Valve Control VC 2

Operating Instruction

Rev. 6.7 (**November** 2015)

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Versioning

Rev. n.m: **n** = version of operating instruction,
m = version of valve listing

1. Performance characteristics

The unit is equipped with two independent channels each of which is provided with a 12-pole output socket and a 3-pole output socket. The performance characteristics described below apply to each channel.

a. Supply voltage

The valve tester Valve Control VC 2 is supplied with 110 / 230 V AC. Voltage changeover takes place automatically through the use of switched-mode power supplies.

b. Output voltages

For energising of valves through the 12-pole output socket, the valve tester VC 2 provides the voltages +24 V DC for max. 4 A, and +/- 15 V DC for max. 2 A.

On the 3-pole output socket, a voltage of +24 V DC for max. 0.5 A is provided.

c. Voltage and current setpoints

The following setpoint ranges are available on the 12-pole output socket of VC 2:

1. 0 - 5 V
2. 0 - 10 V
3. +/- 5V
4. +/- 10 V
5. +/- 10 mA 100 Ohm
6. +/- 20 mA 100 Ohm
7. +/- 40 mA 100 Ohm
8. +/- 400 mA 25 Ohm
9. +/- 1200 mA 5 Ohm
10. 0 - 10 mA 100 Ohm
11. 0 - 20 mA 100 Ohm
12. 4 - 20 mA 100 Ohm
13. 0 - 40 mA 100 Ohm
14. 0 - 400 mA 25 Ohm
15. 0 - 800 mA 5 Ohm
16. 0 -1600 mA 5 Ohm
17. 0 - 2400 mA 5 Ohm
18. 0 - 4000 mA 5 Ohm

2. Operating elements and display units

Each channel possesses a four-line display unit for operator guidance and for setting the parameters of the 12-pole output socket. A red LED is provided for each socket to indicate whether the channel is enabled (LED is on) or not (LED off).

Near by each LED there is a button [**Enable**] for enabling the associated socket.

Between the LEDs / buttons for the output sockets (per channel), two buttons and a potentiometer are arranged which are used to set the parameters and the setpoint for the 12-pole output socket.

With the menu key [**Set**] the menus "Volt", "Range", "Feedback" and "Value" are pre-selected and applied. And with the key [**Step**] the associated parameter is set in the respective menu.

The **Potentiometer** functions on it's whole range according to the preselection.

A preselection of **…**

0 .. 10V
min (left lock) 0V and max (right lock) 10V

+/- 20mA
min (left lock) -20mA and max (right lock) +20mA

4 .. 20mA
min (left lock) 4mA and max (right lock) +20mA

… has the effect that the mid position of the potentiometer does always represent the middle of the selected range.

The last configuration that has been enabled with the „output enable“ key will be stored and will be automatically preselected at next power up of the VC2.

3. Configuration of the 12-pole output socket

The 12-pole output socket has the following configuration:

1. +24 V DC supply and auxiliary voltage (max. 4 A)
2. 0 .. 4A current sink against PIN 1
3. Bipolar output up to +/- 400 mA / +/- 10V against GND
4. CableCode (not implemented in the prototype)
5. GND 1
6. -15 V DC supply voltage (max. 2 A)
7. GND 2
8. +15 V DC supply voltage (max. 2 A)
9. + Feedback
10. - Feedback
11. PE
12. 0 .. 400mA current sink against PIN 1

4. Configuration of the 3-pole output socket

The 3-pole output socket has the following configuration:

