

Ziegler

Redefine Innovative Metering

Technical Datasheet

ZOT PI12

SIGNAL TRANSMITTER - PROGRAMMABLE

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Product Features

- All input signal range and output signal range are user programmable
- Electric isolation between input, outputs and power supply
- Prevents false measurement due to spurious potentials
- Processes live zero signals, provision for signal conversion
- Red LED signals indicates device in operating condition
- **Electric Isolation**
 - Two electrically isolated analog outputs prevent interference voltage and current. Solves grounding problem in meshed signal networks
 - High electric isolation between input and outputs – 2.3 kV, and power supply versus all other circuits – 3.0 kV



Technical Specifications

Measuring inputs	
DC current standard ranges	1) 0...20mA 2) 0...10mA 3) 4...20mA 4) 0...24mA
Input resistance	$\leq 15.5 \Omega$
DC voltage standard ranges	1) 0...12V 2) 0...10V 3) 0...5V 4) 1...5V
Input resistance	0...12V($\geq 100k\Omega$), 0...10V($\geq 100k\Omega$) 0...5V($\geq 60k\Omega$), 1...5V($\geq 60k\Omega$)
Measuring output1 and output2	
DC current standard ranges	1) 2...10mA 2) 4...20mA 3) 0...10mA 4) 0...20mA
Burden voltage	15V
External Resistance	$R_{ext} \max. [\Omega] = 15V / I_{AN} [mA]$ $I_{AN} =$ Output circuit full scale value
DC voltage standard ranges	1) 0...05V 2) 1...05V 3) 0...10V 4) 2...10V
Burden	$R_{ext} \min. [k\Omega] = U_{AN} [V] / 5 \text{ mA}$ $U_{AN} =$ Output circuit full scale value
Current limiter at $R_{ext} = 0$	$< 42 \text{ mA}$ for voltage output
Voltage limiter at $R_{ext} = \infty$	$< 20 \text{ V}$ for current output
Residual ripple in Output	$< 0.4\%$ p.p.
Response time	$< 50 \text{ ms}$
Common mode voltage	100V
Pollution degree	2
Power Supply	
Rated operating voltage	60 ... 230...300 V DC/AC OR 20 ... 24 ...40 VAC/20...30...60VDC
Rated operating frequency	45 ... 50 - 60...65 Hz
Power input	$\leq 5 \text{ VA}$

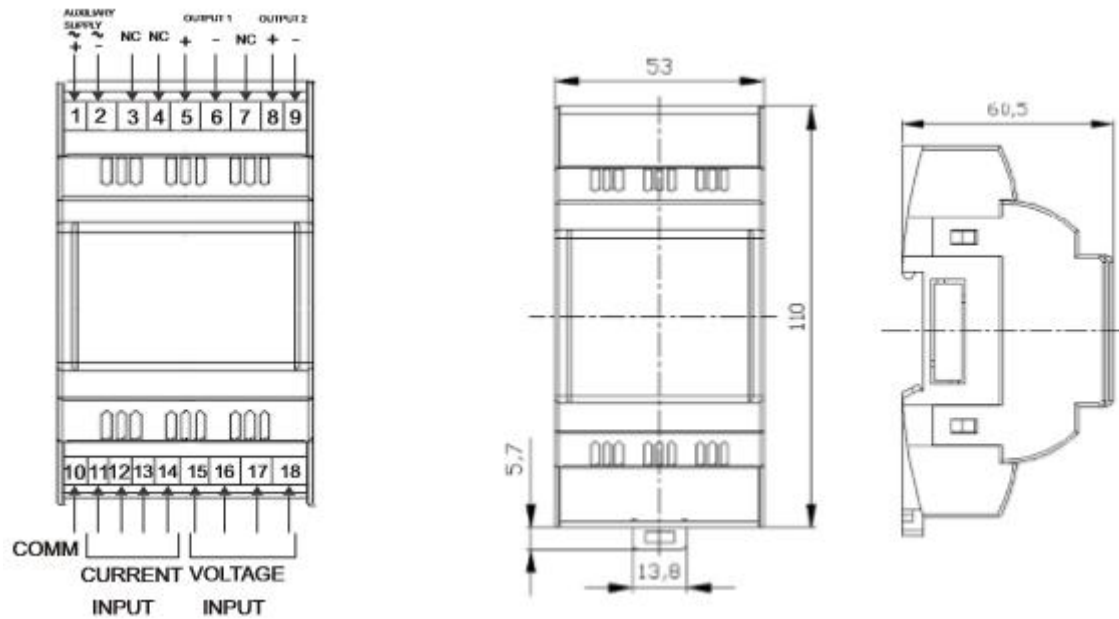
Accuracy data (Acc to IEC 60688)	
Basic Accuracy	Limit error < ± 0.2 % including linearity and reproducibility errors.
Reference conditions	
Ambient temperature	23°C \pm 2°C
Output burden	Current: 0.5 * Rext max. Voltage: 2 * Rext min
Nominal value of Aux	230V 50Hz or 60 Hz AC/DC
Supply voltage	30V 50Hz or 60 Hz AC/DC
Influence Factors	
Temperature	$\pm 0.01\%$ per °C
Burden influence	< ± 0.1 % for current output < ± 0.1 % for voltage output
Switch-on drift	< $\pm 0.2\%$
Longtime drift	< $\pm 0.3\%$ / 12 months
Magnetic field	< ± 0.2 % (400 A/T)
Regulations	
Electromagnetic Compatibility	Acc. to IEC 61326 – 1
Protection	For Housing : IP40 Terminals : IP20
Electrical standards	Acc. to IEC 61010 -1 /EN 61 010 -1
Pollution degree	2
Over voltage category	III for power supply.II for measuring input and measuring output.
Test Voltage	Power supply versus : -All 3.7 kV, 50 Hz 1 min (Leakage current 5mA) Measuring inputs versus : -Measuring outputs 2.3 kV, 50 Hz 1min & O/P1 to O/P 2: 500 V ,50 Hz ,1 min -All circuits versus case: 3.7kV, 50 Hz ,1min
Environmental Condition	
Climatic rating	Climate class 3 acc. To VDI /VDE 3540
Operating Temperature	-10 ...23... 55 °C
Storage temperature	-40 °C to 70 °C
Annual mean relative humidity	< 75% standard Climatic rating
Installation data	
Mounting position	Rail mounting
Weight	Approx. 0.25kg
Connection terminal	
Connection Element	Conventional Screw type
Permissible cross section of the connection lead	4.0mm ² single wire or 2 x 2.5mm ² Fine wire.
Permissible Vibrations	2 g acc. to EN 60068-2-6
Shocks	3 x 50 g 2 shocks each in 6 directions Acc. to EN 60 068-2-27

