

Valve Control VC 4

operation manual
June, 2017



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Warning

Incorrect setting may result in damage to connected valves and the device itself!!!

Charging the battery

To charge the battery, you must first connect the charger to the device. After the charger is connected, the plug can be plugged into a 220 volt outlet. If the correct connection sequence is not followed, the battery will not charge and the charger LED display will start flashing.

Parameters

Accuracy: +/- 10%. The device has one independent adjustable channels, 6-pin connector, two independent non-regulated channels with 3-pin connector and one output 24V for a supply.

a. Power supply

The device is powered from the built-in Ni-MH 24V 10Ah rechargeable battery. Accumulator rectifier 36V 1,5A.

b. Output voltage

The device provides control of analog valves connected to 6-pin connector.

Output voltage

- +24V DC up to 4 A and
- +/- 15V DC up to 2 A

In addition, direct switching valves can be controlled via the cable "G". 3-pin output jack with 24VDC 1.5A.

c. Voltage and current range

6-pin connector:

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

VC4 FRONT PANEL

Valve manufacturer

Feedback

Selected range

Outputs 24V

white: off, blue: selected, green: on

1. Adjustable output On/Off

2. Parameter selection

3. Output adjustment

Valve number in table

Valve name

Feedback value indication

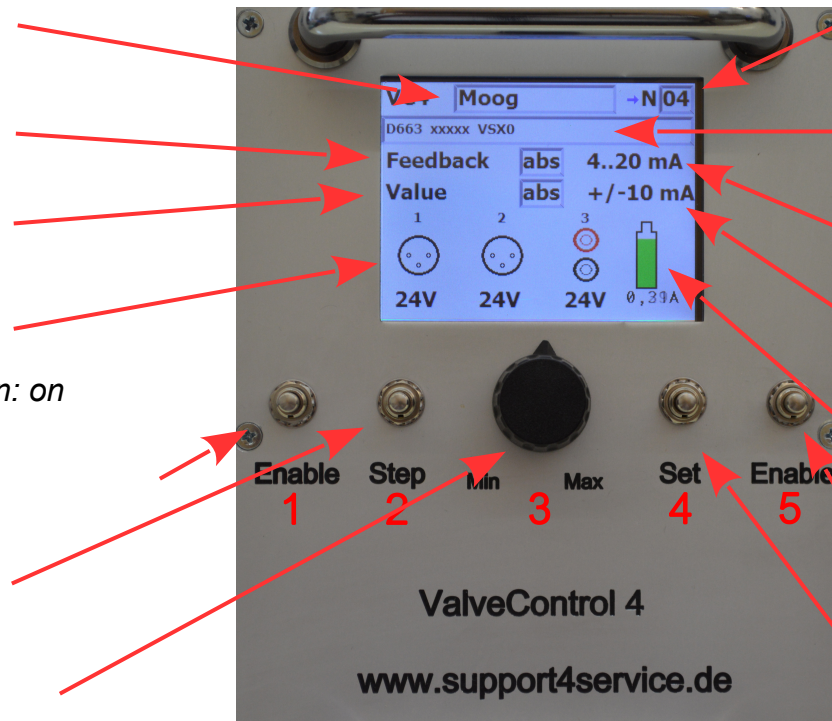
Set output value indication

Battery charge and consumed current

5. On/off 24V outputs

4. Setting of parameter

blue cursor indicates parameter



VC4 SIDE PANEL

Belt fastening

6. Power on/off

8. 24V output

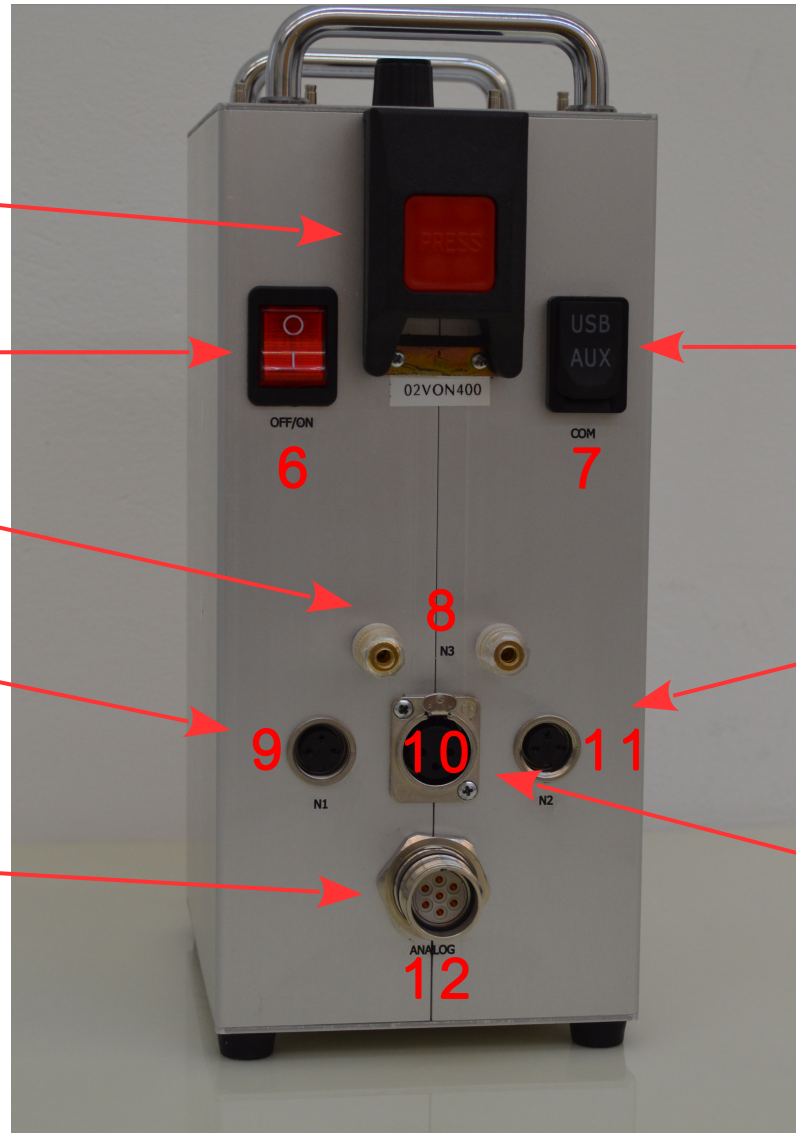
9. 24V output

12. Adjustable output

7. USB socket and connector for other device

11. 24V output

10. Charge socket



Operation Procedure

1. Turn on the device.
2. Connect the appropriate adapter to the outlet connector on the device.
3. Select **"Valve Manufacturer"** using the **"Step"** button.
4. Select the valve manufacturer using the **„Set“** button.
5. Select **„Valve number“** using **„Step“** button.
6. Select the required valve number using the **"Set"** button according to the table; valve name will appear in the appropriate field.
