

# WKO-2C-B 2000

$I_{PN} = 2000\text{ A}$

RoHs compliant



REO current transducers are designed for the measurement of DC, AC and pulsed currents using closed loop technology. The REO dual-core technology allows improved accuracy with high immunity to external interferences.

## Features

- Closed loop technology
- Bidirectional and isolated current measurement
- Current output
- Modular design
- REO dual-core technology
- All materials fulfil UL requirements



## Advantages

- High measurement accuracy of 0.3%
- High linearity
- Wide frequency range
- High immunity to external interference
- High current overload capability
- Low temperature drift
- Universal mounting options due to modular design
- Meets the safety standards required in railway technology: EN 50178, EN 50155:2007 and IEC 61373:2010

## Applications

- Traction
- Variable speed control of 3-phase AC-motor and servo motor drives
- Propulsion inverters
- Uninterruptable power supplies
- All kind of switched mode power supplies
- Railway applications

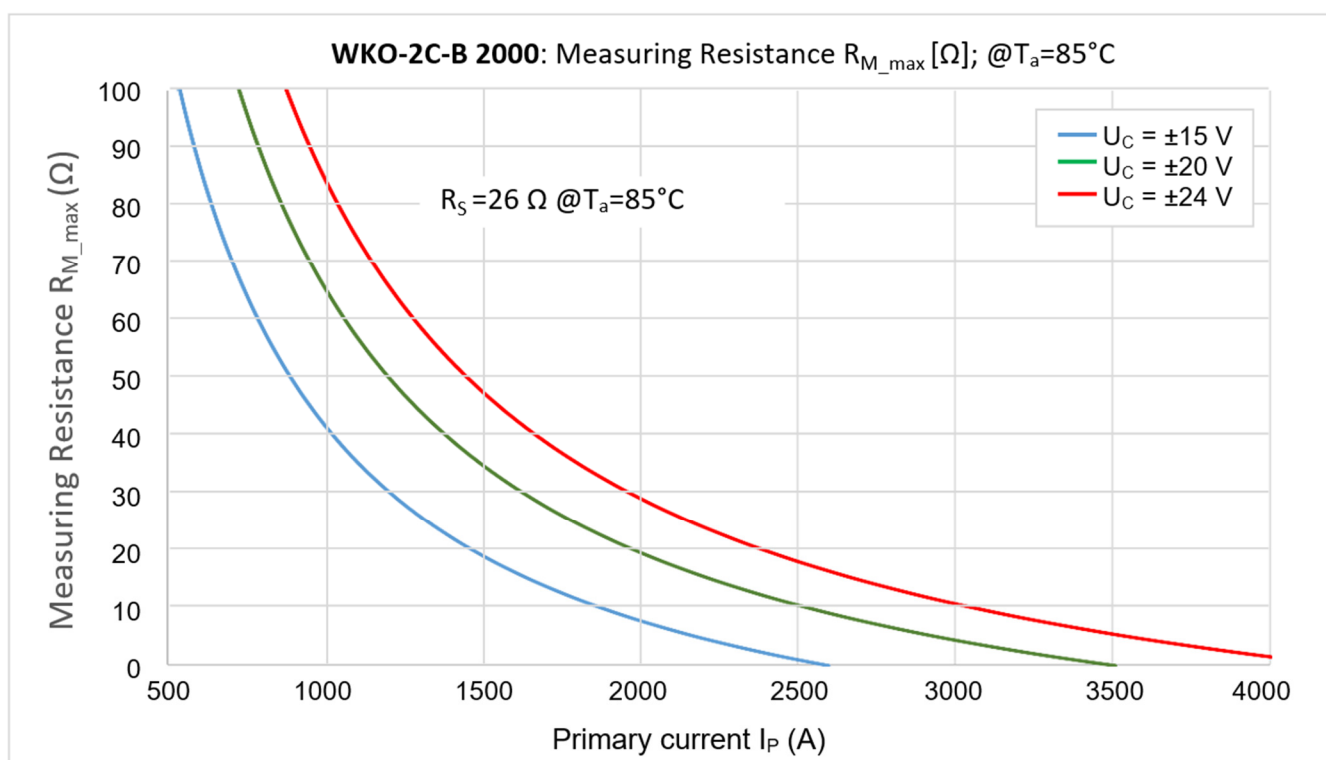
## Standards

- EN 50155:2007      Railway applications - Electronic equipment used on rolling stock
- EN 50121-3-2:2006      Railway applications - Electromagnetic compatibility
- EN 50178:1997      Electronic equipment for use in power installations
- UL 94V-0

## Electrical Data

over ambient operating temperature (unless otherwise noted)

Symbol	Parameter	Unit	Min	Typ	Max	Remarks
$I_{PN}$	Primary nominal current	[A]		2000		
$I_{PM}$	Primary current, measuring range	[A]		$\pm 4000$		
$I_{SN}$	Secondary nominal current	[mA]		400		
$I_{SM}$	Secondary current, measuring range	[mA]		$\pm 800$		
