

Electric amplifiers

RE 30042/02.12
Replaces: 11.02

1/6

Type VT-VRRA1-527-1X/V0/...

Component series 1X

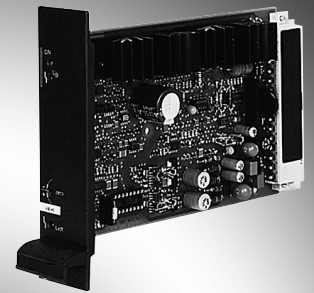


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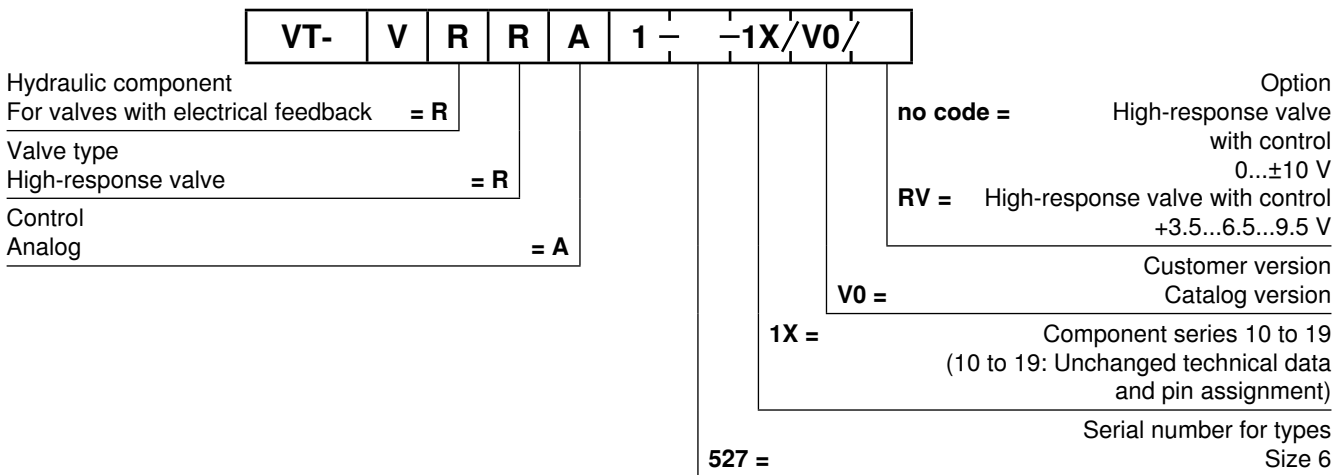
Features

Page	
1	– Suitable for controlling direct operated high-response valves with linear characteristic curve and electrical position feedback
2	– Analog amplifiers in Europe format for installation in 19" racks
2	– Controlled output stage
3	– Enable input
4	– Outputs short-circuit-proof
5	– Adjustment possibilities – Zero point valve
5	– Cable break detection for actual value cable
5	– Position control with PID behavior

Notice:

