

Specification

The ICPU signal conditioner /converter is used to convert outputs of vibration (pressure) sensors with ICP interface (IEPE) to the voltage inputs of signal evaluation circuits (PLC, measuring cards, data logger etc.).

Description

The ICPU converter provides power supply and constant current for the sensor, the output is an alternating voltage signal with the possibility of amplification 1x or 10x. The converter indicates the presence of external power supply, correct sensor connection and set gain by means of LED diodes. An external 5V DC power supply (ICPU-05) or 24V DC (ICPU-24) must be connected to supply the converter and the connected sensor. With the exception of the supply voltage, the characteristics of both types of converters are the same.

Assembly and positioning

The converter is designed for installation on a 35mm DIN rail. The converter can be mounted in any position.

Indication and control elements

OUT switch - switch the signal gain, indicated by the LED next to the switch:

+ 20dB - 10x gain, is red

0dB - gain 1x, is green

Sensor - indication of sensor connection

ICP sensor (IEPE) connected - LED is green

ICP sensor (IEPE) disconnected - LED is off



Connection

Power supply - 5V or 24V, terminals +, -

The supply voltage is galvanically separated from other circuits, it is possible to use one external power supply for a group of converters.

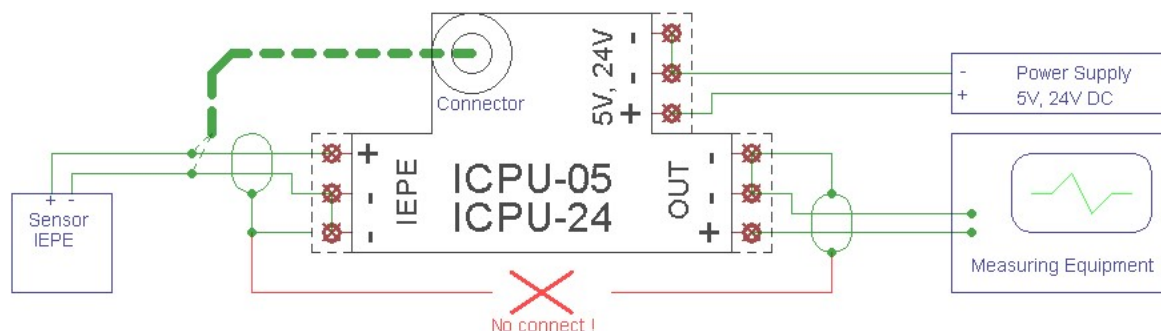
IEPE - sensor connection, terminals +, -

The sensor can be connected either to the IEPE terminal block or to the BINDER 712 - 7 pin connector. It is not allowed to connect two sensors at the same time.

OUT - output, terminals +, -

The convertor output should be connected to the measuring with a shielded cable.

Notice: 1) 2 terminals marked "-" (minus) placed next to each other are connected inside, it is possible to use any of them
2) IEPE and OUT circuits must not be connected. It is assumed that the negative pole of the sensor is not connected to the housing and therefore there is no connection neither via the machine ground nor output shield.



Technical specification	ICPU-24	ICPU-05
Power supply voltage	24V DC \pm 10%	5V DC \pm 10%
Power supply current max.	25 mA	120 mA
Sensor current	(4 \pm 0,5)mA	
Sensor voltage max.	28V	
Frequency range	1Hz \div 10000Hz (3dB)	
Amplitude voltage IEPE, OUT	0V \div \pm 8V	
Signal gain	1x or 10x, switchable	
LED indication	POWER, Sensor BIAS OK, Signal gain	
Connection –screw terminals	POWER, Sensor input, Signal output	
Connection – Binder connector	Binder 09-0424-00-07	
Mounting and case material	DIN 35 rail, polyamide PA UL	
Width x Length x Weight	17,5 x 98 x 57 mm	