

Ziegler

Redefine Innovative Metering

Technical Datasheet

ZOT TIPD | TIPF

TAP POSITION TRANSMITTER

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Product Features

1. Input measuring range can be programmed using PC (config soft)/Simplifies project planning and engineering (the final range can be determined during commissioning)
2. Input measuring range can be programmed through modbus and keys
3. Tap number is programmable from 0 to 101 using software
4. Tap position is displayed on front LED display and on Modbus
5. Analogue output signal also programmed using the PC (config-software), Modbus keys
(impressed current or superimposed voltage for all ranges between – 20 and + 20 mA DC resp. – 12 and + 15 V DC)
6. Galvanic and optical isolation between Power supply, Input and outputs
7. 3,4 wire measurement to compensate lead resistance automatically
8. 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)(TIPD)	For Housing : IP40 For terminals: IP20 as per EC60529
Protection (acc. to IEC 60529 resp EN 60529)(TIPF)	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	- Power supply versus all other circuit. - Measuring input versus measuring output.
Test Voltage	Power supply versus: -All 3.7 kV, 50 Hz 1 min Measuring inputs versus :

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	-Measuring output 2.3 KV ,50 Hz 1min Measuring output1 versus -Measuring output2 500 V,50 Hz 1min
Common mode voltage	100V
Pollution degree	2
Measuring input	
Measuring current	0.081 mA for measuring range 0...3700Ω. or 0.012 mA for measuring range 0...25000Ω
Output signals : output1 and output2	
DC current	Standard ranges: 0-20 mA or 4 – 20 mA
Non-standard ranges	-20 to +20 mA ;Min. Span 5 mA Max Span 40 mA
Burden voltage	Negative > -19 V Positive < 22 V
External Resistance	Rext max. [kΩ] = 15V/IAN (mA) OR -12V / IAN (mA) IAN (mA) =Full scale current
DC Voltages	Standard ranges: 0-5V, 1-5V, 0-10 V, 2–10 V
External Resistance(TIPD)	Rext min. [kΩ] = UA (V)/20 Ma UA (V)= 15V or -12V
External Resistance(TIPF)	Rext min. [kΩ] = UA (V)/2 mA UA (V)= 15V or -12V
Output current	< 0.5% p.p.
Response time	< 4 s
Power supply(TIPD)	60 ... 230...300 VAC/VDC (45...66 Hz) OR 24...48...60 V VAC/VDC (45...66 Hz)
Power supply:(TIPF)	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(TIPD)	DIN Rail mounting or wall mounting
Mounting(TIPF)	Panel Mounting
Mounting Position	Any
Accuracy data (Acc. To IEC 60688)	
Basic Accuracy	± 0.2% of range

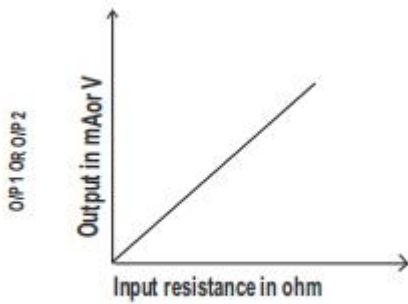
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Reference Conditions	Ambient temperature: 23 °C ± 2K
Nominal value of Aux supply voltage(TIPD)	230V 50Hz or 60 Hz AC/DC 48V 50Hz or 60 Hz AC/DC
Nominal value of Aux supply voltage(TIPF)	230V 50Hz or 60 Hz AC/DC 24V 50Hz or 60 Hz AC and 48VDC
Output burden(TIPD)	0.5 * Rext max.
Output burden(TIPF)	
Output burden for Curr. OP	0.5 * Rext max.
Output burden for Volt. OP	2 * Rext 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 % (400 A/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 61 010
Operating voltages	<300 V between all Insulated circuits
Climatic rating	Climate case 3Z acc. to VDI / VDE 3540
Nominal range of use:	0 °C to 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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Output Characteristics



