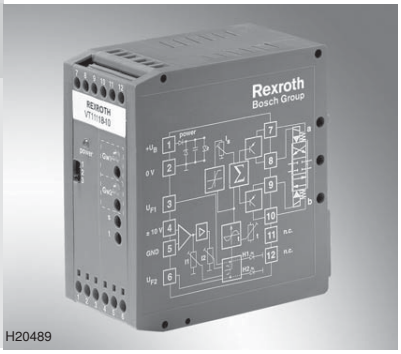
Analog amplifier module Type VT 11118

RE 30218-Z/04.12 1/8
Replaces: 02.11

Additional information



H20489

Information regarding the conversion of the amplifier modules type VT 11011, VT 11012, VT 11013, VT 11090 and VT 11114 to amplifier module type VT 11118
Material number R900211788

Considering the prerequisites mentioned in this additional information, the analog amplifier module type VT 11118 can be used as replacement for the amplifier modules VT 11011 (data sheet 29737), VT 11012 (data sheet 29737), VT 11013 (data sheet 29738), VT 11114 (data sheet 29779) as well as VT 11090.

You must imperatively comply with the order of the work steps specified in this additional information!

Notes:

Assembly of the product requires basic electrical knowledge:

- The product may only be re-wired and assembled by qualified personnel.
- De-energize the amplifier module before any work!

Configurations for VT 11118

Configuration as replacement for	**VT 11011** Component series 1X (according to data sheet 29737)	**VT 11012** Component series 1X (according to data sheet 29737)	**VT 11013** Component series 1X (according to data sheet 29738)	**VT 11114** Component series 1X (according to data sheet 29779)	**VT 11090** Component series 1X
In case of use with the following valves	.WRZ (from component series 7X), 3DREP 6 (from component series 2X), 4WRA 6 (component series 1X)	4WRA 10 (component series 1X)	.WRZ, 4 WRZ (to component series 6X), DBEP6 and 3DREP6 (to component series 1X)	4WRZ, 5WRZ (to component series 6X) 3DREP	A4VSO...EP
Switch position "1"	X				
Switch position "2"		X			X
Switch position "3"			X	X	
Step level "S" Setting with "S"	500 mA	500 mA	200 mA	200 mA	200 mA
Maximum current "GW1" Setting with "GW1"	1500 mA	1500 mA	800 mA	800 mA	800 mA

Table 1: Configurations VT 11118

Before adjusting the VT 11118 module amplifier, the pre-settings described in table 1 are to be made. The re-wiring is completed using the tables on the following pages.

Important:
For the re-wiring as well as for the setting of the VT 11118 replacement unit, please use the block diagrams that are also shown as basis. You must particularly ensure that there are the correct switch positions!

The fields in the table, which have a gray background refer to the terminal connections that have not been used or used differently with the amplifiers to be replaced.

Re-wiring table and block diagrams VT 11011, VT 11012, VT 11013

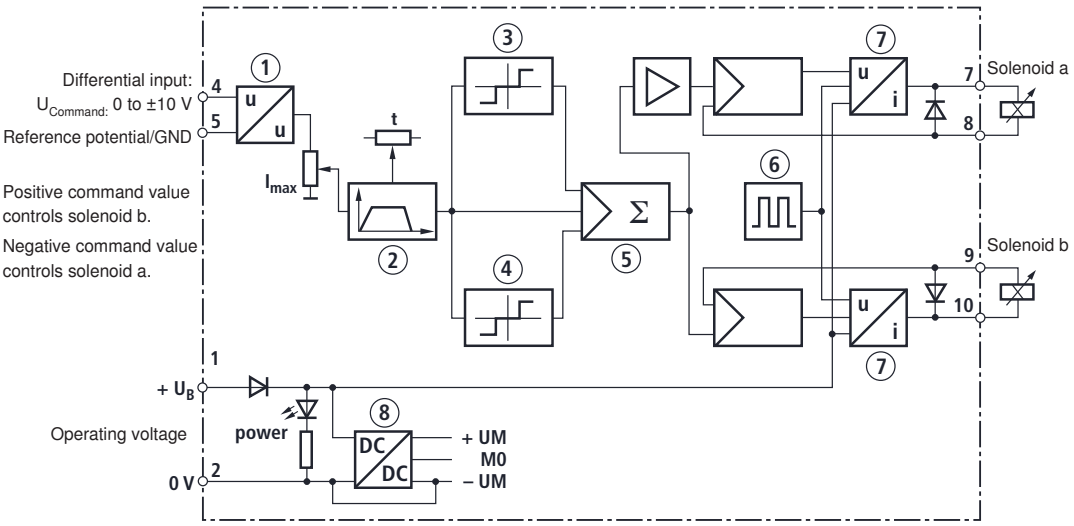
Re-wiring table for replacing VT 11011, VT 11012, VT 11013 by VT 11118

