

Analog amplifier module

RE 29743/07.10  
Replaces: 06.05

1/4

Type VT 11021

Component series 1X

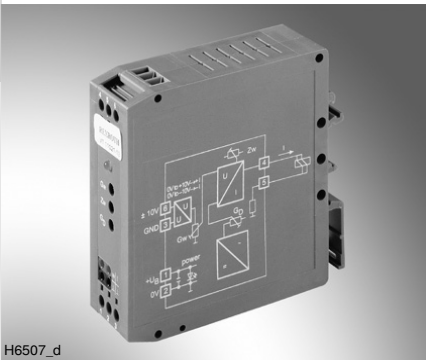


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Features

- Suitable for controlling servo-valves with mechanical feedback, type 4WS2EM... (sizes 6 and 10)
- Differential input  $\pm 10\text{ V}$
- Dither signal generator
- U/I transformer (short-circuit-proof against 0 V)
- DC/DC converter
- Reverse voltage protection
- Signalling of internal supply voltage by LED

Ordering code

VT 11021 -1X/ \*

Amplifier module for servo-valves without electrical position feedback;  
types 4WS2EM 6 and 4WS2EM 10

Component series 10 to 19  
(10 to19: unchanged technical data and pin assignment)

= 1X

Further details in clear text

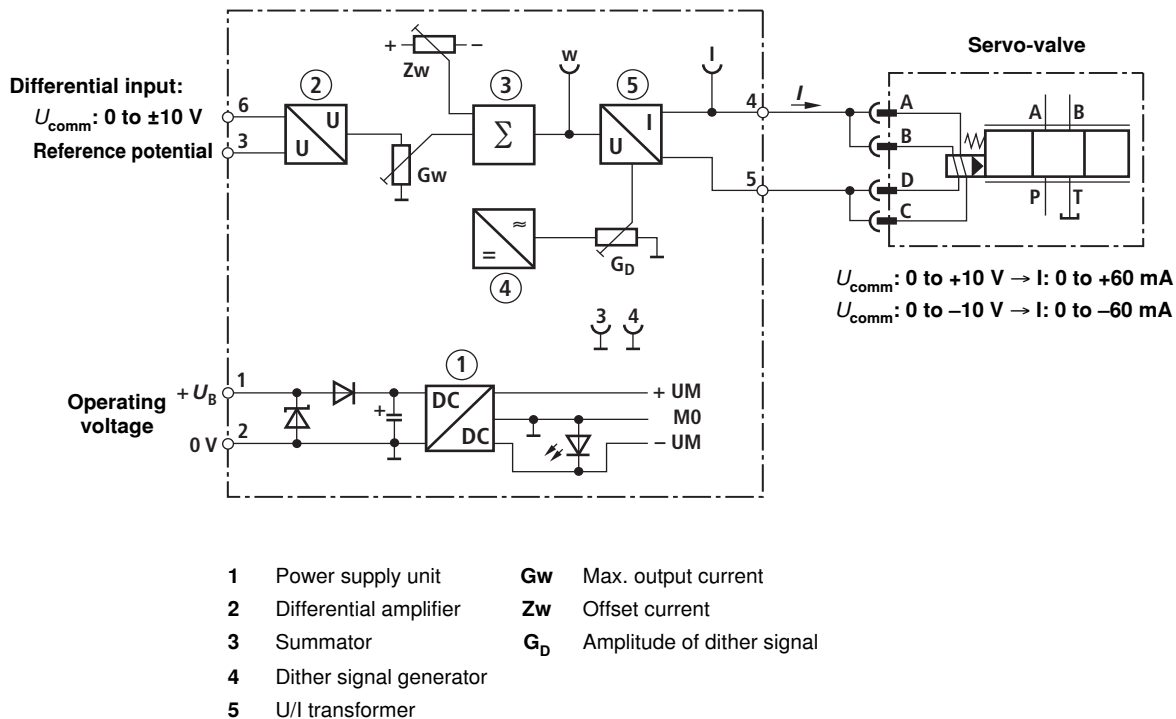
## Functional description

The amplifier module is to be snapped onto a hat rails according to EN 60715. It is electrically connected by means of screw terminals. The module is powered by 24V DC voltage. The  $\pm 10$  V command value is applied to the differential input. The output current of the downstream U/I transformer controls the servo-valve.

