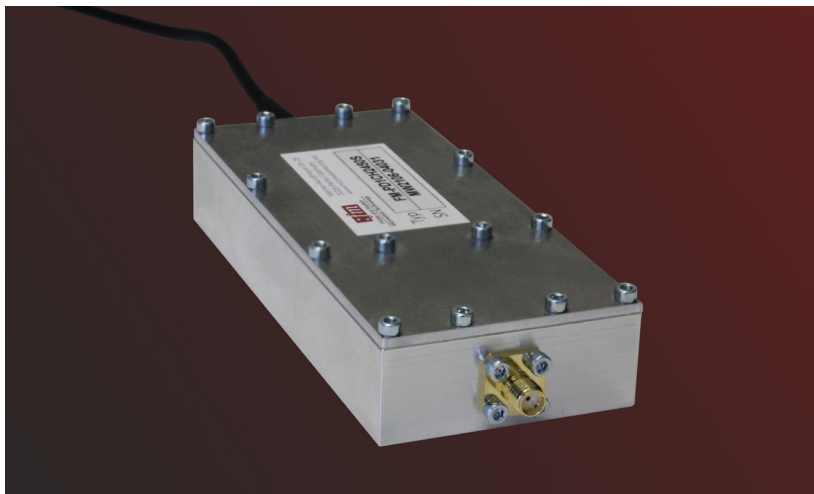


Microwave Power Detector

FM - PD1CH



General Information



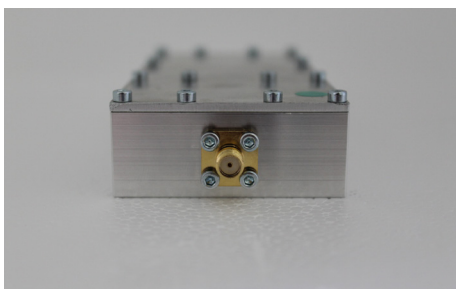
The power detector **FM-PD1CH** is designed for industrial drying, heating and plasma application as well as for researchers in laboratory application. The power detector is principle useable in the frequency range of 800 MHz to 3000 MHz. A calibration for the frequency range 900 MHz to 930 MHz or 2400 MHz to 2500 MHz is available as standard. The frequency can be set by a command in the corresponding frequency band. Furthermore, a user-defined correction factor can be used, so that the values to be added are corrected immediately. In combination with an isolator, isolaucher or directional coupler from Fricke und Mallah, the current power level can be corrected for the entire frequency range, so that the user immediately receives the correct power level including correction of the frequency response. This must be clarified accordingly the purchase ordering.

The **PD1CH** is connected and normally powered via a USB to TTL Serial Cable (3.3V) with D-SUB 9-pin female connector. The PD1CH can be controlled and evaluated with a COM port terminal or with a FM own GUI. The GUI is available as an option and allows the display of the current power, the input of correction factors and the recording of power time histories. These can be easily saved in the most common file formats.

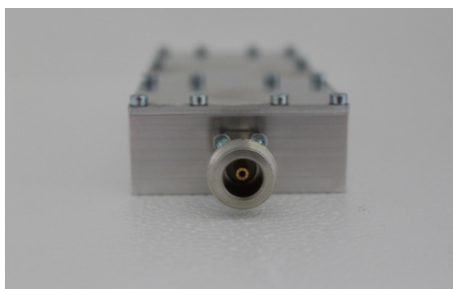
Types

Frequency band	SMA-female RF connector	N-female RF connector
2400 - 2500 MHz	PD1CH2450S	PD1CH2450N
900 - 930 MHz	PD1CH0915S	PD1CH0915N

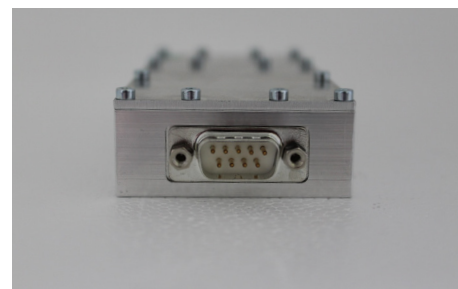
Connector



Front view with SMA-female RF connector
PD1CH2450S and **PD1CH0915S**



Front view with N-female RF connector
PD1CH2450N and **PD1CH0915N**



Back view PD1CH of the D-SUB 9-pin male
Communication and DC connector

Microwave Power Detector

FM - PD1CH



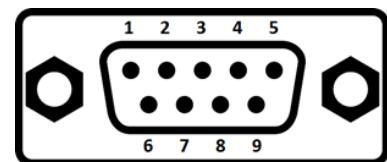
Specification

Size PD1CH with SMA connector (LxHxW)	135 x 24 x 53 mm
Size PD1CH with N connector (LxHxW)	148 x 24 x 53 mm
Power Supply volatage	+5 V _{DC} or powering from USB
Current consumption	~60 mA @ +5 V _{DC}
Weight	250 g
Communication and DC Connector	D-SUB 9-pin male
RF input impedance	50 Ω
VSWR max	1.4
Return loss max	15.6 dB
VSWR typ	1.15
Return loss typ	23.1 dB
RF connector selectable	N-female SMA-female
Absolute maximum RF input power	20 dBm (100 mW)
Maximum calibrated RF input power	10 dBm (10 mW)
Minimum calibrated RF input power	-30 dBm (1 μW)
Frequency range selectable	900 MHz - 930 MHz 2400 MHz – 2500 MHz
Operating temperature rang	+10°C to +55°C
Storage temperature range	-20°C to +80°C

Pin Assignment

Pin	Signal	Description
1		Not connected
2	RX	TTL 3.3V RX
3	TX	TTL 3.3V TX
4		Not connected
5	GND	Signal ground
6		Not connected
7		Not connected
8		Not connected
9	V _{supply}	+5 V _{DC}

Pin numbering D-Sub 9-pin male



Microwave Power Detector

FM - PD1CH



Application

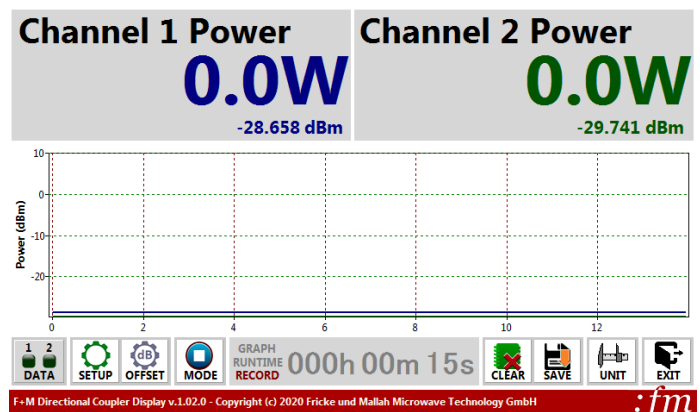
Power Measurement of forwarded and reflected power with a **FM-HLR26FD00200FDGX** directional coupler and two power detectors **FM-PD1CH2450N**.



Optionally the GUI in which both channels can be displayed is available.

Key features of the GUI:

- Automatic device search
- Graphical display of the power in Watt or dBm of 2 PDICH
- Manual or automatic frequency adjustment
- Log rate is adjustable (0.5 sec over 2 h up to 10 sec. over 40 h)
- Data recording can be paused
- Offset in dB is adjustable per channel
- Export of power data as csv or html



Scope of delivery

The scope of delivery includes the PD1CH (The RF connector must be choose) and the USB to TTL Serial Cable (3.3V) with a length of approx. 1.8 m and a D-SUB 9-pin female connector.

Optionally a GUI is available form FM.