Terminal	VT 11011-1X VT 11012-1X VT 11013-1X SO versions	Terminal	VT 11118-1X
1	Input $+U_B$ supply	1	Input $+U_B$ supply
2	Input 0 V supply	2	Input 0 V supply
3	n.c.	3	Release 1
4	Differential input ±10 V	4	Differential input ±10 V
5	Differential input reference	5	Differential input reference
6	n.c.	6	Release 2
7	Pin 1 solenoid a	7	Pin 1 solenoid a
8	Pin 2 solenoid a	8	Pin 2 solenoid a
9	Pin 1 solenoid b	9	Pin 1 solenoid b
10	Pin 2 solenoid b	10	Pin 2 solenoid b
11	n.c.	11	n.c.
12	n.c.	12	n.c.
			Connection from 1 to 3 and from 2 to 6 so that the release is granted!

Differences in the wiring are marked in gray.

Table 2: Re-wiring

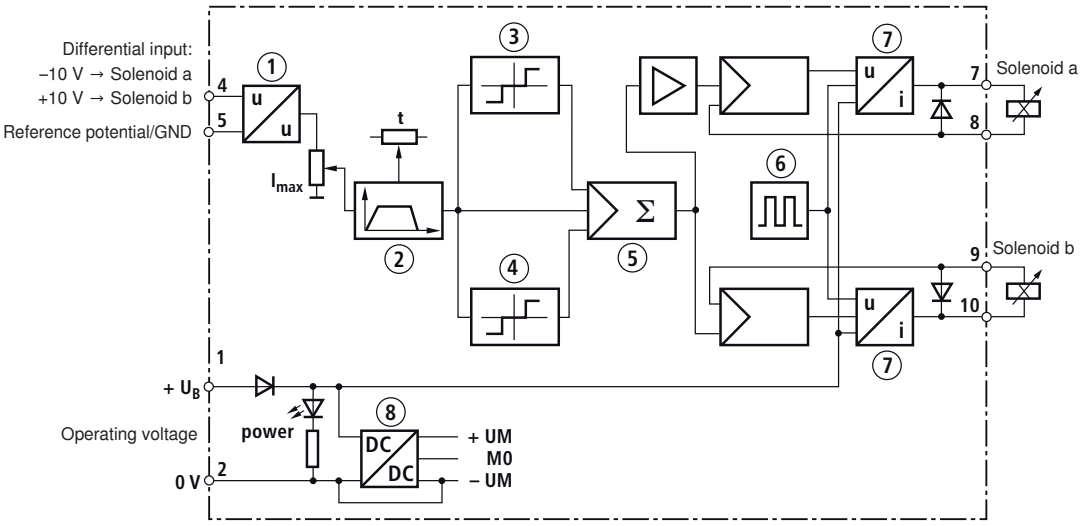
Block diagram VT 11011 and VT 11012



1	Differential amplifier	**5**	Summing device
2	Ramp generator	**6**	Clock generator
3	Step function generator solenoid a	**7**	Output stage
4	Step function generator solenoid b	**8**	Power supply

Re-wiring table and block diagrams VT 11011, VT 11012, VT 11013 (cont.)

