POSITION MEASURING DEVICE PSD-10

As its predecessor, the positioning system PSD 10 has been developed especially for the precise alignment of machines or their components to each other.

The measuring system consists of a laser sender, a receiver, a controller unit for the display and system operation, and a mains adaptor. The laser sender emits a modulated laser beam which projects on the 2-dimensional sensor surface within the receiver. The receiver converts the geometrical coordinates of the laser beam into digital signals which are sent to the controller unit. The Data is shown on the large LCD display in the controller unit. The display shows the coordinates, the set parameters and the menu functions available. The system operation is simple and all functions are accessible entirely by the display's touch panel.

The laser beam position is shown on the display in both, numerical and graphical format (as a circle within a scaled cross hair). Special function keys allow a zooming of the cross hair, setting of the zero point for relative measurements and a print out command. The entire right side of the display works as a touch key to access further menu functions. These allow the adjustment or selection of the following settings:

- Set display format in horizontal or vertical shape.
- Selection of filter to stabilize the displayed values.
- Indication of the laser beam centre in cartesian or polar coordinates.
- Selection of the numerical format in mm or µm.
- Indication of the angular deviation in radiant or degrees when using the polar display format.
- Selection of an absolute or relative measurement centre.
- Choice of menu language in English or German.

Further access to settings which influence the laser safety or other technical parameters, are password protected.

When the zoom setting is such that the laser beam centre is outside the cross hair display, a large arrow shows the direction in which the laser beam is positioned.

The USB-interface allows the transfer of the measurement data (X-/Y-value) to a computer for record keeping and/or evaluation.

CHARACTERISTICS

- High resolution (1µm)
- Operating distance up to 25 m
- Short reaction time
- Menu control by touch panel on display with backlight
- Indication of the measured coordinates in combined graphic and numerical format
- Large format numerical display for best reading from a longer distance
- USB-interface for data protocol
- Operation from mains supply or independent battery power
- Solid execution for mobile use
- Customization of mechanical interfaces on request

RHEINMETALL
DEFENCE

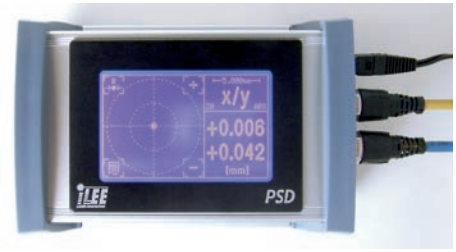
TTECHNICAL DATA OVERALL SYSTEM

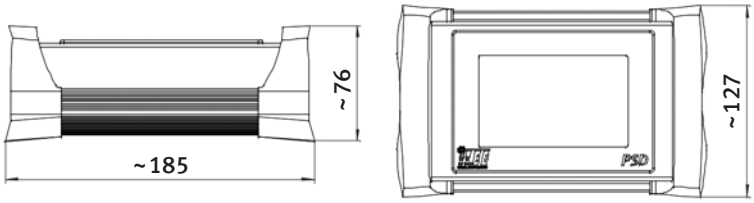
Laser positioning device PSD 10	Overall system	
Operating temperature	–10... +40	°C
Storage temperature	–10... +50	°C
Range	0... 25	m

Unless indicated otherwise, the above data is correct at ambient room temperature and normal operating conditions.

CONTROLLER UNIT

DIMENSIONS CONTROLLER UNIT





TECHNICAL DATA CONTROLLER UNIT

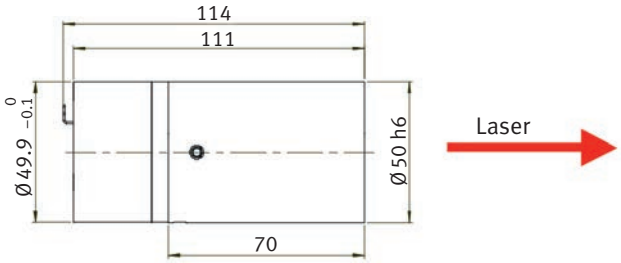
Laser positioning device PSD 10	Controller unit	
Operating voltage: from mains supply	9-12	VDC
from external battery or accumulator:	9-12	VDC
Max. Power consumption at 9V	0.8[1)]	A
Display	graphical LCD-Display 240 x 128	Pixel
Display resolution	1	µm
Accuracy	10	µm
ZOOM-factors Z0 – Z8	5.0/4.0/2.0/1.0/0.5/0.25/0.125/0.100	Radius shown, mm
Position indication	Directional indication via large arrow	–
Filter (average from x measurements)	x=1/2/5/10/20/50/100/200/500/1000	–
Receiver-connector	shielded RJ45 Plug with lock	–
Sender-connector	shielded RJ45 Plug with lock	–
Receiver cable 5 m	shielded patch cord RJ45 Class 5e	yellow
Sender cable 10 m	shielded patch cord RJ45 Class 5e	blue
Measurements	absolute/relative	–
Display format	horizontal/vertical; cartesian/polar coordinates	–
	mm/µm; radian/degree (polar coordinates only)	–
Menu language(s)	German/(English)	–
USB	connector type B[1)]	–
Protection class	IP30	–
Weight	0.86	kg

Unless indicated otherwise, the above data is correct at ambient room temperature and normal operating conditions.

