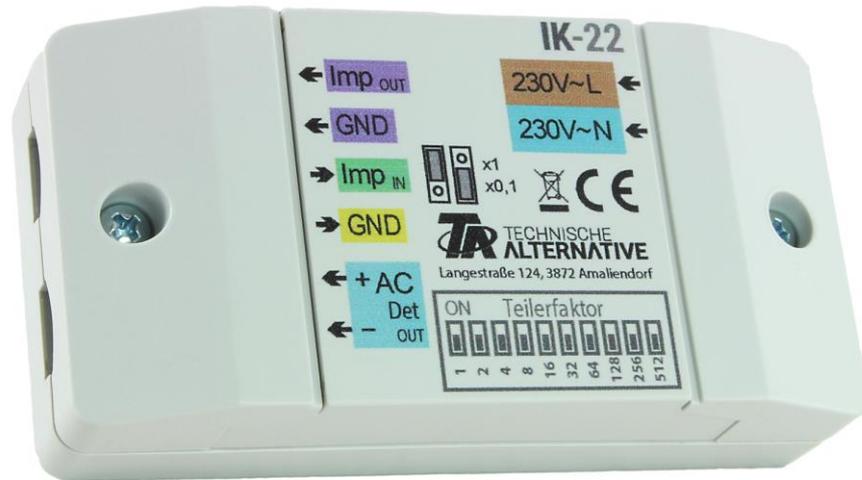




Pulse converter



Function

The IK22 pulse converter combines three different applications in one device.

However, the IK22 cannot be used simultaneously as a pulse divider (1.) and an AC/DC converter (2.).

1. Pulse divider

The pulse converter converts and divides pulse signals from third party devices into pulse signals that can be processed by controllers from Technische Alternative.

The signals can come from a potential-free contact (e.g. Reed contact) or the open collector output of an NPN transistor. The "Teilerfaktor" (dividing factor) can be set to between 0.1 and 1023 using the DIP switches and a jumper.

2. AC/DC converter + voltage pulse converter

At another input, a 230 V/50 Hz signal is converted into a digital signal and pulse signals for the sensor input of a controller.

If 230 V AC is present at the terminals, **ON** is shown at the sensor input of the controller via a dedicated output of the IK22; if no voltage is present, **OFF** is shown.

Pulses are generated at the output of the pulse divider in accordance with the dividing factor, whereby 100 Hz is applied as the input frequency (half cycles of mains voltage).



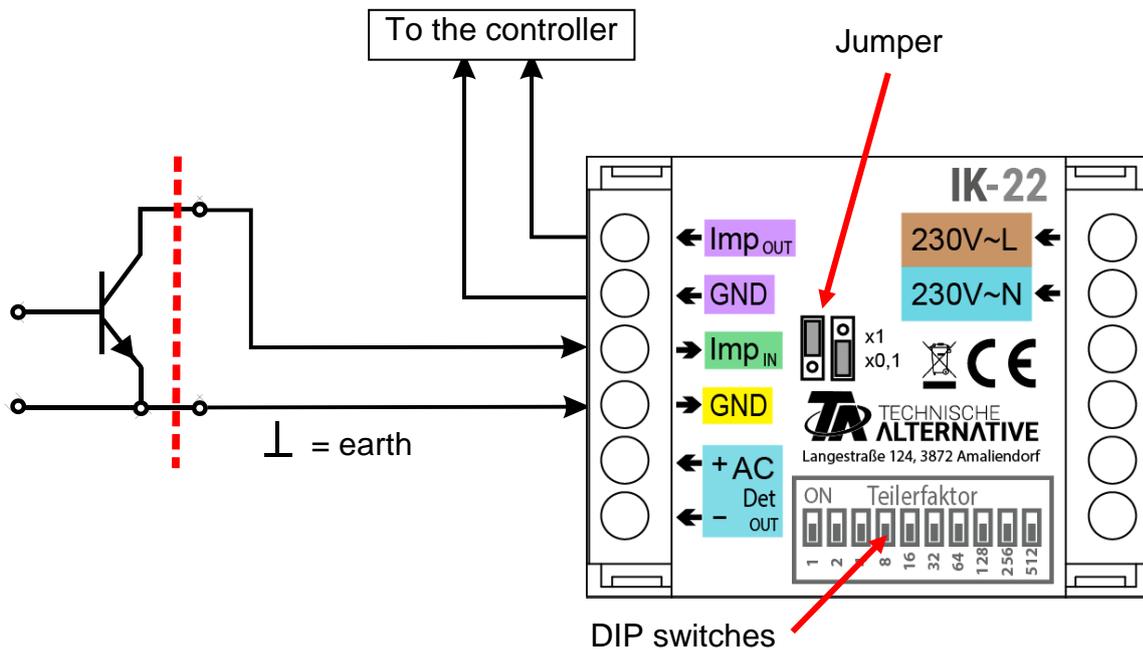
If the IK22 is used as an AC/DC converter, any installation and wiring work on the IK22 must only be carried out at zero volt.