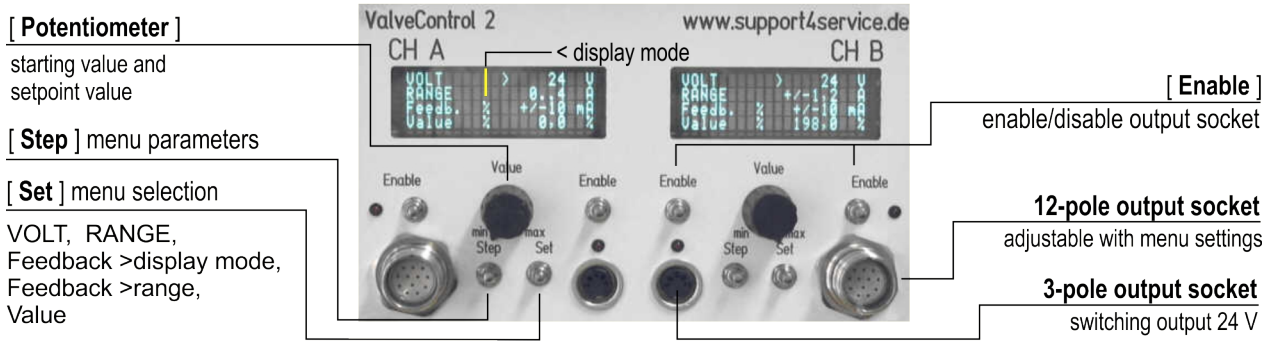
1. +24V DC switching voltage (max. 0.5 A)
2. GND
3. PE

5. Notes on dangers

Faulty setting may lead to irrepairable damage of the valves connected!

The permissible deviation of the set current from the setpoint is max. + 5%.
The feedback measuring accuracy is + 5%

6. Brief instruction



(Sequence on power up)

1. The unit is powered down.
2. Connect the **main plug** to power (supply voltage 230 oder 115 V AC).
3. **Power up** the unit on at the rear side.
4. Connect the required **extensions** to the appropriate output sockets.
5. Select appropriate **adapter** from the adapter table and connect it.
6. Menu **"VOLT"** (already preselected after powering up):
   Key [**Step**]> Set parameter VOLT as appropriate for the selected valve (+24 V oder +/- 15 V).
7. Key [**Set**]=> Activate menu **RANGE**.
8. Key [**Step**]> Set parameter RANGE as appropriate for the selected valve.
9. Key [**Set**]=> Activate menu **Feedback > displaymode**.
10. Key [**Step**]> Select display of either absolute or per cent values
11. Key [**Set**]=> Activate menu **Feedback > Range**.
12. Key [**Step**]> Set the Feedback parameter using the Step key as appropriate for the selected valve.
13. Key [**Set**]=> Activate menu **Value**.
14. Key [**Step**]> Select display of either absolute or per cent values.
15. [**Potentiometer**]> Set a starting value.
16. Key [**Enable**]> Implement the supply voltage and the setpoint on the valve connected to the output socket.
17. [**Potentiometer**]> Change the setpoint on the connected valve.

The **24 V switching output** (3-pole output socket) is independent of the above settings. It is switched on or off exclusively by means of the associated [**Enable**] key.

Please bear in mind that actuating of the [**Set**] key will de-activate „Output Enable“, but not the preselected setpoint, and that the **Output** [**Enable**] key can be actuated at any time.

7. Supported valves

Rev. 5 (February 2015)