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

Ordering code, accessories



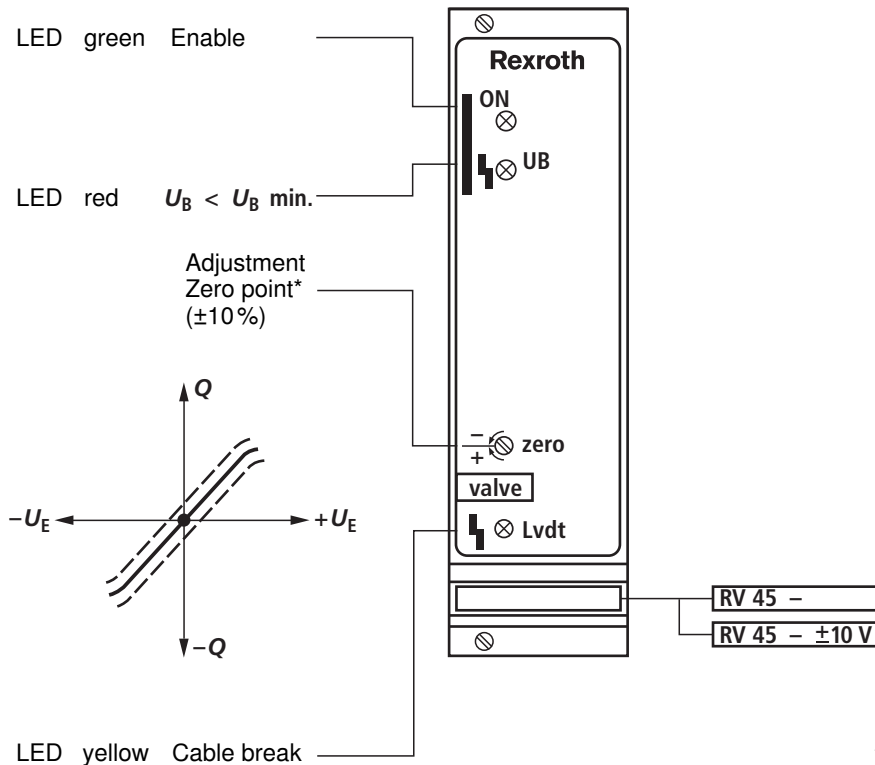
Preferred types

Amplifier type	Material number	For high-response valves LVDT-AC
VT-VRRA1-527-10/V0	0811405123	4WRPH 6..L-1X...
VT-VRRA1-527-10/V0/RV	0811405148	4WRPH 6..L-1X...

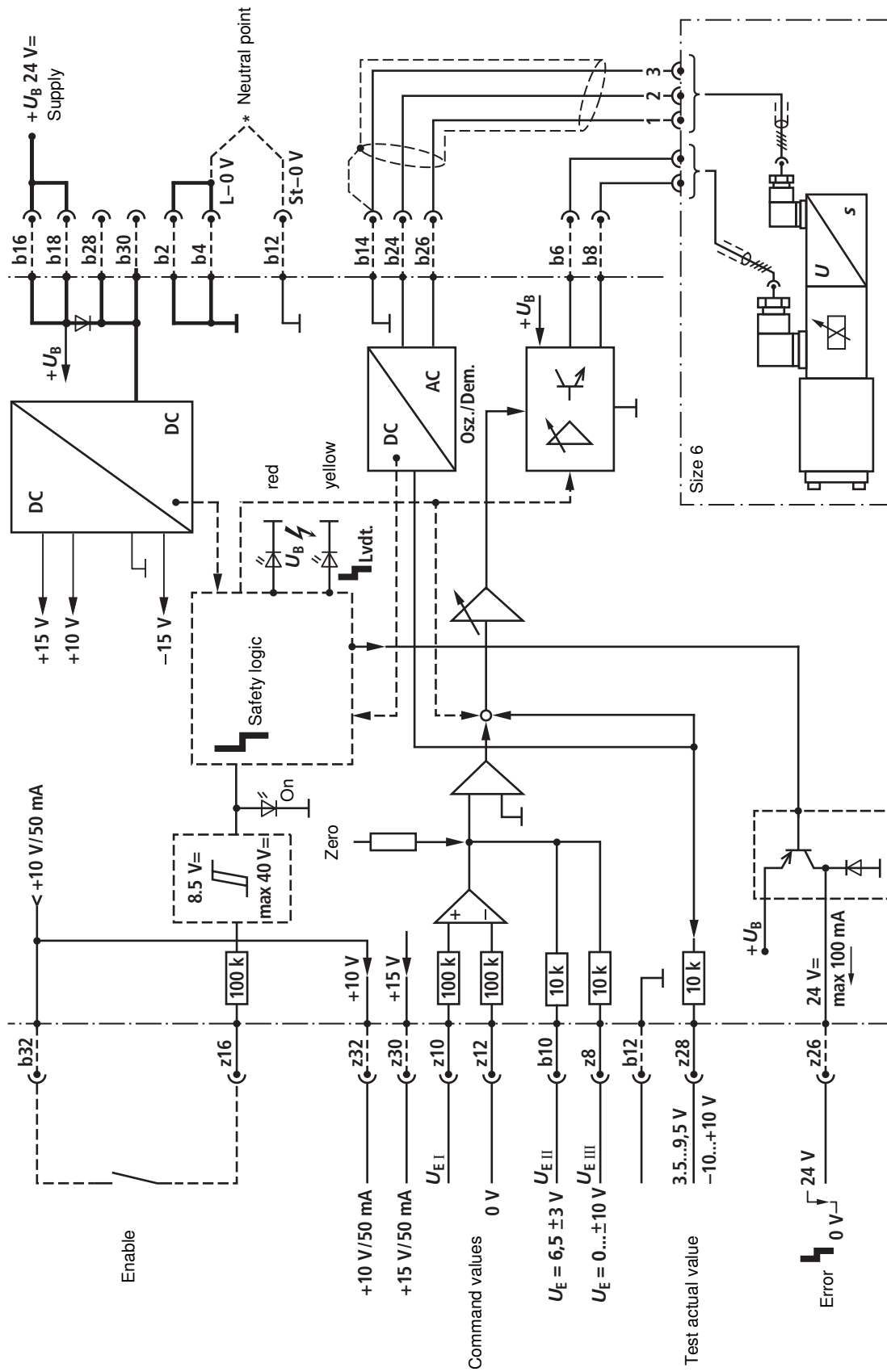
Suitable card holder:

