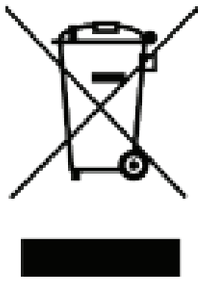
ReVibe Anura™

Self-powered monitoring system for vibrating screens

Installation and operating instructions

Safety instructions



When this product has reached the end of its life it must be treated as Waste Electrical & Electronic Equipment (WEEE). Any WEEE marked products must not be mixed with general household waste, but kept separate for the treatment, recovery and recycling of the materials used. Contact your local authority for details of recycling schemes in your area.

Safety guidelines

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Conformity

The regulatory intent is that any consumer of a device can pick up a product manual and know exactly who has manufactured the product.
The system is CE certified.

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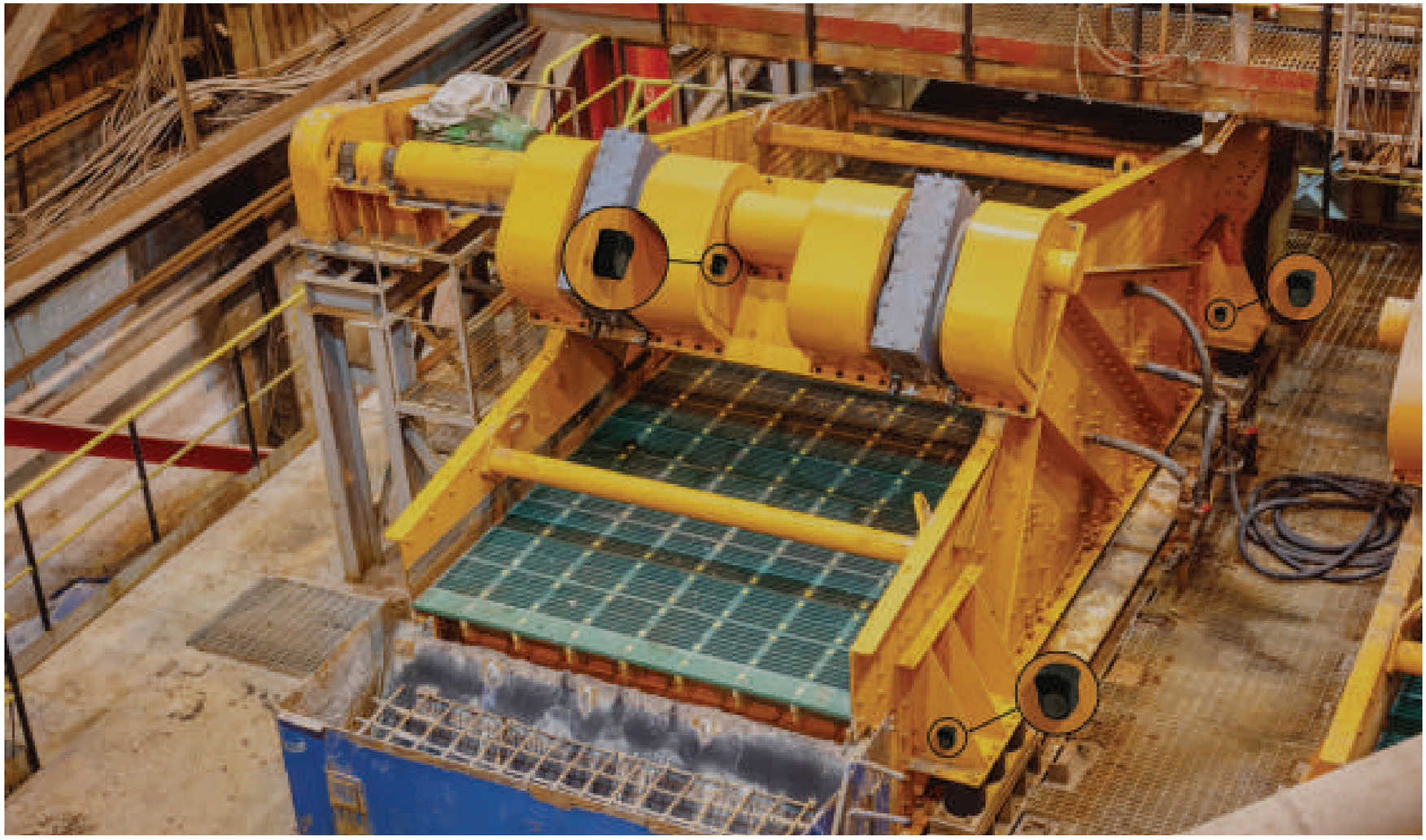
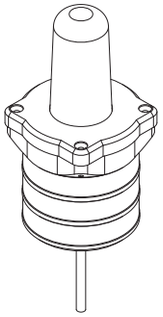
Anura™ introduction



