

WAVESERIES - DC/DC 3-way isolator

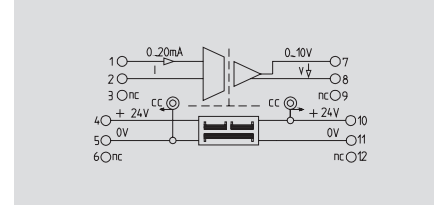
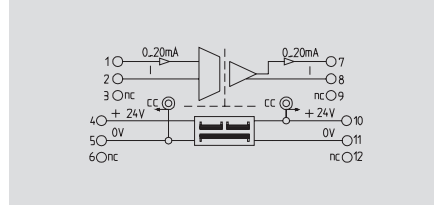
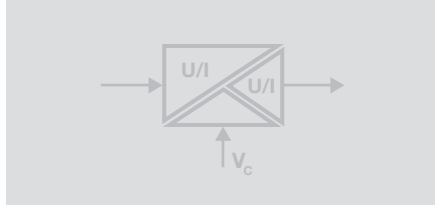
20 kHz limiting frequency

- Signal conversion
- Galvanic isolation between input / output signals and power supply
- Power supply can be cross-connected using plug-in jumpers.

0 (4)...20 mA/0 (4)...20 mA



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



Technical data

Input	
Input voltage / Input current	/ 0(4)...20 mA
Input resistance, voltage/current	/ 50 Ω
Output	
Output voltage / Output current	/ 0(4)...20 mA
Load impedance, voltage/current	/ ≤ 500 Ω
Cut-off frequency (-3 dB)	≥ 15 kHz (typ. 20 kHz)
General data	
Supply voltage	24 V DC ± 25 %
Power consumption	< 1.5 W @ I _{OUT} = 20 mA
Accuracy	< 0.2 % of end value
Temperature coefficient	≤ 250 ppm/K of final value
Step response time	≤ 40 μs (typ. 30 μs)
Ambient temperature	0 °C...+55 °C
Storage temperature	-20 °C...+85 °C
Approvals	cULus; CSA; CE
Insulation coordination	
Standards	EN 50178
EMC standards	EN 55011, EN 61000-6
Rated voltage	300 V
Impulse withstand voltage	4 kV
Insulation voltage	1.2 kV _{eff} / 5 s
Overvoltage category	III
Pollution severity	2
Clearance & creepage distances	≥ 3 mm

Input	
Input voltage / Input current	/ 0...20 mA
Input resistance, voltage/current	/ 50 Ω
Output	
Output voltage / Output current	0...10 V /
Load impedance, voltage/current	≥ 2 kΩ /
Cut-off frequency (-3 dB)	≥ 15 kHz (typ. 20 kHz)
General data	
Supply voltage	24 V DC ± 25 %
Power consumption	< 1.3 W @ I _{OUT} = 5 mA
Accuracy	< 0.2 % of end value
Temperature coefficient	≤ 250 ppm/K of final value
Step response time	≤ 40 μs (typ. 30 μs)
Ambient temperature	0 °C...+55 °C
Storage temperature	-20 °C...+85 °C
Approvals	cULus; CSA; CE
Insulation coordination	
Standards	EN 50178
EMC standards	EN 55011, EN 61000-6
Rated voltage	300 V
Impulse withstand voltage	4 kV
Insulation voltage	1.2 kV _{eff} / 5 s
Overvoltage category	III
Pollution severity	2
Clearance & creepage distances	≥ 3 mm

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Length x width x height	mm
Note	
Ordering data	
Screw connection	
Tension clamp connection	
Note	
Accessories	

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Length x width x height	mm
Note	

Screw connection		Tension clamp connection	
2.5 / 0.5 / 2.5	1.5 / 0.5 / 2.5	92.4 / 17.5 / 112.4	92.4 / 17.5 / 112.4

Screw connection	
2.5 / 0.5 / 2.5	92.4 / 17.5 / 112.4

Ordering data	
Screw connection	
Tension clamp connection	

Type	Qty.	Order No.
WAS5 CCC HF 0-20/0-20MA	1	8447160000
WAZ5 CCC HF 0-20/0-20MA	1	8447170000