$N_S$	Number of secondary turns			5000		
$R_S$	Secondary coil resistance	[ $\Omega$ ]		26		@ $T_a=85^\circ\text{C}$
$R_M$	Measuring resistance	[ $\Omega$ ]	0			see $R_M(I_P)$ diagram
$U_C$	Supply voltage	[V]	$\pm 14.25$		$\pm 25.2$	
$I_C$	Current consumption	[mA]		$25 + I_S$		$U_C = \pm 24\text{V}$
$I_O$	Offset current	[A]		$\pm 0.5$		referred to primary (0,1%)
$I_{OM}$	Magnetic offset current	[A]		$\pm 0.8$		referred to primary (0,04%)
$\epsilon_G$	Sensitivity error	[%] of $I_{PN}$		$\pm 0.15$		
$\epsilon_L$	Linearity error	[%] of $I_{PN}$		$\pm 0.1$		
$X_G$	Overall accuracy	[%] of $I_{PN}$		$\pm 0.3$		@ $T_a = -40^\circ\text{C} \dots +85^\circ\text{C}$
$t_{ra}$	Reaction time	[ $\mu\text{s}$ ]		$< 0.2$		@ $T_a = 25^\circ\text{C}$ ; to 10% of $I_S$
$t_r$	Step response time	[ $\mu\text{s}$ ]		$< 0.4$		@ $T_a = 25^\circ\text{C}$ ; to 10-90% of $I_S$
BW	Frequency bandwidth	[kHz]		150		@ $T_a = 25^\circ\text{C}$ ; -3dB



## Absolute Maximum Ratings

Parameter	Symbol	Unit	Value
Max. supply voltage (-40°C..+85°C)	$\pm U_C$	[V]	25.2
Max. busbar temperature	$T_B$	[°C]	100
Max. permanent primary current	$I_{PN}$	[A <sub>rms</sub> ]	2000

Stresses beyond those listed under *Absolute Maximum Ratings* may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated *Electrical Data* is not implied. At maximum stress, derating must be considered!

### Important

- The installation of REO products should be carried out in accordance with REO installation guides.
- The applied connectors are not tested for the respective application.
- Apply an isolated voltage supply
- The busbar temperature must not exceed  $T_B=100^\circ\text{C}$

