

Electric amplifiers

RE 30109/07.12
Replaces: 07.05

1/6

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

Component series 1X

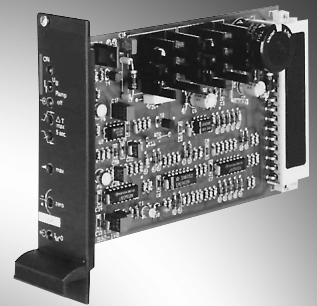


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Features

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1	– Suitable for controlling direct operated proportional valves without electrical feedback
2	– Analog amplifiers in Europe format for installation in 19 " racks
2	– Differential input for command value voltage 0...+10 V
3	– Ramp generator up and down can be set separately
4	– Zero point potentiometer
5	– 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 =	Options Ramp setting via potentiometer
Valve type Proportional valve = P											Customer version
Control Analog = A									V0 =		Catalog version
Output stages 1 output stage = 1								1X =			Component series 10 to 19 (10 to 19: Unchanged technical data and pin assignment)
							508 =				Serial number for types 0.8 A solenoid
							525 =				2.5 A solenoid

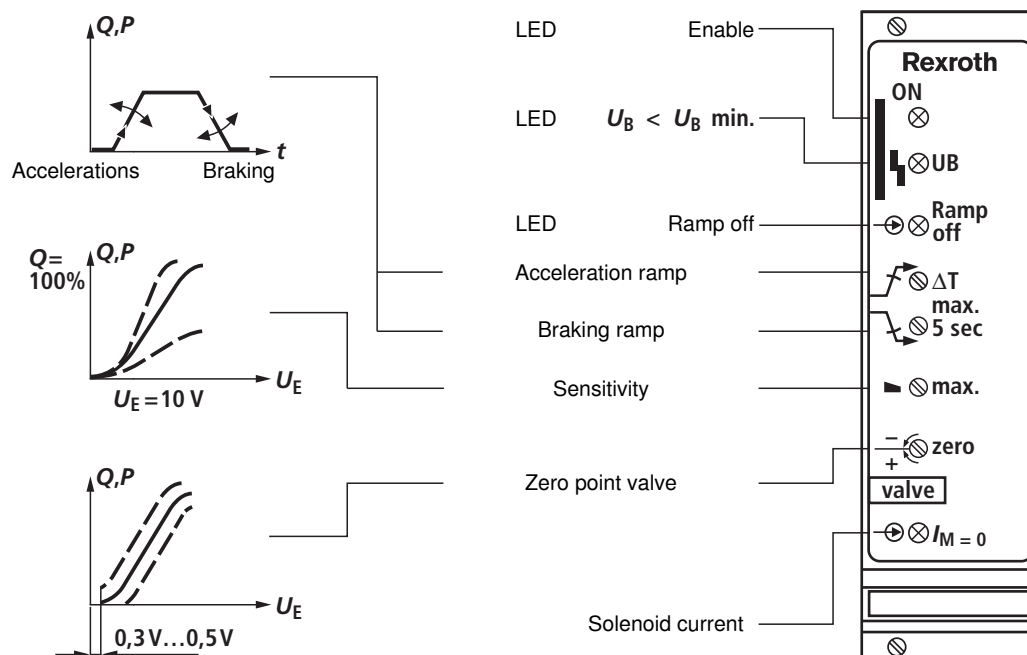
Preferred types

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...

