## USER INSTRUCTIONS

# Universal **High-Isolation 4-wire Transmitter**



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# INTRODUCTION

IPAQ-4L is a fully universal and programmable 4-wire (separately powered) transmitter. The high isolation provides safe and problem free measurements. Offering both current and voltage output, IPAQ-4L meets any process requirements. Designed for wall and DIN-rail mounting.

IPAQ-4L is intended to be used in industrial environment.

## CONFIGURATION

The transmitter is configured from a standard IBM compatible PC by using the IPRO software (version 4.1 or later). IPRO 4.1 is compatible with Windows 98SE, Windows NT Workstation 4.0, Windows 2000 and Windows XP. When the transmitter is reconfigurated by a PC no recalibration is needed.

Connect the IPRO communication cable between the serial port of a PC (with IPRO software installed) and the PC connection port on IPAQ-4L.

The IPAQ-4L must be powered, when you configure the transmitter.

If IPRO (the IPAQ software) isn't installed in your PC, install the software (follow the instructions in "IPRO"). Configuration from PC is "on-line", that is, the transmitter can be installed in the process with input connected during configuration. The output is frozen while transmission from PC to IPAQ take place. When transfer is done the transmitter uses the new parameters.

**NOTE:** The label on the transmitter indicate allowed power supply to the transmitter. By connecting false power supply the transmitter may be damaged.

## CALIBRATION

Since IPAQ-4L is a precision instrument it's recommended to check the calibration once a year. Use equipment with an

inaccuracy of at least 5 times better than the checked one, e.g. if you are checking a transmitter with an inaccuracy of 0.1% use instrument with an inaccuracy of maximum 0.02%.

You can either perform a full recalibration of the transmitters stored calibration parameters (Basic Calibration) or make a System Error Correction (recommended). In each case use the IPRO software and follow the instructions on the screen. When performing a System Error Correction, please note that this is only a compensation for errors at the measuring range in use.

# DIMENSIONS



## DATA (shortform)

Power supply	90-250 VAC or 20-30 VDC (allowed power is indicated on the transmitter).	
Power Consuption	< 1.5 W	
Ambient temperature	-20 - 70 °C	
Isolation /input/ouput /power	4000 VAC	
Permissible output load Current Voltage	≤ 750 Ω ≥ 10 kΩ	
Typical accuracy	0.2 %	
Mounting	Rail, DIN50022, 35 mm or wall	

mounting

#### SMART SENSE (Low isolation detection)

The transmitter continuously supervises the isolation resistance in thermocouples and 3-wire-connected Pt100/D100 including the connection wires. If the isolation resistance is low it causes error in the measurements and consequently a faulty output. The transmitter indicates low isolation resistance by forcing the output to a preprogrammed value. This function requires setting by the PC-program IPRO and the use of a temperature sensor with an extra wire.

tion detection)				
1 2 3 4	1 2 3 4 • • • • • • • • • • • • • • • • • • •			
	3-sensor wires			
"SmartSense" - t	emperature sensoi			

#### LIMITED WARRANTY

INOR Process AB, or any other affiliated company within the Inor Group (hereinafter jointly referred to as "Inor"), hereby warrants that the Product will be free from defects in materials or workmanship for a period of five (5) years from the date of delivery ("Limited Warranty"). This Limited Warranty is limited to repair or replacement at Inor's option and is effective only for the first end-user of the Product. Upon receipt of a warranty claim, Inor shall respond within a reasonable time period as to its decision concerning:

- 1 Whether Inor acknowledges its responsibility for any asserted defect in
- materials or workmanship; and, if so,
- 2 the appropriate cause of action to be taken (i.e. whether a defective
- product should be replaced or repaired by Inor).
- This Limited Warranty applies only if the Product:
  - 1 is installed according to the instructions furnished by Inor;
  - 2 is connected to a proper power supply;
  - 3 is not misused or abused; and
  - 4 there is no evidence of tampering, mishandling, neglect, accidenta damage, modifica tion or repair without the approval of Inor or damage done to the Product by anyone other than Inor.

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Products that are covered by the Limited Warranty will either be repaired or replaced at the option of Inor. Customer pays freight to Inor, and Inor will pay the return freight by post or other "normal" way of transport. If any other type of return freight is requested, customer pays the whole return cost.

#### Input connections

1	2   RT	3 ∎ 	4	5 •	6 •	<b>RTD</b> 4-wire connection		
1	2	3 1	4	5 •	6 •	RTD 3-wire connection		
		<u> </u>	*	*		*Low isolation detection lead (Pt100, D10		
	2 100)		4 •	5 •	6 •	<b>Pt100</b> Diff temperature T1 >	T2	
1	2	3 	4	5 •	6 •	<b>Potentiometer</b> 3-wire connection	0-8000 Ω	
	2	3	4	5 •	6 •	Potentiometer 4-wire connection	0-8000 Ω	
1		3 •	4 •	5 •	6 •	Voltage	-10+500 mV	
1	2	3 • - 1 +	4 •	5	6 •	Voltage	-10+50 V	
1	2	3 • • •	4	5 •	6	Current	-10+50 mA	
1 †	2 1	3 •	4	5 •	6 •	Thermocouple		
	7/C ▼ +		*			*Low isolation detection	on lead	

#### **Output connections**



#### **Power supply**



# ORDERING INFORMATION

IPAQ-4L	70IP4L0001
(Power supply 90-250 VAC/110-220 VDC)	
IPAQ-4L	70IP4L0002
(Power supply 20-30 VDC)	
PC Configuration Kit	70CFG00092
Configuration	70CAL00001
Software IPRO upgrade	www.inor.com

#### CONNECTIONS