APG® All Precipitation Gauge APG-815

OSi's APG-815-DS (All Precipitation Gauge) uses proven optical scintillation technology and offers many performance and maintenance advantages over traditional tipping bucket and weighing type rain gauges. These advantages include:

- Measurement of instantaneous precipitation rate; rainfall as light as 0.001 mm/hr. easily measured; no evaporation errors; can handle extremely high rain rates > 500mm/hr.; no overflow or mechanical limits to worry about
- No moving parts; operates 24/7 under harsh field conditions. No antifreeze chemicals
- Dust / dirt on lenses does not affect measurement; ultra-low maintenance
- Wind does not create sampling problems. Slant path rain errors are negligible.
- RS- 232 digital output allows instant / detailed analysis of event
- Functions in all weather; our sensors are operating on every continent year-round (including Antarctica)
- Intelligent sensor; automatic correction and continuous internal monitoring; operates unattended
- Pays for itself in maintenance & replacement costs alone; no on-site monitoring needed; lasts for years
- Flexible mounting, even on moving platforms (buoys / shipboard); nominal 12VDC power

APG® Advantages

- **Additional Capability:** Reports Present Weather Codes.
- **Superior Technology:** APG® uses Optical Scintillation which is superior to other methods; measures true rain rate
- **Long-term reliability:** operates unattended 24 hours/day, 7 days/week
- **Low maintenance**
- **Extremely wide dynamic range**
- **Adaptive Heater Technology (AHT):** ideal for solar operation.
- **Data access:** Low cost cellular modem option
- **Self-diagnostics & Testing :** Continuously monitors performance and informs user of trouble

In addition to rain and snow water equivalent rate and accumulation the APG-815-DS report present weather codes in NWS and WMO formats. Traditional rain and precipitation gauges cannot report present weather codes.

Adaptive Heater Technology (AHT) is used to conserved power. The lens heaters are only energized when needed. This mean the APG-815-DS is appropriate for solar powered installations. Solar power combined with OSi cellular phone makes the APG® ideal for remote installations and networks.

APG-815-DS Accessories:

- Cellular modem option, consult factory
- Solar Power Optional, consult factory
- PSB-815-U AC Power Supply & Junction Box®
- QCS-815 QwikCollect® Software: Collects, displays, archives data (compatible w/ all Windows systems)
- LDM Limited Distance Modem: for distances > 100 ft. (max = 7 miles).

APG-815-DS® Ordering Information:

Part number: APG-815-DS

Optical Scientific Inc.

Optical Scientific Inc. (OSi) ● 2 Metropolitan Ct., Suite 6 ● Gaithersburg, MD, 20878 ● USA
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OSi's optical weather sensors have more than 800 million hours of proven field operation in all climates. MTBF (Mean Time Between Failure) for OSi instruments is greater than 80,000 hours. The APG® operates unattended 24 hours a day, 7 days a week. The instrument uses proprietary algorithms that eliminate the need for field calibration. Most users will need no field calibration; factory calibration every few years can be done for critical customers. The APG® has AGC (Automatic Gain Control) to compensate for signal loss. The sensor also employs a comprehensive self-test that updates once per minute and reports any potential problems in the output message.

APG® Specifications

Performance Specification	
Rain Dynamic Range	0.001 to 500 mm/hr (consult factory for higher ranges)
Rain Accumulation	0.001 to 999.999 mm
Rain Accuracy	5% Accumulation
Rain Resolution	0.001 mm
Output Format	RS-232 Serial I/O, simple polled protocol
Snow Dynamic Range	0.03 to 500 mm/hr
Snow Accumulation	0.001 to 999.999 mm
Snow Accuracy	5% Accumulation
Snow Resolution	0.001 mm
NWS Present Weather Codes	Precipitation, Rain, Snow
WMO Table 4680 Present Weather Codes	Precipitation, Drizzle/Freezing Drizzle, Rain/Freezing Rain, Snow
Data Update Rate	Once per minute
Measurement Technique	Optical Scintillation
Output Format	RS-232 Serial I/O, simple polled protocol
Electronic Specification	
Supply voltage	12 VDC
Current	300 – 400 mA (Depends on Ambient Temperature)
Signal Output	RS-232 ASCII
Transient Protection	All power & signal cables protected
Environmental Specification	
Temperature	-40° to 60° C (-40° to 140° F)
Humidity	0-100%
Precipitation / Dust	NEMA 4 type protection
Physical Specification	
Head Size	730 x 102 x 254 mm (29 x 4 x 10 inches)
Head Weight	3 kg (6.6 lbs.)
Cable Length	15m (48 ft)

*Specifications are subject to change without notice

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For the most reliable and best performing precipitation instruments, please contact OSi today!