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Connection Diagram

Dimensions



Connection	Terminal details	
Measuring Current input	+	-
A)0.. 24mA	11	10
B)4.. 20mA	12	10
C)0...20mA	13	10
D)0.. 10mA	14	10
Measuring Voltage input		
A)1.....V	15	10
B)0.....V	16	10
C)0.....V	17	10
D)0.....V	18	10
Measuring output 1	5	6
Measuring output 2	8	9
Auxiliary supply	1	2

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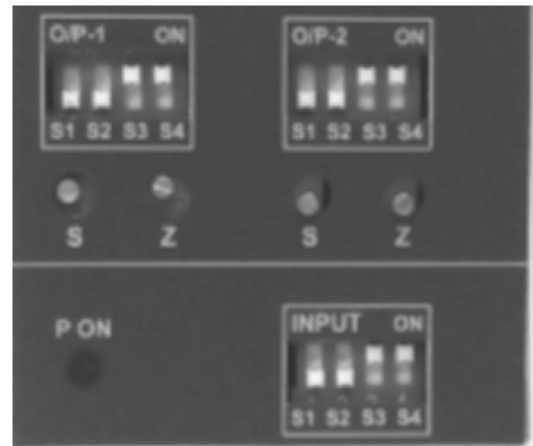
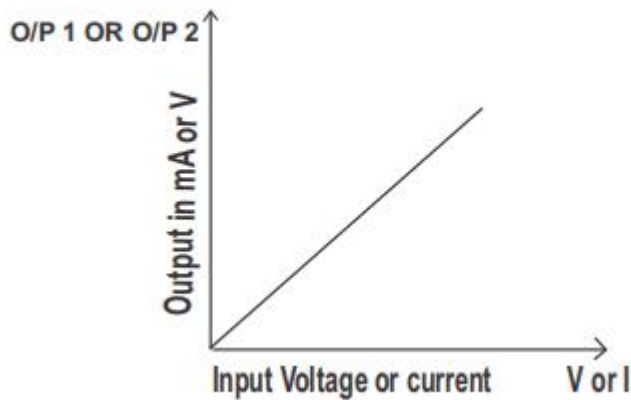
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Configuration

ZOT PI12 inputs and outputs can be configured using slide switches. Table A and B contains the switch position information for the configuration of input and output1/output2 respectively.

When ever configuration is changed output1 and output 2 one adjustment must be accomplished using “Z” (Zero) and “S” (Span) potentiometers provided on front panel separately for both the outputs i.e. output1 and output2.

Output characteristics



Input range selection

Input	S1	S2	S3	S4
0...20mA	OFF	OFF	OFF	OFF
0...10mA	OFF	OFF	OFF	ON
0...24mA	OFF	OFF	ON	OFF
4...20mA	OFF	OFF	ON	ON
0...10V	OFF	ON	OFF	OFF
0...12V	OFF	ON	OFF	ON
0...5V	OFF	ON	ON	OFF
1...5V	OFF	ON	ON	ON

Output	S1 & S2	S3	S4
0...10mA	OFF	OFF	OFF
0...20mA	OFF	OFF	ON
2...10mA	OFF	ON	OFF
4...20mA	OFF	ON	ON
0...5V	ON	OFF	OFF
0...10V	ON	OFF	ON
1...5V	ON	ON	OFF
2...10V	ON	ON	ON

Output 1 and Output 2 range selection

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