

apogee[®]
INSTRUMENTS

INFRAROVANÉ RADIOMETRE

SI-100-SS, SIF-100-SS, & SI-410-SS Series



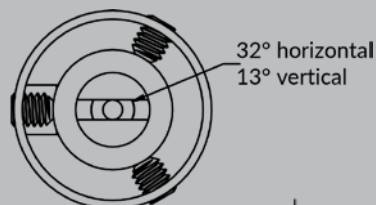
Ultra Narrow
14° half-angle

Narrow
18° half-angle

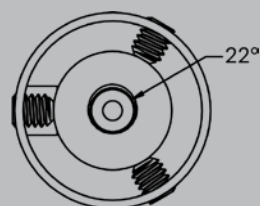
Standard
22° half-angle

Horizontal
13° x 32°
half-angles

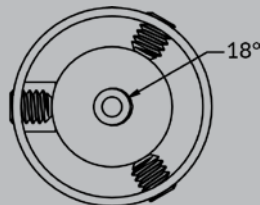
Vysoko presné meranie
bezkontaktnéj povrchovej teploty



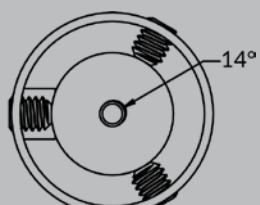
SI/SIF-1H1-4H1



SI/SIF-111-411

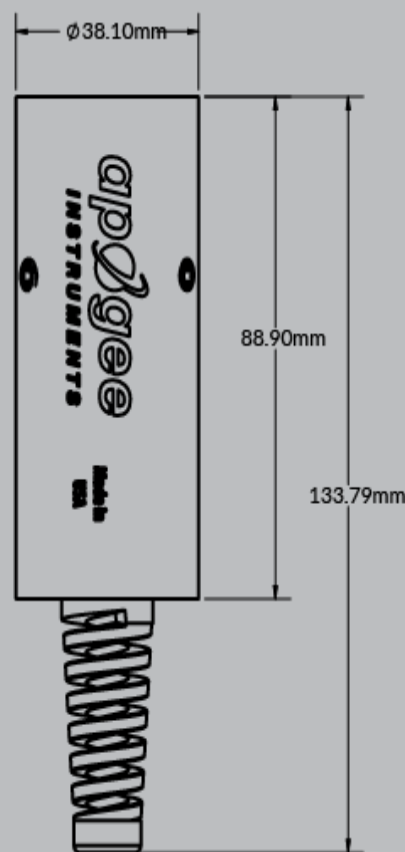


SI/SIF-121-421



SI/SIF-131-431

Rozmery



Vlastnosti

Možnosti výstupu

- Analogická odpoveď
- SDI-12

Vysokorychlostné možnosti

Nové analógové modely s rýchlou odozvou (SIF) majú hodnotu 0,2 druhá doba odozvy.

Vysoká presnosť

Kalibrovaný na vlastný kužeľ čierneho tela s neistotou merania $\pm 0,2^\circ \text{C}$ od -30°C do 65°C , ak je teplota snímača v rozmedzí 20C terč. Radiometre sú citlivé len na vlnové dĺžky od 8 do 14 μm , aby sa minimalizoval vplyv vodných pár a CO_2 na meranie.

Robustný kryt

Eloxované hliníkové teleso s plnohodnotnou elektronikou. Vonkajší ochranný štít znižuje tepelné výkyvy

Typické aplikácie merania

- Odhad stavu vody v rastlinách
- Meranie teploty povrchu vozovky pre stanovenie podmienok námrazy

Špecifikácia výrobku

| All Models -SS | SI-111 | SI-121 | SI-131 | SI-1H1 | SIF-111 | SIF-121 | SIF-1H1 | SI-411 | SI-421 | SI-431 | SI-4H1 |
|---|---|---------------|---------------|------------------------------|---|--------------|------------------------------|---|--------|--------|------------------------------|
| Analog Model Output (Difference between Target and Detector) | ≈ 60 μV per C | ≈ 40 μV per C | ≈ 20 μV per C | ≈ 40 μV per C | ≈ 15 μV per C | ≈10 μV per C | | Digital Models (SDI-12) | | | |
| Input Voltage Requirement | 2500 mV thermistor excitation (typical, other voltages can be used) | | | | | | | 4.5 to 24 V DC with current draw of 0.6 mA (quiescent), 1.3 mA (active) | | | |
| Analog Output from Thermistor | 0 to 2500 mV (typical, depends on input voltage) | | | | | | | — | | | |
| Calibration Uncertainty (-20 to 65 C), when target and detector ΔT are < 20 C | 0.2 C | | 0.3 C | 0.2 C | | | | | 0.3 C | 0.2 C | |
| Calibration Uncertainty (-40 to 80 C), when target and detector ΔT are > 20 C | 0.5 C | | 0.6 C | 0.5 C | | | | | 0.6 C | 0.5 C | |
| Measurement Repeatability | Less than 0.05 C | | | | | | | | | | |
| Long-term Drift | Less than 2 % change in slope per year when germanium filter is maintained in clean condition | | | | | | | | | | |
| Response Time | 0.6 s, time for detector signal to reach 95 % following a step change | | | | 0.2 s, time for detector signal to reach 95 % following a step change | | | 0.6 s, time for detector signal to reach 95 % following a step change | | | |
| Field of View (half-angle) | 22° | 18° | 14° | 32° horizontal; 13° vertical | 22° | 18° | 32° horizontal; 13° vertical | 22° | 18° | 14° | 32° horizontal; 13° vertical |
| Spectral Range | 8 to 14 μm; atmospheric window | | | | | | | | | | |
| Operating Environment | -55 to 80 C; 0 to 100 % relative humidity (non-condensing) | | | | | | | | | | |
| Dimensions | 23 mm diameter, 60 mm length | | | | | | | | | | |
| Cable | 5 m of four conductor, shielded, twisted-pair wire; TPR jacket (high water resistance, high UV stability, flexibility in cold conditions); pigtail lead wires; stainless steel (316), M8 connector located 25 cm from sensor head | | | | | | | | | | |
| Mass | 190 g (with 5 m of lead wire) | | | | | | | | | | |
| Warranty | 4 years against defects in materials and workmanship | | | | | | | | | | |

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