

## **DC/DC-Signal Conditioners**

WAVEANALOG DC/DC

- Voltage supply on both sides
  - 2-way-isolation
  - Analog signal conditioning
  - Galvanic isolation between input/output signal
  - Cross-connectable voltage supply via cross-connectors

CCC DC

0...20 mA/0...20 mA



CCC DC

0...20 mA/4...20 mA



CVC DC

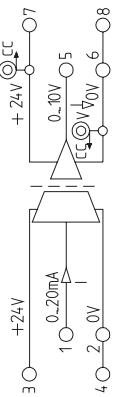
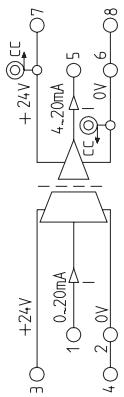
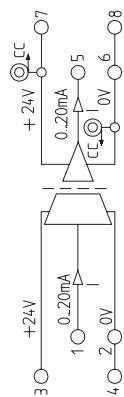
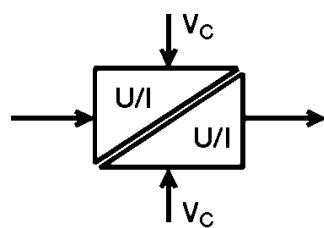
0...20 mA/0...10 V



**Approvals:**



## Block diagram



<b>Ordering data</b>	<b>Type</b>	<b>Part No.</b>	<b>Type</b>	<b>Part No.</b>	<b>Type</b>	<b>Part No.</b>
Screw connection	WAS4 CCC DC	<b>8445070000</b>	WAS4 CCC DC	<b>8446970000</b>	WAS4 CVC DC	<b>8447020000</b>
Tension clamp connection	WAZ4 CCC DC	<b>8445080000</b>	WAZ4 CCC DC	<b>8446990000</b>	WAZ4 CVC DC	<b>8447030000</b>
Input/output	0...20 mA/0...20 mA		0...20 mA/4...20 mA		0...20 mA/0...10 V	

## Technical data\*

<b>Input signal</b>	0...20 mA	0...20 mA	0...20 mA
Input current max	25 mA	25 mA	25 mA
Input resistance	50 Ω	50 Ω	50 Ω
<b>Output signal</b>	0...20 mA	4...20 mA	0...10 V
Load resistance	≤ 500 Ω	≤ 500 Ω	≥ 1 kΩ
Accuracy at Tu=23°C	± 0.2% of FS	± 0.2% of FS	± 0.2% of FS
Temperature coefficient	≤ 250 ppm/K of FS	≤ 250 ppm/K of FS	≤ 250 ppm/K of FS
Response time	≤ 30 ms (typ. 16 ms)	≤ 30 ms (typ. 16 ms)	≤ 30 ms (typ. 16 ms)
Cut-off frequency (-3 dB)	≥ 15 Hz (typ. 25 Hz)	≥ 15 Hz (typ. 25 Hz)	≥ 15 Hz (typ. 25 Hz)

## General

Voltage supply	24 VDC ±20% (19.2...28.8 VDC)	24 VDC ±20% (19.2...28.8 VDC)	24 VDC ±20% (19.2...28.8 VDC)
Power consumption input	< 11 mA at $I_{in} = 20$ mA	< 11 mA at $I_{in} = 20$ mA	< 11 mA at $I_{in} = 20$ mA
Power consumption output	< 32 mA at $I_{out} = 20$ mA	< 32 mA at $I_{out} = 20$ mA	< 20 mA at $I_{out} = 10$ V
Current carrying capacity of cross-connection	≤ 2 A	≤ 2 A	≤ 2 A
Operating temperature	0°C...+55°C (horiz. mounted)	0°C...+55°C (horiz. mounted)	0°C...+55°C (horiz. mounted)
Storage temperature	-20°C...+85°C	-20°C...+85°C	-20°C...+85°C
Dimensions W/L/H	mm (in.)	12.5/92.4/112.5 (.49/3.64/4.43)	12.5/92.4/112.5 (.49/3.64/4.43)
Approvals	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA

Coordination of insulation according to EN 50178, 04/98

Rated voltage	300 V	300 V	300 V
Rated surge voltage	4 kV	4 kV	4 kV
Overshoot category	III	III	III
Contamination class	2	2	2
Clearance and creepage distance mm (in.)	≥ 3 (.12)	≥ 3 (.12)	≥ 3 (.12)
Isolation voltage, voltage strength			
Input/output to mounting rail	4 kV <sub>eff</sub> /1 min	4 kV <sub>eff</sub> /1 min	4 kV <sub>eff</sub> /1 min
Standards/specifications	EN 50178	EN 50178	EN 50178
EMC standards	EN 50081, EN 50082, EN 55011	EN 50081, EN 50082, EN 55011	EN 50081, EN 50082, EN 55011
Dimensions and accessories see	Page 356 + 366	Page 356 + 366	Page 356 + 366

\* $T_U = 23^\circ\text{C}$  single module