Block diagram VT 11013



1	Differential amplifier	**5**	Summing device	Setting elements on front plate	
2	Ramp generator	**6**	Clock generator	**I**	Max. command value
3	Step function generator solenoid a	**7**	Clocked output stage	**t**	Ramp time
4	Step function generator solenoid b	**8**	Power supply		

Re-wiring table and block diagram VT 11114

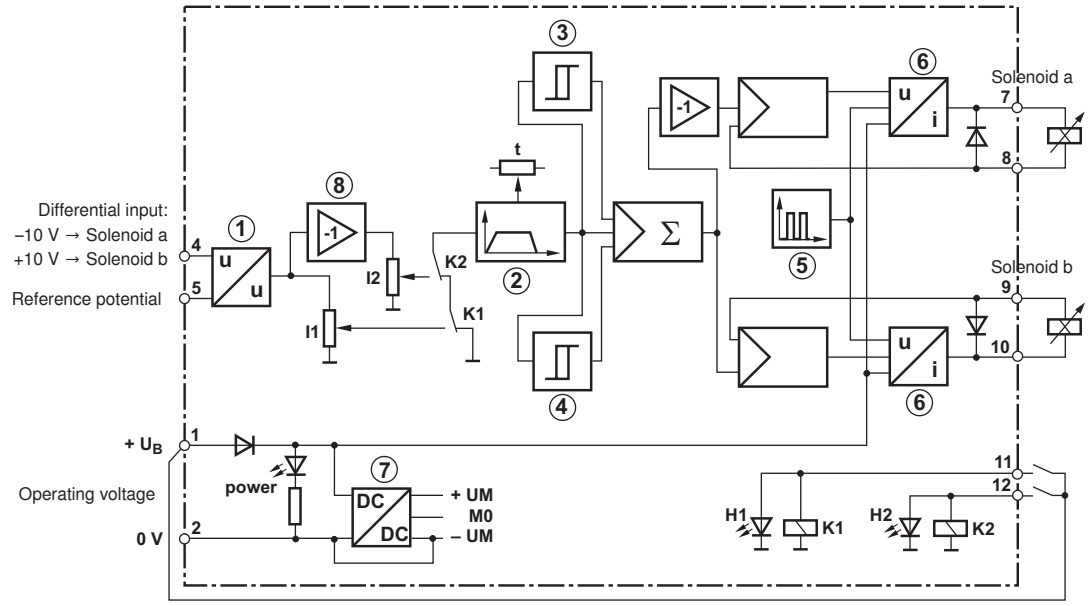
Re-wiring table for replacing VT 11114 by VT 11118

VT 11114-1X		VT 11118-1X	
Terminal		Terminal	
1	Input $+U_B$ supply	1	Input $+U_B$ supply
2	Input 0 V supply	2	Input 0 V supply
3	n.c.		
4	Differential input ±10 V	4	Differential input ±10 V
5	Differential input reference	5	Differential input reference
6	n.c.		
7	Pin 1 solenoid a	7	Pin 1 solenoid a
8	Pin 2 solenoid a	8	Pin 2 solenoid a
9	Pin 1 solenoid b	9	Pin 1 solenoid b
10	Pin 2 solenoid b	10	Pin 2 solenoid b
11	Release 1	3	Release 1
12	Release 2	6	Release 2

Differences in the wiring are marked in gray.

Table 3: Re-wiring

Block diagram VT 11114



1	Differential amplifier	**6**	Clocked output stage	Display / setting elements on front plate	
2	Ramp generator	**7**	Power supply	**I1**	Max. command value
3	Step function generator solenoid a	**8**	Command value inversion	**I2**	Max. command value inverse
4	Step function generator solenoid b	**K1**	Command value call-up 1	**H1**	Command value call-up
5	Clock generator	**K1**	Command value call-up 2	**H2**	Command value call-up
				t	Ramp time

