

Measuring transducer

I30 for alternating current

U30 for alternating voltage

I30 and U30 are transducers converting a sinusoidal AC current/ voltage into a load independent DC signal proportional to the measured value that can be connected to one or several receiving instruments such as indicators, recorders, controllers etc.

The transducers measure rectified average value and show effective value at sine wave-form. They work without auxiliary power and have galvanic separation between in- and output.

I30 and U30 are mounted directly on profiled bar 35 EN 50022. Connection to self-opening clamps for max 2,5 wires. The transducers are manufactured according to IEC688.

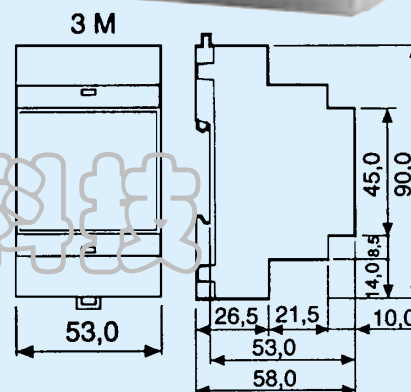
Order facts:

Type	Output	External load
I30-151 U30-151	0 – 5 mA	0-3000 Ω
I30-152 U30-152	0 – 10 mA	0-1500 Ω
I30-153 U30-153	0 – 20 mA	0-750 Ω

Orderform:

Measuring transducer for alternating current

Type I30-153
Input 0 – 5 A, 50 Hz
Output 0 – 20 mA



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Technical data

Input I30

Measuring range any value between 0,5 and 7,5 A

Standard ranges 0 – 1/2/5/6 A

Frequency range 45-55 Hz alt. 55-65 Hz

Consumption (burden) 0,5 – 1 VA

Overload capacity $2 \times I_n$ continuously
 $40 \times U_n$ during 0,5 s (max 200 A)

Input U30

Measuring range any value between 20 and 500 V

Standard ranges 0-110/120/132/137,5/250/500 V

Frequency 45-55 alt. 55-65 Hz

Consumption (burden) 0,5 – 1 VA

Overload capacity $1,5 \times U_n$ continuously
 $2 \times U_n$ during 0,5 s (max 200A)

Output

Output signal min 0-5 mA
max 0-20 mA

Standard ranges 0...5/10/20 mA

For 4-20 mA or 0-10 V chose types I/U40

Load max 15 V

Current limitation 140%

Ripple <1% p.p.

General data

Accuracy class 0,5 according to IEC688
(for U30: 20-120%)
0,2 on request

Linearity error <0,2%

Response time 0-90% <120 ms

Temperature influence <0,1% / 10°C

Temperature range -25...+60°C operation
-40...+70°C storage

Test voltage 5,6 kV, 50 Hz, 1 min

Weight 0,4 kg

Options on request

Standards

General standards for measuring transducers

EN60688, IEC688

EMC

emission EN50081-2
immunity EN50082-2 *

Safety

EN61010-1, IEC1010-1

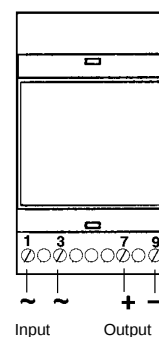
Inputs

overvoltage cat. III

Outputs

overvoltage cat. II

Pollution degree 2



Connection diagrams I/U30



Design

The transducer consists of an input transformer that transforms the input signal to a proper level and at the same time gives galvanic separation between in- and output.

In the next stage rectifying and smoothing is made after which the signal is fed to the output amplifier. Here the signal is transformed to a proportional load independent DC signal.

The power supply to the output amplifier is taken internally from the input signal.

*) At certain frequencies minor deviations from the class accuracy may occur during the disturbance.