

## IVxx

IEPE power supplies.

### Uses

- Constant current power supply for IEPE transducers and IEPE microphones

### Features

- Any number of inputs and outputs available
- Optional amplification: 0 dB, +20 dB, +40 dB switchable
- Optional filter, e.g. A-weighting, high-pass, low-pass
- Overload indication and sensor indication per channel
- BNC input and output sockets
- 12 V DC mains operation and / or battery operation



3-channel IEPE-power supply with amplification

The devices in the IVxx series supply the constant current required for IEPE sensors. The power supply devices can be freely configured so that any number of channels, amplification, filters, housing shape, etc. can be freely selected by the customer.

The devices in the IVxx series can be operated in battery operation completely independently of a power supply or in mains operation with 12 V DC, for example by connecting to the vehicle electrical system. The included power adapter allows you to charge the batteries from a normal power supply.

### Technical background

Integrated Electronics Piezo-Electric (IEPE) power supply refers to a method of powering sensors, particularly piezoelectric sensors, used in various measurement and instrumentation applications. ICP®, CCLD, Isotron®, Deltatron®, Piezotron® are manufacturer names for sensors of this principle.



The IEPE power supply typically supplies the sensor with a 4mA constant current. This constant current source is essential for maintaining the stability of the sensor and ensuring reliable measurements.




IEPE sensors typically have a low output impedance, allowing efficient signal transmission over long cables without significant signal degradation.




Another advantage of IEPE is that the sensor is powered via a single coaxial cable. This simplifies cabling in complex measurement setups.

A disadvantage of this principle is that it creates inherent noise, which influences the measurement result (see technical data).

## Types

Item	IV10	IV20	IV30	IV40
				
Number of Inputs / Outputs	1	2	3	4
Gain	-	-	-	-
Filter	Optional	Optional	Optional	Optional
Dimensions of cabinet	105 x 45 x 85 mm	105 x 65 x 85 mm	105 x 65 x 85 mm	105 x 65 x 85 mm

Item	IV11	IV21	IV31	IV41
				
Number of Inputs / Outputs	1	2	3	4
Gain	0 dB, +20 dB, +40 dB switchable	0 dB, +20 dB, +40 dB switchable	0 dB, +20 dB, +40 dB switchable	0 dB, +20 dB, +40 dB switchable
Filter	Optional	Optional	Optional	Optional
Dimensions of cabinet	105 x 45 x 85 mm	105 x 65 x 85 mm	105 x 65 x 85 mm	105 x 65 x 85 mm

Item	IV60	IV80	IV160N	IV300A
				
Number of Inputs / Outputs	6	8	16	30
Gain	-	-	-	-
Filter	Optional	Optional	Optional	A-Filter
Dimensions of cabinet		19", 1HE	19", 1HE	

## Technical Data

### Analog Inputs

Number: ..... depends on type  
IEPE voltage: ..... +24 V / 4 mA  
Input resistance: ..... 1 M $\Omega$   
Connector: ..... BNC  
Frequency range: ..... 0.2 Hz – 100 kHz (-3 dB)

### Analog Outputs

Number: ..... same as inputs  
Connectors: ..... BNC  
Output resistance: ..... 50  $\Omega$

### Amplifier gain (optional)

Gain, switchable: ..... 0 dB, +20 dB, +40 dB  
Accuracy: ..... < 0.5 %

### Inherent noise

0 dB: < 70  $\mu$ V Linear, < 20 $\mu$ V A-weighted  
+20 dB: < 150  $\mu$ V Linear, < 30 $\mu$ V A-weighted  
+40 dB: < 300  $\mu$ V Linear, < 120 $\mu$ V A-weighted

Overload indication at: ..... 6 V<sub>rms</sub>

### LED Indication

„Overload“ ..... red  
„Sensor o.k.“: ..... green  
“Ext.” (mains operation): ..... yellow  
“Power on / low”:: ..... green / red

### Power Supply

External: ..... 12 V DC  
Rechargeable Batteries: ..... 4 x 1.25 V  
Battery life: ..... > 8 h  
Current Consumption: .. depends on number of channels

### Operating conditions

Working temperature range: +/- 0 °C to +50 °C

### Mechanical Data

Material: ..... Aluminum  
Dimensions (up to 4 ch.) (W x H x D):  
..... 105 x 65 x 85 mm  
Weight: ..... approx. 600 g

### Accessories included

External AC adaptor, 100-240 VAC / 12 VDC

### Optional Accessories

Cables and sensors on request

Messelektronik Ulrich Falm reserves the right to change specifications and accessories without notice.