

Optical Power Meter

Ideal for Applications in Silicon Photonics



F-712.PM1

- Large signal bandwidth of 20 kHz
- High dynamic range
- Wavelength range 400 to 1550 nm
- Current input range to 1 mA
- Logarithmic output

Product overview

This optical power meter can convert an optical signal into a voltage signal in high resolution and with an extremely high bandwidth. The design of the optical input enables measuring of the optical signal independent of the position of the optical fiber in the connector.

The device also has a current input. For example, a photodiode can be connected to this input and the diode current converted into a logarithmic voltage signal. Switching between the inputs is done via a button and an LED lights up when the current input is activated. The large wavelength range of the optical power meter enables working in both the visible and infrared range without switching. The precise, logarithmic output signal is ideal for optical alignment systems. The optical power meter is therefore suitable for the fastest fully automatic alignment systems available on the market.

Specifications

Optical input	F-712.PM1	Unit	Tolerance
Wavelength range	400 to 1550 ⁽¹⁾	nm	
Connectors	FC/PC, FC/APC		
Polarization dependence	None		
Minimum input power at 1550 nm	85	nW	
Maximum input power at 1550 nm	85	mW	
Average noise at 1550 nm	<10	nW	

Current input	F-712.PM1	Unit	Tolerance
Connectors	BNC		
Minimum input current	0		
Maximum input current	1	mA	
Average noise	<120	pA	

Output	F-712.PM1	Unit	Tolerance
Connectors	BNC		
Output signal	Analog, logarithmic		
Voltage range	-5 to 5	V	typ.
Bandwidth (3dB)	20	kHz	
Logarithmic increase	1	V/10 dB	
Output voltage at 85 mW, 1550 nm	≈ +5 ⁽²⁾	V	
Output voltage at 85 nW, 1550 nm	≈ -1.2 ⁽²⁾	V	
Output voltage at 1 mA input current	+5	V	

Miscellaneous	F-712.PM1	Unit	Tolerance
Operating voltage	12 to 24	V	
Power consumption	2.4	W	
Overall mass	0.6	kg	
Relative humidity	20 to 70	%	not condensing
Operating temperature range	5 to 40	°C	
Storage temperature range	-10 to 50	°C	

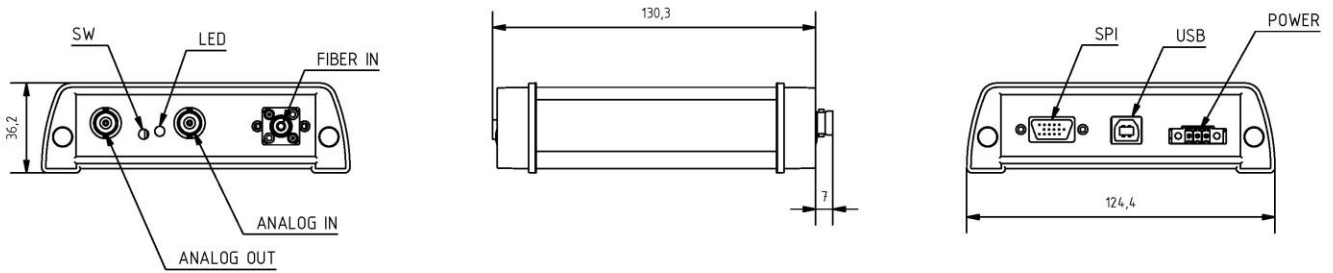
⁽¹⁾ See "Drawings and Images" for a typical course of sensitivity. Individual measurement report on the exact distribution of sensitivity in the scope of delivery.

⁽²⁾ Measurement report in the scope of delivery.

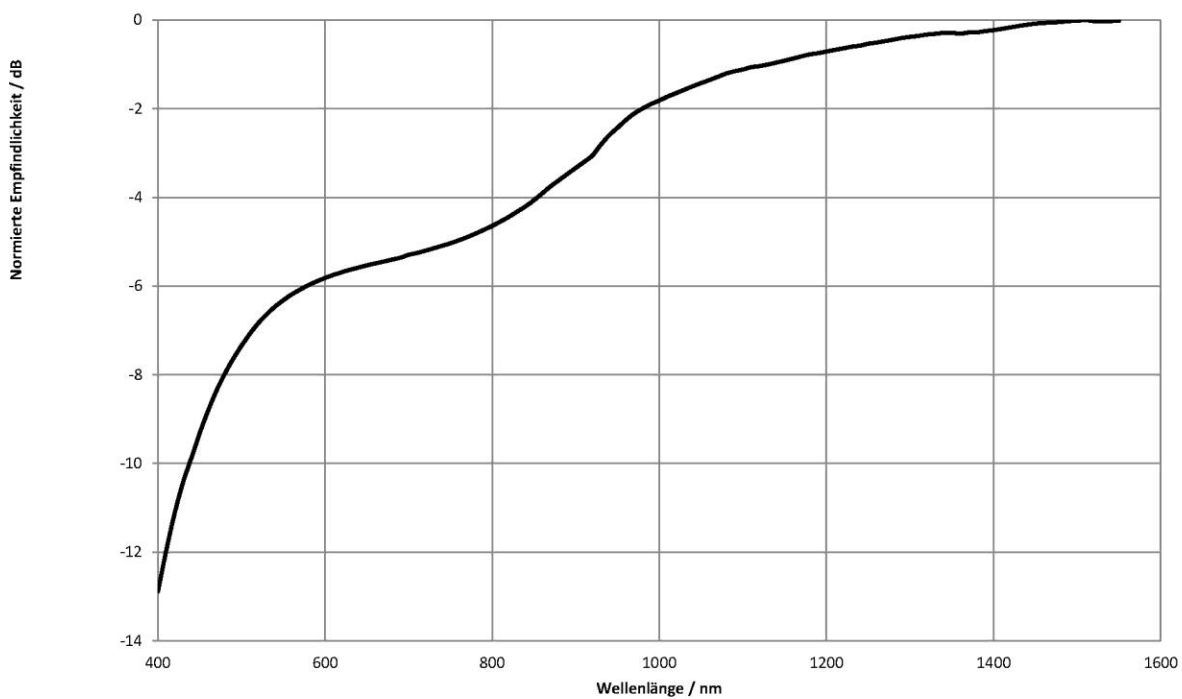
The exact calculation of the light output is described in the documentation supplied.

Ask about customized versions.

Drawings / Images



F-712.PM1, dimensions in mm



Typical sensitivity curve depending on the wavelength

Ordering Information

F-712.PM1

Optical power meter, 400-1550 nm wavelength range, to 1 mA input current, 20 kHz signal bandwidth, logarithmic output ± 5 V, benchtop device, including power adapter