V	BIPOLAR mode

0...+10 V

Zero adjustment 0 V

0...+10 V

Zero adjustment ±0.5 V

Technical data (For applications outside these parameters, please consult us!)

Supply voltage U_B at (9)		Nominal 24 V = Battery voltage 21...40 V, Rectified alternating voltage $U_{eff} = 21...28$ V (one-phase, full-wave rectifier)
Valve solenoid	A/VA	2.5/60
Current consumption max.	A	2.5 The current consumption may increase with min. U_B and an extreme cable length to the control solenoid
Max. power consumption	VA	60
Command value: Signal (2) 0 V (1)		0...+10 V or $\pm 0.3... \pm 10$ V (see mode) Differential amplifier ($R_i = 100$ k Ω)
Command values and logic	Mode ± 10 V	(4) and (5) +24 V (> 6 V...max. 40 V) Command value $\pm 0.3... \pm 10$ V
	Mode +10 V	(4) +24 V $\rightarrow$ Command value 0...+10 V 1 (5) +24 V $\rightarrow$ Command value 0...+10 V 2
Command value source		Potentiometer 10 k Ω Supply +10 V from (7) Max. (10 mA) or external signal source
Output solenoids 1 and 2		Clocked current controller
	A	$I_{max} = 2.5$
Cable lengths between amplifier and valve		Solenoid cable: up to 20 m 1.5 mm ² 20 to 50 m 2.5 mm ²
LED displays		green: U_B Enable yellow: Ramp off red: Undervoltage (U_B too low)
External ramp switch-off		(3): 6...40 V = (24 V _{nom})
Ramp times	s	0.05...5
Adjustment possibilities for solenoids 1 and 2		Zero point valve, Ramp times, Sensitivity, Dither amplitude
Special features		Inputs and outputs short-circuit-proof, Clocked output stage, Fast energization for short actuating time
Format (W x L x H)	mm	(86 x 110 x 95.5)
Design		Module
Mounting		Top hat rail TH35-7,5 or G rail G32 according to EN 60715
Plug-in connection		Connector, 13-pole (screw terminal)
Ambient temperature	°C	0...+70
Storage temperature range	°C	-20...+70
Weight	m	0.43 kg

Setting information

Information for the use of ramps

Setting of ramp UP (acceleration) and ramp DOWN (braking) via 1 trimming potentiometer each.

Ramp ON, if (3) is open.

Ramp OFF, if at (3) $U > 6 \text{ V}$ e.g. 10 V from (7) or $24 \text{ V} = U_{\text{nom}}$

With ramp OFF, any ramp started before will be canceled.

Transition to the signal end value is effected by means of a step.

Setting zero/max. gain

1. With mode (4) and (5) = high (24 V =)

Command value U_E (1) (2) $\pm 10 \text{ V}$

Zero: From 0.3 V, usually 0.5 V

+ adjustment = solenoid 1

- adjustment = solenoid 2

Gain: Set in case of +10 V

+ = solenoid 1

- = solenoid 2

2. With mode (4) or (5) = high

Command value U_E (1) (2) 0...+10 V

Zero: With 0 V command value

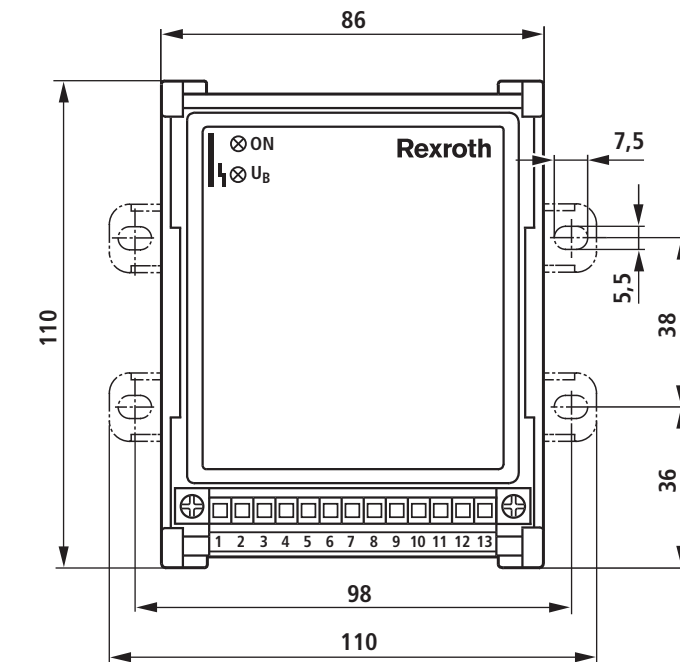
Gain: With +10 V command value.

The logic signal determines:

4 = solenoid 1

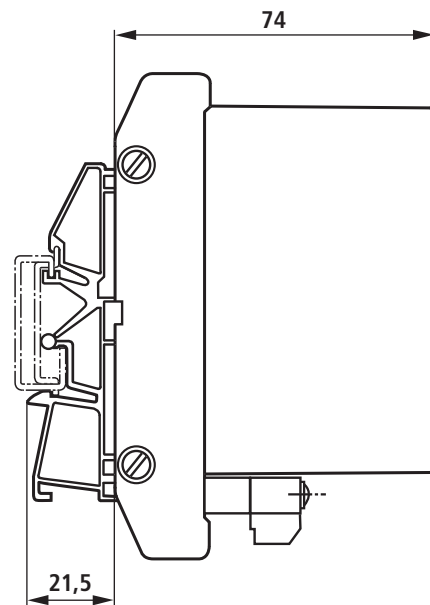
5 = solenoid 2.

Device dimensions (dimensions in mm)



Wall mounting

(86 x 110 x 74) mm



Carrier rail assembly
(snap-in)

Project planning / maintenance instructions / additional information

- The distance to aerial lines, radios and radar systems must be sufficient ($> 1 \text{ m}$).
- Do not lay solenoid and signal lines near power cables.
- For signal lines and solenoid conductors, we recommend using shielded cables.
The cable shield must be connected to the control cabinet extensively and as short as possible.
- The valve solenoid must not be connected to free-wheeling diodes or other protection circuits.
- The cable lengths and cross-sections specified on page 4 must be complied with.