BULFRO MONITECH PVT. LTD.

WATER E-GOVERNANCE PRODUCT

TECHNICAL SPECIFICATION & PRODUCT BROCHURE

BULFRO WEATHER SOLUTIONS

BWS – RHTPSD-26 | Automatic Weather Station

> Solar-powered, IoT-enabled automatic weather station with multi-sensor integration, RS485 / GPRS telemetry, and real-time cloud data transmission — engineered for environmental monitoring, water governance, and climate resilience.

RAINFALL | WIND SPEED | WIND DIRECTION | TEMPERATURE | HUMIDITY | PRESSURE | GPRS RTU | SOLAR POWERED | RS485

01 STATION COMPONENTS & ASSEMBLY

COMPONENT A

SS304 Automated Rain Gauge

Bird-spike protected stainless steel tipping-bucket. 500 mm tall, Ø168 mm collector. Each tip = 0.5 mm rainfall. Corrosion-resistant for continuous outdoor use.

Resolution 0.5 mm · Accuracy ±2 mm

COMPONENT B

Solar Panel & Bracket

40W monocrystalline panel on a cantilevered MS bracket (350×250 mm). Angular tilt optimised for Indian latitudes. Feeds the integrated solar charge controller.

40W · 0–24V DC · MS RAL 7035

COMPONENT C

RTU Enclosure

IP65 hinged dual-compartment panel. Upper chamber: GPRS RTU. Lower chamber: solar charge controller & battery. Detachable door with lock slot for field servicing.

Model BWS-RHTPSD-26 · 12V DC input

COMPONENT D

3-Cup Anemometer

Carbon-fibre cup assembly with high-performance imported bearings. Bottom cable exit for long-term waterproofing. RS485 ModBus-RTU output with configurable baud rate.

0–65 m/s · Resolution 0.1 m/s

COMPONENT E

Wind Vane (Direction)

Polycarbonate vane with internal smooth bearing system. Analog 0–5V output proportional to compass direction. Arrow must align True North during installation.

0–360° · Resolution 1° · Accuracy ±3°

COMPONENT F

Stand Pole Assembly

Hollow square-section MS pole (BFEWS-SP-300525). Integrated cable routing channel. Mounts on 250×250 mm base plate via 4×Ø14 anchor bolts. Powder-coated RAL 7035.

Drawing: BFEWS-SP-300525 · MS

SENSOR BOOM ARM

BFEWS-BM-300525

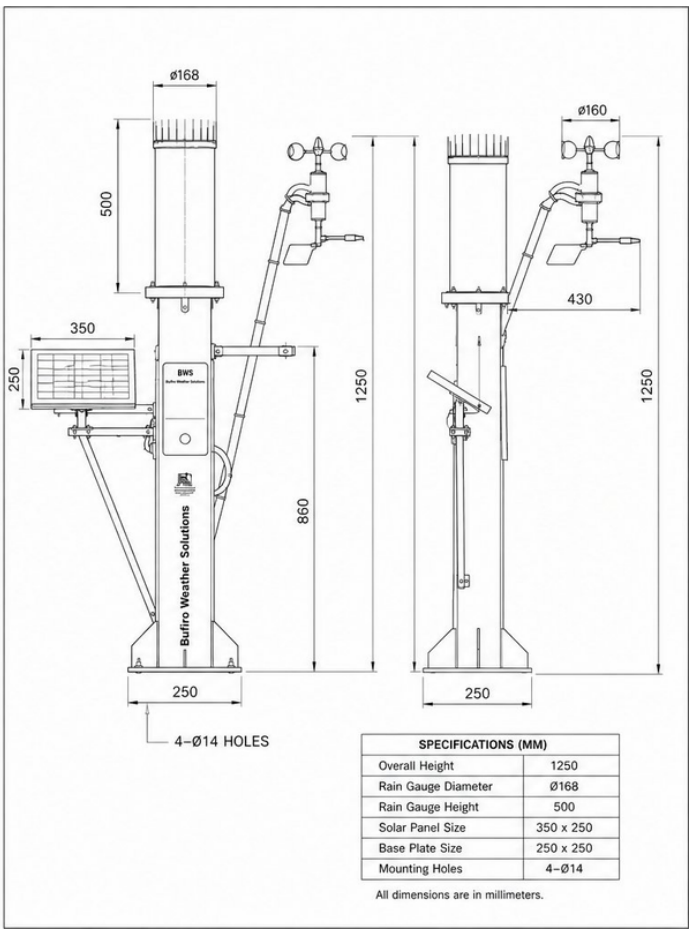
1200 mm MS boom with sliding bracket and welded M8 nut. Tilted upward to position sensors clear of structure for unobstructed airflow measurement. 430 mm lateral reach. Handles both anemometer and wind vane simultaneously.