Manufacturer: Rexroth

Valve	**VC2**				
Type	**Volt**	**Range**	**Feedback**	**Adaptor**	**note**
3DRE(M) xxx / xxx G24 K4	24 V	0-1,6 A	-	**1**	-
3DRE(M)E xxx / xxx G24 K31 **A1**	24 V	0-10 V	-	**7**	-
3DRE(M)E xxx / xxx G24 K31 **F1**	24 V	**0-10 V !**	-	**2**	**Although the valve setpoint is 4 – 20 mA !**
3DRG P 6X/ xxx G24 K6 V	24 V	0-800 mA	-	**9**	Max current is 900 mA
4WE xxxxxxxxxG24 K4	24V	-	-	**-**	Connect to the output support (3p)
4WEH xxxxxxxxx G24 K4	24V	-	-	**-**	Connect to the output support (3p)
4WRA xxxxx -2X/ G24 K4 / V	24 V	0-2,4 A or 0-4 A	-	**1**	max current is 2.5A
4WRAE xxx-2X/G24 K31/ **F1** V	24 V	4-20mA	-	**4**	-
4WRDE xxxxx -5X/ 6L 24 E K9 / M	24 V	± 10 V	± 10V	**2**	-
4WRDE xxxxx -5X/ 6L 24 K9 / M **-280**	24 V	± 10 mA	± 10mA	**2**	-
4WRE xxxxx -2X/ G24 K4 / V	24 V	0-1,6 A or 0-2,4 A	-	**1**	max current is 1.8A
4WREE xxxxx -2X/ G24 K31 / **A1**	24 V	0-10 V	± 10V	**7**	-
4WREE xxxxx -2X/ G24 K31 / **F1**	24 V	4-20 mA	4-20mA	**4**	-
4WRGE xxxxx -1X/315 G24 E K31 C1 M	24 V	± 10 mA	± 10mA	**2**	-
4WRKE xxxxx -3X/6E G24 ET K31 **F1** / D3 MR	24 V	4-20 mA	4-20 mA	**4**	-
4WRPEH xxx G24KO/ **A1**	24 V	± 10 V	± 10V	**7**	-
4WRPEH xxx G24KO/ **F1**	24 V	4-20 mA	4-20mA	**4**	-
4WRSE xxxxx -3X/ G24 K0 / **A1**	24 V	± 10 V	± 10V	**7**	-
4WRTE xxxx-4X/ xx G24 K31/ **A1**	24 V	± 10 V	± 10V	**7**	-
4WRTE xxx -4X/ xx G24 K31/ **F1**	24 V	4-20 mA	4-20mA	**4**	-
4WRZ xxxxxxxxxxx G24 N9 ET K4 / D3 V	24 V	0-1,6 A	-	**1**	max current is 1.5A
4WRZE xxxxxxxxxx G24 N9 K31 **F1** / D3 V	24 V	4-20 mA	-	**4**	-
4WS2E M 10 -5X/ 60 B **11** T 315 K31 E V	24 V	± 20 mA	-	**8**	-
4WSE2E D 10 -5X/ 90 B **13** - 315 K31 E V	± 15 V	± 10 mA	± 10mA	**3**	-
4WSE3EE xxxxx B **8** T 315 **Z9**	± 15 V	± 10 mA	± 10V	**3**	-
4WSE3EE xxxxx B **8** - 315 **K9**	± 15 V	± 10 mA	± 10V	**3**	-
DBETE-6X/200Y G24 K31 **F1**	24 V	4-20 mA	-	**4**	-
DRE(M) xxx / xxx G24 K4	24 V	0-800 mA	-	**1**	-
M – 3SE xxxxxxxxx G24 K4	24 V	-	-	**-**	Connect to the output support (3p)
ZDRE xxx / xxx G24 K4	24 V	0-1,6 A	-	**1**	-
4WSE3E xxx15.K31.A1	± 15 V	0-10 mA		**3**	
4WSE3E xxx15.K31.C1	± 15 V	0-10 mA		**3**	
4WSE3E xxx24.K31.F1	24 V	4-20 mA		**7**	

Manufacturer: Moog Rev. 5 (February 2015)

Valve	VC2				
Type	**Volt**	**Range**	**Feedback**	**Adaptor**	**note**
D633- xxxxx V**SX2**	24 V	± 10 mA	4-20 mA	**2**	-
D663 xxxxx **SX0** -P	± 15 V	± 10 mA	± 10 mA	**3**	-
D663-183B A08K05M0HAV	24V	± 400 mA	-	**11**	Max current is +/- 600mA
D66x xxxxx **SB0**	± 15 V	± 10 mA	± 10 mA	**3**	-
D66x xxxxx **SX2**	24 V	± 10 mA	4-20 mA	**2**	-
D66x .. 4xxx	24 V	± 20 mA	-	**12**	Set is 4 .. 20mA, so You have to use only the upper half of the potentiometer
D672-xxxx-xxxxxxxx**SX2**-xxxxxx	24 V	± 10 mA	-	**2**	-
D765 xxxxx **SX0**	± 15 V	± 10 mA	± 10 mA	**3**	-
G761-3605 S63 JOGM5 VB**L**	24 V	± 20 mA	-	**6**	-

