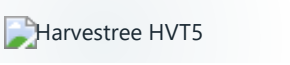
Harvestree® HVT5 LoRaWAN version

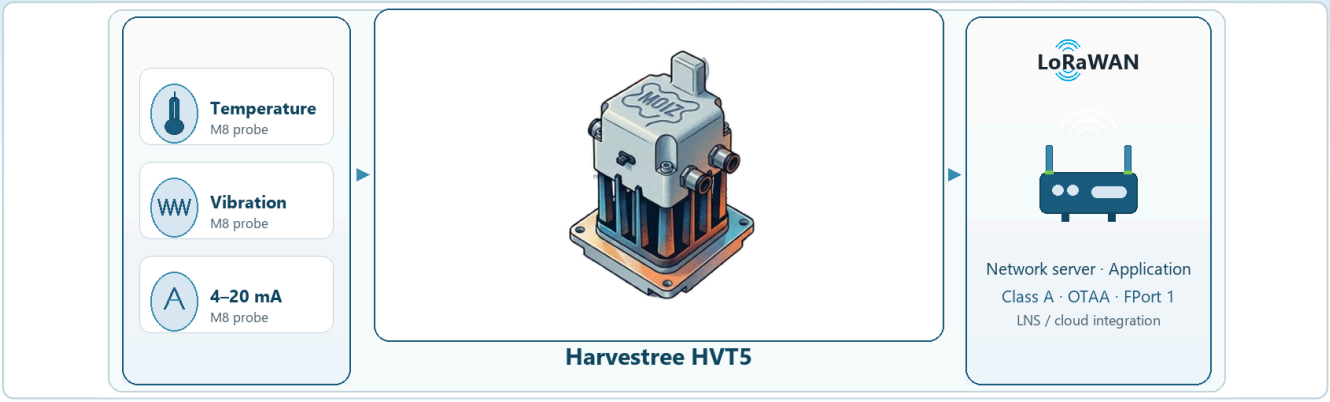
HVT5LORA

Batteryless & wireless autonomous acquisition node with 4 M8 measurement ports

Industrial grade · Ultra-low power · Maintenance-free · Class A · OTAA · EU868 · US915 · AU915 · IP67 · IK07



1 Multi-sensor acquisition



Built-in measurement modes — all modes below are available on every M8 port; one mode selected per port at commissioning

TEMPERATURE

PT1000 (RTD) · Thermocouple · K, J, T, N, S, E, B, R · Digital temperature probe · Infrared

VOLTAGE

Single-ended voltage · Differential voltage

INDUSTRIAL ANALOG

4–20 mA loop · Potentiometer

MAGNETIC FIELD & CURRENT

Magnetic field sensor · Current with voltage difference · Current with magnetic field

VIBRATION & CONTACTS

1-axis vibration · levels + FFT · Dry contact (voltage-free) · Motion alarm

ENVIRONMENTAL

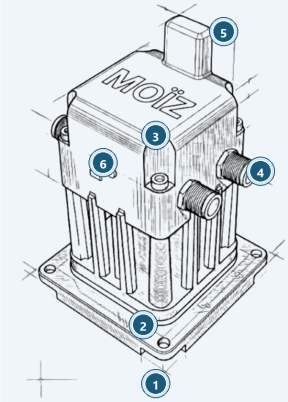
Temperature & humidity

One mode per M8 port (Harvestree Toolbox). Probes & M8 accessories — MOÏZ product catalogue.

