1500H

Weighing Precipitation Sensor

All-weather measurement for rain, snow, hail, sleet, and mixed precipitation

Preliminary North America datasheet. Specifications are based on current product source materials and remain subject to final engineering confirmation.

Beijing Hongyu Xinrun Technology Co., Ltd.

Positioning: A cost-effective all-weather weighing precipitation sensor for hydrology, snow/rain monitoring, flood warning, research deployments, secondary stations, and remote field stations.

Quick Specifications

Principle	Weighing / load-cell	**Precipitation types**	Rain, snow, hail, sleet, freezing rain
Internal precision	0.001 mm equivalent	**RS485 resolution**	0.01 mm
Maximum error	±0.1 mm when ≤10 mm; ±1% when >10 mm	**Capacity**	1500 mm precipitation capacity
Power supply	9–15 V DC	**Power consumption**	0.72 W / 60 mA at 12 V
Temperature	-45 to +60 °C operating	**Protection**	IP65

Core Capabilities

- Load-cell based weighing for direct bucket-weight measurement.
- Measures liquid, solid, and mixed precipitation.
- Outputs bucket weight, precipitation intensity, minute precipitation, and accumulated precipitation.
- Low-power DC operation for remote and solar-powered sites.
- Optional heater, wind shield, antifreeze solution, solar power system, and communication module.

Typical Applications

- Hydrological monitoring stations.
- Snow/rain and mixed-precipitation monitoring.
- Flood warning and watershed monitoring.
- Research and university field deployments.
- Secondary or budget-constrained monitoring networks.
- Transportation, agriculture, marine, and environmental monitoring.

Standard Supply and Options

Standard supply: main unit; power and communication cable; user manual; factory test certificate.
Optional accessories: USB cable; mounting base; wind shield; heater power cable; heater module; antifreeze solution; solar power system; communication module.

Interfaces and Integration

Interface	Current Description	Release Status
RS485	Parameter setting, system upgrade, and data output.	Supported; register map to be supplied with technical package.
USB	Parameter setting and system upgrade.	Field-user versus service-only use to be confirmed.
Pulse output	Supported output mode.	Pulse definition, width, voltage level, and wiring to be confirmed.
Contact output	Supported output mode.	Electrical definition and terminology to be confirmed.
SDI-12	Under review.	Support and command list to be confirmed before release.

Detailed Specifications

Parameter	Specification
Measurement principle	Weighing / load-cell measurement
Measured data	Real-time bucket weight; real-time precipitation intensity; minute precipitation; accumulated precipitation
Minimum sampling interval	1 min
Weighing precision	0.001 mm equivalent internal weighing / sensor precision
RS485 output resolution	0.01 mm software output resolution
Pulse output resolution	0.1 mm; electrical specification TBC
Contact output resolution	0.1 mm; electrical specification TBC
Maximum measurement error	$\pm$0.1 mm when precipitation $\leq$10 mm; $\pm$1% when precipitation $>$10 mm
Precipitation capacity	1500 mm
Catch orifice diameter	TBC
Catch area	TBC
Supply voltage	9–15 V DC
Power consumption	0.72 W / 60 mA at 12 V
Ring heater option	24 V / 50 W; control logic TBC
Dimensions	910 mm H x 450 mm dia.
Weight	15 kg
Base material	Aluminum
Tray material	ABS
Sampling bucket material	Polyethylene
Protective housing material	Polyethylene
Rim edge angle	40–45 degrees
Operating temperature	-45 to +60 °C
Storage temperature	-45 to +70 °C
Relative humidity	0–100% RH
Protection rating	IP65
Salt-fog resistance	TBC; requires test report before formal claim

Standards and Validation

The instrument is manufactured and tested according to Chinese hydrological precipitation observation standards, including SL 21-2006 and SL/T 811.4-2021.

For North America evaluation, logger-specific integration data, third-party validation materials, and certification planning can be reviewed as part of pilot or channel evaluation discussions.

Customer Evaluation Use

The 1500H is suitable for structured field evaluation where the buyer or channel partner wants to review precipitation data quality, cold-weather operation, logger integration, maintenance requirements, and installation workflow before broader deployment.

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