

Analog amplifier

RE 30211/06.11
Replaces: 12.10

1/6

Type VT-SR11

Component series 1X



H5657_d

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Features

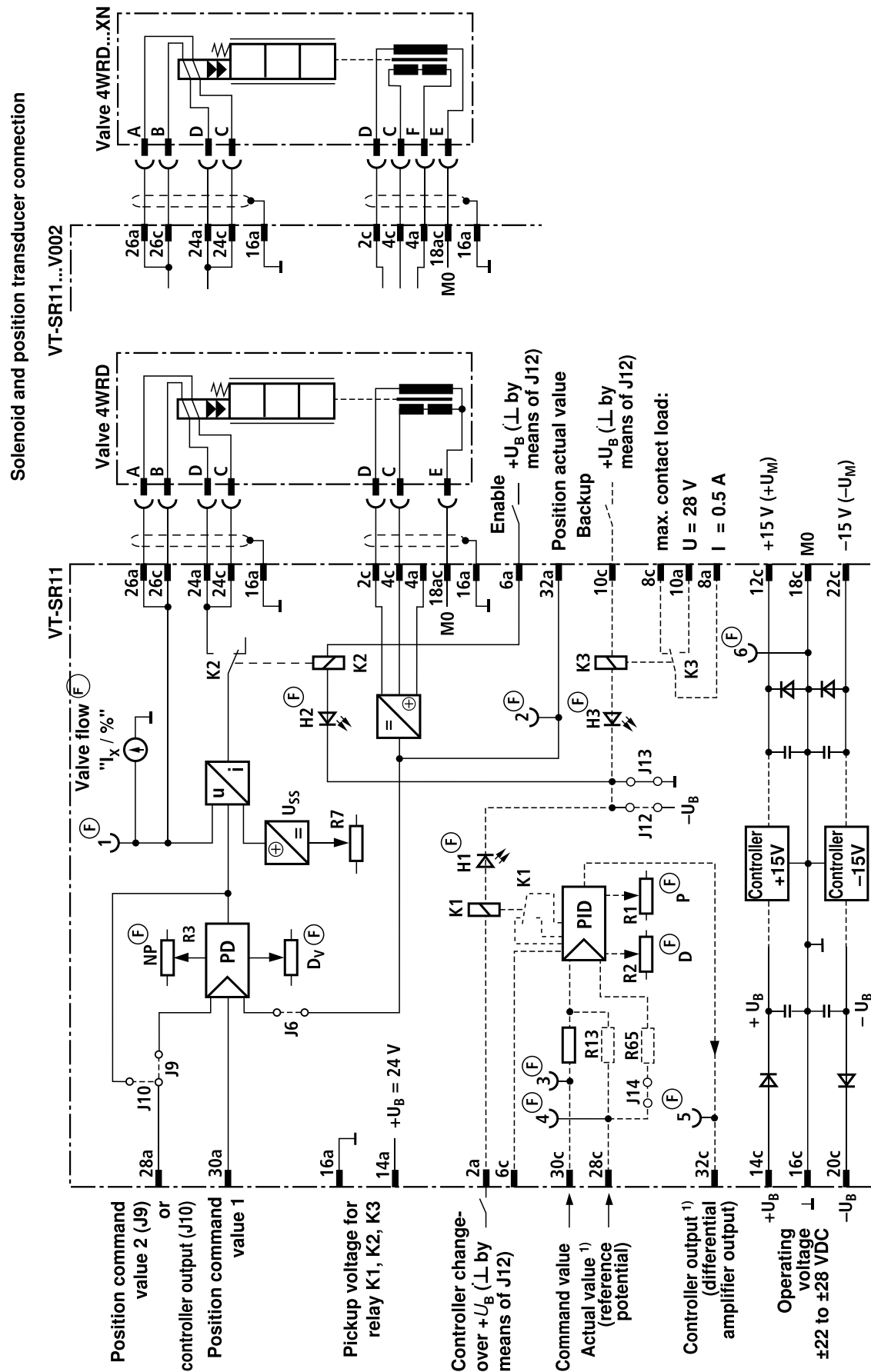
- Suitable for actuation of control valves with servo-valve pilot control and electric position feedback (type 4WRD)
- Controller for valve flow, controller for main spool position
- Dither signal generator and push-pull output stage
- Oscillator/demodulator
- Release circuit with relay
- Measuring instrument for display of servo valve flow
- Reverse polarity protection for the voltage supply

Optional extensions:

- PID controller ¹⁾ with controller change-over
- Relay with potential-free changeover contact (28 V/0.5 A)
- Voltage regulator ± 15 V for supply of controller and position transducer electronics

¹⁾ The D share of the controller only affects the actual value (velocity feedback).

Block diagram/Pinout



¹⁾ Without R13 and by fitting of J14 and R65 the controller input is transformed into a differential input.