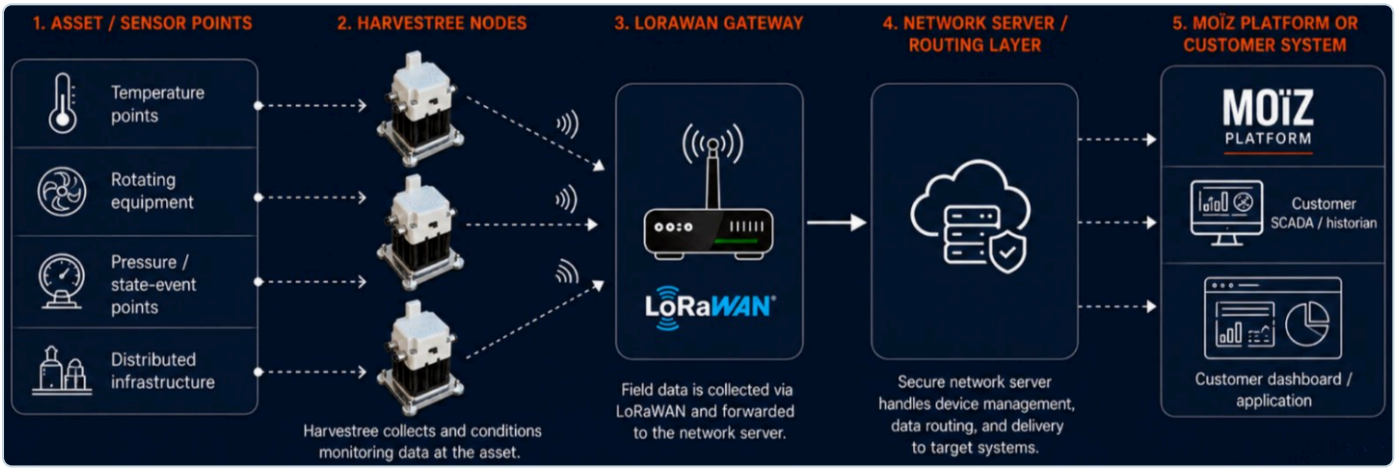
portal.moiz-eh.com/harvestree/docs/moiz-catalog.html

2 Product architecture

1. Aluminium baseplate — thermal energy recovery; embedded Pt1000
2. Aluminium heatsink — thermal path to ambient air
3. Electronics module — measurement, storage, Sub-GHz radio; fully potted
4. 4× M8 connectors — waterproof external sensor ports
5. Integrated LoRa antenna
6. USB-C — maintenance, commissioning, optional storage pre-charge



LORAWAN NETWORK INTEGRATION



3 Technical specifications

ELECTRICAL & POWER

Parameter	Min	Typ	Max	Unit
Harvest gradient ΔT (surface ↔ ambient)	10*	—	—	°C
Storage voltage (radio / join enable)	3300	—	4200	mV
Storage capacity — supercapacitor (S)	—	2.5	—	F
Storage capacity — rechargeable LiPo (R)	—	240	—	mAh

* Minimum ΔT may be lower with air convection at the heatsink (see Fig. 1 test conditions). Supply: thermoelectric generator + embedded storage (supercap or LiPo variant). USB-C: maintenance and commissioning only — not the field supply. OTAA subject to regional duty-cycle limits.

ENVIRONMENTAL & MECHANICAL

Parameter	Min	Typ	Max	Unit
Dimensions L × W × H	—	67 × 67 × 105	67 × 67 × 125*	mm
Mass	—	300	—	g
Ambient operating temperature	−20	—	+85	°C
Ambient operating temperature (rechargeable LiPo)	−20	—	+45	°C
Base surface temperature	−40	—	+180	°C

* Maximum height with electronic insulation options.

MECHANICAL & ENCLOSURE

Parameter	Value	Unit	Notes
Ingress protection	**IP67**	—	By design — resin potting
Mechanical impact	**IK07**	—	*Target — not yet qualified*
Sensor ports	**4 × M8**	—	IP67 when mated
Service port	**1 × USB-C**	—	Maintenance · commissioning
Enclosure	**Resin-potted**	—	—

LORAWAN RADIO

Parameter	Value	Unit	Notes
Protocol / class	**LoRaWAN Class A**	—	OTAA
LoRaWAN specification	**1.0.3**	—	—
Modulation	**LoRa**	—	—
Spreading factor	**7 – 12**	SF	Region-dependent data rate limits
Regions	**EU868 · US915 · AU915**	—	Set in Toolbox
ADR	**On / Off**	—	Configurable
FPort application uplink	**1**	—	—
FPort command downlink	**4**	—	—
FPort command ACK	**2**	—	—

RF parameter	Min	Typ	Max	Unit
Max EIRP (EU868)*	—	**+14**	—	dBm
Max EIRP (US915)*	—	**+20**	—	dBm
Max EIRP (AU915)*	—	**+20**	—	dBm
RF frequency plan (EU868)	**863**	**STD**	**870**	MHz
RF frequency plan (US915)	**902**	**FSB1**	**928**	MHz
RF frequency plan (AU915)	**915**	**FSB1**	**928**	MHz

* RF performance data under validation. Protocol, payload layout and radio configuration — see **portal.moiz-eh.com/harvestree/docs/communication.html**.

