

**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 $\mu$ 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 <sup>1)</sup>
Output voltage referred to $V_{ref}$ (test current)	$V_{out}$	V	0.7	1.2	1.7	Note <sup>1)</sup>
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 $\Omega$ Note <sup>1)</sup>
Electrical offset current referred to primary (Note <sup>2)</sup> )	$I_{OE}$	mA	-24	7	24	
Temperature coefficient of $V_{ref}$ @ $I_P = 0$	$TCV_{ref}$	ppm/K			$\pm 50$	- 40 .. 105 °C
Temperature coefficient of $V_{OE}$ @ $I_P = 0$	$TCV_{OE}$	ppm/K			$\pm 570$	ppm/K of 2.5 V - 40 .. 105 °C
Theoretical sensitivity	$G_{th}$	V/A		4		
Sensitivity error (Note <sup>2)</sup> )	$\epsilon_G$	%	-1.6	0.5	1.6	$R_L > 500\text{ k}\Omega$
Temperature coefficient of G	$TCG$	ppm/K			$\pm 230$	- 40 .. 85 °C
					$\pm 400$	- 40 .. 105 °C
Linearity error	$\epsilon_L$	% 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 $I_{PRN}$	$t_{ra}$	$\mu\text{s}$		7		$R_L > 500\text{ k}\Omega$ , $di/dt > 5\text{ A}/\mu\text{s}$
Response time @ 90 % of $I_{PN}$	$t_r$	$\mu\text{s}$		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 <sup>3)</sup> )	$X$	%			1.9	$= (\epsilon_G^2 + \epsilon_L^2)^{1/2}$

Notes: <sup>1)</sup> See "Application information" section.

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

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