Type	Qty.	Order No.
WAS5 CVC HF 0-20/0-10V	1	8447220000

Note	
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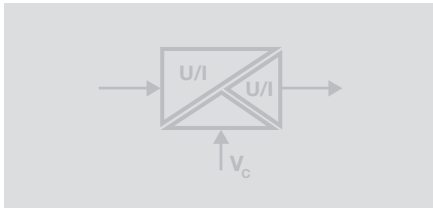
Accessories	
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Cross-connector for power supplies and markers – refer to Accessories		
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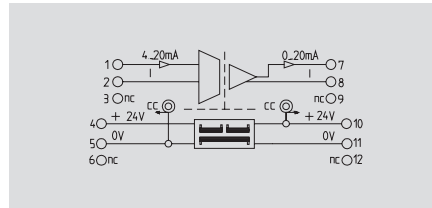
Cross-connector for power supplies and markers – refer to Accessories		
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20 kHz limiting frequency

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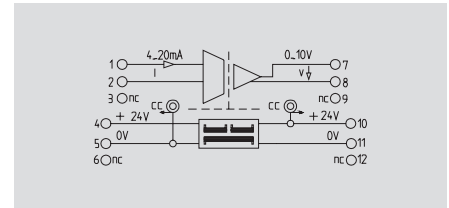


4...20 mA / 0...20 mA



4...20 mA / 0...10 V

UL Class I, Div. 2



Technical data

Input	
Input voltage / Input current	/ 4...20 mA
Input resistance, voltage/current	/ 50 Ω
Output	
Output voltage / Output current	/ 0...20 mA
Load impedance, voltage/current	/ ≤ 500 Ω
Cut-off frequency (-3 dB)	≥ 15 kHz (typ. 20 kHz)
General data	
Supply voltage	24 V DC ± 25 %
Power consumption	< 1.5 W @ I _{OUT} = 20 mA
Accuracy	< 0.2 % of end value
Temperature coefficient	≤ 250 ppm/K of final value
Step response time	≤ 40 μs (typ. 30 μs)
Ambient temperature	0 °C...+55 °C
Storage temperature	-20 °C...+85 °C
Approvals	cULus; CSA; CE
Insulation coordination	
Standards	EN 50178
EMC standards	EN 55011, EN 61000-6
Rated voltage	300 V
Impulse withstand voltage	4 kV
Insulation voltage	1.2 kV _{eff} / 5 s
Overvoltage category	III
Pollution severity	2
Clearance & creepage distances	≥ 3 mm

Input	
Input voltage / Input current	/ 4...20 mA
Input resistance, voltage/current	/ 50 Ω
Output	
Output voltage / Output current	/ 0...10 V /
Load impedance, voltage/current	≥ 2 kΩ / ≤ 600 Ω
Cut-off frequency (-3 dB)	≥ 15 kHz (typ. 20 kHz)
General data	
Supply voltage	24 V DC ± 25 %
Power consumption	< 1.3 W @ I _{OUT} = 5 mA
Accuracy	< 0.2 % of end value
Temperature coefficient	≤ 250 ppm/K of final value
Step response time	≤ 40 μs (typ. 30 μs)
Ambient temperature	0 °C...+55 °C
Storage temperature	-20 °C...+85 °C
Approvals	cULus; CSA; cULusEX; CE
Insulation coordination	
Standards	EN 50178
EMC standards	EN 55011, EN 61000-6
Rated voltage	300 V
Impulse withstand voltage	4 kV
Insulation voltage	1.2 kV _{eff} / 5 s
Overvoltage category	III
Pollution severity	2
Clearance & creepage distances	≥ 3 mm

Input	
Input voltage / Input current	/ 4...20 mA
Input resistance, voltage/current	/ 50 Ω
Output	
Output voltage / Output current	/ 0...10 V /
Load impedance, voltage/current	≥ 2 kΩ / ≤ 600 Ω
Cut-off frequency (-3 dB)	≥ 15 kHz (typ. 20 kHz)
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Standards	EN 50178
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Rated voltage	300 V
Impulse withstand voltage	4 kV
Insulation voltage	1.2 kV _{eff} / 5 s
Overvoltage category	III
Pollution severity	2
Clearance & creepage distances	≥ 3 mm

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Length x width x height	mm
Note	

