RISHABH

Data Sheet

RISH CON TPT

Programmable Tap position transducer
(Dual Output)

RoHS CE

Measure Control Record Analyze Optimize

Application

The purpose of the Tap position transducer is to convert tap position of transformers to equivalent analogue output. Outputs can be given as input to either RTU or indicator or recording instrument. Input variable and measuring range are programmed with the aid of a PC and the configuration software.
The device has one input channel and two independent outputs.

Function

Tap position transducers receives resistance input, which corresponds to tap position of transformer. Output is proportional to tap position.

Product Features

Electric Isolation

- Electrically isolated analog outputs prevent interference voltage and current. Solves grounding problem in meshed signal networks.
- High electric isolation between input and output-2.3 kV, and power supply versus all other circuits -3.7 kV.
- Input measuring range can be programmed using PC / Simplifies project planning and engineering (the final range can be determined during commissioning).
- Electrically isolated Dual outputs.
- Tap number is programmable from 1 to 100 using software.
- Tap position is displayed on front LED display (Optional)
- Analogue output signal also programmed using the PC (impressed current or superimposed voltage for all ranges between–20 and + 20mA DC resp.–12 and + 15 V DC)
- Galvanic and optical isolation between Power supply, Input and outputs
- 3,4 wire measurement to compensate lead resistance automatically.
- 2 wire measurement with lead resistance compensation through software.

Technical Specifications

Standards

Electromagnetic compatibility	Acc. to IEC 61326-1 IEC 61000-4-3, Level 3 IEC 61000-4-4, Level 3
Protection (acc. to IEC 60529 resp EN 60529)	For Housing: IP40, For terminals: IP20 as per IEC60529.
Electrical standards	Acc. to IEC 1010 resp. EN 61010
Over voltage category	Acc. to IEC 664: III for power supply, II for measuring input and measuring output.
Double Insulation	1. Power supply versus all other circuit. 2. Measuring input versus measuring output.
Test Voltage	• Power supply versus: All 3.7 kV, 50 Hz 1 min • Measuring inputs versus Measuring output 2.3 KV, 50 Hz 1min • Measuring output 1 versus Measuring output 2: 500 V,50 Hz 1min
Common mode voltage	100V
Pollution degree	2

Measuring Input

Measured Variable	Measuring ranges		
	Limits	Min. span	Max. span
Low Resistance Range	0...3700Ω	500Ω	3700Ω
High Resistance Range	0...25000Ω	500Ω	25000Ω

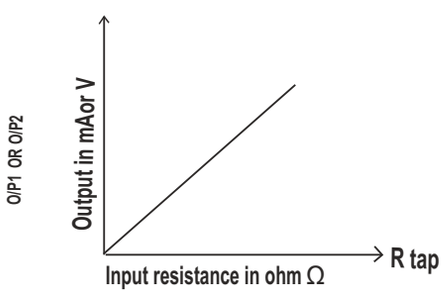
Measuring current = 0.081mA for measuring range 0...3700Ω. or
= 0.012mA for measuring range 0...25000Ω.

Electrical Connections:

Fig .A
Input Output Connections

Fig. B Auxiliary power supply connections

Output characteristics:



Technical Specifications:

Output Signals: Output 1 and Output 2

DC current	Standard ranges: 0-20 mA or 4-20 mA
Non-standard ranges	-20 to +20mA Min. Span 5mA, Max Span 40mA
Burden voltage	Negative > -19 V, Positive < 22 V
External Resistance	Rext max. [kΩ] = 15V/I_{AN} (mA) or -12V/I_{AN}(mA) I_{AN}(mA) = Full scale current
DC Voltage	Standard ranges: 0-5V, 1-5V, 0-10V, 2-10V
External Resistance	Rext min. [kΩ] = U_A(V)/20mA, U_A(V)=15V or -12V
Residual ripple in output current	< 0.5% p.p.
Response time	< 4 s
Power supply	60 ... 230...300 VAC/VDC (45…66 Hz) or 24 ...48...60V VAC/VDC (45…66 Hz)
Power consumption	<3W or <4.7 VA
Mounting	DIN Rail mounting or wall mounting.
Mounting Position	Any

Accuracy Data (Acc to IEC 60688)

Basic Accuracy	± 0.2% of range
Reference Conditions	Ambient temperature: 23 ºC ± 2K
Nominal value of Aux	230V 50Hz or 60 Hz AC/DC
supply voltage	48V 50Hz or 60 Hz AC/DC
Output burden	0.5 * Rext max.

