Q*7.1 NET RADIOMETER

Incoming total hemispherical radiation consists of short-wave radiation (direct beam and diffuse solar radiation) and long-wave sky radiation. Outgoing total hemispherical radiation consists of reflected solar radiation and terrestrial radiation. The definition of short-wave radiation is wavelengths from 0.25 to 4 micrometers (μm). The definition of long-wave radiation is wavelengths from4 to 100 μm. Net radiation (total incoming minus total outgoing radiation) is the energy retained by the surface for heating the air and soil, plant growth and water evaporation.

DETERMINES NET RADIATION

Q*7.1 Net Radiometer measures net radiation. The measurement of one signal is necessary to accomplish this. The Q*7.1 is designed to be equally sensitive over all terrestrial surfaces.

FEATURES

High output
Low resistance
Minimal internal reflections
Glass reinforced plastic frame
Built in 1 degree level or horizontal
Leveling ball joint on stem
Heavy duty windshields
No pressurization required
O-ring windshield seal
Desiccant in support arm
Purge ports (on instrument & support arm)
Mounting bracket (for vertical supports)

SPECIFICATIONS

Nominal calibration factors:	
for positive values	$9.3 Wm^{-2}mV^{-1}$
for negative values	$11.6 Wm^{-2}mV^{-1}$
Nominal resistance:	4 ohms
Spectral response:	0.25 to 60 μm
Time constant:	Approx. 30 seconds
Wind Effect: Positive	Up to 5.9% reduction @ 7 m/s
Negative	Up to 1 % reduction @ 7 m/s
Power required:	None
Size:	57 * 72 * 177 mm (H * W * L)
Windshields:	0.25mm thick polyethylene
Support arm:	0.02 * 0.75 m (D * L)
Desiccant supply:	$2.4*10^{-6}m^3$
Standard Cable:	shielded 2 - conductor. 7.6m long