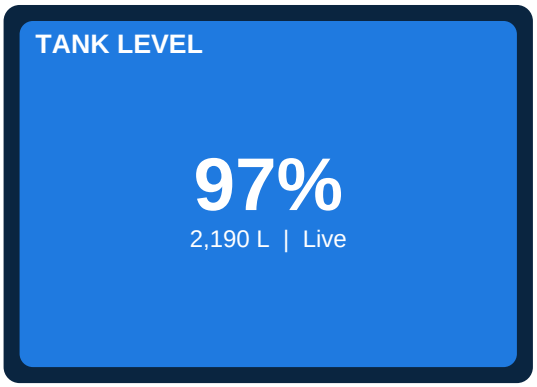
PRECISION TANK INTELLIGENCE

SI-Water Smart Water Monitor

A pressure-based tank level sensor with native Home Assistant integration via ESPHome. Delivers real-time volume, flow and usage telemetry for water management, leak detection and automated pump & valve control.



LIVE FLOW	**L/min** · inflow / outflow
DAILY TOTALS	Filled today • Used today
MONTH-TO-DATE	Rolling month fill & usage
LIFETIME TOTALS	Total fill • Total consumption

Key Capabilities

Volume & % level	Stainless-steel submersible pressure transducer with precision calibration to tank geometry.
Flow intelligence	Derived inflow / outflow rate (L/min) with idle state detection.
Usage accounting	Daily, monthly and lifetime fill & usage totals — exposed as Home Assistant entities.
Pump & valve control	HA automations to start/stop borehole pumps, transfer pumps and solenoid valves based on level or flow.
Leak & dry-run detection	Flow anomalies trigger alerts before pumps are damaged or water is lost.
Native ESPHome	Local-first telemetry over Wi-Fi — no cloud dependency, no subscription.

Exposed Home Assistant Entities (ESPHome)

Entity	Type	Unit	Purpose
Tank Volume	Sensor	L	Current water volume
Tank Level	Sensor	%	Percentage full
Flow Rate	Sensor	L/min	Instantaneous in/out flow
Filled Today / Used Today	Sensor	L	Daily fill / usage total
Month Filled / Month Used	Sensor	L	Rolling month totals
Total Fill / Total Used	Sensor	L	Lifetime totals
Tank Status	Binary / Text	—	OK / Low / Full

Entity names, units and update intervals follow ESPHome conventions and can be consumed by any Home Assistant dashboard, automation or Lovelace card.

Technical Specifications

Category	Specification
Sensor type	Submersible piezoresistive pressure transducer, 316 stainless-steel body
Measurement range	No upper volume limit; standard probe suits tanks up to ~3 m deep (deeper on request)
Accuracy	Typical ±0.5 % FS (application-dependent; calibrated to tank height / volume)
Output	Digital — processed on-board by RS485-capable MCU
Controller	Wi-Fi MCU running ESPHome firmware (details withheld for IP)
Connectivity	Wi-Fi 2.4 GHz (b/g/n)
Integration	Home Assistant native via ESPHome (local, no cloud required)
Power supply	220–240 V AC mains, internal regulated DC supply
Power consumption	Typical 2–3 W idle
Enclosure	IP65 wall-mount ABS enclosure with sealed cable glands
Sensor cable	≈ 5 m shielded 4-core water-blocked cable (extendable on request)
Operating temperature	0 °C to +55 °C (electronics); 0 °C to +70 °C (submersible probe)
Mounting	Tank-lid cable-drop with weighted stainless probe
Dimensions (enclosure)	Approx. 200 × 150 × 80 mm
Compliance	CE / RoHS components; assembled in South Africa
Warranty	12-month limited warranty against manufacturing defects

In the Box

- IP65 SI-Water controller enclosure (pre-wired & tested)
- 316 stainless-steel submersible pressure probe with weighted tip
- ≈ 5 m shielded sensor cable with cable gland
- 220 V AC mains lead with moulded plug
- Quick-start installation & Home Assistant / ESPHome on-boarding guide

Typical Applications

Residential	Rain-water & municipal back-up tanks, pool top-ups, cottage water management.
Agricultural	Borehole storage, livestock water, reservoir level control, irrigation header tanks.
Commercial	Guest-house and lodge bulk storage, fire-reserve tanks, process & cooling water.
Integration	Any Home Assistant deployment: Lovelace dashboards, automations, MQTT bridges.

Trade pricing **R 4 500**

Per unit • Incl. 15% VAT • Excl. shipping

Volume discounts available for installers & resellers.

Ordering & lead times: standard units ship within 3–5 working days from Johannesburg. Custom probe cable lengths, custom calibration profiles and OEM branding are available on request.