Manufacturer: Hydac

Valve	VC2				
Type	**Volt**	**Range**	**Feedback**	**Adaptor**	**note**
WSM06020ZR-01*C*24DG	24 V	0-0,8 A		**1**	Connect at the 12-pin connector only ! Set „Range“ to 0-0,8 A !

Manufacturer: Parker Rev. 6 (February 2015)

Type	Volt	Range	Feedback	Adaptor	Note
D*1FE**C**B0*	24 V	± 10 V	± 10 V	**7**	
D*1FE**C**E0*	24 V	± 20 mA	± 10 V	**7**	
D*1FE**C**K0*	24 V	± 10 V	± 10 V	**7**	
D*1FE**C**B7*	24 V	± 10 V	± 10 V	**2**	
D*1FE**C**E7*	24 V	± 10 V	± 10 V	**2**	
D*1FE**C**K7*	24 V	± 10 V	± 10 V	**2**	
D*1FE**C**S0*	24 V	4-20 mA	± 10 V	**4**	
D*1FE**C**S7*	24 V	4-20 mA	± 10 V	**13**	
D*1FB******F0*	24 V	± 10 V	-	**7**	
D*1FB******G0*	24 V	± 20 mA	-	**7**	
D*1FB******S0*	24 V	4-20 mA	-	**4**	
D*1FB******W5*	24 V	± 10 V	-	**15**	
D*1FB******W5*	24 V	4-20 mA	-	**14**	
D1FP*****9*B00	24 V	± 10 V	± 10 V	**7**	
D1FP*****9*E00	24 V	± 20 mA	± 10 V	**7**	
D1FP*****9*S00	24 V	4-20 mA	± 10 V	**4**	
D1FP*****9*B50	24 V	± 10 V	± 10 V	**15**	
D1FP*****9*E50	24 V	± 20 mA	± 10 V	**15**	
D1FP*****9*S50	24 V	4-20 mA	± 10 V	**14**	
D1FP*****9*B70	24 V	± 10 V	± 10 V	**2**	
D1FP*****9*E70	24 V	± 20 mA	± 10 V	**2**	
D1FP*****9*S70	24 V	4-20 mA	± 10 V	**13**	
D*1FH*****NB0*	24 V	± 10 V	± 10 V	**2**	
D*1FH*****NE0*	24 V	± 20 mA	± 10 V	**2**	
D*1FH*****NS0*	24 V	**0 – 10 V !**	± 10 V	**2**	**Although the valve setpoint is 4 – 20 mA !**
D*1FP******K00	24 V	± 10 V	± 10 V	**7**	
D*1FP******S00	24 V	4-20 mA	± 10 V	**4**	
D*1FP******K50	24 V	± 10 V	± 10 V	**15**	
D*1FP******S50	24 V	4-20 mA	± 10 V	**14**	
D*1FP******K70	24 V	± 10 V	± 10 V	**2**	
D*1FP******S70	24 V	4-20 mA	± 10 V	**13**	
D3W*(**)**JW***	24 V	0-1,6 A		**1**	Connect at the 12-pin connector only ! Set „Range“ to 0-1,6 A !
D1VW*****JW*	24 V	0-1,6 A		**1**	Connect at the 12-pin connector only ! Set „Range“ to 0-1,6 A !
D*1*W******JW***	24 V	0-1,6 A		**1**	Connect at the 12-pin connector only ! Set „Range“ to 0-1,6 A !

The latest version of supported valves is available for download from our website at http://www.support4service.de/downloads.html .

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