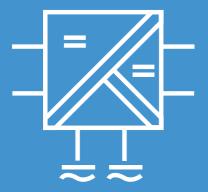
## IsoAmp® 7000/8000



Universal models up to I<sub>I</sub> = 3000 V and I<sub>I</sub> = 5 A

The IsoAmp® 7000/8000 DC isolation amplifiers work bipolar as active amplifiers with transformer isolation between the input and sequential circuit. A special winding technique in conjunction with continuous Kapton insulation allows high isolation voltages.

At the same time the switching technology and device construction ensure excellent transmission values that are reflected, among other things, in the zero stability, linearity, long-term stability and frequency response.

Extensive optional equipment allows special applications for input voltages of 200 V to 3000 V or input current of 50 mA to 5 A to be implemented.



# Warranty **5 years**

Defects occurring within 5 years from delivery are remedied free of charge at our plant (carriage and insurance paid by sender).

## **Product line**

Devices	Order no.
Free wiring, with current output Free wiring, with voltage output	7001 A1 8001 A1
Power supply	
230 V AC	
24 V, ±15 %, 48 62 Hz, approx. 2 VA	06
110 V, ±15 %, 48 62 Hz, approx. 2 VA	63
11.5 15.5 V DC or 20.5 27.5 V DC, switchable, approx. 1.5 W	74
60 V DC, ±15 %, approx. 1.5 W	213
110 V DC, ±15 %, approx. 1.5 W	243
Options	
Gain adjustment to customer requirements in the range $V_1 > 200 \text{ V} \le 800 \text{ V}$ or $I_1 > 50 \text{ mA} \le 5 \text{ A}^{1)}$	155
Gain adjustment to customer requirements in the range V <sub>I</sub> >800 V ≤1000 V <sup>1)</sup>	156
Gain adjustment to customer requirements in the range $V_1 > 1000 \text{ V} \le 3000 \text{ V}^{1)}$	414
Zero offset to customer requirements 1)	50
Unipolar input, output 4 20 mA, live zero, additional error ±10 μA at output	55
Output 20 mA, 20 V, unipolar	59
8000 A1: Output voltage unipolar ≤ 20 V	189
7000 A1: Rectifier in signal path	152
Test voltage 7 kV AC input against output/power supply	179
Silicone emission free	253
Increased shock, vibration and moisture resistance	255

<sup>1)</sup> Please indicate required setting when ordering

# **Specifications**

Input data	7001	800	1	
Input (optional fixed setting upon customer request 1)	V: ±200 V to ±3000 V I: ±50 mA to ±5 A		200 V to ±3000 V 50 mA to ±5 A	
Input resistance	Dependent on measuring range			
Overload	Input: I < 250 V I Overload: I 300 V I		150 mA	
Output data	7001	800	1	
Output impressed	±20 mA, 10 V	± 10	V, 20 mA	
Residual ripple	≤30 mV <sub>pp</sub>			
Transmission behavior				
Gain error	Dependent on measuring range (from 0.2 % of measured value)			
Cut-off frequency	10 kHz $-3$ dB, $V_0 \le 3 V_{pp}$ 2 kHz $-3$ dB, $V_0 \le 10 V_{pp}$ (other values available upon request)			
Temperature coefficient	$\leq$ 5 nA/K, $\leq$ 10 $\mu$ V/K $\pm$ 0.0025 %/K of measured value (reference temperature 23 °C)			
Power supply				
Power supply <sup>2)</sup>	230 V –15 % +10 %, 48 62 Hz, approx. 3 VA			
Isolation				
Galvanic isolation	3-port isolation between input, output and power supply			
Test voltage	Input/output/power supply: 5 kV AC Opt. 213 and 243: Output/power supply: 1.5 kV AC Opt. 74: Output/power supply: 750 V AC Opt. 179: Output/power supply: 7 kV AC			
Working voltage (basic isolation)	Permitted working voltage/ov Version	ervoltage category/po Input against outpu and power supply	ollution degree according to EN 6101 t Power supply against output	
	All versions Except for opt. 74, 213, 243	1500 V-/III/degree 1400 V-/III/degree 630 V≂/III/degree	2 1300 V-/III/degree 2	
	Option 74	1500 V−/III/degree 1400 V−/III/degree 630 V≂/III/degree	2 150 V≂/I /degree 2	