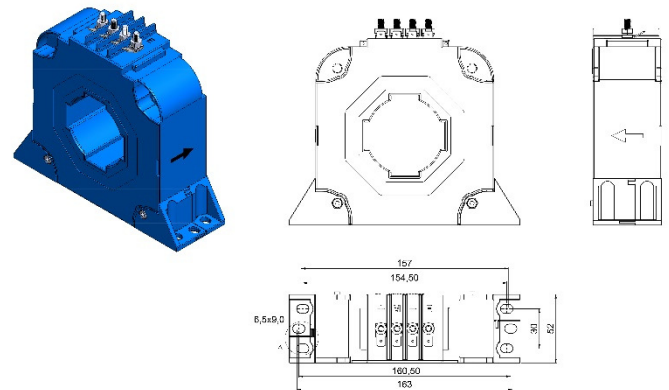
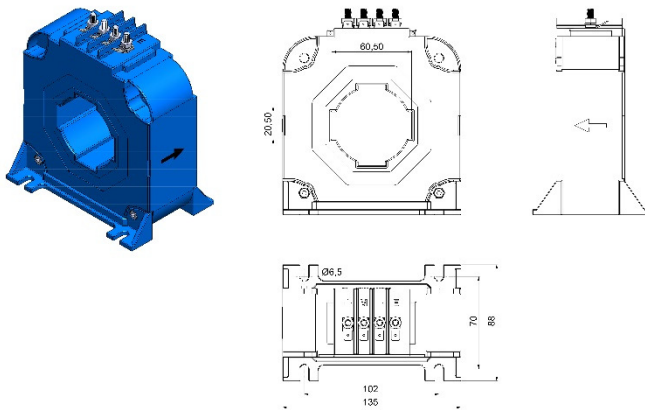
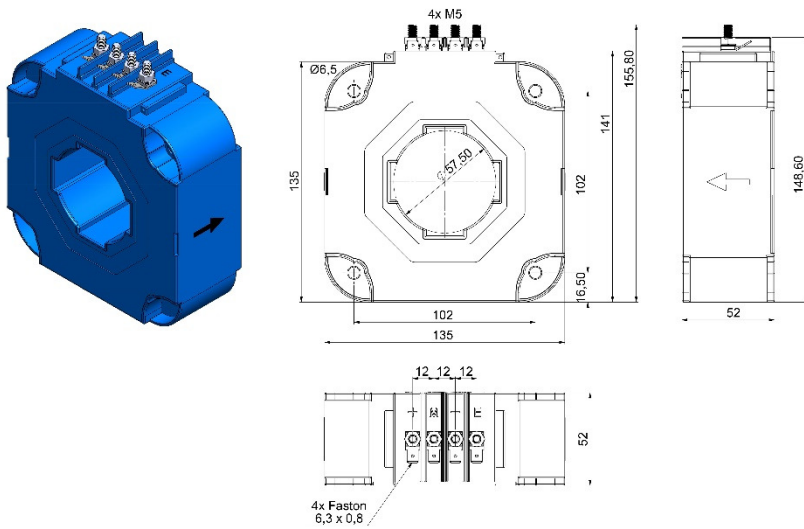
## Isolation characteristics

Parameter	Symbol	Unit	Value	Remarks
RMS voltage for AC insulation test, 50Hz, 1 Min	$U_d$	[kV]	6	$1000\text{V} < U_{\text{System}} < 3600\text{V}$
Impulse test voltage 1.2/50 $\mu\text{s}$	$U_i$	[kV]	12.5	$1000\text{V} < U_{\text{System}} < 3600\text{V}$ ; Kat. IV
Insulation resistance	$R_{is}$	[M $\Omega$ ]	200	@500V <sub>rms</sub>
Creepage distance	$d_{cp}$	[mm]	35	
Clearance	$d_{ci}$	[mm]	30	
Comparative Tracking Index	CTI		600	
Partial discharge	$Te/Ta@10\text{pC}$	[kV <sub>rms</sub> ]	2.59/2.55	IEC 60270
Housing				UL 94V-0
Potting material				UL 94V-0

## General Data

Parameter	Symbol	Unit	Value	Remarks
Ambient operating temperature	$T_A$	[°C]	-40..+85	
Ambient storage temperature	$T_s$	[°C]	-50..+90	
Weight	m	[g]	1600	

## Mechanical characteristics



## Remarks

- The output current is positive when the primary current flows in the direction indicated by the arrow on the housing.