Screw connection	
2.5 / 0.5 / 2.5	
92.4 / 17.5 / 112.4	
Note	

Screw connection	
2.5 / 0.5 / 2.5	
92.4 / 17.5 / 112.4	
Note	

Ordering data

Screw connection

Type	Qty.	Order No.
WAS5 CCC HF 4-20/0-20MA	1	8447250000

Type	Qty.	Order No.
WAS5 CVC HF 4-20/0-10V	1	8447280000

Note

Accessories

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Cross-connector for power supplies and markers – refer to Accessories

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WAVESERIES - DC/DC 3-way isolator

20 kHz limiting frequency

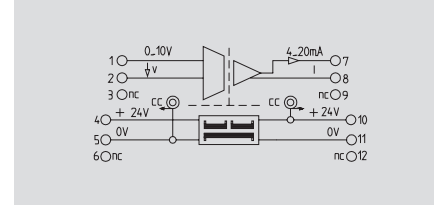
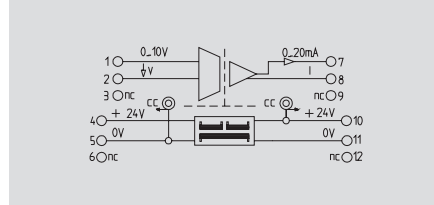
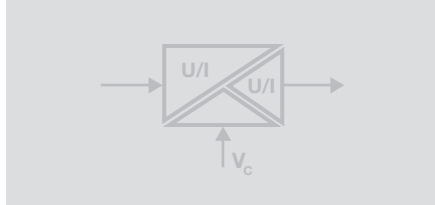
- Signal conversion
- Galvanic isolation between input / output signals and power supply
- Power supply can be cross-connected using plug-in jumpers.

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



0...10 V / 4...20 mA

UL Class I, Div. 2



Technical data

Input	Input voltage / Input current Input resistance, voltage/current
Output	Output voltage / Output current Load impedance, voltage/current Cut-off frequency (-3 dB)
General data	Supply voltage Power consumption Accuracy Temperature coefficient Step response time Ambient temperature Storage temperature Approvals
Insulation coordination	Standards EMC standards Rated voltage Impulse withstand voltage Insulation voltage Overvoltage category Pollution severity Clearance & creepage distances

0...10 V / 500 kΩ /
/ 0...20 mA / ≤ 500 Ω ≥ 15 kHz (typ. 20 kHz)
24 V DC ± 25 % < 1.5 W @ I _{OUT} = 20 mA ± 0.2 % of final value ≤ 250 ppm/K of final value ≤ 40 μs (typ. 30 μs) 0 °C...+55 °C -20 °C...+85 °C cULus; CSA; CE
EN 50178 EN 55011, EN 61000-6 300 V 4 kV 1.2 kV _{eff} / 5 s III 2 ≥ 3 mm

0...10 V / 500 kΩ /
/ 4...20 mA / ≤ 500 Ω ≥ 15 kHz (typ. 20 kHz)
24 V DC ± 25 % < 1.5 W @ I _{OUT} = 20 mA ± 0.2 % of final value ≤ 250 ppm/K of final value ≤ 40 μs (typ. 30 μs) 0 °C...+55 °C -20 °C...+85 °C cULus; CSA; cULusEX; CE
EN 50178 EN 55011, EN 61000-6 300 V 4 kV 1.2 kV _{eff} / 5 s III 2 ≥ 3 mm

Dimensions	Clamping range (nominal / min. / max.) mm ² Length x width x height mm
Note	

Screw connection	2.5 / 0.5 / 2.5 92.4 / 17.5 / 112.4

Screw connection	2.5 / 0.5 / 2.5 92.4 / 17.5 / 112.4

Ordering data

Screw connection

Type	Qty.	Order No.
WAS5 VCC HF 0-10/0-20MA	1	8447310000

Type	Qty.	Order No.
WAS5 VCC HF 0-10/4-20MA	1	8447340000

Note

Accessories

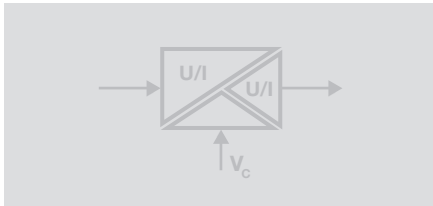
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Cross-connector for power supplies and markers – refer to Accessories

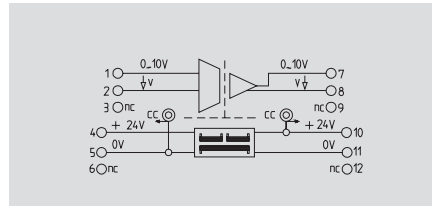
Cross-connector for power supplies and markers – refer to Accessories

20 kHz limiting frequency

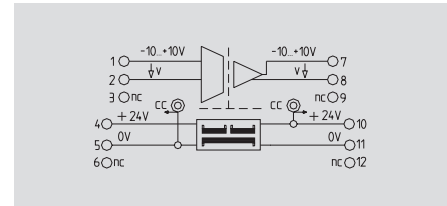
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- Power supply can be cross-connected using plug-in jumpers.



