



## HortiMaX PAR sensor

- Measures light in the photosynthetic spectrum or 'PAR'
- Needs minimal maintenance
- Connectable to the Clima 500 and MultiMa

# Measure the light needed for growth with the PAR sensor



Plants cannot grow without light in the Photosynthetically Active Radiation (PAR) spectrum. Together with CO<sub>2</sub> and water, PAR is the main element needed for photosynthesis. The more PAR a plant receives, the more potential that plant has for growth. A PAR sensor is a quantum sensor that measures the number of photons in the PAR spectrum, which is light with a wavelength between 380 and 750 nm.

## Lighting system

A PAR sensor can be used to determine the growth potential of both indoor and outdoor crops. If the sensor is installed indoors, you can measure how much PAR is actually reaching your plants. The PAR sensor does this by measuring the number of photons plants are able to absorb and, therefore, also enables you to objectively assess the quality of your lighting system.

## PAR comparisons

The PAR sensor is the most commonly-used sensor by study groups for taking PAR readings. Study groups use this sensor to compare the amount of PAR that the crop of each grower in the study group has received. Although PAR is only one of the factors necessary for growth, it serves as a reliable indicator for making comparisons. Please note, however, that the PAR sensor is a point sensor, which means that it takes light measurements of only a small area. That is why it's crucial to choose the right location for the sensor. If the members of a study group fail to make proper agreements about where to place the sensors, it's likely that the wrong comparisons will be made.

## Minimum day sum

The table below shows the minimum day sum listed by crop. This is the minimum amount of light needed for plant growth.

Crop	minimum day sum (mol/m <sup>2</sup> /dag)
Tomato	12
Rose	12

## PAR day sum

The table below shows the PAR day sum listed by light source. The PAR day sum is the total number of micromol/m<sup>2</sup>/day.

Light source	standard	PAR day sum (mol/m <sup>2</sup> /day)
Summer day	2000 J/cm <sup>2</sup> /day	30
Winter day	200 J/cm <sup>2</sup> /day	3
SON-T	10.000 lux, 16 hours	7
	15.000 lux, 16 hours	10