HV-Isolation Amplifier / Transducer
DK 8400

Conversion and Isolation of Voltages up to ±1000 V

The HV-Isolation Amplifier/Transducer DK 8400 is used for conversion and galvanic isolation of bipolar und unipolar Voltages up to ± 1000 V DC.

The order key allows you to select the desired input and output ranges to which the unit will be adjusted at the factory before delivery. If required a measuring range compensation can be performed using the Zero/Scan potentiometers on the front of the device.

The slim housing with 12.5 mm width saves space in your switch cabinet and facilitates by the practical plug-in screw terminal blocks the assembly.

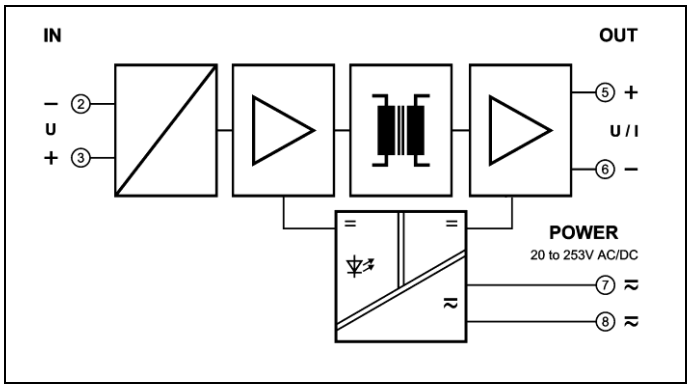
The new universal power pack for 20 to 253 V AC/DC means the DK 8400 can be used anywhere in the world, with all mains power supplies. A green LED on the front of the unit has been provided to monitor the power supply.

Analog signal processing ensures precise measurements with fast response times and excellent signal reproduction at the output, with an optional filter function.

The high efficiency of the innovative circuit technology significantly reduces the device's self-heating. This results in extremely high reliability and long-term stability.

- **Excellent transmission characteristics**
  Precise conversion of unipolar and bipolar input and output signals
- **Easy commissioning**
  Ready to use without any settings or adjustments
- **High bandwidth, high accuracy**
  No distortion, no falsification of measured signal, optional with filter function
- **Universal power supply for 20...253 V AC/DC**
  Applicable world-wide for all common supply voltages
- **True 3-port Isolation**
  Protection against erroneous measurements due to parasitic voltages or ground loops
- **Extremely compact design**
  12.5 mm housing with plug-in screw terminal blocks
- **5 Years Warranty**
  Defects occurring within 5 years from delivery date shall be remedied free of charge at our plant

Block diagram



Product line

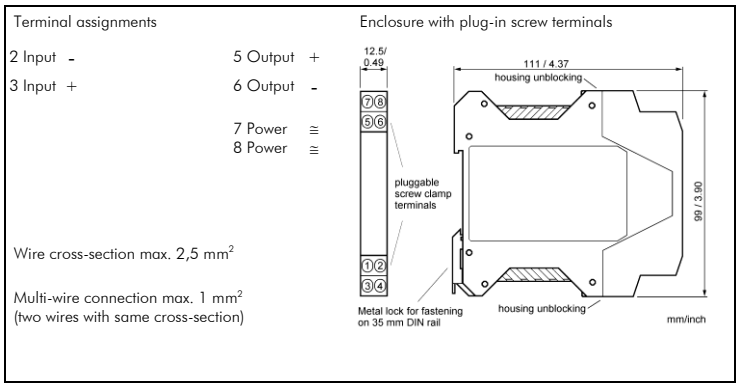
Devices		Order No.		
HV-Isolation Amplifier		DK 8400 -	☐	☐
Input	± 1000 V		0	
	0 … 1000 V		1	
	± 900 V		2	
	0 … 900 V		3	
	± 800 V		4	
	0 … 800 V		5	
	± 750 V		6	
	0 … 750 V		7	
	± 700 V		8	
	0 … 700 V		9	
	± 650 V		A	
	0 … 650 V		B	
	± 600 V		C	
	0 … 600 V		D	
	± 550 V		E	
	0 … 550 V		F	
	± 500 V		G	
	0 … 500 V		H	
	± 450 V		J	
	0 … 450 V		K	
	± 400 V		L	
	0 … 400 V		M	
	± 350 V		N	
	0 … 350 V		P	
	± 300 V		Q	
	0 … 300 V		R	
	± 250 V		S	
	0 … 250 V		T	
	± 200 V		U	
	0 … 200 V		V	
	± 150 V		W	
	0 … 150 V		X	
	± 100 V		Y	
	0 … 100 V		Z	
Output	± 10 V			0
	0 … 10 V			1
	2 … 10 V			2
	± 5 V			3
	0 … 5V			4
	± 20 mA			5
	0 … 20 mA			6
	4 … 20 mA			7
	± 10 mA			8
	0 … 10 mA			9
	customized		DK 8400 -SXXX	

Technical Data

Input					
Input ranges	max. ± 1000 V DC Fixed ranges see product line				
Input resistor	Approx. 5 MΩ				
Overload (permanent)	max. ± 2000 V DC				
Output	Voltage			Current	
Output signals	± 10 V ± 5 V Fixed ranges see product line	0 ... 10 V 0 ... 5 V	2 ... 10 V	± 20 mA ± 10 mA	0 ... 20 mA 0 ... 10 mA	4 ... 20 mA
Load	≤ 10 mA (1 kΩ at 10 V)			≤ 12 V (600 Ω at 20 mA)	
Residual ripple	< 10 mV_{rms}				
General Data					
Transmission error	< 0.2 % full scale				
Temperature coefficient [1]	< 100 ppm/K				
Linear transmission range	unipolar: - 2 ... + 110 %		bipolar: - 110 ... + 110 %		
Zero/Span compensation	± 10 %				
Cut-off frequency -3 dB	10 kHz		DK 8400-☐☐ F: Filter	30 Hz	
Response time T_{99}	80 µs			20 ms	
Galvanic isolation	3-port isolation between input, output, and power supply				
Test voltage	5 kV AC, 50 Hz, 1 min. input against output 4 kV AC, 50 Hz, 1 min. output against power supply				
Working voltage [2] (Basic Insulation)	1000 V AC/DC for overvoltage category II and pollution degree 2 acc. to EN 61010–1				
Protection against electrical shock [2]	Protective separation according to EN 61140 by reinforced insulation in accordance with EN 61010–1 up to 600 V AC/DC for overvoltage category II and pollution degree 2				
Ambient temperature	Operation - 20 °C bis + 70 °C (- 4 bis + 158 °F) Transport and storage - 35 °C bis + 85 °C (- 31 bis + 185 °F)				
Power supply	20 ... 253 V AC/DC	AC 48 ... 62 Hz, ca. 2 VA DC ca. 1.0 W			
EMC[3]	EN 61326 -1				
Construction	12.5 mm (0.49") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715				
Weight	Approx. 100 g				

1) Average TC related to full scale value in specified operating temperature range, reference temperature 23 °C
2) For applications with high working voltages, ensure there is sufficient spacing or isolation from neighboring devices and protection against electric shocks.
3) Minor deviations possible during interference

Dimensions



Subject to change!