Connection Diagram

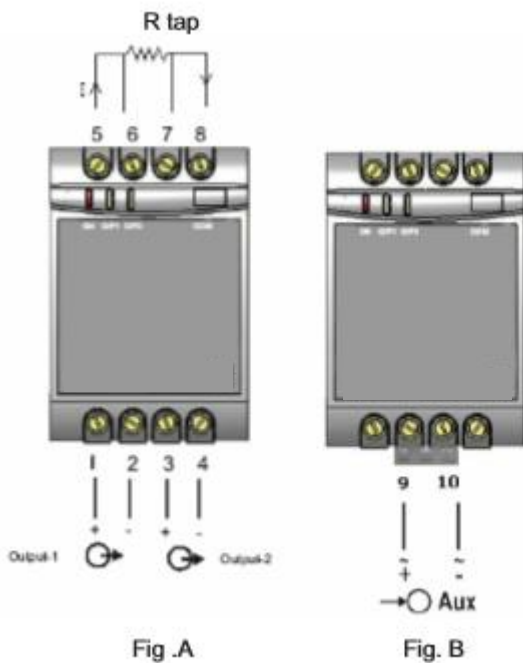
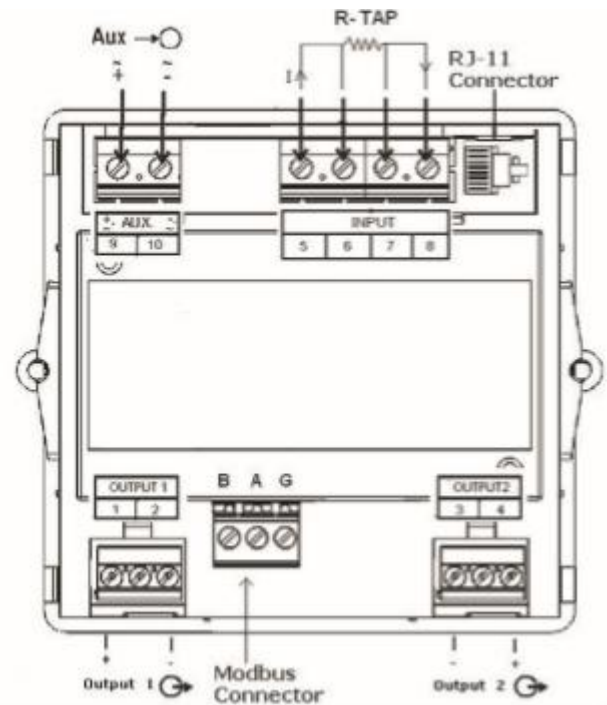


Fig. A

Fig. B

ZOT TIPD



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Measurement	Measuring range limit	Measuring span	No.	Wiring diagram
Resistance measurement Two-wire connection	0...3700Ω / 0...25000Ω	100 ...3700Ω / 500 ...25000Ω	1	
Resistance measurement Three-wire connection	0...3700Ω / 0...25000Ω	100 ...3700Ω / 500 ...25000Ω	2	
Resistance measurement Four-wire connection	0...3700Ω / 0...25000Ω	100 ...3700Ω / 500 ...25000Ω	3	
Resistance Transmitter WF	0...3700Ω / 0...25000Ω	100 ...3700Ω / 500 ...25000Ω	4	
Resistance Transmitter WF DIN	0...3700Ω / 0...25000Ω	100 ...3700Ω / 500 ...25000Ω	5	

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Ordering information

Standard Input ranges code

Input resistance (K Ω)	(\checkmark)
0.....25	
0.....20	
0.....18	
0.....17	

Tap position indicator display

Display Ordering	(\checkmark)
With Display	
Without Display	

Standard output1 range code

Current (mA)	(\checkmark)	Voltage (V)	(\checkmark)
0.....20		0.....10	
4.....20		2.....10	

Standard output2 range code

Current (mA)	(\checkmark)	Voltage (V)	(\checkmark)
0.....20		0.....10	
4.....20		2.....10	

Auxiliary supply voltage

Auxiliary supply (ZOT TIPD)	(\checkmark)
85 ...230V AC/DC	H
24...60V AC/DC	L

Auxiliary supply (ZOT TIPF)	(\checkmark)
60 ...300V AC/DC	H
20..40V AC/20..60VDC	L

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Ziegler Instrumentation UK Ltd.

Central Buildings, Woodland close old woods Trading Estate, Torquay Devon, TQ2 7BB, United Kingdom

+441803 616 800 | info@ziegler-instrument.com | ziegler-instrument.com