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 proportinal 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 effetctive 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.

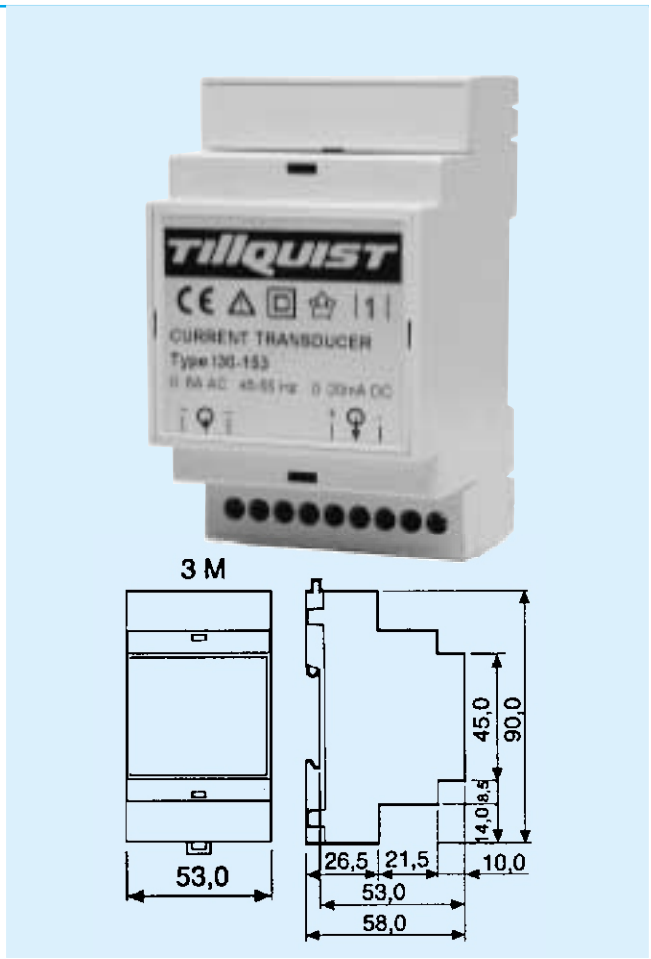
Order facts:

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



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 × I_{in} continuously 40 × U_{in} 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 × U_{in} continuously 2 × U_{in} during 0,5 s (max 200A)

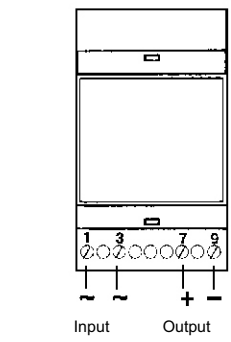
Output

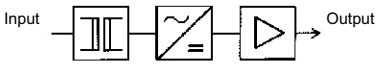
Output signal	min 0-5 mA max 0-20 mA
Standard ranges	0□5/10/20 mA
For 4-20 mA or 0-10 V	chose types I/U40
Load	max 15 V
Current limitation	140%
Ripple	<1% p.p.

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

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

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.

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