

Electric Drives
and Controls

Hydraulics

Linear Motion and
Assembly Technologies

Pneumatics

Service

Rexroth
Bosch Group

Electric amplifiers

RE 30109/07.12

1/6

Replaces: 07.05

Type VT-VSPA1-5...-1X/V0/RTP

Component series 1X

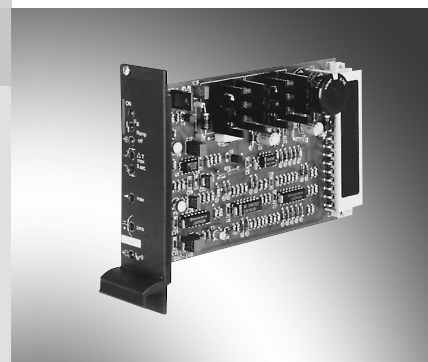


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Features

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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
	– Controlled output stage
5	– LED display:
	• Supply voltage
	• Ready for operation
	• Ramp "Off"
	• Solenoid current $I_M = 0$

Notice:

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

Ordering code, accessories

VT-	V	S	P	A	1	-	-1X/V0/RTP	
Hydraulic component		For valves without electrical feedback = S						RTP =
Valve type		Proportional valve = P						V0 =
Control		Analog = A						1X =
Output stages		1 output stage = 1						Options
								Ramp setting via potentiometer
								Customer version
								Catalog version
								Component series 10 to 19 (10 to 19: Unchanged technical data and pin assignment)
								Serial number for types
								508 = 0.8 A solenoid
								525 = 2.5 A solenoid

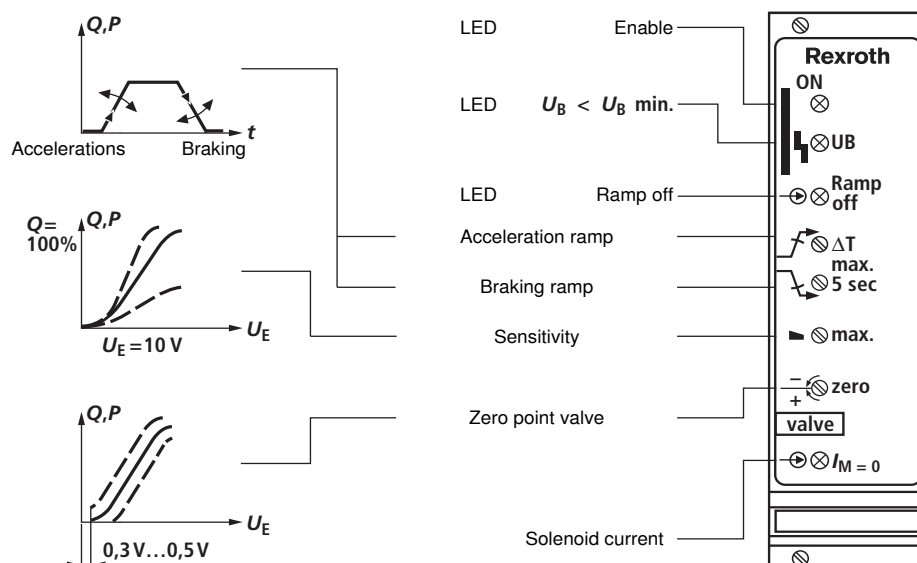
Preferred types

Amplifier type	Material number	For proportional valves, direct operated, without electrical feedback
VT-VSPA1-525-10/V0/RTP	0811405079	DBETX-1X...-25... DBE6X-1X...-25... 3(2)FREX...-1X...-25...
VT-VSPA1-508-10/V0/RTP	0811405081	DBETX-1X...-8... DRE10Z-1X...-8... DRE6X-1X...-8... DBE6X-1X...-8... DBE10Z-1X...-8...