SERVICE INTERFACE & COMMISSIONING

Parameter	Value	Notes
Service connector	**USB-C**	Maintenance only
Pre-charge (optional)	**USB-C**	Aux. storage · not supply
PC software	**Harvestree Toolbox v3**	Windows
USB functions	**Commissioning · cal. · FW update**	Setup & maintenance
Remote access (deployed)	**LoRaWAN downlink**	Selected parameters

LoRaWAN remote configuration — **portal.moiz-eh.com/harvestree/docs/lorawan-remote-configuration.html**

SENSOR INPUTS

Parameter	Value	Notes
External sensor ports	**4 × M8**	Waterproof · industrial
Port configuration	**Software-configurable**	One mode per port
Port calibration	**On-device**	In-node transfer · mode-specific
Ports per acquisition cycle	**All configured**	One LoRaWAN frame

Measurement ports — **portal.moiz-eh.com/harvestree/docs/measurement-ports.html**

APPLICATION OPERATION — MODES & KEY TIMINGS

Operating mode	LoRaWAN uplink	Typical use
Monitoring	**Periodic measurement**	Scheduled telemetry
Alarm	**Event + periodic**	Threshold / edge driven
Idle	**None**	Standby

An optional Modbus RTU slave mode is available for expert commissioning or temporary local access — no LoRaWAN application uplinks.

Configurable period	Min	Typ	Max
Monitoring period*	**20 s**	—	**1 week**
Keepalive period*	**60 min**	—	**30 days**
Alarm check period*	**20 s**	—	**1 week**
Alarm event period*	**20 s**	—	**1 week**
Network attach assurance (optional)*	**60 min**	—	**30 days**

* LoRaWAN stack limits transmissions that are too close together per regional regulations. **Network attach assurance** — optional periodic re-attach to maintain LoRaWAN network binding.

Operation — `portal.moiz-eh.com/harvestree/docs/operation.html`

ENVIRONMENTAL QUALIFICATION TESTS

Test	Standard	Result	Report
Salt spray	—	*Pending*	—
Vibration	—	*Pending*	—
Thermal cycling	—	*Pending*	—

Planned — results published when available.

4 Test data & performance

Fig. 1 — Minimum inter-emission period vs. thermal harvesting gradient by spreading factor

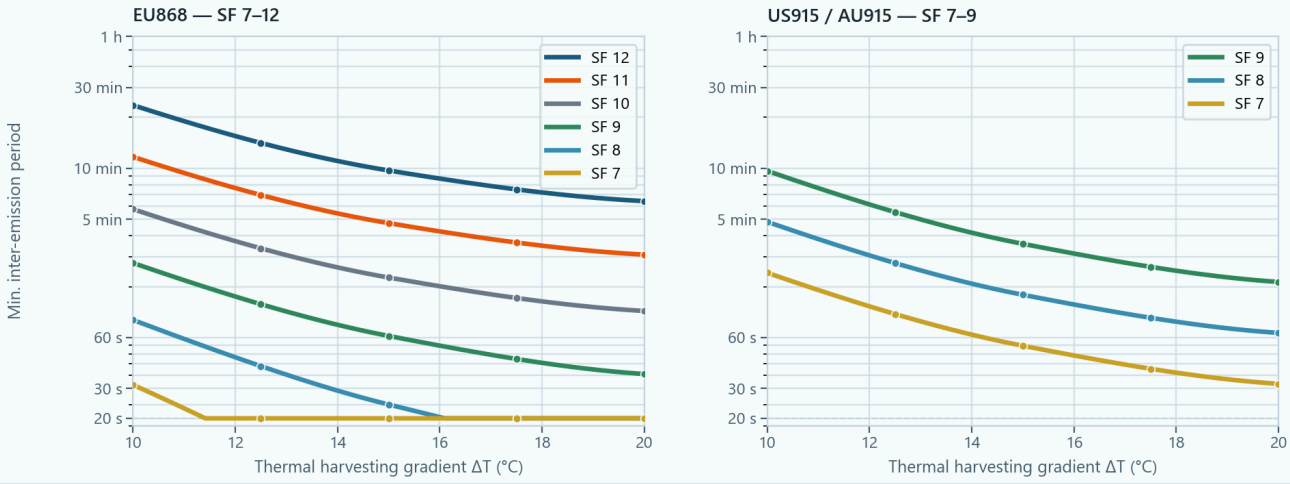


Fig. 1 — **Minimum inter-emission period** vs. **thermal harvesting gradient ΔT**, by spreading factor. **Exploitable range:** viable operation lies **on or above** each SF curve. **Left:** EU868, SF 7–12 (+14 dBm). **Right:** US915 / AU915, SF 7–9 (+20 dBm). 4× PT1000, monitoring. **Alarm mode** can reduce uplink count.