7. Select **„Feedback“** using the **„Step“** button.
8. Set the actual or relative display of the value using the **„Set “** button.
9. Move to the next parameter using the **„Step“** button.
10. Set the actual or relative display of the value using the **„Set “** button.
11. Set the initial position of potentiometer, e.g., in 0,0.
12. Press **„Enable“** for exit which will be confirmed by green background of valve name line.
13. Adjust the output value using the potentiometer.
14. Press the button **"Enable"** to turn off the output. Wait until it green background of valve name line disappears from the display.

When the output is enabled, no parameter changes can be made.

Outputs 24 V do not depend on the output status and are managed by button **"Enable"**.

The average position of the potentiometer is always in the middle of the range (according to the table).



Before switching on, check the correctness of potentiometer setting according to the parameters of selected valve according to the table!

Synchronization

Simultaneous control of 2 analogue valves of one type is possible.

To synchronize two devices they should be connected with a cable that plugs into the TRS jack (mini-jack 3.5 mm) on the side of the device. It is required to use a cable which is supplied as a set with the device!

It is required to set parameters on the master device, press and hold the button **"Enable"** more than 3 seconds until beeping. If synchronization is successful, all the mechanisms to control adjustable output of the drive device are disconnected controls and both devices will display **"SYN"** in the valve manufacturer field.

To turn off synchronization, press and hold **"Enable"** button more than 3 sec until beeping.

If connection is broken between the devices, outputs are switched off automatically and the inscription on the display signals the connection is broken. For resynchronization, devices must be turned off and connection should be resumed.

Malfunctions

If errors are detected during operation (e.g., relay is not turned off due to burning of contacts), **"ERROR"** starts blinking on the display. In such a case, turn the power off and on again, if the error does not disappear - device needs to be repaired.