The following parameters can be adjusted externally using trimming potentiometers  $G_w$ ,  $Z_w$  and  $G_D$ :

- The max. output current between approx. 10 and 110 % by means of " $G_w$ "
- The offset current between +10 % and -10 % of the max. output current by means of " $Z_w$ "
- The amplitude of the dither signals between 0 and 10 % of the maximum output current by means of " $G_D$ "

## Block circuit diagram / pin assignment



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

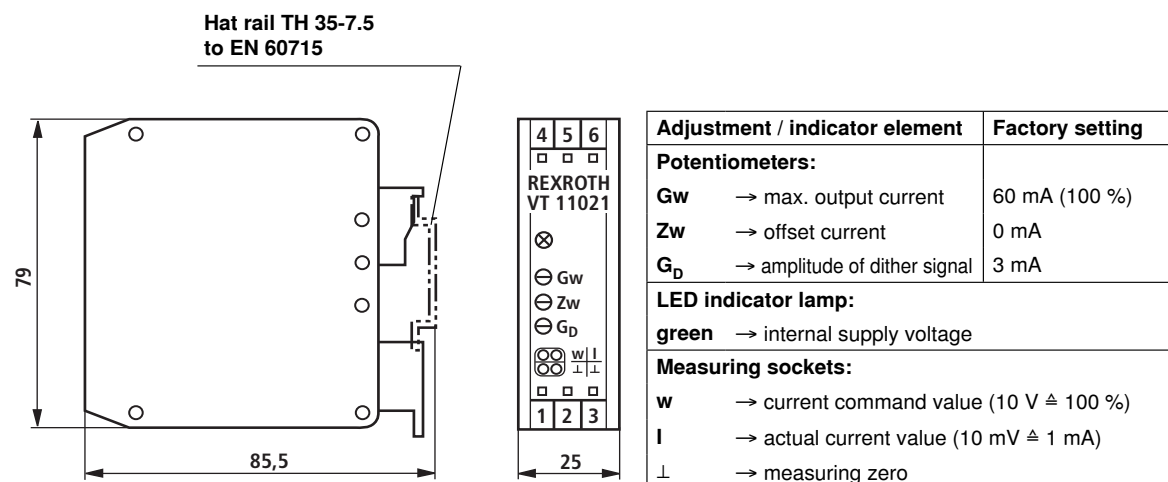
Operating voltage	$U_O$	24 VDC +40 % -10 %
Operating range:		
– Upper limit value	$u_O(t)_{\max}$	35 V
– Lower limit value	$u_O(t)_{\min}$	21 V
Current consumption (without valve) at $U_O = \pm 24$ V	$I_{\max}$	300 mA
Power consumption	$P_S$	approx. 8 VA
Fuse		Thermal overload fuse (with reactive function when temperature falls below the threshold)
Inputs:		
– Command value	$U_{\text{comm}}$	0 to $\pm 10$ V ( $R_e \geq 20$ k $\Omega$ )
Outputs:		
– Valve current	$I_{\max}$	$\pm 60$ mA +10 %
– Measuring sockets		
• Current command value "w"	$U_w$	0 to $\pm 10$ V
• Actual current value "I"	$U_{\text{act}}$	0 to $\pm 600$ mV (10 mV $\triangleq$ 1 mA)
Dither signal:		
– Frequency	$f$	340 Hz $\pm 10$ %
– Amplitude	$I_{\text{SS}}$	0 to 6 mA (factory setting 3 mA)
Type of connection		6 screw terminals
Type of mounting		Hat rail TH35-7.5 according to EN 60715
Type of protection		IP 20 to EN 60529
Dimensions (W x H x D)		25 x 79 x 85.5 mm
Permissible operating temperature range	$\vartheta$	0 to +50 °C
Storage temperature range	$\vartheta$	-20 to +70 °C
Weight	$m$	0.13 kg

## Terminal assignment

Operating voltage	$+U_O$	1	4	Servo-valve	Connection A, B
	0 V	2	5	Servo-valve	Connection C, D
	Reference potential	3	6	$\pm U_{\text{comm}}$	

Terminals 3 and 6: Differential input

## Unit dimensions



## Engineering / maintenance notes / supplementary information

- The amplifier module may only be wired when disconnected from the power supply!
- The distance to radio equipment must be sufficiently large (>> 1m)!
- Shield command value cables; do **not** lay them near power cables!
- Do not use free-wheeling diodes in the solenoid cables!
- In the case of a strong fluctuations in the operating voltage, it may become necessary to install an external smoothing capacitor having a capacitance of at least 2200 µF.  
Recommendation: Capacitor module VT 11110 (see RE 30750); sufficient for up to 3 amplifier modules