Fig. 1 — **thermal test conditions:** ΔT data obtained **in a closed room**, **without forced or enhanced air convection** (natural convection only). **Air circulation at the heatsink substantially improves energy recovery.**

5 Compliance

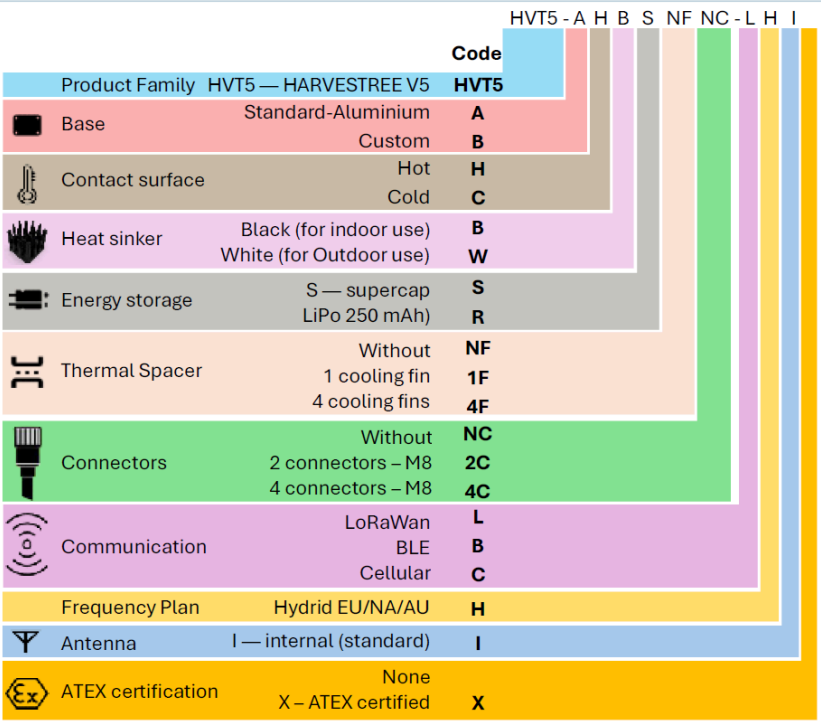
CONFORMITY DECLARATIONS (BY VERSION / REGION)

Region	Reference / marking	Status
Europe (CE)	**CE**	In progress · planned Q3 2026
Canada (IC)	**ISED**	Planned Q4 2026
Australia (RCM)	**ACMA**	Planned Q1 2027
ATEX / IECEx	**ATEX variant · nameplate**	Planned Q4 2026

Detailed declarations and reports on request.

ORDERING CODES

MOÏZ product reference guide — valid from 1 Jan 2026.



Configure and order through MOÏZ — contact@moiz-eh.com.

Accessories	Ordering
Mounting fixtures	`portal.moiz-eh.com/harvestree/docs/moiz-catalog.html`
Measurement probes & M8 cables	`portal.moiz-eh.com/harvestree/docs/moiz-catalog.html`

MOÏZ.

20 rue de Brotterode, 38950 Saint-Martin-le-Vinoux, France · www.moiz-eh.com

Document	URL
User documentation	`portal.moiz-eh.com/harvestree/docs/`
Product notice	`portal.moiz-eh.com/harvestree/docs/product-overview.html`
Integration documentation	`portal.moiz-eh.com/harvestree/docs/communication.html`

DOCUMENT CONTROL MOIZ-HVT5LORA-DS-001 · Rev. 1.0 · **This document applies to** HVT5 · HW v5 · LoRaWAN (code L)

Rev.	Date	Description of changes
1.0	22 Jun 2026	Initial release — Harvestree® HVT5 LoRaWAN version · Datasheet.