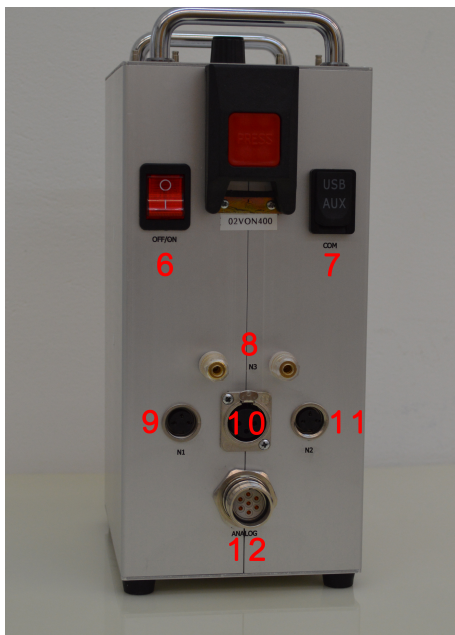
Software update

To upgrade the software, connect the device to a computer using a USB cable. Save the file received from the device manufacturer on removable disk appeared in the system. The file name and its format must be original! Reboot your device and wait until the full loading of operating mode.

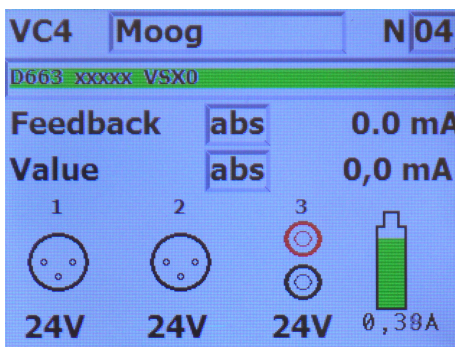
Photos



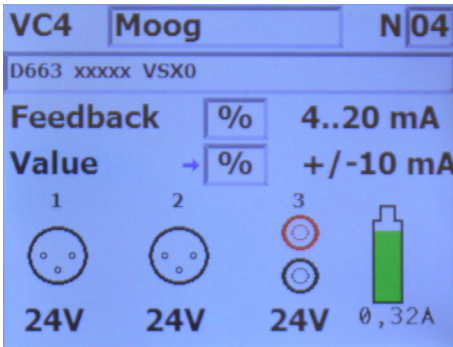
1. «**Enable**» button at the left – turns on/off the device output.
2. «**Step**» button – switches set parametr.
3. Potentiometer handle – adjusts the output.
4. «**Set**» button – sets selected parametr.
5. «**Enable**» button at the right – turns on/off selected outputs 24V.



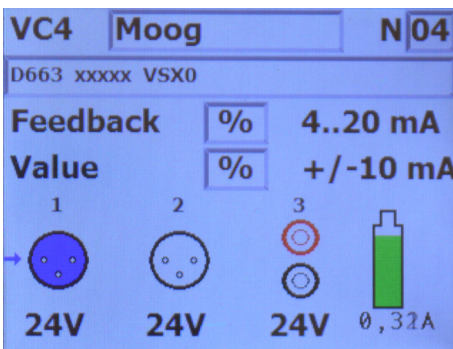
6. Power shutdown switch.
7. USB and AUX sockets for connection with the other device.
8. 24V output.
9. 24V output.
10. Charge socket.
11. 24V output.
12. Adjustable output.



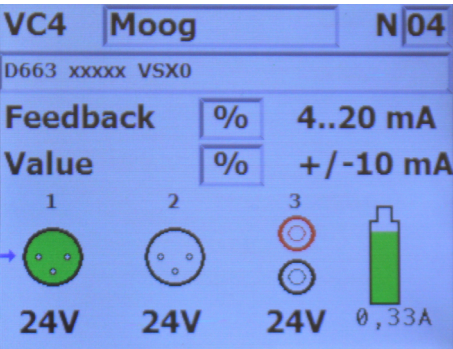
If the output is switched on, the valve name is displayed on green background.



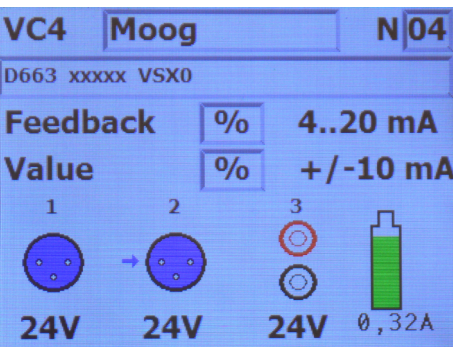
Blue cursor (arrow) is set by «Step» button in front of the selected item.



