BF5 Specifications

The BF5 is intended for use outdoors in natural daylight, with an unobstructed view of the horizon. Significant errors may be produced by artificial light, or if the BF5 is shaded from direct sunlight by buildings, or if there are strong reflections, from windows, for example.

The following accuracy figures give 95% confidence limits, i.e. 95% of individual readings will be within the stated limits under normal climatic conditions.

	Accuracy and Resolution of analogue radiation outputs		
	PAR	***Energy***	***Illuminance***
Units	*$mol.m^{-2}.s^{-1}$*	*$W.m^{-2}$*	*klux*
Overall accuracy: Total	10 $mol.m^{-2}.s^{-1}$ 12%	5 $W.m^{-2}$ 12%	0.600 klux 12%
Overall accuracy: Diffuse	10 $mol.m^{-2}.s^{-1}$ 15%	20 $W.m^{-2}$ 15%	0.600 klux 15%
Resolution	0.6 $mol.m^{-2}.s^{-1}$	0.3 $W.m^{-2}$	0.060 klux
Range	0 - 2500 $mol.m^{-2}.s^{-1}$	0 - 1250 $W.m^{-2}$	0 - 200 klux
Output sensitivity	1mV = 1 $mol.m^{-2}.s^{-1}$	1mV = 0.5 $W.m^{-2}$	1mV = 0.100 klux
Output range	0 – 2500 mV	0 – 2500 mV	0 – 2000 mV

Accuracy: Sunshine hours	10% (WMO definition)
Accuracy: Cosine correction	10% of incoming radiation over 0 - 90° Zenith angle
Accuracy: Azimuth angle	5% over 360 rotation
Temperature coefficient	0.15 % / C typical
Temperature range	-20 to + 50 C, Alkaline batteries -20 to + 70 C, Lithium batteries
Recommended recalibration interval	2 years
Response time	< 250ms
Spectral response	400 - 700nm
Latitude capability	-90° to + 90
Environmental : Sealing	IP65 (shower and dust proof)
Sunshine status : contact closure	No sun = open circuit Sun = short circuit to ground
Internal battery	2 x 1.5V AA Alkaline batteries
Power requirement	2mA, (awake), <30 A (asleep)
Battery lifetime	1 year typical

Input voltage range	1.4 - 3.6V DC, internal battery 5.0 - 15V DC, external power
Fuse trip point, on sunshine status signal	0.5A, 30V self resetting (switch-closure mode)
Max applied voltage to sunshine status output	0 to 24V (contact closure mode)
RS232 connector	5 pin M12
Signal output & power-in connector	8 pin M12
Mounting options:	Camera tripod socket, ¼" Whitworth Holes for 4 x M4 bolts at box corners
Size & Weight	120mm x 122mm x 95mm, 635g
Heater output below 0 C	15 W
Heater output above 5 C	2W reducing to 0W at 35 C
Lowest snow & ice-free temperatures	-20 C at 0 m/s wind speed -10 C at 2 m/s wind speed
Heater: max power	15 W at 12V DC
Heater: max current	1.5A at 15V
Fuse: max voltage, current	24V, 1.6A (self resetting)
Heater Input voltage	12 to 15V DC

Ordering Information

Sunshine Sensor type BF5 includes built-in heater, user manual, RS232 cable and sensor configuration software.

Note: BF5 requires connecting cables for use with SunScan Probe or data logger.

BF5 cables

SP-BF/w-05 (5m cable BF5 to bare wire).
Connects BF5 outputs to a data logger.

SP-BF-RS10 (10m RS232 extension cable).
10m weatherproof RS232 cable. IP68 M12 5-pole connector (f) to IP68 M12 5-pole connector (m). Can be connected to other SP-BF-RS10 cables.

Note: the final SP-BF-RS10 has to be connected to an SP-BF-RS01 RS232 cable.

SP-BF-RS01 (1.5m RS232 cable).
IP68 M12 5-pole connector (f) to 9-way D-connector (f). Connects BF5 to PC. Supplied as standard with BF5.

Extension cables for analogue output

EXT/8W-05 (5m extension cable) 8-way M12.
EXT/8W-10 (10m extension cable) 8-way M12.
EXT/8W-25 (25m extension cable) 8-way M12.

BF5 accessories

Cross arm type BF5-M 1m length cross arm with pole mounting bracket and BF5 levelling device. For mounting Sunshine Sensor onto weather station mast M2 or M2-Min.

For SunScan Probe accessories see SunScan data sheet.

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