WIND SENSOR BOOM — CLOSE-UP

RTU & CHARGE CONTROLLER

AUTOMATED RAIN GAUGE

02 ENGINEERING DRAWING & KEY DIMENSIONS



BFEWS-BWS — ASSEMBLY DRAWING (F.V & S.V) · BULFRO MONITECH PVT. LTD. · ALL DIMENSIONS IN MM

KEY DIMENSIONS REFERENCE

REF	DESCRIPTION	DIMENSION
H1	Overall Station Height (base to rain gauge top)	1250 mm
H2	Stand Pole Height (base plate to rain gauge mount)	860 mm
H3	Rain Gauge Height	500 mm
D1	Rain Gauge Collector Diameter	Ø 168 mm
W1	Base Plate Footprint	250 × 250 mm
W2	Solar Panel Size	350 × 250 mm
R1	Boom Arm Reach (wind sensor lateral offset)	430 mm
M1	Anchor Bolt Pattern	4 × Ø14 mm holes

03 SENSOR SPECIFICATIONS

#	SENSOR / COMPONENT	MODEL / SPEC	RANGE	RESOLUTION	ACCURACY (±)
01	Automated Rain Gauge (ARG)	SS304 Tipping Bucket	—	0.5 mm	±2 mm
02	Wind Direction	SN-3000-FXJT-V05-360	0 – 360°	1°	±3°

#	SENSOR / COMPONENT	MODEL / SPEC	RANGE	RESOLUTION	ACCURACY (±)
03	Wind Speed	SN-3000-FSJT-N01 (RS485)	0 – 65 m/s	0.1 m/s	±0.5 m/s
04	Barometric Pressure	BWS-PHT-26 Integrated	300 – 1100 hPa	0.1 hPa	±0.2 hPa
05	Air Temperature	BWS-PHT-26 Integrated	-5 – 60 °C	0.05 °C	±0.1 °C
06	Relative Humidity	BWS-PHT-26 Integrated	0 – 100 %RH	0.5 %RH	±3 %RH
07	RTU / Telemetry	BWS-RHTPSD-26	–	—	—
08	Solar Panel	40W Monocrystalline	0–24V DC	—	—
09	Battery / Charge Controller	15 Ah SLA / Li	12V DC	—	—
10	Mounting Structure	MS RAL 7035 — BFEWS-SP-300525	—	—	—

04 POWER SYSTEM

SOLAR + BATTERY OPTION

Solar Panel	40 W, 0–24 V DC
Battery	15 Ah Li / SLA
Charge Controller	Integrated MPPT/PWM
Autonomy (no sun)	≥ 5 days
RTU Input Voltage	12 V DC
Enclosure Rating	IP65 hinged panel

GRID / AC MAINS OPTION

Input	230 V AC, 50 Hz
Adapter Output	12 V DC regulated
Battery Backup	Optional (15 Ah)
Surge Protection	Built-in OVP
RTU Input Voltage	12 V DC
Best For	Urban / facility sites

05 RTU — REMOTE TERMINAL UNIT

MODEL	WIRED OUTPUT	WIRELESS
BWS-RHTPSD-26	RS485	GPRS / 4G

PROTOCOL	POWER INPUT	CLASSIFICATION
ModBus-RTU	12 V DC	Water e-Gov

06 APPLICATIONS

- Hydrology & Water Governance
- Flood Early Warning Systems
- Rainwater Harvesting Monitoring
- Smart Cities & Urban Infrastructure
- Industrial & Environmental Compliance
- Agriculture & Irrigation Planning
- Research & Academic Institutions
- Ports, Airports & Logistics
- Mining & Energy Sites
- Government Weather Networks
- ESG Water Reporting
- Dam & Reservoir Management

Integration Note: The BWS station outputs data via RS485 (ModBus-RTU) and GPRS/4G — compatible with SCADA systems, cloud platforms, and Bulfro's remote monitoring dashboard. Sensor baud rates, device addresses, and reporting intervals are field-configurable. Custom sensor integration available on request.

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BWS-RHTPSD-26
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