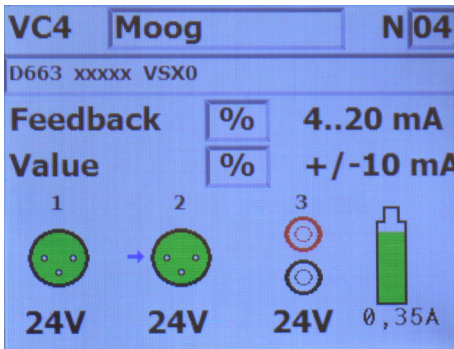
If 24V output is selected by «Set» button, it becomes blue.



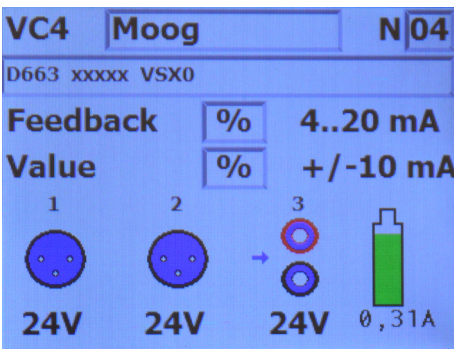
If 24V output is turned on, previously selected output becomes green.



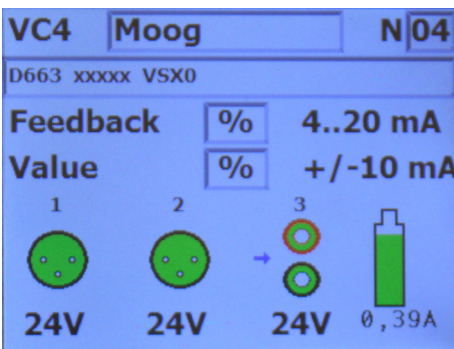
It is possible to select two 24V outputs simultaneously.



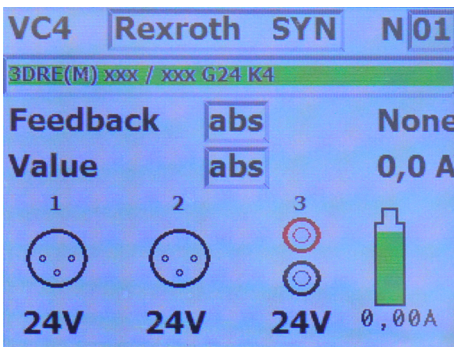
It is possible to turn on two 24V outputs simultaneously.



It is possible to select three 24V outputs simultaneously.



It is possible to turn on three 24V outputs simultaneously.



If you hold down the «Enable» button, the device enters the mode of synchronization with the other device as evidenced by the inscription «SYN» on both devices in the valve manufacturer field.



To update the software, connect it to PC using USB cable, record a program file on removable disk that appears and reboot the device.

For synchronous operation of two devices, they should be connected with supplied cable.



For ease of use, the device comes with a belt.

Lists of valves

(June, 2017)