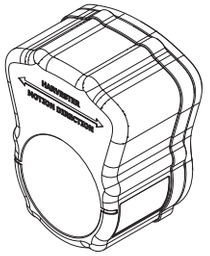
A self-powered fit-and-forget industrial monitoring systems designed to monitor the status of a vibrating screen through eight (8) wireless sensor nodes. The system transmits data wirelessly to cloud services where it can be accessed by the user to understand the status of the screen and act before a potential breakdown and plan maintenance well ahead of time.

Together with analysis options to optimize performance and flow rate, ReVibe Anura will be every operator's system of choice.

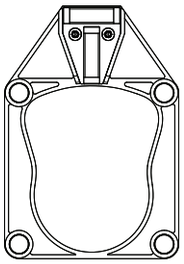
Anura™ system parts



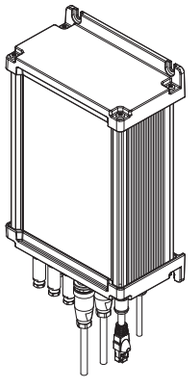
Transceiver
5 m cable



Sensor node

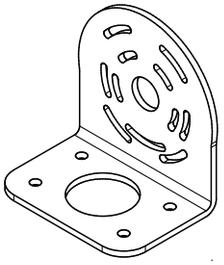


Spirit level
mounting guide

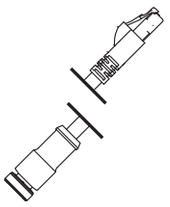


Gateway
5 m power cable

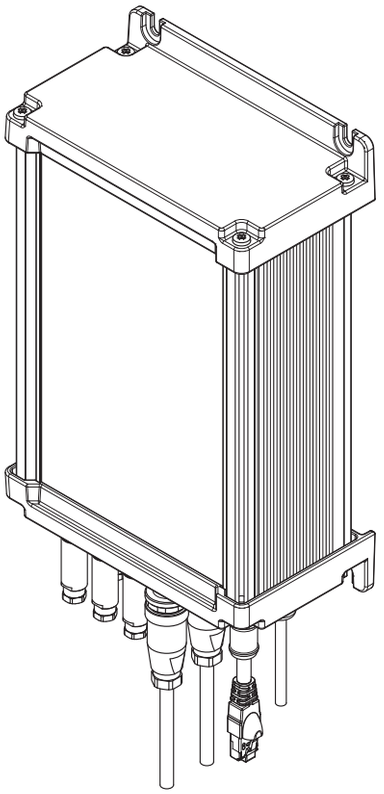
Anti-slip
mounting guide



Angled-bracket
for central mounting



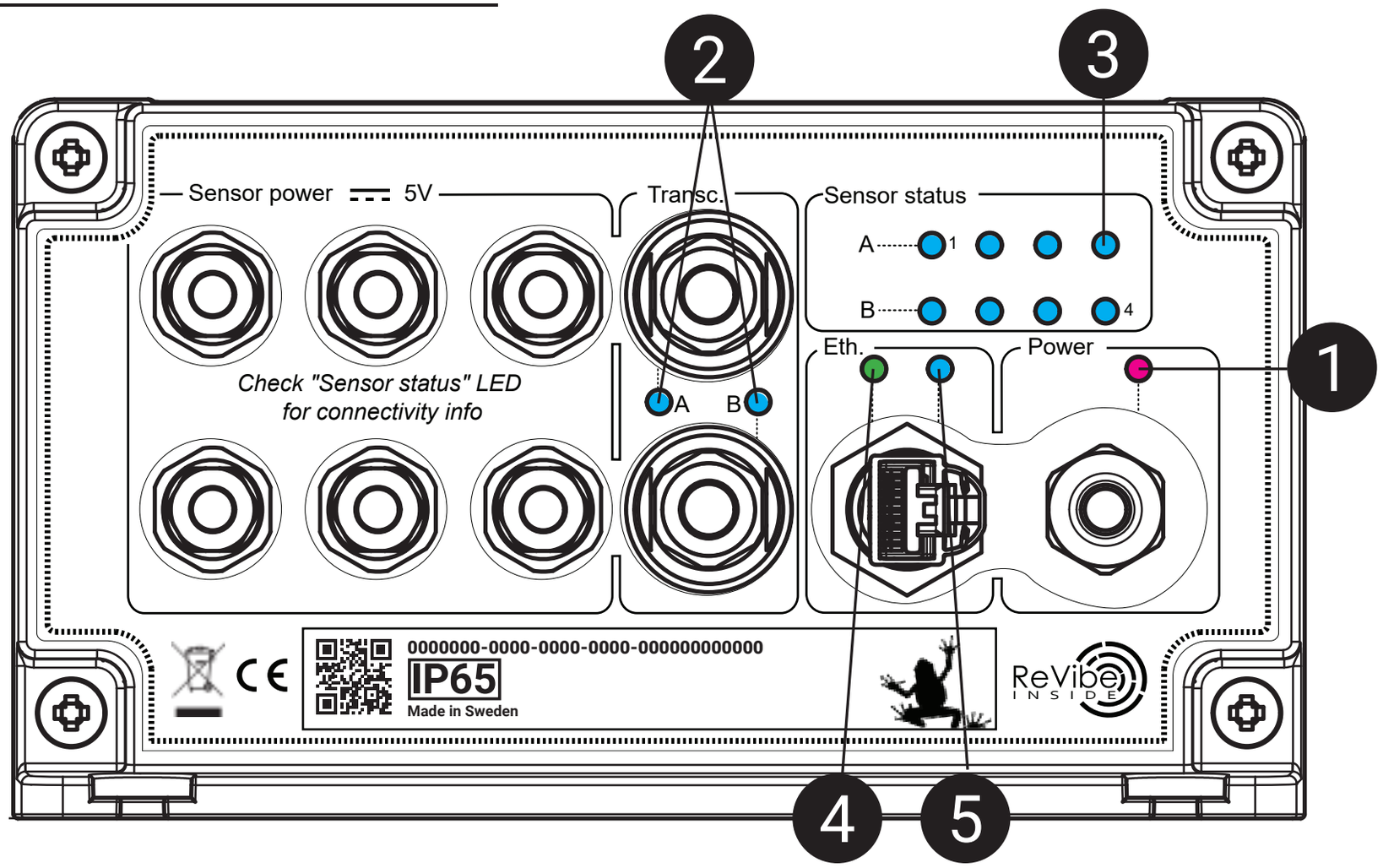
Ethernet cable
10 m



Anura™ gateway

The Anura™ gateway connects the individual system parts and gathers the data, making it available to users by seamless upload to the cloud. Built with rugged black anodized aluminium to withstand harsh environments and utilizing industrial grade connectors to provide secure connections. Anura™ gateway ensures operation of the whole system.

