

Insulation coordination

Parameter	Symbol	Unit	Value	Comment
Rms voltage for AC insulation test 50 Hz/1 min	U_d	kV	5.4	
Impulse withstand voltage 1.2/50 μ s	\hat{U}_w	kV	10.1	
Partial discharge extinction rms voltage @ 10 pC	U_e	kV	1.65	
Clearance (pri. - sec.)	d_{Cl}	mm	11	Shortest distance through air
Creepage distance (pri. - sec.)	d_{cp}	mm	11	Shortest path along device body
Comparative tracking index	CTI	V	600	
Application example	-	V	1000	Reinforced insulation, CAT III, PD2 non uniform field according to EN 50178
Application example	-	V	600	Reinforced insulation, CAT III, PD3 non uniform field according to EN 50178, IEC 61010

Environmental and mechanical characteristics

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Ambient operating temperature	T_A	$^{\circ}$ C	-40		105	
Ambient storage temperature	T_S	$^{\circ}$ C	-50		105	
Mass	m	g		28		

Electrical data CTSR 0.3-P

At $T_A = 25\text{ °C}$, $U_C = \pm 5\text{ V}$, output voltage referred to V_{ref} , unless otherwise noted (see Min., Max., typical definition paragraph) in page 10.

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Primary nominal residual rms current	I_{PRN}	mA		300		
Primary residual current, measuring range	I_{PRM}	mA	-500		500	
Supply voltage	U_C	V	4.75	5	5.25	
Current consumption	I_C	mA	16	17.5	21.6	+ I_P (mA)/ N_S With $N_S = 1000$ turns - 40 .. 105 °C
Output voltage referred to GND (during Degauss cycle)	V_{out}	V		0.3	0.5	Note ¹⁾
Output voltage referred to V_{ref} (test current)	V_{out}	V	0.7	1.2	1.7	Note ¹⁾
Reference voltage @ $I_P = 0$	V_{ref}	V	2.495	2.5	2.505	Internal reference
External reference voltage	V_{ref}	V	2.3		4	Internal reference of V_{ref} input = 499 Ω Note ¹⁾
Electrical offset current referred to primary (Note ²⁾)	I_{OE}	mA	-24	7	24	
Temperature coefficient of V_{ref} @ $I_P = 0$	TCV_{ref}	ppm/K			± 50	- 40 .. 105 °C
Temperature coefficient of V_{OE} @ $I_P = 0$	TCV_{OE}	ppm/K			± 570	ppm/K of 2.5 V - 40 .. 105 °C
Theoretical sensitivity	G_{th}	V/A		4		
Sensitivity error (Note ²⁾)	ϵ_G	%	-1.6	0.5	1.6	$R_L > 500\text{ k}\Omega$
Temperature coefficient of G	TCG	ppm/K			± 230	- 40 .. 85 °C
					± 400	- 40 .. 105 °C
Linearity error	ϵ_L	% of I_{PRM}		0.5	1	
Magnetic offset current (1000 x I_{PRN}) referred to primary	I_{OM}	mA		17		
Output rms voltage noise (spectral density) 1 .. 10 kHz referred to primary	V_{no}	mV		6		$R_L > 500\text{ k}\Omega$
Reaction time @ 10 % of I_{PRN}	t_{ra}	μs		7		$R_L > 500\text{ k}\Omega$, $di/dt > 5\text{ A}/\mu\text{s}$
Response time @ 90 % of I_{PN}	t_r	μs		50		$R_L > 500\text{ k}\Omega$, $di/dt > 5\text{ A}/\mu\text{s}$
Frequency bandwidth (- 1 dB)	BW	kHz		3.5		$R_L > 500\text{ k}\Omega$
Accuracy (Note ³⁾)	X	%			1.9	$= (\epsilon_G^2 + \epsilon_L^2)^{1/2}$

Notes: ¹⁾ See "Application information" section.

²⁾ Only with a primary nominal residual current, see paragraph "Primary nominal residual current and primary nominal current".

³⁾ Accuracy @ T_A and I_P : $X_{TA} = (X^2 + (TCG \cdot 100 \cdot (T_A - 25))^2 + (TCV_{OE} \cdot 2.5 \cdot (T_A - 25) / G_{th} \cdot 100 / I_P)^2)^{1/2}$.