[1)] Driver required on PC for communicating with PSD-10 controller unit.

SENDER

DIMENSIONS SENDER



TECHNICAL DATA SENDER

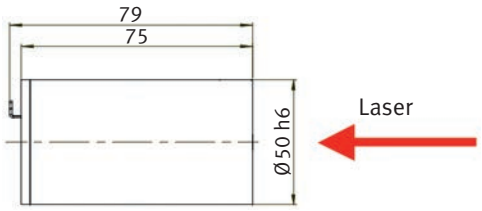
Laser positioning device PSD 10	Sender	
Operating voltage	6–12	VDC
Max. operating current	150	mA
Optical output	1 (‹3[1])	mW
Laser class	2 (3R[1])	–
Wavelength	650	nm
Typical warm-up to stabilisation time	‹5	minutes
Typical modulation frequency	2	kHz
Protection class	IP65	–
Plug	shielded RJ45 plug with lock	–
Weight	0.40	kg

Unless indicated otherwise, the above data is correct at ambient room temperature and normal operating conditions.

[1] Laser power adjustment for measurements under difficult conditions is password protected.

RECEIVER

DIMENSIONS RECEIVER

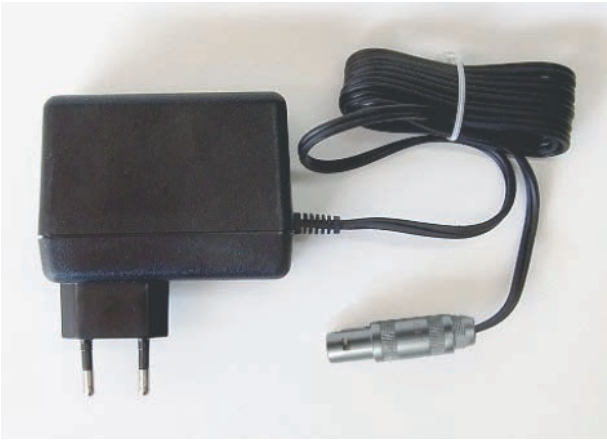


TECHNICAL DATA RECEIVER

Laser positioning device PSD 10	Receiver	
Operating voltage	12	VDC
Max. operating current	‹30	mA
Active receiver surface	10 x 10	mm
Protection class	IP65	–
Plug	shielded RJ45 plug with lock	–
Weight	0.24	kg

Unless indicated otherwise, the above data is correct at ambient room temperature and normal operating conditions.

POWER SUPPLY ADAPTER



OPTIONS

- battery-/accumulator-pack for controller unit
- battery-/accumulator-pack for sender
- other cable length for sender
- Labview application to display, safe and evaluation of the measurement date on a PC
- CD with USB driver for PC (Mac OS 8/9/X, Win XP/2000/ ME/98/Server 2003/CE, Linux), Installation instruction

TECHNICAL DATA FOR POWER SUPPLY ADAPTER

Laser positioning device PSD 10	**Power supply adapter**	
Primary supply voltage (U_{IN})	230	VAC
Primary supply frequency	50	Hz
Secondary supply voltage (U_{Out})	12 ±1.5 %	VDC
Max. current	2.1	ADC
Mains connector plug	Euro plug	–
Secondary connector plug	LEMO 2-poles (FFA.0S.302.CLAL44)	–
Polarity LEMO plug	+polarity: Pin 1, GND: Pin 2	–
Weight	0.16	kg

Unless indicated otherwise, the above data is correct at ambient room temperature and normal operating conditions.

TECHNICAL REQUIREMENTS FOR BATTERY-/ACCUMULATOR-PACK FOR CONTROLLER UNIT

Laser positioning device PSD 10	**battery-/accumulator-pack**	
Voltage at output	9–12	VDC
min. current	0.8	A
Connector plug	DC- hollow connector 5.5/2.5	mm
Polarity DC- hollow connector	+polarity: inside, GND: outside	–
Connector cable	2-adriges cable 2 x 0.25	mm^2

Unless indicated otherwise, the above data is correct at ambient room temperature and normal operating conditions.

TECHNICAL REQUIREMENTS FOR BATTERY-/ACCUMULATOR-PACK FOR SENDER

Laser positioning device PSD 10	**battery-/accumulator-pack**	
Voltage at output	6–12	VDC
min. current	150	mA
Connector plug	shielded RJ45 Plug	–
Supply polarity	+polarity: pin 8, GND: cable-shield	–
Connector cable	shielded patch cord RJ45 Kat.5e	–

Unless indicated otherwise, the above data is correct at ambient room temperature and normal operating conditions.

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