Valve manufacturer: **Rexroth**

Valve	N	Volt	Range	Feedback	Valve-type	Adaptor	Note
3DRE(M) xxx / xxx G24 K4	1	24 V	0-1,6 A	-	1	A	-
3DRE(M)E xxx / xxx G24 K31 A1	2	24 V	0-10 V	0-10V	4	B	-
3DRE(M)E xxx / xxx G24 K31 F1	3	24 V	4-20 mA	0-10V	4	B	-
3DRG P 6X/ xxx G24 K6 V	4	24 V	0-800 mA	-	6	B	-
4WE xxxxxxxxxxxx G24 K4	5	24 V	1,6 mA	-		G	Connect to (3p)
4WEH xxxxxxxxxxxx G24 K4	6	24 V	1,6 mA	-		G	Connect to (3p)
4WRA xxxxx -2X/ G24 K4 / V	7	24 V	0-2,4 A	-	1	A	-
4WRAE xxx-2X/G24 K31/ A1 V	8	24 V	± 10 V		4	B	-
4WRAE xxx-2X/G24 K31/ F1 V	9	24 V	4-20 mA		4	B	-
4WRDE xxxxx -5X/ 6L 24 E K9 / M	10	24 V	± 10 V	± 10V	2	B	-
4WRDE xxxxx -5X/ 6L 24 K9 / M -280	11	24 V	± 10 mA	± 10mA	2	B	-
4WRE xxxxx -2X/ G24 K4 / V	12	24 V	0-1,6 A	-	1	A	-
4WREE xxxxx -2X/ G24 K31 / A1	13	24 V	± 10 V	± 10V	4	B	-
4WREE xxxxx -2X/ G24 K31 / F1	14	24 V	4-20 mA	4-20mA	4	B	-
4WRGE xxxxx -1X/315 G24 E K31A1 M	15	24 V	± 10 V	± 10 V	4	B	-
4WRGE xxxxx -1X/315 G24 E K31C1 M	16	24 V	± 10 mA	± 10mA	4	B	-
4WRKE xxxxx -3X/6E G24 ET K31A1 / D	17	24 V	± 10 V	± 10 V	4	B	-
4WRKE xxxxx -3X/6E G24 ET K31F1 / D	18	24 V	4-20 mA	4-20 mA	4	B	-
4WRKE xxxxx -3X/6E G24 ET K31A5 / D	19	24 V	± 10 V	± 10 V	2	B	-
4WRPEH xxx G24KO/ A1	20	24 V	± 10 V	± 10V	4	B	-
4WRPEH xxx G24KO/ F1	21	24 V	4-20 mA	4-20mA	4	B	-
4WRSE xxxxx -3X/ G24 K0 / A1	22	24 V	± 10 V	± 10V	4	B	-
4WRSE xxxxx -3X/ G24 K0 / F1	23	24 V	4-20 mA	4-20 mA	4	B	-
4WRTE xxx-4X/ xx G24 K31/ A1	24	24 V	± 10 V	± 10V	4	B	-
4WRTE xxx -4X/ xx G24 K31/ F1	25	24 V	4-20 mA	4-20mA	4	B	-
4WRTE xxx-4X/ xx G24 K31/ A5	26	24 V	± 10 V	± 10 V	2	B	-
4WRZ xxxxxxxxxxxx G24 N9 ET K4 / D3	27	24 V	0-1,6 A	-	1	A	-
4WRZE xxxxxxxxxxxx G24 N9 K31 A1 / D	28	24 V	± 10 V		4	B	-
4WRZE xxxxxxxxxxxx G24 N9 K31 F1 / D	29	24 V	4-20 mA	-	4	B	-
4WS2E M 10 -5X/ 60 B 11 T 210 K31 E	30	24 V	± 40 mA	-	5	B	-
4WS2E D 10 -5X/ 90 B 9 - 315 K31 E	31	± 15 V	± 10 V	± 10 V	3	B	-
4WS2E D 10 -5X/ 90 B 13 - 315 K31 E	32	± 15 V	± 10 mA	± 10mA	3	B	-
4WSE3E16 xxxxx 7 15K31 A1	33	± 15 V	± 10 V	± 10V	3	B	-
4WSE3E16 xxxxx 7 15K31 C1	34	± 15 V	± 10 mA	± 10 mA	3	B	-
4WSE3EE xxxxx B 8 315 K9V	35	± 15 V	± 10 mA	± 10V	3	B	-
4WSE3EE xxxxx B 9 315 K9V	36	± 15 V	± 10 V	± 10 V	3	B	-
DBET-6X/200G24 K4 V	37	24 V	0-1,6 mA	-	1	A	-
DBETE-6X/Y200Y G24 K31 A1	38	24 V	0-10 V		4	B	-
DBETE-6X/Y200Y G24 K31 F1	39	24 V	4-20 mA		4	B	-
DRE(M) xxx / xxx G24 K4	40	24 V	0-800 mA	-	1	A	-
DRE(M)E xxx / xxx G24 K31	41	24 V	0-10 V		4	B	-
M - 3SE xxxxxxxxxxxx G24 K4	42	24 V	0-1,6 A	-	-	G	Connect to (3p)
ZDRE xxx / xxx G24 K4	43	24 V	0-1,6 A	-	1	A	-
ZDRE xxx / xxx G24 K31 A1	44	24 V	0-10 V	0-10V	4	B	-
ZDRE xxx / xxx G24 K31 F1	45	24 V	4-20 mA	0-10V	4	B	-
FESE63 CA-30/180LKOB1M	46	24 V	0-10 V	0-10V	2	B	-
FESE63 CA-30/180LKOG1M	47	24 V	4-20 mA	0-10V	2	B	-

