Rexroth
Bosch Group

Electric amplifiers

RE 30052/01.09
Replaces: 08.05

Type VT-VRPA1

Unit series 1X

List of contents

Features

- Analog amplifiers in Eurocard format for installation in 19″ rack
- Output stage with closed-loop control
- Closed-loop position control with PID action
- Rapid energizing and de-energizing for fast response times
- Enabling input
- Short-circuit-proof outputs
- Open-circuit detection for feedback signal cable
- Zero and sensitivity adjustment possibilities

Testing and service equipment

- Test box type VT-PE-TB1, see RE 30063
- Test adapter type VT-PA-3, see RE 30070

Ordering data

VT	– V	R	P	A	1	–	–1X	V0

Hydraulic component
For valves with electrical feedback **= R**

Valve type
4/2 servo solenoid valves with positive overlap **= P**

Actuation
Analog **= A**

Output stages
1 output stage **= 1**

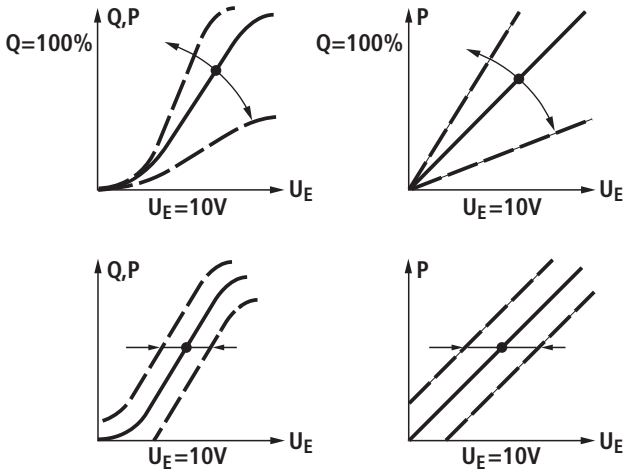
Unit series
1X = Unit series 10 to 19

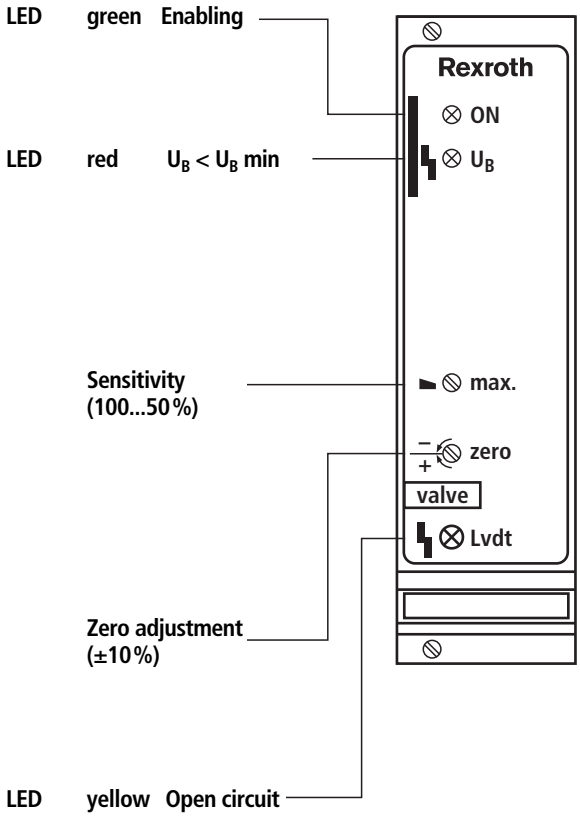
Serial number for type
527 = 2.7 A solenoid
537 = 3.7 A solenoid

