

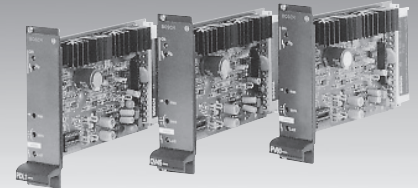
# Electric amplifiers

RA 30052/05.04

1/6

## Model VT-VRPA1

Series 1X



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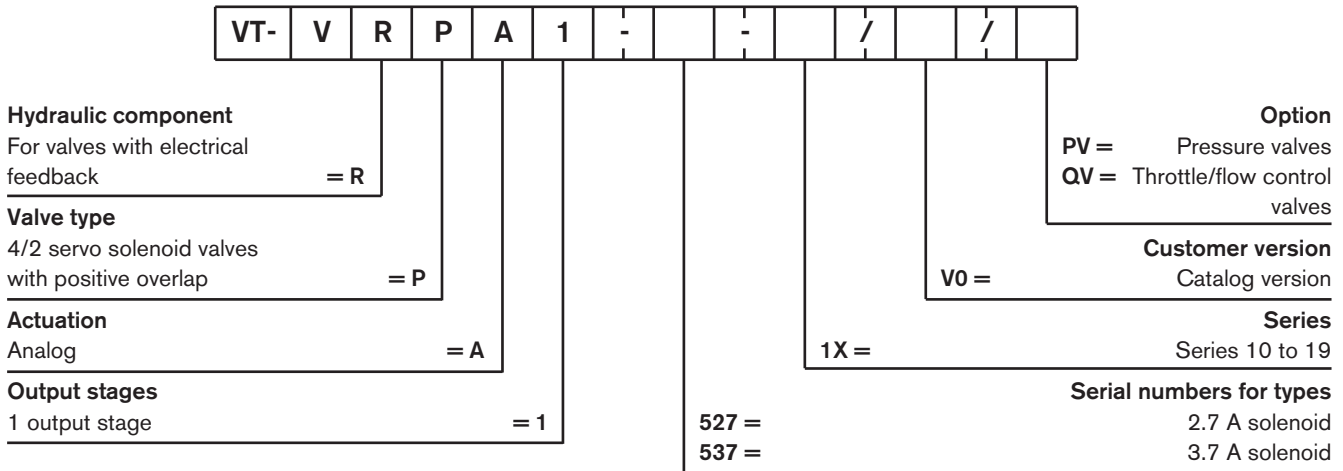
### Features

- 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 (partially)
- 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