Valve manufacturer: Parker

Type	N	Volt	Range	Feedback	Valve-type	Adaptor	Note
D*1FE**C**B0*	1	24 V	± 10 V	± 10 V	4	B	
D*1FE**C**E0*	2	24 V	± 20 mA	± 10 V	4	B	
D*1FE**C**S0*	3	24 V	4...20 mA	4...20mA	4	B	
D*1FE**C**B7*	4	24 V	± 10 V	± 10 V	2	B	
D*1FE**C**E7*	5	24 V	± 20 mA	± 20 mA	2	B	
D*1FE**C**S7*	6	24 V	4...20 mA	4...20mA	2	B	
D*1FE**C**B5*	7	24 V	± 10 V	± 10 V	2	B	
D*1FE**C**E5*	8	24 V	± 20 mA	± 20 mA	2	B	
D*1FE**C**S5*	9	24 V	4...20 mA	4...20mA	2	B	
D*1-3FB****F0*	10	24 V	± 10 V	± 10 V	4	B	
D*1-3FB****G0*	11	24 V	± 20 mA	± 20 mA	4	B	
D*1-3FB****S0*	12	24 V	4-20 mA	4-20 mA	4	B	
D*1-3FB*0C**J**	13	24 V	0..1,6 A	-	1	A	
D*1-3FB****W5*	14	24 V	± 10 V	± 10 V	2	B	
D*1-3FB****W5*	15	24 V	4-20 mA	4-20 mA	2	B	
D*1FH****B0*	16	24 V	± 10 V	± 10 V	2	B	
D*1FH****E0*	17	24 V	± 20 mA	± 10 V	2	B	
D*1FH****S0*	18	24 V	4-20 mA	± 10 V	2	B	
D*1FP****B0**	19	24 V	± 10 V	± 10 V	4	B	
D*1FP****E0**	20	24 V	± 20 mA	± 10 V	4	B	
D*1FP****S0**	21	24 V	4-20 mA	± 10 V	4	B	
D*1FP****B7**	22	24 V	± 10 V	± 10 V	2	B	
D*1FP****E7**	23	24 V	± 20 mA	± 10 V	2	B	
D*1FP****S7**	24	24 V	4-20 mA	± 10 V	2	B	
D*1FP****B5*	25	24 V	± 10 V	± 10 V	2	B	
D*1FP****E5*	26	24 V	4-20 mA	± 10 V	2	B	
D*1FP****S5*	27	24 V	± 10 V	± 10 V	2	B	
D3W***JW***	28	24 V	0-1,6 A		1	A	
D*1VW****JW*	29	24 V	0-1,6 A		1	A	
D30FP****B0**	30	24 V	± 10 V	± 10 V	4	B	
D30FP****E0**	31	24 V	± 20 mA	± 10 V	4	B	
D30FP****S0**	32	24 V	4-20 mA	± 10 V	4	B	
D30FP****B7**	33	24 V	± 10 V	± 10 V	2	B	
D30FP****E7**	34	24 V	± 20 mA	± 10 V	2	B	
D30FP****S7**	35	24 V	4-20 mA	± 10 V	2	B	
D30FP****B5**	36	24 V	± 10 V	± 10 V	2	B	
D30FP****E5**	37	24 V	± 20 mA	± 10 V	2	B	
D30FP****S5**	38	24 V	4-20 mA	± 10 V	2	B	
D1FV***0*F0**	39	24 V	± 10 V		4	B	
D1FV***0*G0**	40	24 V	± 20 mA		4	B	
D1FV***0*S0**	41	24 V	4-20 mA		4	B	
D1FV***0*W5**	42	24 V	± 10 V		4	B	
D1FV***0*W5**	43	24 V	± 20 mA		4	B	
D1FV***0*W5**	44	24 V	4-20 mA		4	B	
RE06M*T***F0	45	24 V	± 10 V		4	B	
RE06M*T***R0	46	24 V	4-20 mA		4	B	

www.support4service.de

Valve Control 4

Urgent lists of valves can be downloaded on the website:
<http://www.support4service.de/downloads.html> .

Contacts

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