0...10 V / 0...10 V



-10 V...+10 V / -10 V...+10 V



Technical data

Input	
Input voltage / Input current	0...10 V /
Input resistance, voltage/current	500 kΩ /
Output	
Output voltage / Output current	0...10 V /
Load impedance, voltage/current	≥ 2 kΩ /
Cut-off frequency (-3 dB)	≥ 15 kHz (typ. 20 kHz)
General data	
Supply voltage	24 V DC ± 25 %
Power consumption	< 1.3 W @ I _{OUT} = 5 mA
Accuracy	± 0.2 % of final value
Temperature coefficient	≤ 250 ppm/K of final value
Step response time	≤ 40 μs (typ. 30 μs)
Ambient temperature	0 °C...+55 °C
Storage temperature	-20 °C...+85 °C
Approvals	cULus; CSA; CE
Insulation coordination	
Standards	EN 50178
EMC standards	EN 55011, EN 61000-6
Rated voltage	300 V
Impulse withstand voltage	4 kV
Insulation voltage	1.2 kV _{eff} / 5 s
Overvoltage category	III
Pollution severity	2
Clearance & creepage distances	≥ 3 mm

Input	
Input voltage / Input current	0...10 V /
Input resistance, voltage/current	500 kΩ /
Output	
Output voltage / Output current	0...10 V /
Load impedance, voltage/current	≥ 2 kΩ /
Cut-off frequency (-3 dB)	≥ 15 kHz (typ. 20 kHz)
General data	
Supply voltage	24 V DC ± 25 %
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Approvals	cULus; CSA; CE
Insulation coordination	
Standards	EN 50178
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Rated voltage	300 V
Impulse withstand voltage	4 kV
Insulation voltage	1.2 kV _{eff} / 5 s
Overvoltage category	III
Pollution severity	2
Clearance & creepage distances	≥ 3 mm

Input	
Input voltage / Input current	-10...+10 V /
Input resistance, voltage/current	500 kΩ /
Output	
Output voltage / Output current	-10...+10 V /
Load impedance, voltage/current	≥ 2 kΩ /
Cut-off frequency (-3 dB)	≥ 15 kHz (typ. 20 kHz)
General data	
Supply voltage	24 V DC ± 25 %
Power consumption	< 1.3 W @ I _{OUT} = 5 mA
Accuracy	± 0.2 % of measuring range
Temperature coefficient	≤ 250 ppm/K of measuring range
Step response time	≤ 40 μs (typ. 30 μs)
Ambient temperature	0 °C...+55 °C
Storage temperature	-20 °C...+85 °C
Approvals	cULus; CE
Insulation coordination	
Standards	EN 50178
EMC standards	EN 55011, EN 61000-6
Rated voltage	300 V
Impulse withstand voltage	4 kV
Insulation voltage	1.2 kV _{eff} / 5 s
Overvoltage category	III
Pollution severity	2
Clearance & creepage distances	≥ 3 mm

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Length x width x height	mm
Note	

Screw connection		Tension clamp connection	
2.5 / 0.5 / 2.5	1.5 / 0.5 / 2.5	92.4 / 17.5 / 112.4	92.4 / 17.5 / 112.4
Note		Note	

Screw connection	
2.5 / 0.5 / 2.5	92.4 / 17.5 / 112.4
Note	

Ordering data

Screw connection	
Tension clamp connection	
Note	

Type	Qty.	Order No.
WAS5 VVC HF 0-10/0-10V	1	8447370000
WAZ5 VVC HF 0-10/0-10V	1	8447380000
Note		

Type	Qty.	Order No.
WAS5 VVC HF +-10V/+10V	1	8561610000
Note		

Accessories

Cross-connector for power supplies and markers – refer to Accessories

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