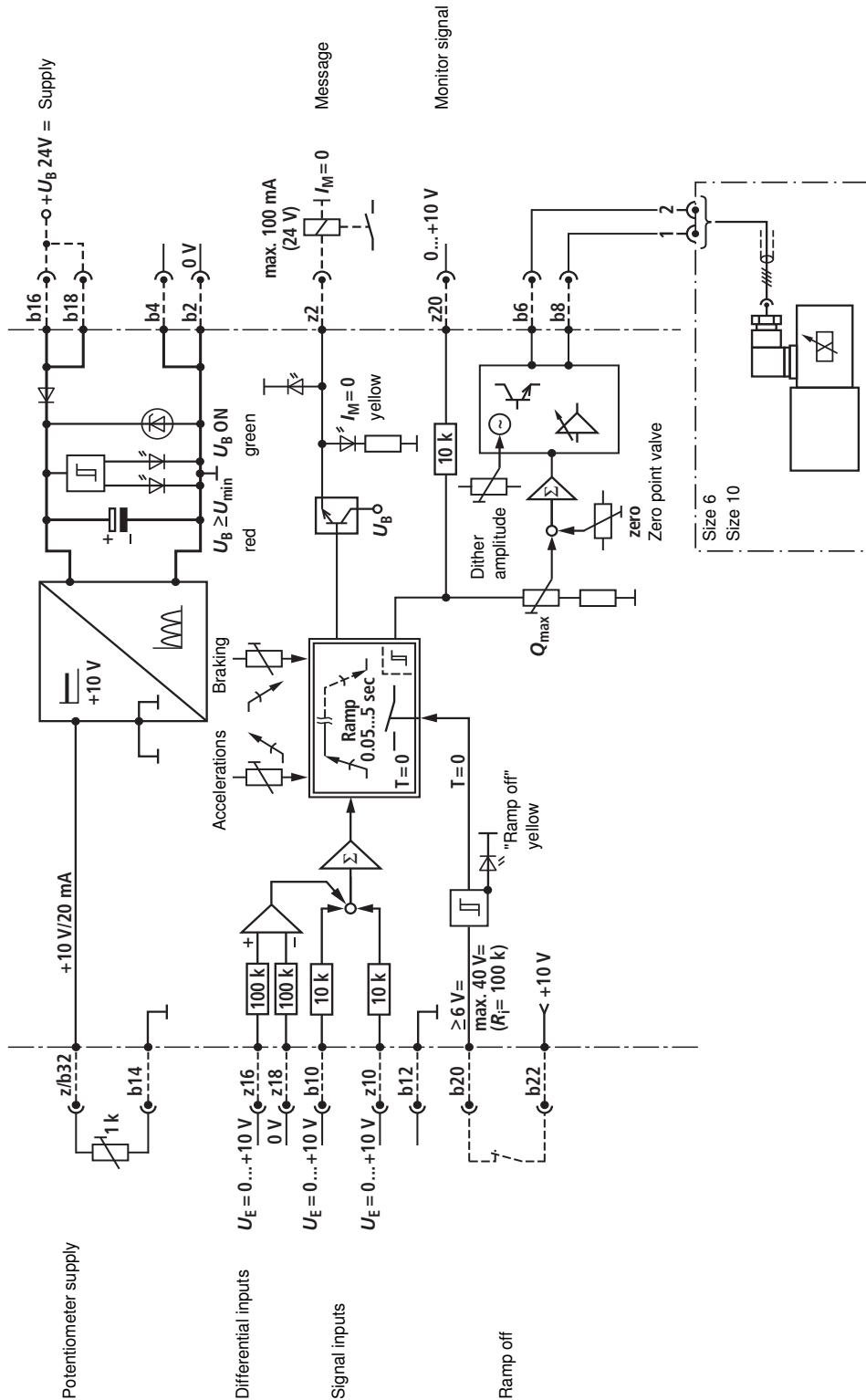
Suitable card holder:

- Open card holder VT 3002-1-2X/32F (see data sheet 29928).
- Only for control cabinet installation.

