



Multifunction Meters

Transducers & Isolators

Temperature Controllers

Converters & Recorders

Digital Panel Meters

Current Transformers

Analogue Panel Meters

Shunts

Digital Multimeters

Clamp Meters

Insulation Testers

THETA 50 TRANSDUCERS & ISOLATORS

User Manual - Issue 1.0

SUBJECT TO CHANGE WITHOUT NOTICE

This manual superseded all previous versions – please keep for future reference

Features

- Accuracy class 0.2 as per International Standard IEC/EN 60 688
- Output Response Time < 250 ms
- Fast and easy installation on DIN RAIL or onto a wall or in panel using optional screw hole bracket.



1. Application

Theta 50 is used to electrically isolate input, outputs & power supply. It fills all requirements & regulations concerning electromagnetic compatibility (EMC) & safety (IEC 61326-1 & IEC 61010-1-2010).

2. Product Features

Electric Isolation

- 1) Two electrically isolated analog outputs prevent interference voltage and current. Solves grounding problem in meshed signal networks.
- 2) High electric isolation between input and outputs – 2.3 kV, and power supply versus all other circuits – 3.0 kV. Function Simple dc isolator serves to electrically isolate input dc signal in the range 0 – 20 mA or 4-20 mA or 0-10V or 2-10V is then converted to signal 0 – 20 mA or 4-20 mA or 0-10V or 2-10V.

Features

Electric isolation between input, outputs and power supply. Prevents false measurement due to spurious potentials.

Processes live zero signals, provision for signal conversion. Green LED signals indicates device in operating condition.

Electrical insulation between power supply versus all other circuits -3.0 kV, and between input and outputs -2.3 kV.

3. Technical Specifications

Reference conditions	
Ambient temperature	23°C + 2°C
Output burden	Current: 0.5 * Rext max. Voltage: 2 * Rext min.
Ambient Temperature	
Climatic rating	Climate case 3Z acc. to VDI /VDE 3540
Operating Temperature	-10 °C to 55 °C
Storage temperature	-40 °C to 70 °C
Annual mean relative humidity	< 75% standard Climatic rating.
Installation Data	
Mechanical Housing	Lexan 940 (polycarbonate) Flammability Class V-0 acc. to UL 94 self extinguishing, non dripping, free of halogen.
Mounting position	Rail mounting / wall mounting
Weight	Approx. 0.2kg
Influence factors	
Temperature	± 0.15% per 10 °C
Burden influence	< ± 0.1 % for current output < ± 0.1 % for voltage output
Switch-on drift	< ± 0.2%
Longtime drift	< ± 0.3% / 12 months
Measuring output 1 and output 2	
DC current standard ranges	1) 0...20mA 2) 4...20mA
Burden voltage	12V
External Resistance	Rext max. [kΩ] = 12V/ IAN [mA] IAN =Output circuit full scale value
DC voltage standard ranges	1) 0...10V 2) 2...10V
Burden	Rext min. [kΩ] = UAN [V]/ 5 mA UAN =Output circuit full scale value
Current limiter at Rext =0	Approx. 40mA for voltage output
Voltage limiter at Rext =∞	Approx. 18V for current output
Residual ripple in Output current	< 0.5% p.p.
Response time	< 50 ms
Power supply	
Rated operating voltage	60 to 300 V DC/AC
Rated operating frequency	40 to 400 Hz
Power input	< 2 W resp. < 4 VA
Measuring inputs	
DC current standard ranges	1) 0...20mA 2) 4...20mA 3) 1...5mA
DC voltage standard ranges	1) 0...10V 2) 2...10V 3) 1...5V

4. Electrical Connections

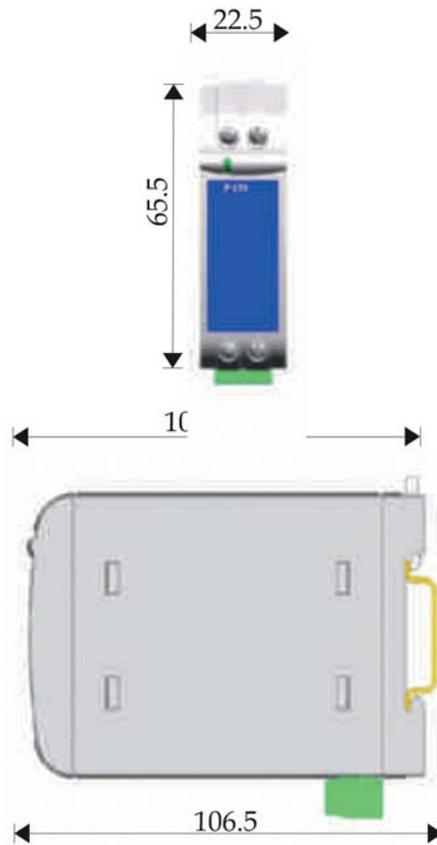


Technical Specifications Continued

Connection Terminal	
Connection Element	Conventional Screw type terminal with indirect wire pressure
Permissible cross section of the connection lead	4.0mm 2single wire or 2 x 2.5mm 2Fine wire.
Permissible Vibrations Shocks	2 g acc. to EN 60 068-2-6 3 x 50 g 2 shocks each in 6 directions Acc. to EN 60 068-2-27
Regulations	
	Acc. to IEC 61326 - 1
	For Housing : IP40 Terminals : IP20
	Acc. to IEC 61010 -1 / EN 61 010 -1
	60 TO 300V DC/AC
	III for power supply. II for measuring input and measuring output.
	Power supply versus : - All 3 kV, 50 Hz 1 min Measuring inputs versus : - Measuring outputs 2.3 kV, 50 Hz 1min & O/P1 to O/P 2: 500 V ,50 Hz ,1 min

5. Dimensions

Connection	Terminal details	
Measuring input	+	3
	-	4
Measuring output 1	+	5
	-	6
Measuring output 2	+	7
	-	8
Auxiliary Supply	~, +	1
	~, -	2



Note : All Dimensions are in mm

6. Ordering Information

Product Code	TT50-	XX	XX	X	00000000
Input Range	0...10 V	5H			
	2...10 V	3C			
	1...5 V	3B			
	0...20 mA	32			
	1...5 mA	53			
	4...20 mA	55			
Output Range	0-20 mA		32		
	4-20 mA		55		
	0-10V		5H		
	2-10V		3C		
Power Supply	24-60U			F	
	85-230U			J	

Contact



Sifam Tinsley Instrumentation Ltd

1 Warner Drive
Springwood Industrial Estate
Braintree, Essex
CM7 2YW

Tel: 01376 335271
E-mail: sales@sifamtinsley.com

www.sifamtinsley.co.uk