

Pyranometer Delta-T SPN1

S65100



Pyranometer Delta-T SPN1

Order number	Availability
S65100	Usually on stock

ISO 9060 Class B, measures global and diffuse irradiance, solid state

Description

- Measures global (total) and diffuse irradiance in W/m^2
- WMO sunshine threshold: 120 W/m^2 direct beam
- No routine adjustment or polar alignment
- No moving parts, shade rings or motorised tracking
- Works at any latitude
- Unique ground glass dome
- Wideband thermopile sensors
- Near ideal spectral and cosine response
- Standard output sensitivity
- Matches or exceeds the ISO Class B standard and the WMO Good Quality standard for a solar pyranometer in all respects apart from the spectral response – which is accurate to $\pm 10\%$ over 0.4 to $2.7 \mu\text{m}$

Specifications

Pyranometer Delta-T SPN1

General Information

Order Number S65100

Radiation Characteristics

Spectral Range 0 to > 2000 W/m²

Resolution 0.6 W/m² = 0.6mV

Analog Output Sensitivity 1mV = 1 W/m²

Analog Output Range 0 ... 2500 mV

Sunshine Status

Sunshine Status Threshold 120 W/m²

Sunshine Status Output No sun = open circuit
Sun = short circuit to ground

Accuracy

Sunshine Status ± 10% sun hours with respect to the threshold

Cosine Correction ± 2% of incoming radiation over 0 ... 90° zenith angle

Azimuth Angle ± 5% over 360° rotation

Performance

Quality Standard SPN1 matches or exceeds ISO First Class standard and WMO Good Quality standard for solar pyranometers in all respects apart from spectral response (accurate to ±10% over 0.4 to 2.7 μm)

Overall Accuracy ± 5% daily integrals

Global (Total) ± 5% ± 10 W/m² hourly averages

Diffuse Radiation ± 8% ± 10 W/m² individual readings
95% confidence limits

Electrical Characteristics

Power Requirements 2 mA (excluding heating power), 5 ... 15 VDC

Heating Power 12 ... 15 VDC, up to 1.5 A

Heating Control Continuously variable up to 20 W output for external temperatures below 0°C

Environmental

Pyranometer Delta-T SPN1

Lowest Snow & Ice-Free Temp (with Heating)	-20°C at 0 m/s wind speed -10°C at 2 m/s wind speed
Temperature Coefficient	± 0.02% per °C typical (-20 ... +70°C)
Temperature Range	-40 ... +70°C
Recalibration / Stability	Factory calibration recommended every 2 years
Spectral Response	400 ... 2700 nm
Spectral Sensitivity Variation	10% typical
Latitude Capability	-90 ... +90°C

Physical Details

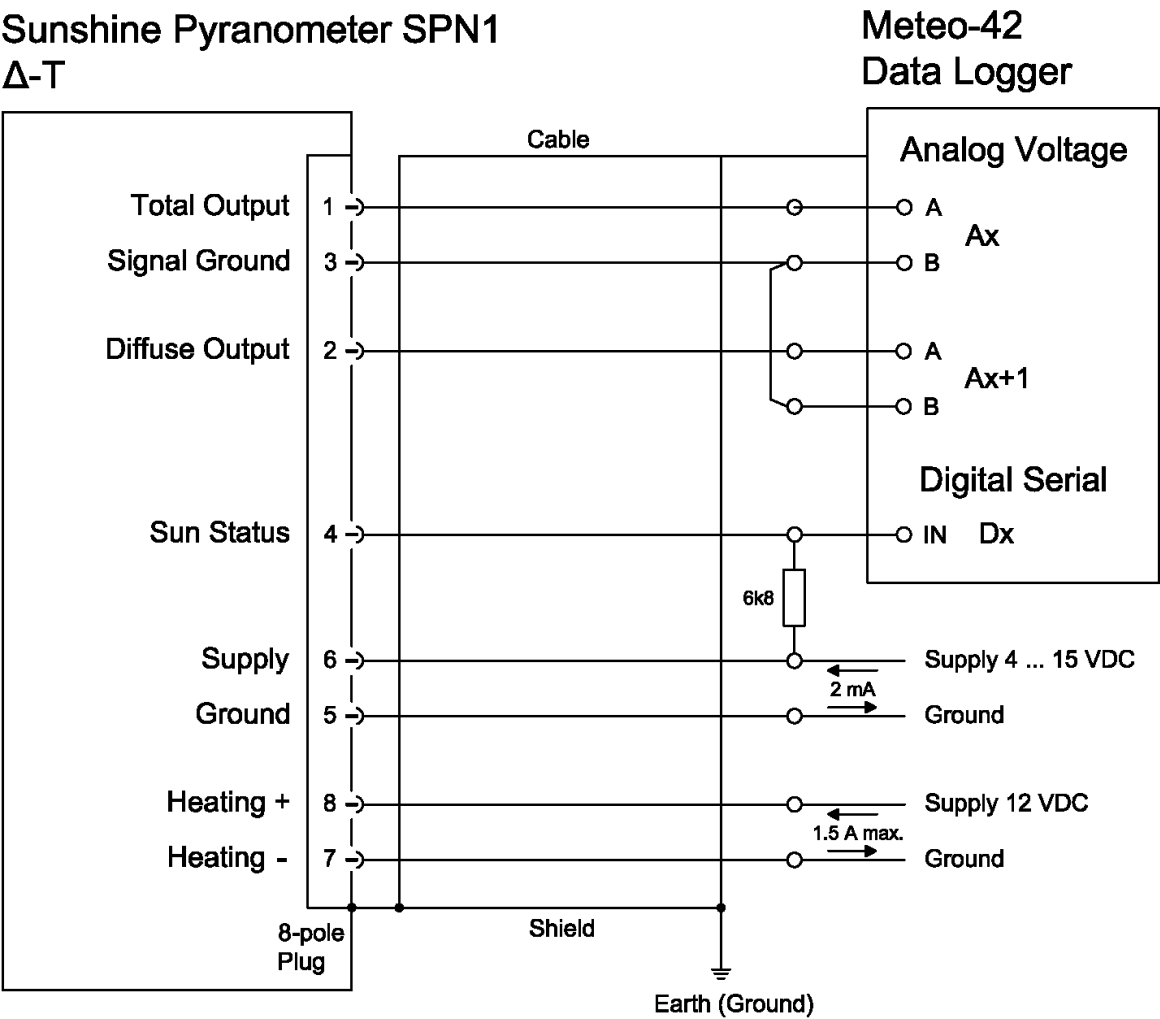
Connection	8-pole plug (M12)
Cable	8-wire cable, length: 5 m
Environmental	IP67 sealing
Mounting Options	3 x M5 tapped holes in base; 108 mm pcd, 120° spacing
Size / Weight	140 mm (diameter) x 100 mm (height), 940 g