#### Specifications, continued

#### Standards and approvals

EMC	EMC directive 89/336/EEC

#### Other data

Ambient temperature	-10 +70 °C
Enclosure	See dimension drawings for further measurements, screw clamps
Protection class	Case IP 40, terminals IP 20

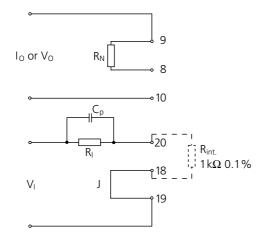
Mounting With snap-on mounting for 35 mm standard rail according to EN 46277 or screw mounting max. M5, see dimension drawing for conductor cross section

Weight Approx. 400 g

### Wiring examples

Voltage input:

Range settings with series resistor for any input voltages



 $\begin{array}{lll} \mbox{Model 7001:} & \mbox{$R_N = 5$ $\Omega$} \\ \mbox{Model 7001, Opt. 55:} & \mbox{$R_N = 6.25$ $\Omega$} \\ \mbox{Model 8001:} & \mbox{$R_N = 207$ $\Omega$} \end{array}$ 

$$R_I = \frac{V_I}{0.1 \text{ mA}} - 1 \text{ k}\Omega$$

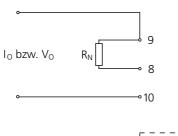
Input current: 0.1 mA

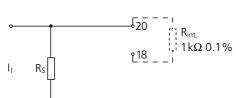
$$C_P = \frac{47 \, nF \cdot 1 \, k\Omega}{R_I}$$

Input resistance:  $R_I + 1 \, k\Omega$ See Specifications for cut-off frequency  $V_I$  in mV

Current input:

Range setting with shunt resistor R<sub>s</sub> (voltage drop at R<sub>s</sub>: 100 mV)





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$$R_S = \frac{100 \text{ mV}}{I_I}$$

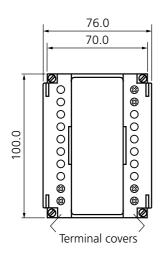
 $I_I$  in mA

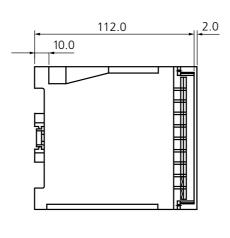
Voltage drop at R<sub>S</sub>: 100 mV

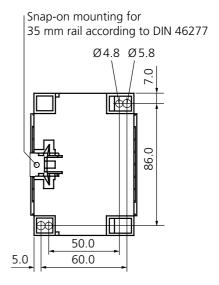
See Specifications for cut-off frequency

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## **Dimension drawings and terminal assignments**

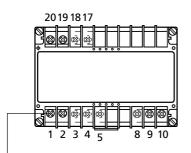






All dimensions in mm.

View without terminal covers



Flat-type terminals with self-releasing clamping pieces to DIN 46206 and DIN 57609/VDE 0609, conductor cross section up to 2 x  $2.5~\text{mm}^2$ , min. 1 or 2 x  $0.2~\text{mm}^2$ 

Terminal assignments

- 1 Power supply -
- 2 Power supply +
- 3 Jumper 11.5 ... 15.5 V Opt. 74
- 4 Jumper 20.5 ... 27.5 V
- 5
- 9 Output ±
- 10 Output 0
- 17 Input  $\pm (V_1 > 200 \text{ V})$
- 19 Input  $\pm (V_1 \le 200 \text{ V})$
- 20 Input (

Models 7001/8001 without Opt. 155/156/414

- 8 Negative-feedback
- 9 resistor R<sub>N</sub>
- 17 n.c.
- $^{18}$  Jumper for 1  $k\Omega$   $R_{int.}$