User's Manual

Safety Pips
(7100.181)
Continuous Wrist Strap Monitor

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Introduction

The Safety Pips is a continuous wrist strap monitor. The person wearing the wrist band is grounded and checked permanently by a measurement of resistance and body capacity. Even in case of low battery, electrostatic charges are safely dissipated to ground.
When measuring the input resistance of the instrument to ground, please use a voltage above 15 Volt because of the 12 Volt protection zener diodes fitted in the instrument.

Installation

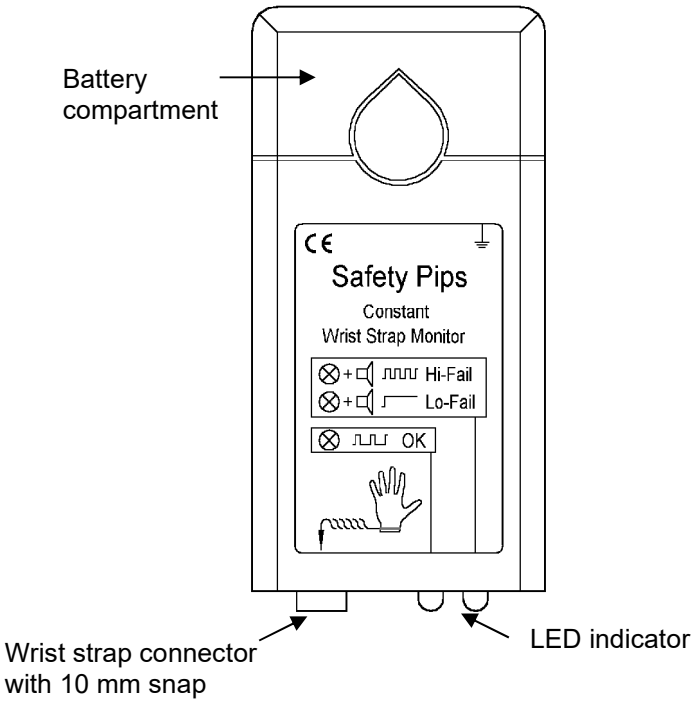

Illustration:
Optional bracket for fixing the instrument under a work bench (Part no.: 7100.181.H)

1. Fix the Safety Pips at the working place where the two signal LED's can be seen.
2. Connect the instrument grounding cord to ground.
3. Open the battery compartment and contact the battery.

Operation

Put on the wrist strap and connect the coil cord snap to the Safety Pips front connector. The instrument is switched on by connecting the coil cord.
The Safety Pips monitors the connecting cords and the contact between the wrist strap and the human skin by testing permanently if the resistance and the body capacity of the person wearing the wrist strap is within the specified range.

Signals and possible error conditions

Green LED flashes
Resistance and capacity are in the rated range

Red LED flashes in sync with buzzer
Reason: The measured resistance is too high
Measures: Check if the wrist strap is fixed tight to the skin
Check if grounding wire or the coil cord are broken

Red LED and buzzer are permanent on
Reason: The measured resistance is too low
Measures: Check if the coil cord contains a safety resistor
Check for an insulation failure or a to big capacity to conductive table mats

No LED indication and no power-on beep
Reason: Battery empty
Measures: Replace the battery

Calibration

A Calibration Unit is available to check the Safety Pips correct function and values (Part no.: 7100.181.C)

Models and accessories

Available models:

Part No.	Description
7100.181	Safety Pips with 10 mm snap, grounding cord with 4 mm ring terminal
7100.181.K	Safety Pips with relay output, 230V power supply, without audible alarm

Available accessories:

Part No.	Description
7100.181.C	Calibration Unit for Safety Pips
7100.181.H	Mounting bracket for Safety Pips
7100.181.103	Power supply 230 V AC/9V DC for Safety Pips with Part-No.: 7100.181

Technical data

Power supply:	9 V battery according to IEC/DIN 6F22
Battery life:	> 1 year (for 8 operating hours per day, pass indicator active)
Connectors:	10 mm snap for coil cords
Test voltage (open circuit)	DC < 0,01 Volt
	AC < 4,00 Volt
Test current at 1,0 MΩ load:	DC < 0,01 µA
	AC < 1,00 µA
Case:	ABS, black, dissipative (except the name plate)
Operating conditions:	Temperature range: + 10 °C to + 40°C
	Relative humidity: 20 % to 80 %
Dimensions:	125 x 60 x 26 mm
Weight:	app. 140 g (including the battery)

Input impedances

Pass (green LED flashing)

Lower rated value:	1 MOhm - 10 %
Upper rated value:	100 pF ± 10 % + 2 MOhm ± 10 %

Fault condition (red LED and beep)

Lower rated value (permanent red):	< 400 KOhm
Upper rated value (flashing red):	> 5 MOhm

Waste disposal

According to WEEE Directive 2012/19/EU the device is marked with this symbol.

This device must therefore not be disposed of with the household waste.

Batteries or **rechargeable batteries** must be disposed at the arranged collection points or according to the relevant national guidelines.