Customer version
V0 = Catalog version

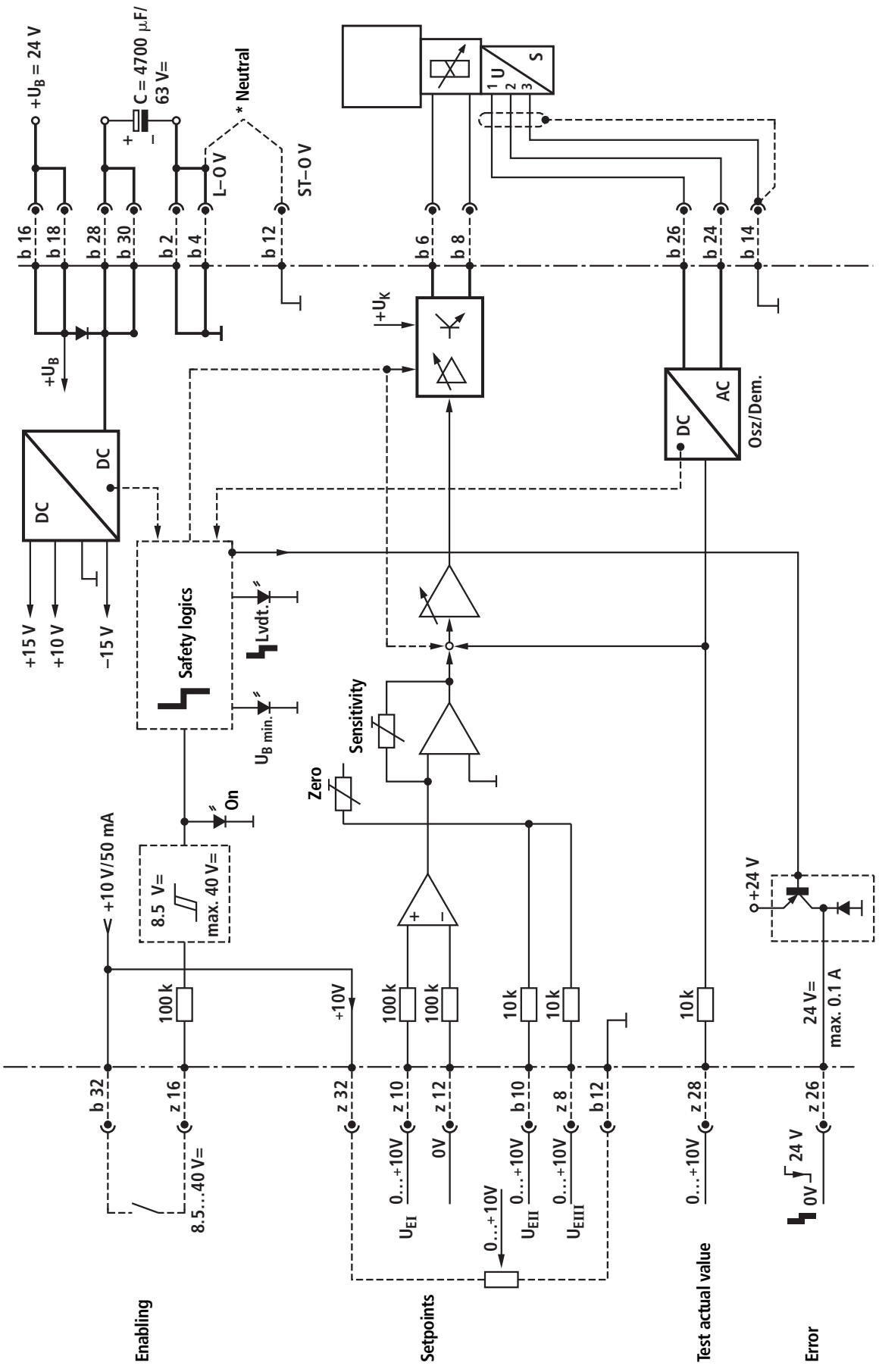
Option
PV = Pressure valves
QV = Throttle/flow control valves