Re-wiring table and block diagram VT 11090

Re-wiring table for replacing VT 11090 by VT 11118

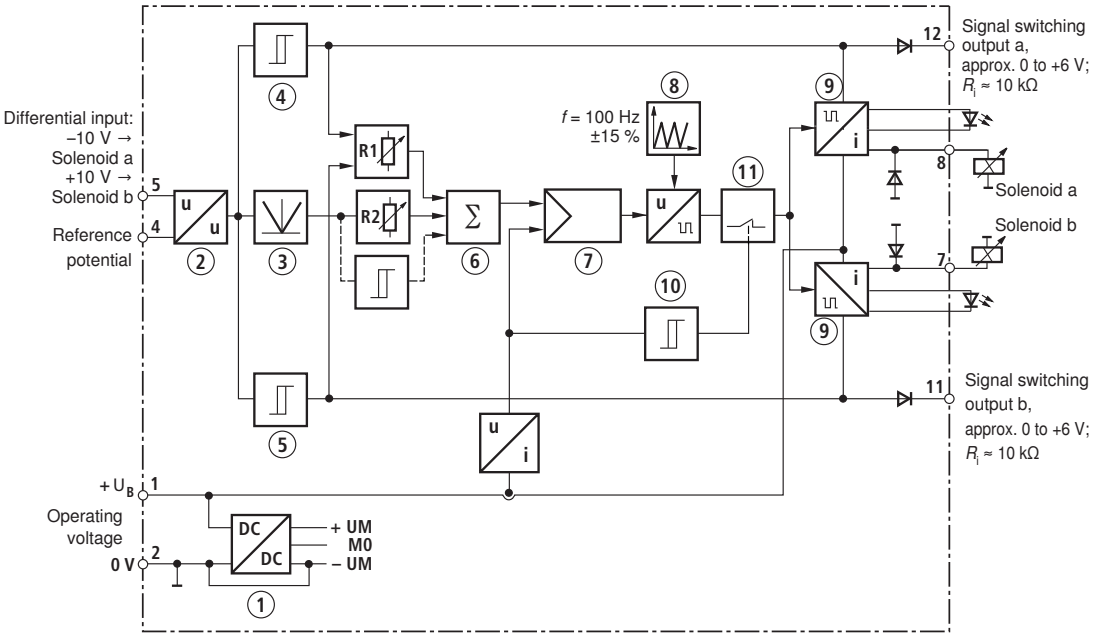
VT 11090		VT 11118-1X	
Terminal		Terminal	
1	Input $+U_B$ supply	1	Input $+U_B$ supply
2	Input 0 V supply	2	Input 0 V supply
3	n.c.	3	Release 1
4	Differential input reference	4	Differential input ±10 V
5	Differential input ±10 V	5	Differential input reference
6	n.c.	6	Release 2
7	Pin 1 solenoid b Pin 2 solenoid b is connected to ground	7	Pin 1 solenoid a
8	Pin 1 solenoid a	8	Pin 2 solenoid a
9	n.c	9	Pin 1 solenoid b
10	n.c	10	Pin 2 solenoid b
11	Switching output solenoid a	11	n.c. Switching output function not available
12	Switching output solenoid b	12	n.c. Switching output function not available
		Connection from 1 to 3 and from 2 to 6 so that the release is granted!	

Differences in the wiring are marked in gray!

Important:
The signal switching output in case of achievement of the current command value for solenoid a and b is no longer available!

Table 4: Re-wiring

Block diagram VT 11090



1	Power supply	**5**	Output stage b 10 % step	**10**	Overcurrent identification
2	Differential amplifier	**7**	Controller	**11**	Overcurrent shut-off
3	Absolute value generator	**8**	Clock generator	R1	Current level with a 10 % step
4	Output stage a 10 % step	**9**	Output stage	R2	Current level with a 90 % step

Commissioning

For more information on the commissioning of the VT 11118 amplifier, please refer to the 30218 data sheet.

Step 1 Set the switch according to table 1, see page 2.

In order to measure the command value for "S" and "GW1", it is necessary to connect a voltmeter at pin 4 and pin 5.

In order to measure the step level and I_{max} in mA, an ampere meter must be interconnected in the relevant solenoid line a or b.

For setting the command value specification, a voltmeter has to be connected at pin 4 and pin 5.

Step 2 Set the step level according to table 1 on page 2.

Step 2.1: At the differential amplifier input, apply
+0.1 V at pin 4 and
connect pin 5 with 0 V.
Using the "S" potentiometer, set the step level according to table 1 on page 2.

Step 2.2: Apply –0.1 V at pin 4 and
connect pin 5 with 0 V.
Using the "S" potentiometer, set the step level according to table 1 on page 2.

Step 3: Set the maximum current.

Step 3.1: Apply +10 V at pin 4 and
connect pin 5 with 0 V.
Using the "Gw1" potentiometer, set the maximum current according to table 1 on page 2.

Step 3.2: Apply –10 V at pin 4 and
connect pin 5 with 0 V.
Using the "Gw1" potentiometer, set the maximum current according to table 1 on page 2.

Notes