

PYRANOMETER / PAR SENSOR



GENERAL

The irradiance of the sun is an important factor to be measured in agriculture, photovoltaics, solar energy collection and for meteorological purposes. With the Pyranometer and PAR sensor all common application can be covered, whereas precise optical filters are used. Very unique is the glass dome which protects the measuring cell from all the weather conditions and the newly offered threshold depending output switch, which can directly switch on/off a light or can be feed to a control unit.



MEASUREMENT TECHNIC

Selected silicon transducers, especially treated filters and distinct domed glass transducer cover make our irradiance sensors extremely stable and precise instruments. Box level is already integrated, adjustment is to be done by knurled screws.

ADVANTAGES

- Ready to use with an integrated box level
- Measuring range 0..1400 W/m²
- Output signal: 0..50mV passive, standardized or with amplifier 0..10 V, 4..20 mA
- Custom output signal/measurement range on request
- Protection class IP67
- Programmable threshold output switch
- Easy and fast levelling/mounting
- Rugged aluminium housing with glas dome

CALIBRATION

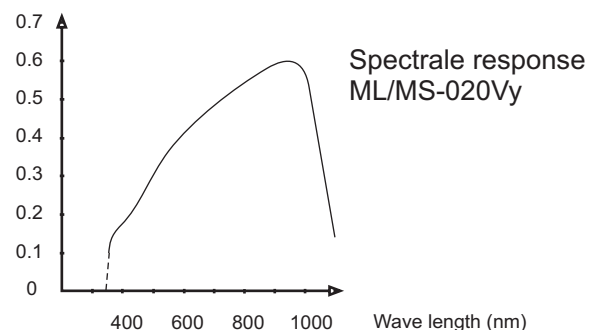
All pyranometers are calibrated under clear natural sky at approximately 20 °C ambient temperature against a thermopile-pyranometer (secondary standard). The date of the next calibration is marked on the housing of each sensor.

OUTPUT

MS/ML series shows highest flexibility referring it's output signals. Standardized 50 mV for all basic versions is available as well as up to 10 V or 4..20 mA signals. The professional version is equipped with a build in threshold device which is able to switch against ground when it comes to exceed a certain threshold.

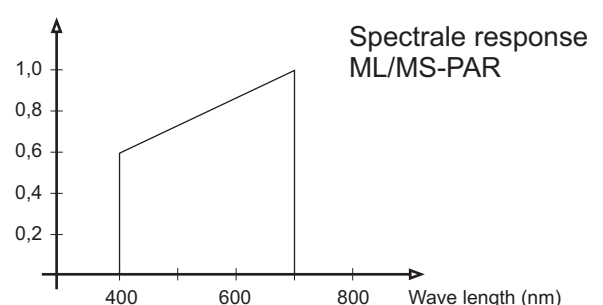
PYRANOMETER

- PV site evaluation programs
- Monitoring PV plants/homes
- Agriculture, photovoltaic plants
- Science



PAR-SENSOR

- Green houses
- Photosynthesis related studies in farming
- Forestry, Winegrowing, Science



TECHNICAL DATA

With amplifier	MS-020Vy *	MS-PAR
Measuring range	0..1400 W/m ²	0..3000 µmol/sm ²
Output	0..1 V 0..10 V @>5 kOhm load 4..20 mA @<200 Ohm load others on request	0..1 V 0..10 V @>5 kOhm load 4..20 mA @<200 Ohm load others on request
	short circuit, inverse polarity and over-voltage protected up to U	short circuit, inverse polarity and over-voltage protected up to U
Threshold switch 20-100% full scale	max. 24 V/0,5 A 24 V against U _{GND}	
Temperature drift	<0,1 %/K	<0,1 %/K
Spectral response	350..1100 nm	400..700 nm
Long term drift	<2 %/year	<2 %/year
Refresh time	<<1 s	<1 s
Offset	<5 mV@0 W/m ²	<5 mV@0 µmol/sm ²
Cosine-error	<10 %@80 °C	<10 %@80 °C
Power supply	12..24 V (7 mA@24 V)	12..24 V (7 mA@ 24V)
Operating temp	-40 °C..+60 °C	-40 °C..+60 °C
Cable	2 m / 4/6x0,22 mm ²	2 m / 4x0,22 mm ²
Weight	150 g	150 g
Without amplifier	ML-020VM	ML-PAR
Measuring range	0..1400 W/m ²	0..3000 µmol/sm ²
Output	0..50 mV	0..50 mV

* see ordering code

ORDERING CODE

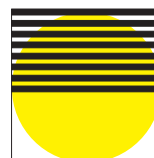
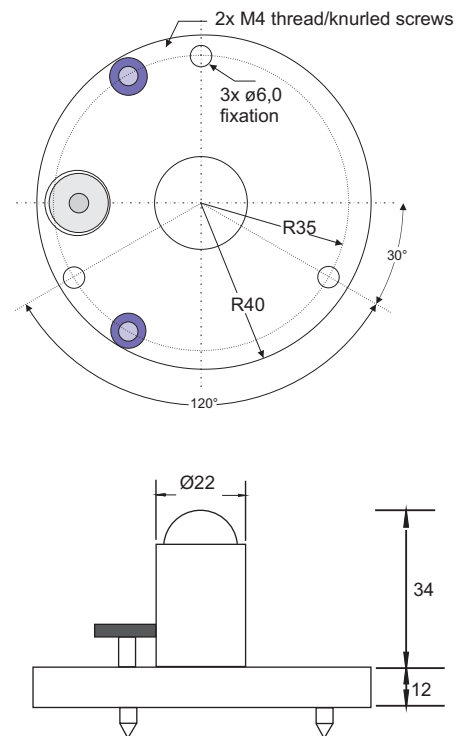
Mx	020Vy PAR	M	O	G*	H*	T*
		Measuring range Standard 1400 W/m ²	Output 0..50 mV 0..1 V 0..10 V 4..20 mA custom	Desired threshold value 20-100 % fs. (F.s.) x %	Hysteresis xxx W/m ²	Switching on/off time delay xx minutes
	Version M= Standard P= Professional*					

x= S with amplifier
x= L without aplifier

YOUR LOCAL REPRESENTATIVE

DIMENSION

ML/MS-020Vy with standard housing



MESA

MESA Systemtechnik GmbH
Turmstrasse 8
78467 Konstanz - Germany
Telefon: ++49(0)7531/9371-0
Telefax: ++49(0)7531/9371-71
Email: info@mesa-systemtechnik.de
http:// www.mesa-systemtechnik.de



Technical data is subject to change.
Date: Pyranometer_E_0979-2