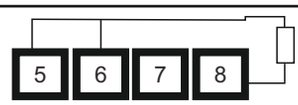
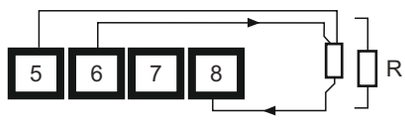
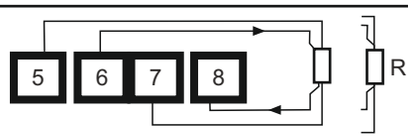
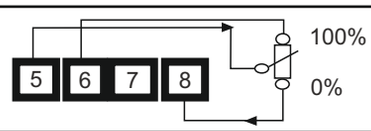
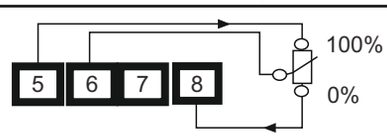
Influence factors

Temperature	± 0.15% per 10 K
Burden influence	< ±0.1 % for current output < ±0.1 % for voltage output
Magnetic field	< ±0.2 % (400A/T)

Regulations

Electromagnetic Compatibility	Acc. to IEC 61326-1, IEC 61000-4-3, Level 3, IEC 61000-4-4, Level 3
Shock Resistance	IEC 60068-2-27,Min. Severity 50 G
Vibration Strength	IEC 60068-2-6, 10-150-10 Hz, 0.15mm, 2G
Electrical standards	Acc. to IEC 1010 resp. EN 61010
Operating voltages	<300 V between all Insulated circuits
Climatic rating	Climate case 3Z acc. to VDI / VDE 3540
Nominal range of use	0ºC to 45 ºC (Usage Group II)
Operating temperature	-20 to 65 ºC
Storage temperature	-40 to 70 ºC
Annual mean relative humidity	< 75% standard Climatic rating.

Table: Alternative connection types

No.	Measurement	Measuring Range Limit	Measuring Span	Wiring Diagram
1	Two-wire connection	0...3700Ω/ 0...25000Ω	500...3700Ω/ 500...25000Ω	
2	Resistance Measurement three-wire connection	0...3700Ω/ 0...25000Ω	500...3700Ω/ 500...25000Ω	
3	Resistance Measurement four-wire connection	0...3700Ω/ 0...25000Ω	500...3700Ω/ 500...25000Ω	
4	Resistance Transmitter WF	0...3700Ω/ 0...25000Ω	500...3700Ω/ 500...25000Ω	
5	Resistance Transmitter WF DIN	0...3700Ω/ 0...25000Ω	500...3700Ω/ 500...25000Ω	

Ordering Information

Ordering Information	CT25-	XX	D	XX	XX	X	000
Product Type	RISH CON TPT : DIN-RAIL Mount						
Input range	0-3.7kΩ	R9					
	0-25kΩ	R4					
Display	With Display		D				
	Without Display		Z				
Output Range-1	0-10mA			30			
	0-20mA			32			
	4-20mA			55			
	0-10V			5H			
	2-10V			3C			
Output Range-2	0-10mA				30		
	0-20mA				32		
	4-20mA				55		
	0-10V				5H		
	2-10V				3C		
Auxiliary Supply	24-60V AC/DC					F	
	60-300V AC/DC					H	

Ordering Code Example : CT25-R4D5555H00000
Rish CON TPT - DIN-RAIL Mount, Input 0-25KΩ, Output-1 4-20mA, Output-2 4-20mA, Aux 60-300V AC/DC, With Display

Specifications may change without prior notice

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RISHABH INSTRUMENTS LIMITED

Domestic (India): +91 253 2202099 | marketing@rishabh.co.in
International: +91 253 2202004/06/08/99 | global@rishabh.co.in
www.rishabh.co.in