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

Front plate



Block diagram with pin assignment



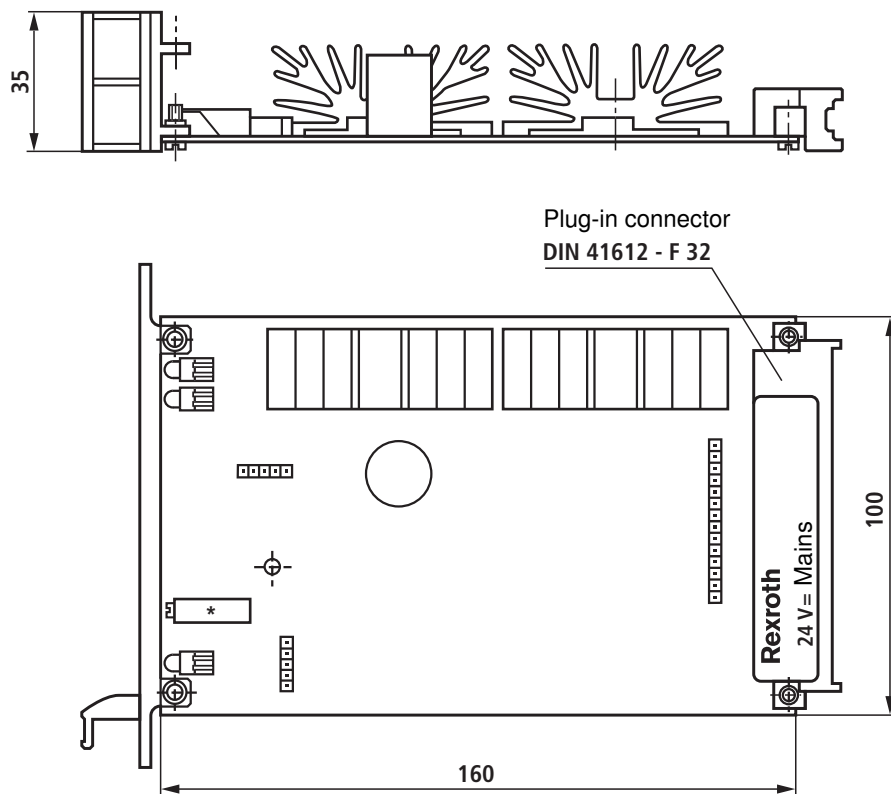
Technical data (For applications outside these parameters, please consult us!)

Supply voltage U_B at b16/b18 and b2/b 4 (0 V)		Nominal 24 V =, Battery voltage 21...40 V, Rectified alternating voltage $U_{\text{eff}} = 21...28$ V (one-phase, full-wave rectifier)
Smoothing capacitor, separately at b16 – b2		Recommendation: Capacitor module VT 11110 (see data sheet 30750) (only necessary if the ripple of $U_B > 10\%$)
Valve solenoid, max.	A/VA	2.7/25 (size 6)
Current consumption, max.	A	1.5 The current consumption may increase with min. U_B and extreme cable length to the control solenoid
Power consumption (typical)	VA	35
Input signal (command value)		z10: U_E z12: 0 V } Differential amplifier z8 b10
	0811405148	$U_E = +3.5...6.5...9.5$ V
	0811405123	$U_E = 0...±10$ V
Actual value feedback		Osci b26: 10.4 V/8 kHz
	0811405148	Testp. z28: $U_E = +3.5...6.5...9.5$ V
	0811405123	Testp. z28: $U_E = 0...±10$ V
Enable output stage		At z16, $U = 8.5...40$ V, $R_i = 100$ k Ω , LED (green) on front plate lights up
Cable lengths between amplifier and valve		Solenoid cable: to 20 m 1.5 mm ² 20 to 50 m 2.5 mm ² Actual value: Max. 50 m with 100 pF/m
Short-circuit-proof outputs		Output stage to the solenoid Signal to the positional transducer Supply voltage for potentiometer
Special features		Cable break protection for actual value cable, Position control with PID behavior, Fast energization and fast deletion for short actuating times
LED displays		green: Enable yellow: Cable break actual value red: $U_B < U_{B \text{ min}}$ ($\cong 21$ V)
Error message – Cable break actual value – U_B too low		z26: No error +24 V/0.1 A Error: 0 V
Zero point adjustment		
	0811405148	Fixedly set
	0811405123	Via trimming potentiometer
Circuit board format	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	0.35 kg

Notice:

Power zero b2 and control zero b12 must be separately led to the central ground (neutral point).

Unit dimensions (dimensions in mm)



* Potentiometer only with 0811405123

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 protective circuits.
- The cable lengths and cross-sections specified on page 4 must be complied with.

Notes

Notes

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Notes
