

# WKO

Active current transformers

## Compensation current transformer (Closed loop current transformers)

WKO current sensors work in accordance with the proven compensation principle and are suitable for measuring direct, alternating and mixed currents. The primary current generates a magnetic flux, which is compensated by an internal

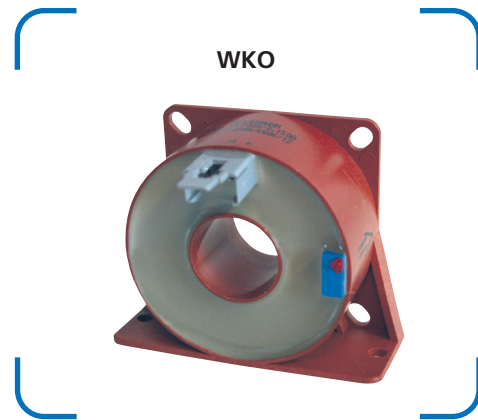
secondary coil. The current is evaluated by an electronic circuit and a Hall sensor. The secondary compensating current is a precise representation of the primary current to be measured.

### Advantages (electrical)

- Measurement of direct, alternating and mixed currents
- Very high precision and short response time
- Broad frequency spectrum and low temperature drift
- Very good linearity and overcurrent resistance
- No additional losses in the measuring circuit (DC to 150 kHz)
- Current output for lengthy transmission lines
- High-quality UL listed insulating materials (e.g. UL94-V0)

### Advantages (mechanical)

- Assembly-friendly design
- Variable connections, e.g. clamps, plugs, flat-cable plugs or cables
- Wide range of housings with various pushthrough openings



### Electrical data

WKO							
Type	WKO 25	WKO 50	WKO 100	WKO 300	WKO 500	WKO 1000	WKO 2000
Primary RMS Nominal current IPN [A]	25	50	100	300	500	1000	2000
Measurement range IP [A]	0 ... ±35	0 ... ±70	0 ... ±150	0 ... ±500	0 ... ±1000	0 ... ±1500	0 ... ±3000
Supply UC [V]	±12...15	±12...15	±12...15	±12...15	±12...24	±12...24	±12...24
Accuracy XG@I <sub>pn</sub> [-20...70°C] von IPN [%]	< ±0,9	< ±1	< ±1	< ±1	< ±1	< ±1	< ±1
Ratio KN	1000	1000	1000	2000	5000	5000	5000
Secondary RMS Nominal current ISN [mA]	25	50	100	150	100	200	400
Secondary winding current Resistance Rs@70°C [Ω]	16	43	24	30	72	48	27
No load Current [mA]	36+IS	11+IS	36+IS	36+IS	36+IS	24+IS	78+IS

## Accuracy and dynamic data

WKO							
Type	WKO 25	WKO 50	WKO 100	WKO 300	WKO 500	WKO 1000	WKO 2000
Linearity error $e$ [%]	< $\pm 0,1$	< $\pm 0,1$	< $\pm 0,1$	< $\pm 0,1$	< $\pm 0,1$	< $\pm 0,1$	< $\pm 0,1$
Offset error@25°C IO [mA]	< 0,3	< 0,3	< 0,4	< 0,2	< 0,2	< 0,3	< 0,5
Offset Drift -25°C ... +70°C IOT [mA]	< 0,5	< 0,5	< 1	< 0,5	< 0,5	< 0,5	< 0,5
Reaction time $t_{ra}$ [μs]	< 0,5	< 0,5	< 0,5	< 0,5	< 0,5	< 0,5	< 0,5
Response time 10%-90% $t_a$ [μs]	< 1	< 1	< 1	< 1	< 1	< 1	< 1
$dI/dt$ [A/μs]	> 50	> 50	> 100	> 100	> 100	> 100	> 100
Bandwidth -1dB [kHz]	DC...150	DC...200	DC...100	DC...100	DC...100	DC...100	DC...100

## Isolation data

WKO							
Type	WKO 25	WKO 50	WKO 100	WKO 300	WKO 500	WKO 1000	WKO 2000
Creepage path $d_{Cp}$ [mm]	4	8	10	10	10	15	25
Air path $d_{Ci}$ [mm]	3	7	9	9	9	12	21
Creepage Strength [CTI]	600	600	600	600	600	600	600
AC –Isolation test 50/60Hz 1min $U_d$ [kV]	3,8	3,8	3,8	3,8	6	6	6
Pulse voltage test 1,2/50μs $U_i$ [kV]	6	6	6	6	12,5	14,5	14,5
Measures [kg]	0,08	0,022	0,125	0,125	0,240	0,450	1,620



Typical applications: Industry, renewable energy sources, railway engineering, energy, automation and building technology