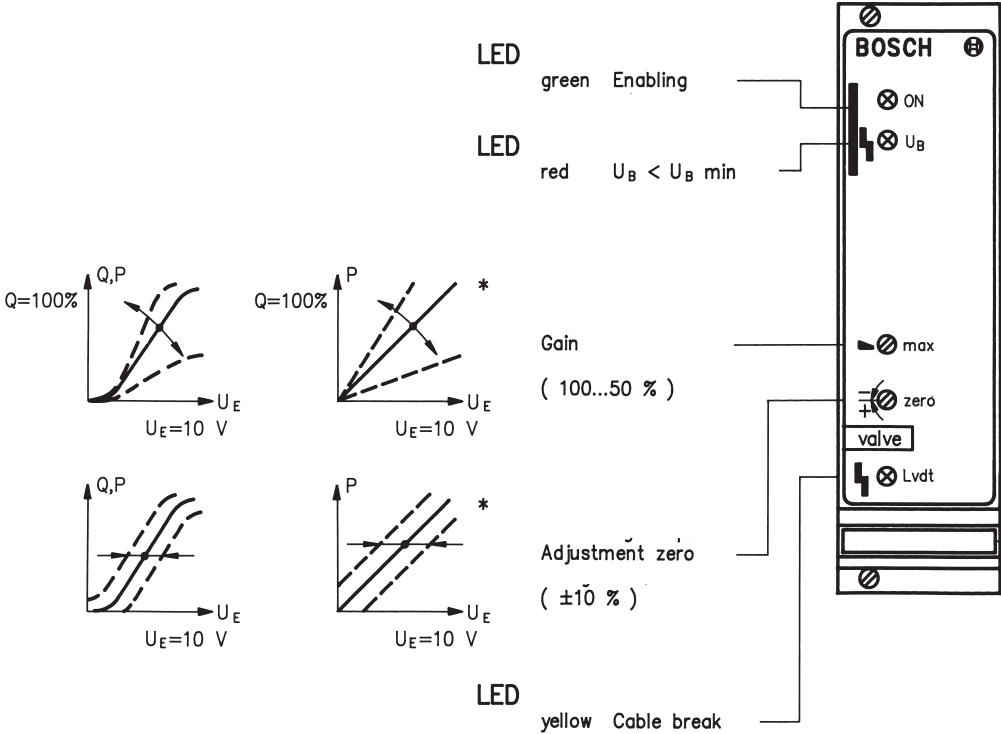
### Ordering data and scope of delivery



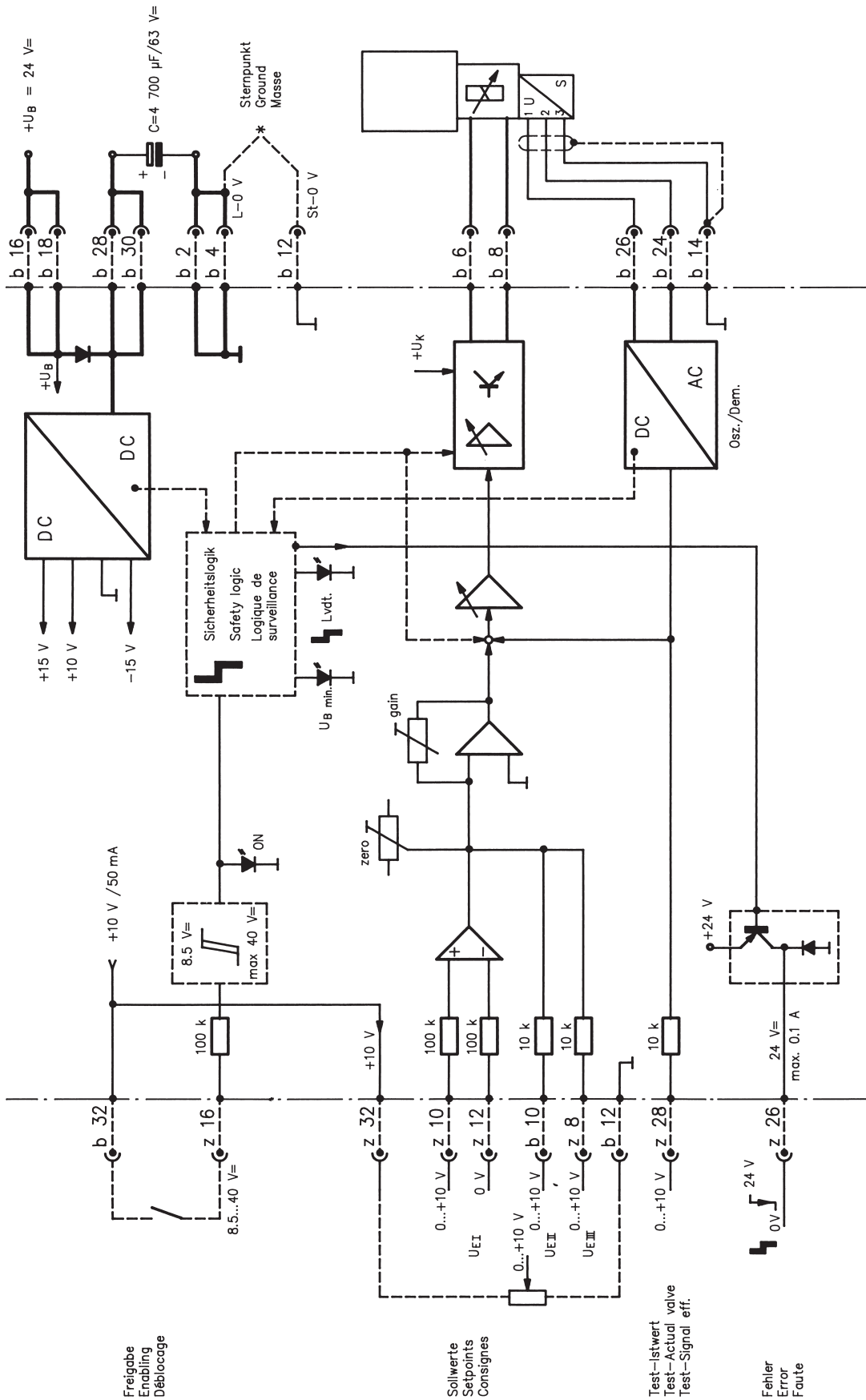
### Standard types

Type	Material No.	For valve types
VT-VRPA1-527-10/V0	0811405095	"PDL 1" (old Bosch)
VT-VRPA1-527-10/V0/PV	0811405096	"PV 45" (old Bosch)
VT-VRPA1-537-10/V0/PV	0811405097	"PV 60" (old Bosch)
VT-VRPA1-527-10/V0/QV	0811405098	4WRP 6 EA
VT-VRPA1-537-10/V0/QV	0811405099	4WRP 10 EA

Front panel



### Block diagram with terminal assignment



Freigabe  
Enabling  
Déblocage

Sollwerte  
Setpoints  
Consignes

Test-Istwert  
Test-Actual valve  
Test-Signal eff.

