



Data Sheet

RISH CON TPT

Programmable Tap position transducer



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 and Modbus (RS 485) interface . Input variables and measuring range are also programmable through keys and Modbus.

Function

Tap position transducers receives resistance input, which corresponds to tap position of transformer. Output is proportional to tap position. Tap number is shown on display and modbus. Tap counter increments by one count on tap change (shown on modbus)

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 (config soft) / Simplifies project planning and engineering (the final range can be determined during commissioning).
- Input measuring range can be programmed through modbus and keys.
- Tap number is programmable from 0 to 101 using software.
- Tap position is displayed on front LED display and on Modbus.
- Analogue output signal also programmed using the PC (config software), Modbus and keys. (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.
- Tap counter (number of tap changed) can be viewed on Modbus.

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 Front enclosure : IP50, For terminals side: 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	<ul style="list-style-type: none"> • 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.



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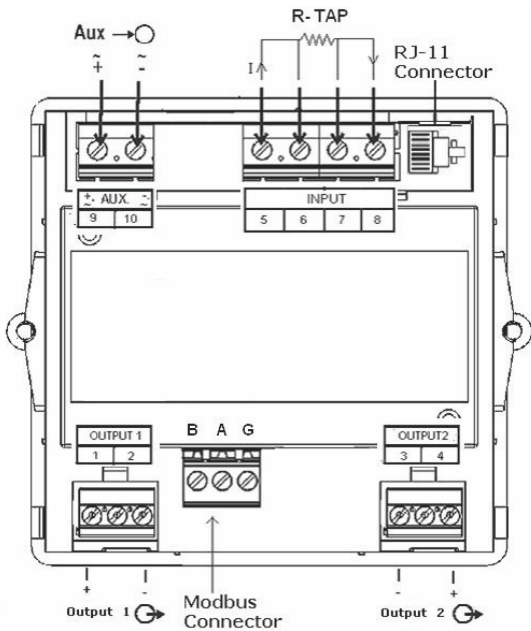


Analyze

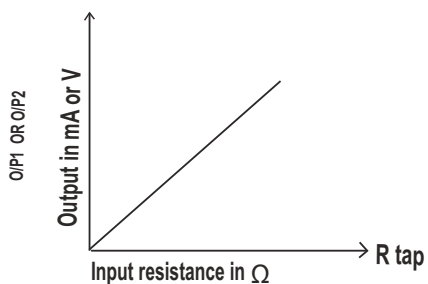


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Electrical Connections:



Output characteristics



Technical Specifications:

Output Signals: Output 1 and Output 2

DC current	Standard ranges: 0-20mA or 4-20mA
Non-standard ranges	-20 to +20mA
	Min. Span 5mA,
	Max Span 40mA
Burden voltage	Negative > -19 V, Positive < 22 V
External Resistance	-12V / I _{AN} (mA)
	R _{ext} max. [kΩ] = 15V/I _{AN} (mA)
	I _{AN} (mA) = Full scale current
DC Voltages	Standard ranges: 0-5V, 1-5V, 0-10 V, 2-10 V
External Resistance	R _{ext} min. [kΩ] = U _A (V)/2 mA
	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)
	20 .. 24 ...40 VAC, 20..48..60VDC (45...66 Hz)
Power consumption	<3W or <4.7 VA
Mounting	Panel Mounting
Mounting Position	Any

Accuracy Data (Acc to IEC 60688)

Basic Accuracy	± 0.2% of range
Reference Conditions	Ambient temperature: 23 °C ± 2K
Nominal value of Aux supply voltage	230V 50Hz or 60 Hz AC/DC
Output burden for Curr. OP	0.5 * R _{ext} max.
Output burden for Volt. OP	2 * R _{ext} min.

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	0 ...23...45 °C (Usage Group II)
Operating temperature	-20 to 65 °C
Storage temperature	-40 to 70 °C
Annual mean relative humidity	< 75% standard Climatic rating.



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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	X	1	000
Product Type	RISH CON TPT								
Input range	0-3.7kΩ	R9							
	0-25kΩ	R4							
Display	With Display								
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			
MODBUS Option	Without MODBUS						O		
	With MODBUS						R		
Size	96 X 96								

Ordering Code Example : CT25-R4D5555HR1000

Rish CON TPT - 96X96, Input 0-25KΩ, Output-1 4-20mA, Output-2 4-20mA, Aux 60-300V AC/DC, With Display, With RS485



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Specifications may change without prior notice



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