Manufacturer

Delta-T Devices Ltd.

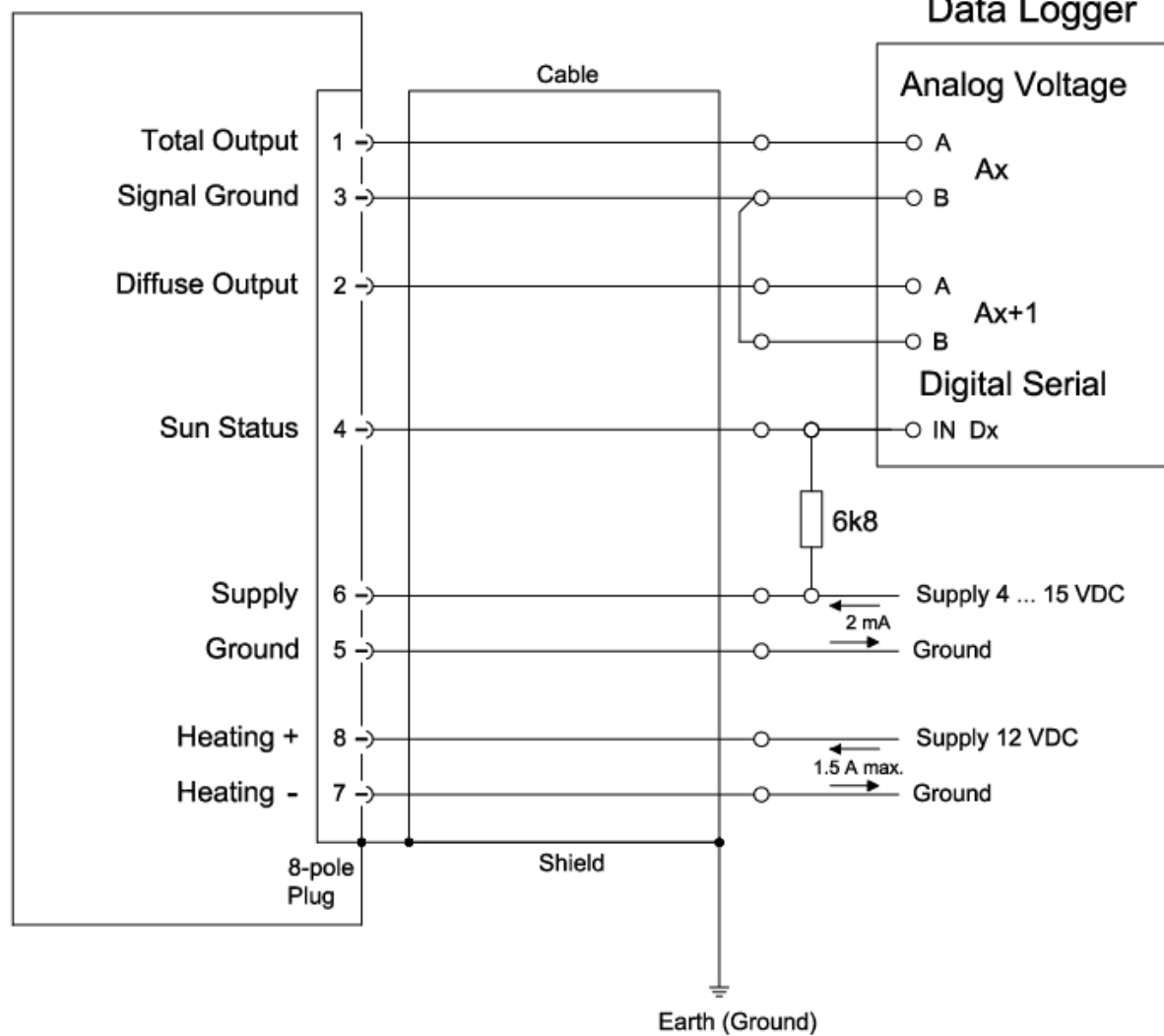
Sensor connection diagram

Sensor connection diagram to Ammonit Meteo-42 data logger



Sensor connection diagram to Ammonit Meteo-40 data logger

Sunshine Pyranometer SPN1



Function	Plug Pin No.	Sensor Cable Wire Colour	Meteo-40 Analog Voltage / Digital	Supply Sensor
Global irradiance	1	white	Ax a	
Diffuse irradiance	2	brown	Ax+1 a	
Signal ground	3	green	Ax b, Ax+1 b	
Sun status	4	yellow	Dx	
Ground	5	grey		GND
Supply	6	pink		4 ... 15 VDC
Heating	7	blue		12 VDC
Heating	8	red		GND