The device may only be opened, connected and commissioned by specialist personnel. When doing so, all local safety requirements must be adhered to.

Usage as a pulse divider

Connections

Example: Connection of an open collector output to the input



When connecting an open collector output, ensure the earth lead is connected correctly.

Input signal

The **maximum frequency** of the input signal depends on the **"Teilerfaktor" (dividing factor)** settings.

The maximum frequency of the **output signal** is always 16.67 Hz. The maximum frequency at the input with a dividing factor of e.g. 100 is therefore: 16 Hz x 100 = 1667 Hz.

If the input frequency exceeds this maximum frequency, the "excess" pulses will be stored and issued again with the maximum output frequency once the input frequency has been reduced or the input pulses have finished, until the number of pulses is correct again in accordance with the dividing factor.

However, the maximum input frequency that the IK22 can capture is limited to 10 kHz.

"Teilerfaktor" (dividing factor)

The dividing factor is adjusted via the DIP switches using the binary system. With the **jumper** set to **position 0.1**, the dividing factor is **reduced** by a factor of 10. The values of the switches that are in the **ON** position are added together.

DIP switch	1	2	3	4	5	6	7	8	9	10
"Teilerfaktor" (dividing factor)	1	2	4	8	16	32	64	128	256	512
Dividing factor with jumper x0.1	0.1	0.2	0.4	0.8	1.6	3.2	6.4	12.8	25.6	51.2

Examples:

Division rate **250**: DIP switches **ON**: 8 + 7 + 6 + 5 + 4 + 2 + jumper in position x1

Division rate **5.5**: DIP switches **ON**: 6 + 5 + 3 + 2 + 1 + jumper in position x0.1

If **none** of the DIP switches are set to ON, then the dividing factor is always **1**, regardless of the jumper position.

Output signal

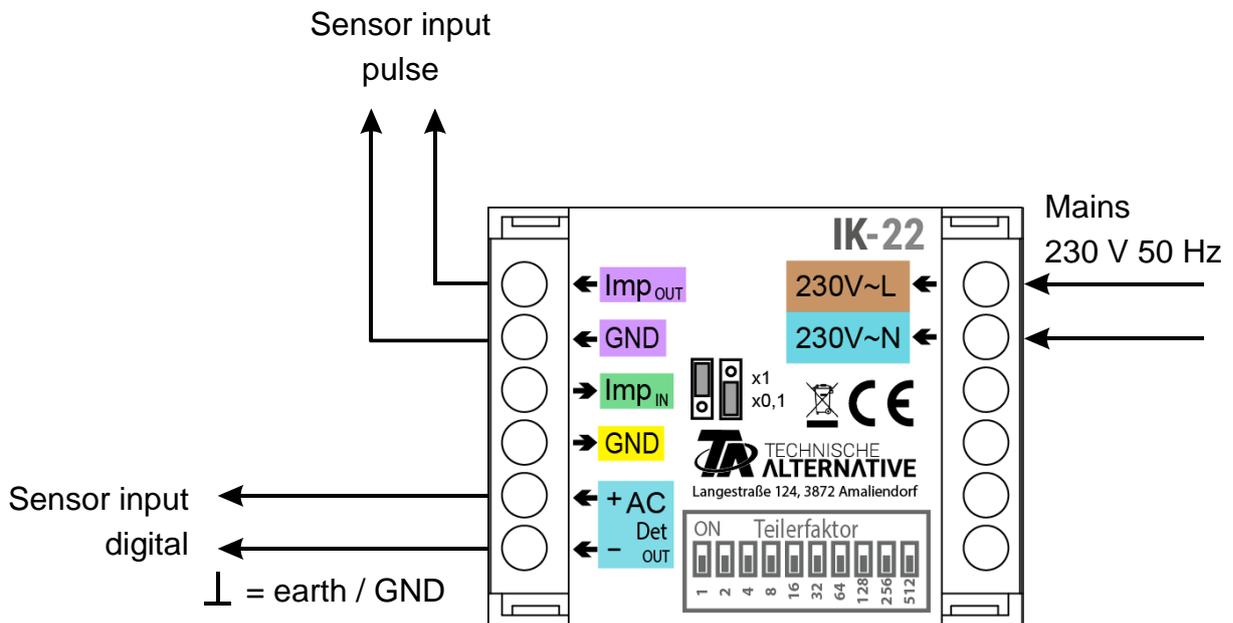
The output signal can be connected to the following controller inputs:

Controller	Input no.
UVR16x2	15, 16
RSM610	6
CAN-EZ2	5, 6

The pulse duration (ON) of the output signal is **constant** and lasts **30 ms**.