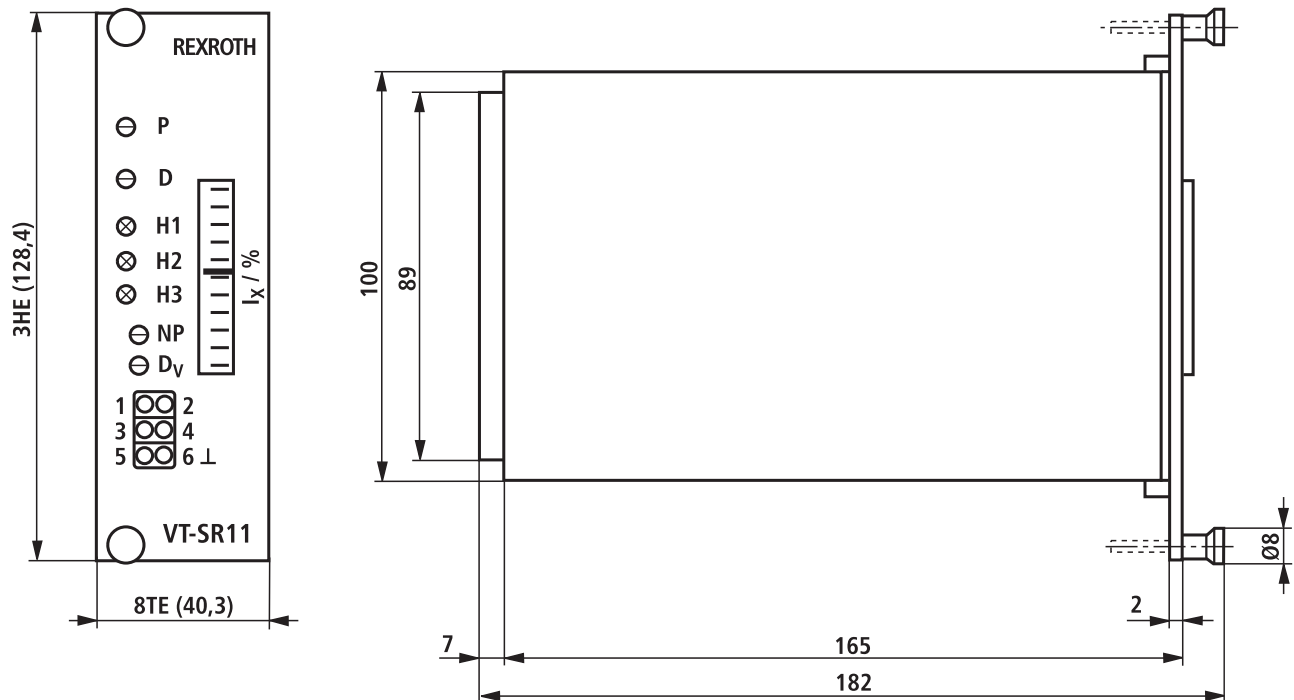
(F) = on front plate

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

Operating voltages		
with voltage regulator	U_B	±24 VDC
upper limit value	$u_B(t)_{\max}$	±28 VDC
lower limit value	$u_B(t)_{\min}$	±22 VDC
without voltage regulator	$U_B; U_M$	±24 VDC; ±15.0 VDC
upper limit values	$u_B(t)_{\max}; u_M(t)_{\max}$	±28 VDC; ±15.2 VDC
lower limit values	$u_B(t)_{\min}; u_M(t)_{\min}$	±22 VDC; ±14.8 VDC
Current consumption (without valve) for $U_B = \pm 24 \text{ V}^{1)}$		
	I	< 150 mA
Inputs		
Command value 1 (main spool position)	U_e	0 to ±10 V ($R_e = 50 \text{ k}\Omega$)
Command value 2 (main spool position) by means of J9	U_e	0 to ±10 V ($R_e = 50 \text{ k}\Omega$)
Actual value (main spool position)	U_e	0 to ±10V ($R_e = 50 \text{ k}\Omega$)
Enable	U_e	+24 V with J13; 0 V with J12 ($R_e = 700 \text{ }\Omega$; relay circuit)
Controller change-over	U_e	+24 V with J13; 0 V with J12 ($R_e = 700 \text{ }\Omega$; relay circuit)
Backup relay	U_e	+24 V with J13; 0 V with J12 ($R_e = 700 \text{ }\Omega$; relay circuit)
Outputs		
controlled output voltage ¹⁾	U_M	±15 V ±2 %; 150 mA
Valve flow	$I_{\max}$	±60 mA
Valve flow command value (by means of J10)	U_a	−10 V ≙ +100 mA (measuring output)
Relay pickup voltage	U	+24 V (+ U_B)
Dither signal	f	470 Hz ±5 %
Oscillator frequency	f	5 kHz
Relay data		
Nominal voltage	U	+26 V
Response voltage	U	> 13 V
Step-back voltage	U	1.3 V to 6.5 V
Switching time	t	< 4 ms
Coil resistance (for 25°C)	R	700 Ω
Contact load	A	0.5
Type of connection	32-pole male multipoint connector, DIN 41612, design D	
Card dimensions	Euro board 100 x 160 mm; DIN 41494	
Front plate dimensions		
Height	3 HE (128.4mm)	
Broad soldering side	1TE (5.08mm)	
Broad component side	7 TE	
admissible ambient temperature range	ϑ	0 to +50 °C
Storage temperature range	ϑ	−20 to +70 °C
Weight	m	0.3 kg

¹⁾ For design **with** voltage regulator

Unit dimensions



Project Planning/Maintenance Instructions/Additional Information

- The amplifier card may only be unplugged and plugged when de-energized!
- Command values may only be switched via relays with gold contacts (low voltage, low currents)!
- Card relays may only be switched (enable, controller change-over, reserve) using contacts with a load capacity of approx. 40 V; 50 mA.
- Always shield command and actual value lines; Connect shielding to ground (⊥) on the card-side, open at one side!
- Do not lay signal lines close to power cables!
- **Recommendation**
 1. Do also shield solenoid lines (one-sided to ⊥)!
 2. Up to 50 m length, use cable type LiYCY 1.5 mm², for higher lengths please ask!

Note Electric signals taken out via control electronics (e.g. actual value) must not be used for switching of safety-relevant machine functions! (See also the European standard "Safety requirements for fluid power systems and their components - Hydraulics", EN 982.)

Note for V002 version

The project planning information in data sheet 29094-XN-B2 must be complied with.

Notes

Notes

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Notes