Front plate



Block diagram with pin assignment



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

Supply voltage	Nominal 24 V = Battery voltage 21...40 V, Rectified alternating voltage $U_{\text{off}} = 21...28 \text{ V}$ (one-phase, full-wave rectifier)
Smoothing capacitor, separately	Recommendation: Capacitor module VT 11110 (see data sheet 30750) (only necessary if the ripple of $U_B > 10\%$)
Current consumption, max. 0811405079	1.5 A (size 6) 2.5 A (size 10)
0811405081	1.25 A
Power consumption, max. 0811405079	35 VA (size 6) 60 VA (size 10)
0811405081	30 VA
Command value potentiometer	$R_L \geq 1 \text{ k}\Omega$ Supply: b/z 32, +10 V/20 mA
Input signals	b10: +10 V z10: +10 V z16: +10 V z18: Diff. 0 V } Differential input
External ramp switch-off	b20: 6...40 V = (nom. 10 V =)
Monitor signal ramp	z20: 0...10 V
Cable lengths between amplifier and valve	Solenoid cable: up to 20 m 1.5 mm ² 20 to 60 m 2.5 mm ²
Special features	Inputs and outputs short-circuit-proof Clocked output stage Fast energization for short actuating time
LED displays	yellow: Ramp OFF yellow: Solenoid current $I_M = 0$ green: U_B ON red: $U_B < U_B \text{ min}$
Valve setting time	50 ms with 100 signal step
Valve hysteresis	% < 4
Ramp times	s 0.05...5
Adjustment	Zero point valve, sensitivity, ramp times, dither amplitude
Format of the printed circuit board	mm (100 x 160 x approx. 35) / (W x L x H) Europe format with front plate 7 TE
Plug-in connection	Connector DIN 41612 – F32
Ambient temperature	°C 0...+70
Storage temperature range	°C –20...+70
Weight	m 0.32 kg

Notice:

Power zero b2 and control zero b12 are to be bridged.
If the power supply unit is < 1 m away, directly to DIN connector.
In case of distances > 1 m, lead the control zero separately to the ground.

Adjustment of the cards

Zero point: For the adjustment, a command value $U_E \sim 300 \text{ mV}$ is specified.

Sensitivity (max.): For the adjustment, a command value $U_E = 10 \text{ V}$ is specified.

Use of ramps

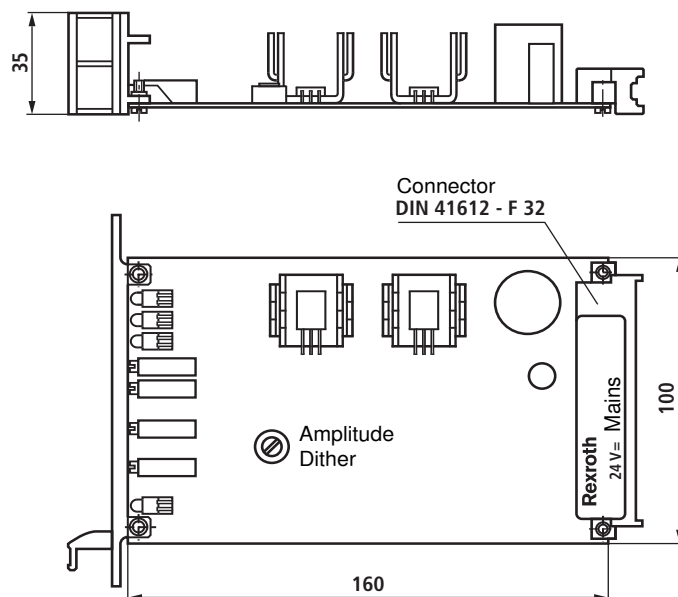
Setting of ramp UP (accelerations) and ramp DOWN (braking)
via 1 trimming potentiometer each.

Ramp ON if open at b20. **Ramp OFF** if b20 $U > 6 \text{ V}$.

With **ramp OFF**, a previously started ramp is canceled.

Transition to the signal end value is effected as step.

Device dimensions (dimensions in mm)



Project planning / maintenance instructions / additional information

- The amplifier card may only be unplugged and plugged when de-energized.
- The distance to aerial lines, radios and radar systems must be sufficient (> 1 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.