Usage as an AC/DC and voltage pulse converter

Connections



The sensor input of the controller must be defined as a digital input (AC/DC converter) or a pulse input (voltage pulse converter).

Observe the polarity when making connections to the controller input.

The pulse length of the voltage pulse converter is **30 ms**. The same controller inputs can be used as for the pulse divider.

When generating the **pulse signal**, please note that **100 Hz** is applied as the base frequency for the mains input (half cycles).

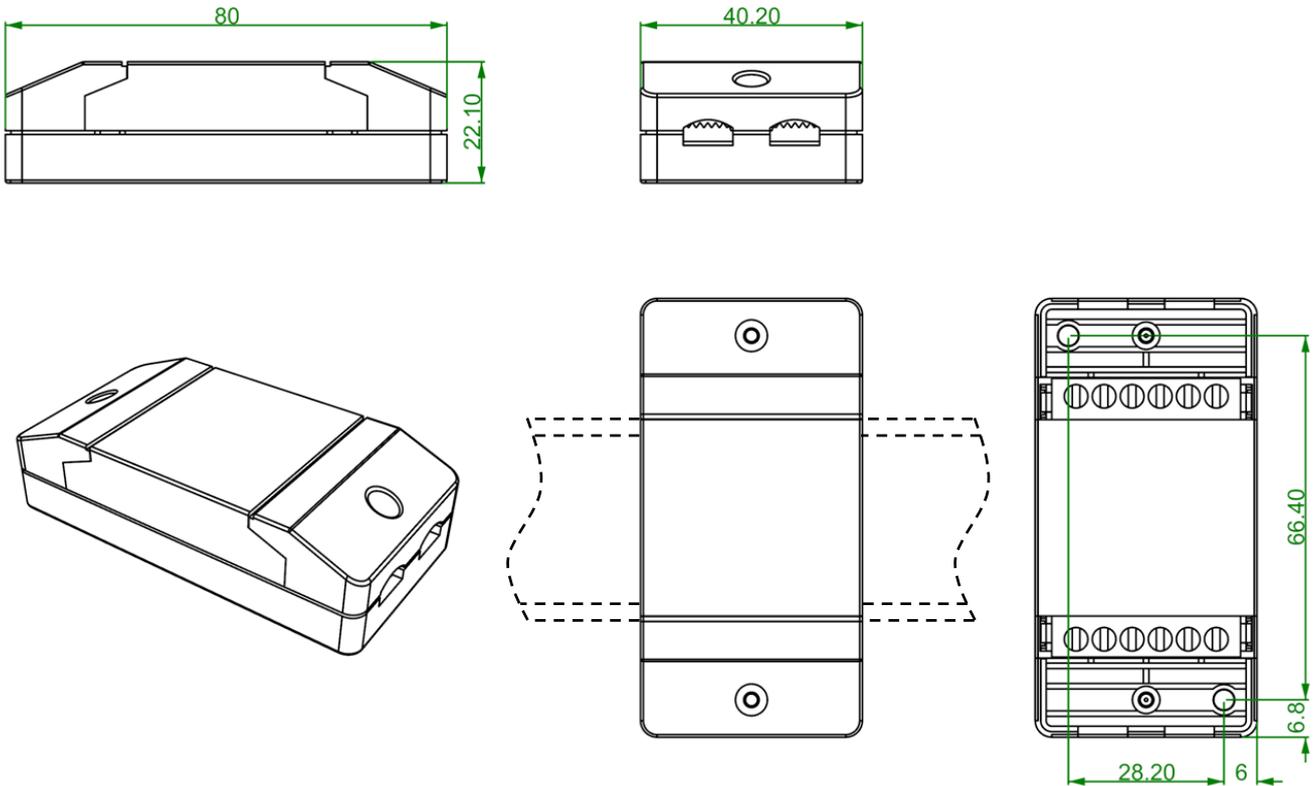
Example: In order to generate **one pulse per second**, the dividing factor must be set to **100** (set DIP switches 3, 6 and 7 to **ON**).

Power supply

For use as a pulse divider, power is supplied via the pulse sensor input of the connected controller.

If the pulse converter is only used as an AC/DC converter, the IK22 is supplied with power via the mains input.

Dimensions in mm



Top-hat rail installation
(support rail TS35 to
standard EN 50022)

Technical data	
IP rating	IP 40
Terminal area	Max. 1.5 mm ²
Max. ambient temperature	45 °C

Subject to technical modifications

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