Front panel





Block diagram with pin assignment



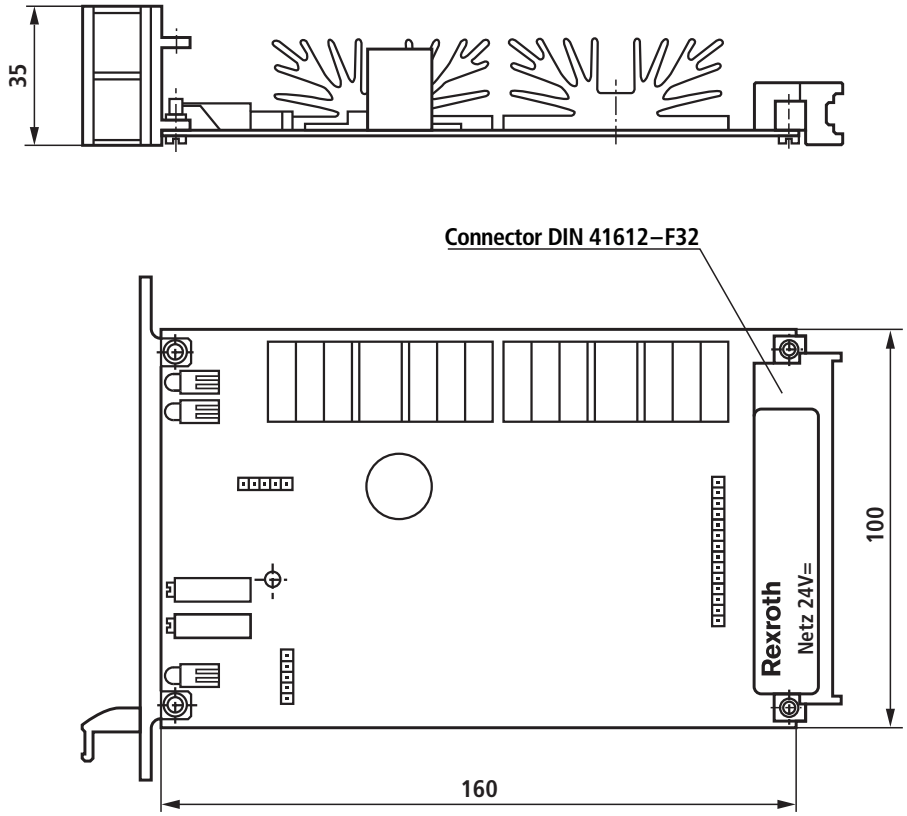
Technical data

P.C.B. format	mm	(100 x 160 x approx. 35) / (W x L x H) Europe format with front panel (7 modular spacings)	
Plug connector		Connector DIN 41612 – F32	
Ambient temperatur	°C	0...+70, storage temperature min. –20; max. +70	
Weigth	kg	0.25	
Power supply U_B to b 16/b 18 and b 2/b 4 (0 V)		24 V DC Battery voltage 21...40 V, Rectified AC voltage U_{eff} = 21...28 V (single-phase, full-wave rectification)	
Smoothing capacitor, separately to b 28/b 30 – b 2/b 4		4700 µF, 63 V (ELKO) if ripple >10 %	
Solenoid	A/W	**2.7/25**	**3.7/50**
Power consumption, max.	W	35	60
Current rating, max.	A	1.5	2.5
Solenoid output b 6 – b 8		Square-wave voltage, pulse-modulated $I_{max.}$ = 2.7 A	$I_{max.}$ = 3.7 A
Setpoint		$U_{E\ I}$: 0...+10 V (z 10) } Differential : 0 V (z 12) } input $U_{E\ II}$: 0...+10 V $U_{E\ III}$: 0...+10 V	
Signal source (setpoint)		Potentiometer R = 1 kΩ +10 V supply from b 32 (10 mA) or external source	
Actual value feed-back		Oscill. b 26	Test point z 28 [1]
	0 811 405 095	10.2 V_{eff} / 7.8 kHz	0...+10 V DC
	0 811 405 096	10.2 V_{eff} / 7.8 kHz	0...+10 V DC
	0 811 405 097	10.8 V_{eff} / 7.8 kHz	0...+10 V DC
	0 811 405 098	10.2 V_{eff} / 7.8 kHz	0...+10 V DC
	0 811 405 099	10.8 V_{eff} / 7.8 kHz	0...+10 V DC
Output stage enable		To z 16, U = 8.5...40 V; e.g. 10 V from z 32 LED (green) on front panel lights up	
Cable lengths and cross-sections		Solenoid: < 20 m 1.5 mm² 20...50 m 2.5 mm² Position transducer: max. 50 m at 100 pF/m Supply and capacitor 1.5 mm²	
LED displays		green: Enable yellow: Feedback signal open circuit red: $U_B < U_{B\ min.}$ (approx. 21 V)	
Fault indication – Feedback signal open circuit – U_B too low – ±15 V stabilization		z 26: Switching output No fault +24 V (max. 100 mA) Fault 0 V	
Short-circuit-proof outputs		Output stage to solenoid Signal to position sensor Potentiometer supply	
Special features		Open-circuit protection for feedback signal cable Closed-loop position control with PID action Clocked output stage Rapid energizing and de-energizing for fast response times	
Adjustment via trimming potentiometer		1. Zero 2. Sensitivity	

Note
Power zero b 2 and control zero b 12 must be bridged. At a distance of < 1 m from power supply, connect directly to DIN connector.
At greater distances, connect control zero separately to ground.

[1] 0 V at I_m = 0 V (enable OFF)
+10 V at I_m = max. (U_E = 10 V, potentiometer = c_W)

Unit dimensions (nominal dimensions in mm)



Notes

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