

Rotary Variable Differential Transformer

SCOPE

This specification defines the design, electrical, mechanical, and performance parameters required to manufacture, calibrate, and quality-test the rotary variable differential transformer. It governs production, incoming inspection, and final test acceptance criteria for the part identified above. This document is for internal engineering and manufacturing reference and is not to be issued to customers; refer to the corresponding public datasheet for customer-facing information.



PRODUCT IDENTIFICATION

Parameter	Specification
Model / Part number	Rotary Variable Differential Transformer
Item description	RVDT (Rotary Variable Differential Transformer)
Sensing principle	Contactless electromagnetic coupling

ELECTRICAL & PERFORMANCE SPECIFICATION

Parameter	Specification
Electric stroke (E)	$\pm 30^\circ$
Null voltage (N)	0.5% of FRO
Sensitivity (S)	2.9 mV/V/degree
Input / excitation voltage (V)	3 Vrms
Input impedance	370 Ω at null position
Temperature range (T)	-55 $^\circ\text{C}$ to +90 $^\circ\text{C}$
Electric input frequency	2.5 to 10 kHz
Calibration frequency	10 kHz (testing frequency)
Output load resistance	50 k Ω
Phase angle	+3 $^\circ$
Non-linearity	$\pm 0.25\%$ FRO

4. DESIGN CHARACTERISTICS

Parameter	Specification
Resolution	Virtually infinite
Contact wear	None — frictionless, non-contacting design
Reliability	High — no mechanical wiper or contact element

5. COMPLIANCE & CERTIFICATION

Standard	Description
ISO 9001:2015	Quality management system certification

6. QUALITY & FINAL TEST REQUIREMENTS

Each unit shall be verified at final test against the specifications in Section 3, including null voltage, sensitivity, non-linearity, and phase angle, at the calibration frequency of 10 kHz using the specified output load resistance of 50 k Ω .

Excitation voltage and frequency shall be verified within the specified input range (3 Vrms, 2.5 to 10 kHz) prior to release. Units shall be functionally checked across the full electric stroke of $\pm 30^\circ$.