

SP4: OPTICAL SPECTRORADIOMETER

PRECISE AND EFFICIENT OPTICAL SPECTRORADIOMETER WITH ENVIRONMENTAL SENSING CAPABILITIES FOR PLANT GROWTH APPLICATIONS WITH THE BILBERRY LIGHTING SYSTEM



PRODUCT HIGHLIGHTS:

- Optical spectrum measurement in range of 340-850 nm,
- Flux density calculation in $\mu\text{mol/s}\cdot\text{m}^2$, lx and mW/m^2 ,
- Logging and pdf report functionality,
- Bluetooth and Wi-Fi communication,
- Ambient temperature, humidity and vapor pressure deficit measurement.
- Li-Ion battery for mobile use



APPLICATIONS:

- Feedback sensor for Bilberry Essentials Lighting Control System,
- Stand-alone spectroradiometer tool for research and crop monitoring



TECHNICAL SPECIFICATION:

Conditions: $T_a = 24\text{ }^{\circ}\text{C}$

Parameter	Symbol	Min	Typ	Max	Units
Supply voltage	V_{in}	85	230	265	VAC
Power	P	2.0	2.6	4.0	W
Ingress protection	IP		IP42		-
Spectral resolution	$\Delta\lambda$		1		nm
Light intensity measurement range	E_v	5		70000	lx
Operating temperature	T_{op}	0		50	$^{\circ}\text{C}$
Ambient temperature measurement range	$T_{s\ min/max}$	0		50	$^{\circ}\text{C}$
Ambient temperature measurement resolution	ΔT_s		0.1		K
Relative humidity resolution	ΔRH		1		%
Relative humidity measurement range	$RH_{min/max}$	0		100	%
Warranty		5	5		yrs

FEATURES:

- Spectrum measurement,
- Ambient temperature measurement,
- Relative humidity measurement,
- Vapor Pressure Deficit measurement,
- Can be setup as a feedback sensor for Bilberry Essentials,
- Generation of spectrum measurement reports in pdf,
- Control via Bilberry Essentials app,
- Cloud logging with Bilberry Essentials,
- Bluetooth communication (control via Bilberry Essentials mobile apps only),
- WiFi communication (control via Bilberry Essentials mobile and Web),
- Available Bluetooth API,
- Available MQTT (WiFi) API,
- Available Modbus TCP API.