DATA SHEET - HOLLOW SHAFT RESOLVER

PN	3-1393048-5			
Description:	V23401		T1005-B101	
Size	21			
Shaft inner diameter [mm]	12,7			
Speed - pair of poles - [pp]	1			
Application Spec				
Test protocol	100% EOL testing, stored. Available up on request			
Electrical parameters (at 22°C):				
Input voltage nom. [Vrms]	4	possible 4V…12V	DC resistance R1R2 [Ω]	24
Frequency nom. [kHz]	5	pos, 2kHz…10kHz	R1R2 tolerance [±Ω]	2,4
Input current max [mA]	20		DC resistance S1S3 or S2S4 [Ω]	58
Transformation ratio rT [±]	0,5		S1S3 or S2S4 tolerance [±Ω]	5,8
Transf. ratio tolerance [%]	5	Based on nominal		
Phase shift min [º]	-5	Input voltage and		
Phase shift max [º]	5	Frequency		
Angular Error [±']	10			
Residual voltage max [mV]	15			
Connect. Wire Lenght [mm]	300, AWG 26 Teflon Isolated			

High Voltage test	Voltage: 500 $\quad V_{AC} \pm 3\%$ (A)	Measured between:
	250 $\quad V_{AC} \pm 3\%$ (B)	A: Winding R1-R2 and housing
	Time: 1s	Winding S1-S3 and housing
		Winding S2-S4 and housing
Isolation test	Voltage: 500 $\quad V_{DC} \pm 5\%$ (A, B)	B: Windings S1-S3 and S2-S4
	Criterium: $\quad R_{isol.} > 50M\ Ohm$	
"Zero" setting:	Ele. "0" is when Winding Us2-s4 = 0 and Us1-s3 are in phase with Ur1-r2	
Transformation function	Function applies to the clockwise rotation of the rotor when looking at the (grooveless) transformer componnent from the top	
	$U_{S1-S3} = + rT * U_{R1-R2} * \cos(pp * \varphi)$	
	$U_{S2-S4} = + rT * U_{R1-R2} * sin(pp * \varphi)$	
Rotor Inertia	approx. $20\ g/cm^2$	
Max. Rotational Speed	20.000 rpm	
Shock resistance (11ms sine)	1.000 m/s2	
Vibration (0 … 2 kHz)	200 m/s2	
Operating temp.	-55°C…+150°C	

A

↗ | 0.02 | A

1.1±0.5

Ø52.4−0.1
Ø50.77−0.07
Ø50.1−0.2
Ø12.7+0.05
Ø50.1−0.2
Ø50.77−0.07

25.85±0.05

↗ | 0.075 | A

1.5+0.15
2.45−0.2
2+0.15

1.5+0.15
2.45−0.2
2+0.15

25.6−0.15
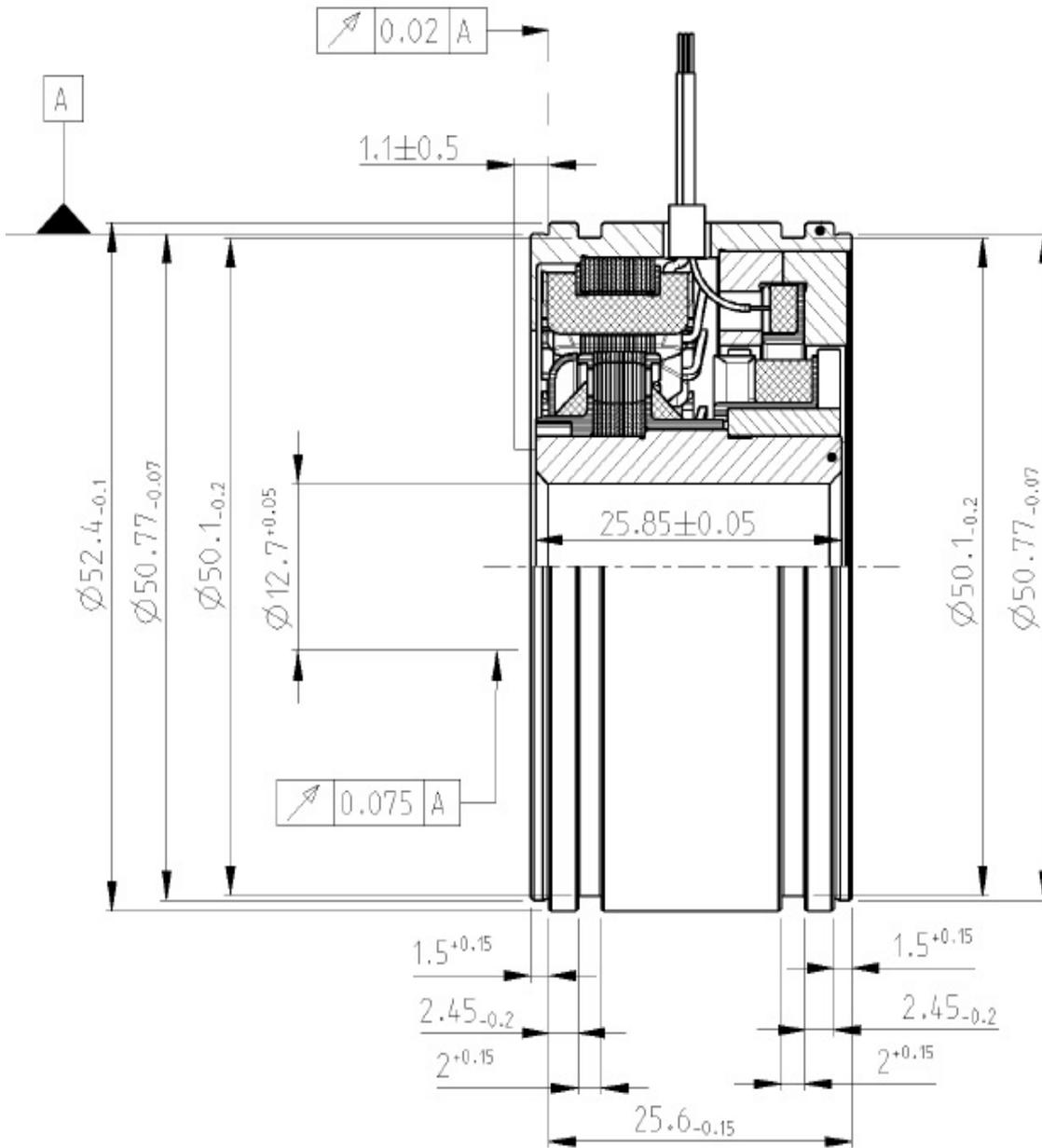
DATE	PN REV.	DWN	APP	DS. REV
2015-06-25	A	P. Lerchenfeld	D. Ondrej	1
2017-04-26	A	P. Lerchenfeld	D. Ondrej	2