Fehler  
Error  
Faute

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

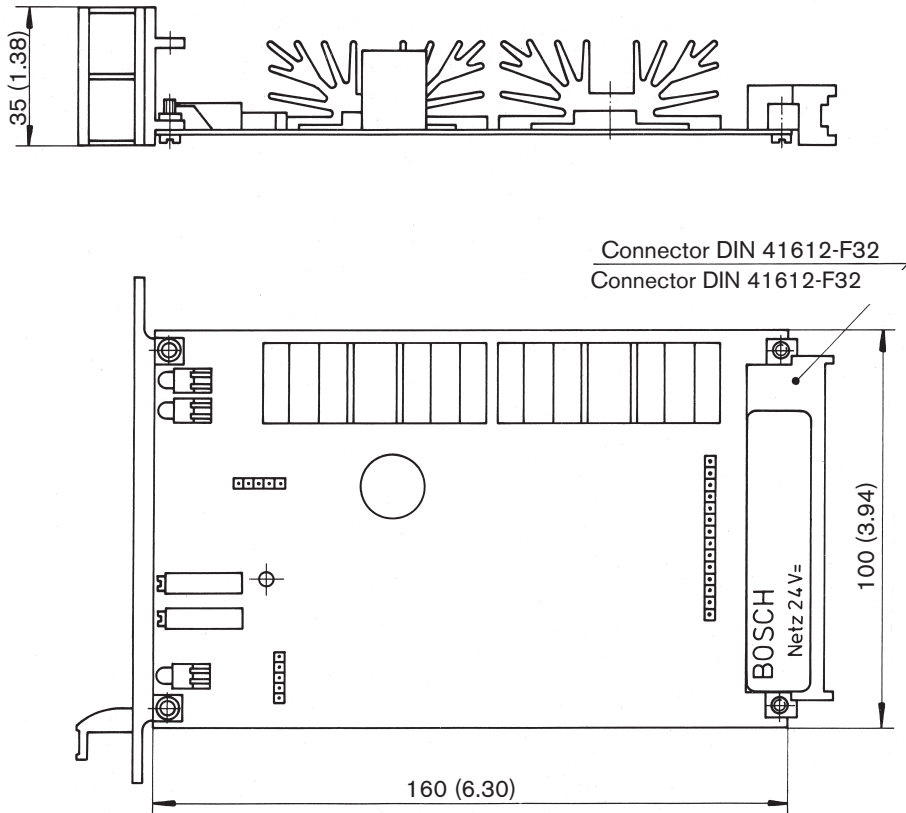
P.C.B. format	(100 x 160 x approx. 35) mm (W x L x H) Europe format with front panel (7 modular spacings)	
Plug connector	Connector DIN 41612 – F 32	
Ambient temperature	°C (°F)	–0 ... +70 (–4 ... +158), storage temperature min. –20 (–4); max. +70 (+158)
Power supply $U_B$ to b 16/b 18 and b 2/b 4 (0 V)	24 V DC Battery voltage 21...40 V, Rectified AC voltage $U_{\text{eff}} = 21...28$ V (single-phase, full-wave rectification)	
Smoothing capacitor, separately to b 28/b 30 – b 2/b 4	4700 $\mu$ F, 63 V (ELKO) if ripple >10 %	
Solenoid	<b>2.7 A/25 W</b>	<b>3.7 A/50 W</b>
Power consumption	max. 35 W	max. 60 W
Current rating	max. 1.5 A	max. 2.5 A
Solenoid output b 6 – b 8	Square-wave voltage, pulse-modulated $I_{\text{max.}} = 2.7$ A   $I_{\text{max.}} = 3.7$ A	
Setpoint	$U_{E\text{I}}$ : 0 ... +10 V (z 10) } Differential 0 V (z 12) } input $U_{E\text{II}}$ : 0 ... +10 V $U_{E\text{III}}$ : 0 ... +10 V	
Signal source (setpoint)	Potentiometer $R = 1$ k $\Omega$ +10 V supply from b 32 (10 mA) or external source	
Actual value feedback	Oscill. b 26	Test pt. z 28 *
0 811 405 095	10.2 V <sub>eff</sub> / 7.8 kHz	0 ... +10 V DC
0 811 405 096	10.2 V <sub>eff</sub> / 7.8 kHz	0 ... +10 V DC
0 811 405 097	10.8 V <sub>eff</sub> / 7.8 kHz	0 ... +10 V DC
0 811 405 098	10.2 V <sub>eff</sub> / 7.8 kHz	0 ... +10 V DC
0 811 405 099	10.8 V <sub>eff</sub> / 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 mm <sup>2</sup> 20 ... 50 m 2.5 mm <sup>2</sup> Position transducer: max. 50 m at 100 pF/m Supply and capacitor 1.5 mm <sup>2</sup>	
LED displays	green: Enable yellow: Feedback signal open circuit red: $U_B < U_{B \text{ min.}}$ (approx. 21 V)	
Fault indication – Feedback signal open circuit – $U_B$ too low – $\pm 15$ 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.

\* 0 V at  $I_m = 0$  V (enable OFF)  
+10 V at  $I_m = \text{max.}$  ( $U_E = 10$  V, potentiometer = cw)

## Unit dimensions – nominal dimensions in mm (inches)



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