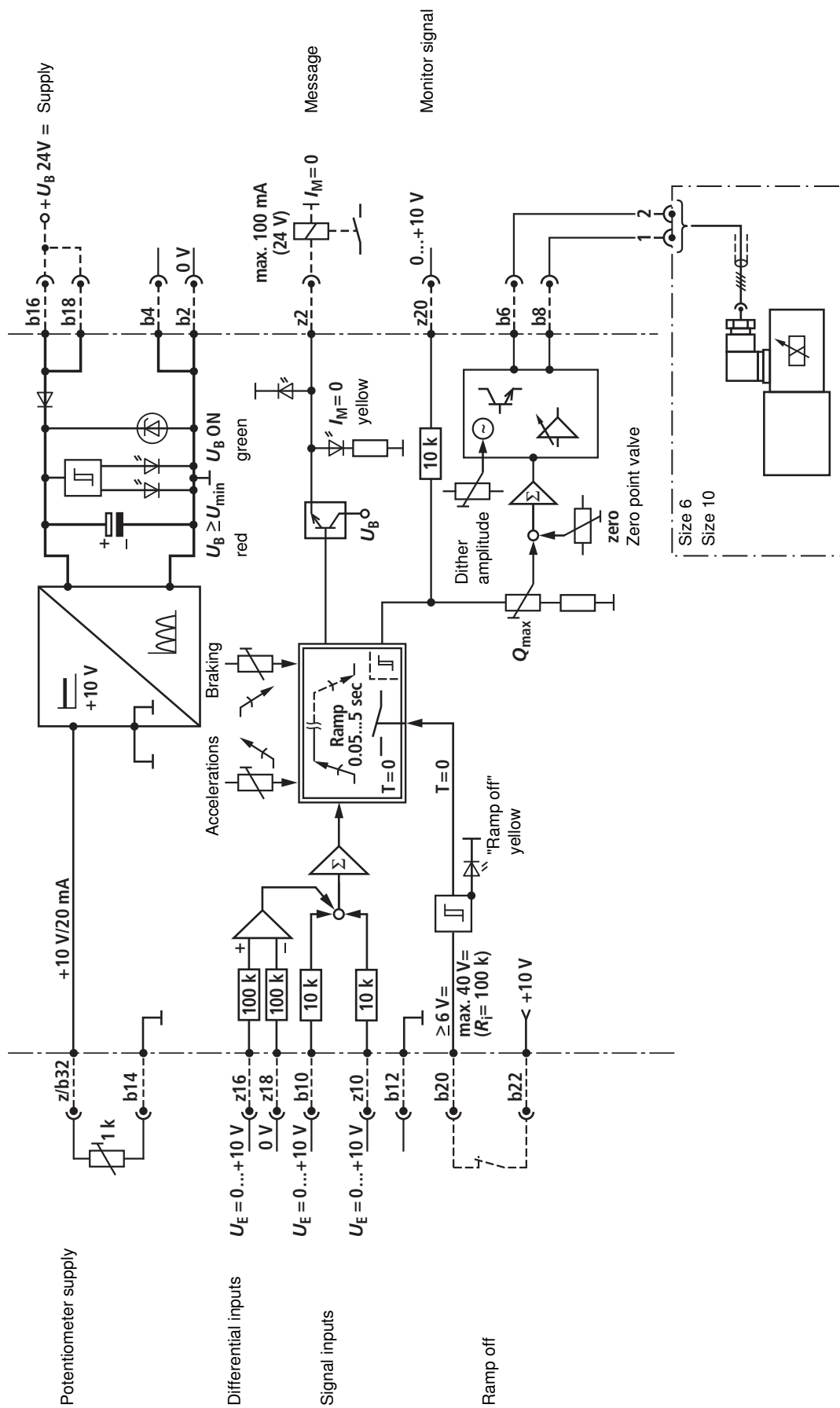
Suitable card holder:

- 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 $U_{\text{eff}} = 21...28 \text{ V}$ (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 0811405081	1.5 A (size 6) 2.5 A (size 10) 1.25 A
Power consumption, max. 0811405079 0811405081	35 VA (size 6) 60 VA (size 10) 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

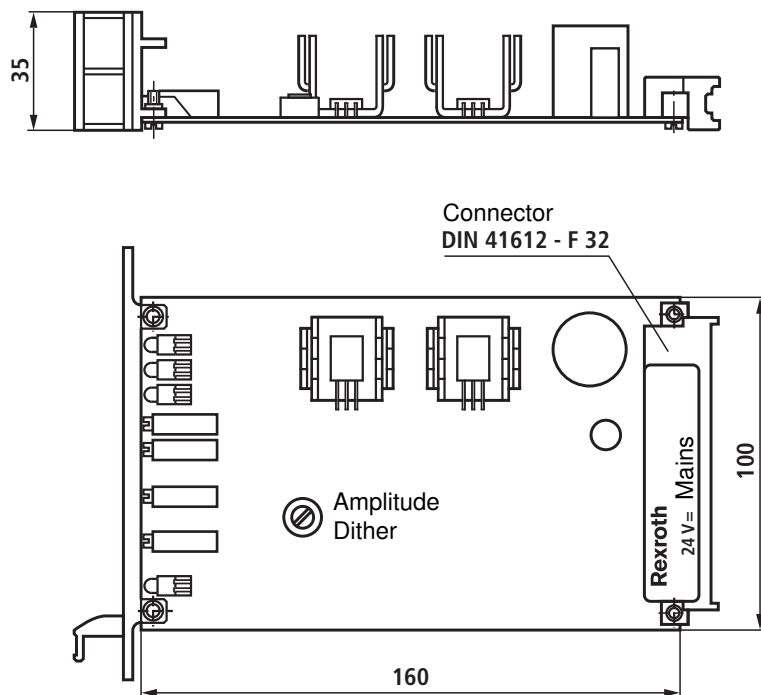
Setting of ramp UP (accelerations) and ramp DOWN (braking)
via 1 trimming potentiometer each.

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.