Gateway interface



The gateway interface indicator LED:s

1. Power LED (Purple when powered on and running)
2. Transceiver LEDs (Blue when transceiver is connected)
   One for each transceiver
3. Sensor status LEDs (Blue when sensor is connected)
4. LAN/WAN LED (Green when connected to Internet)
5. Ethernet LED (Flashes blue when communicating)

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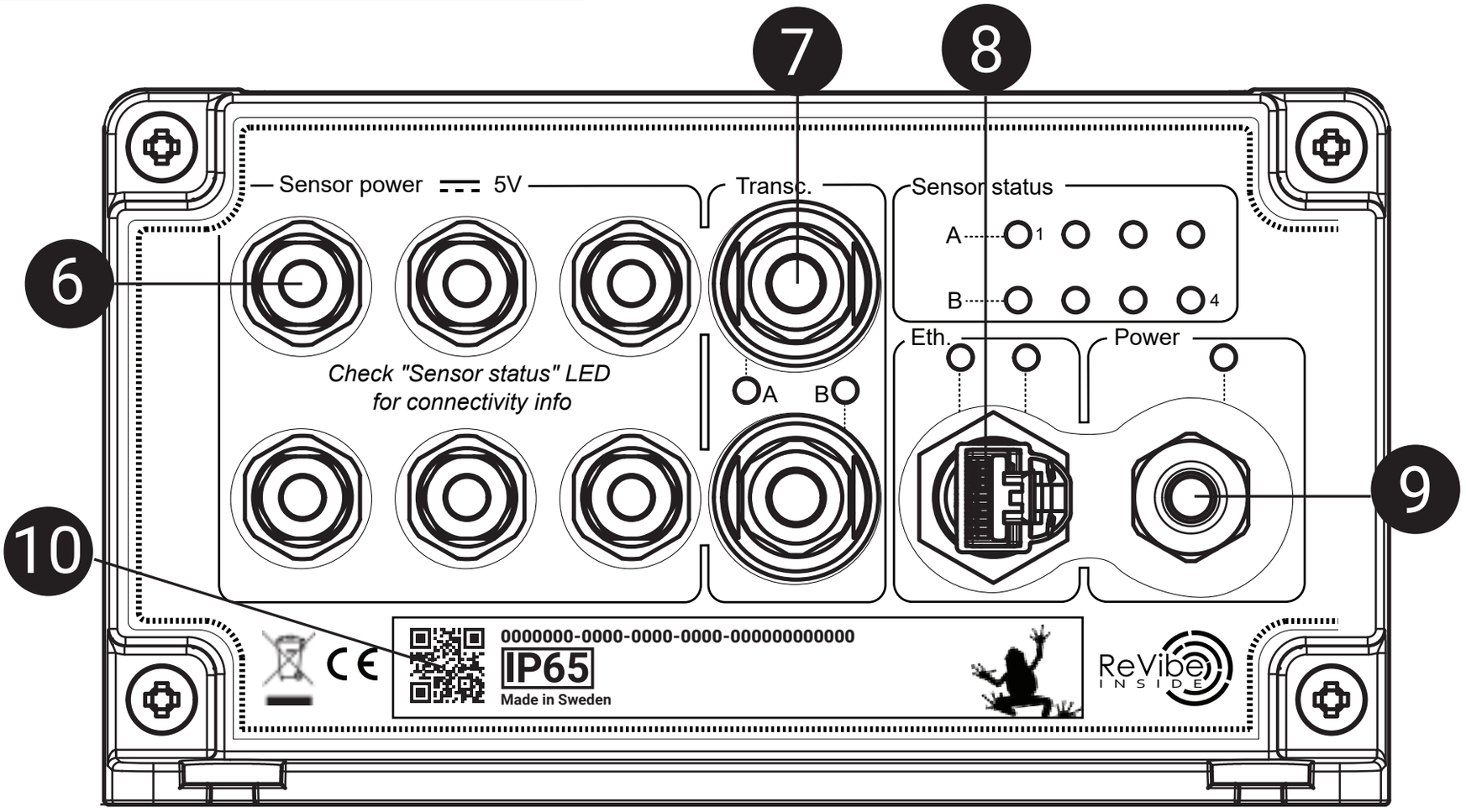
Gateway interface



The gateway interface connectors

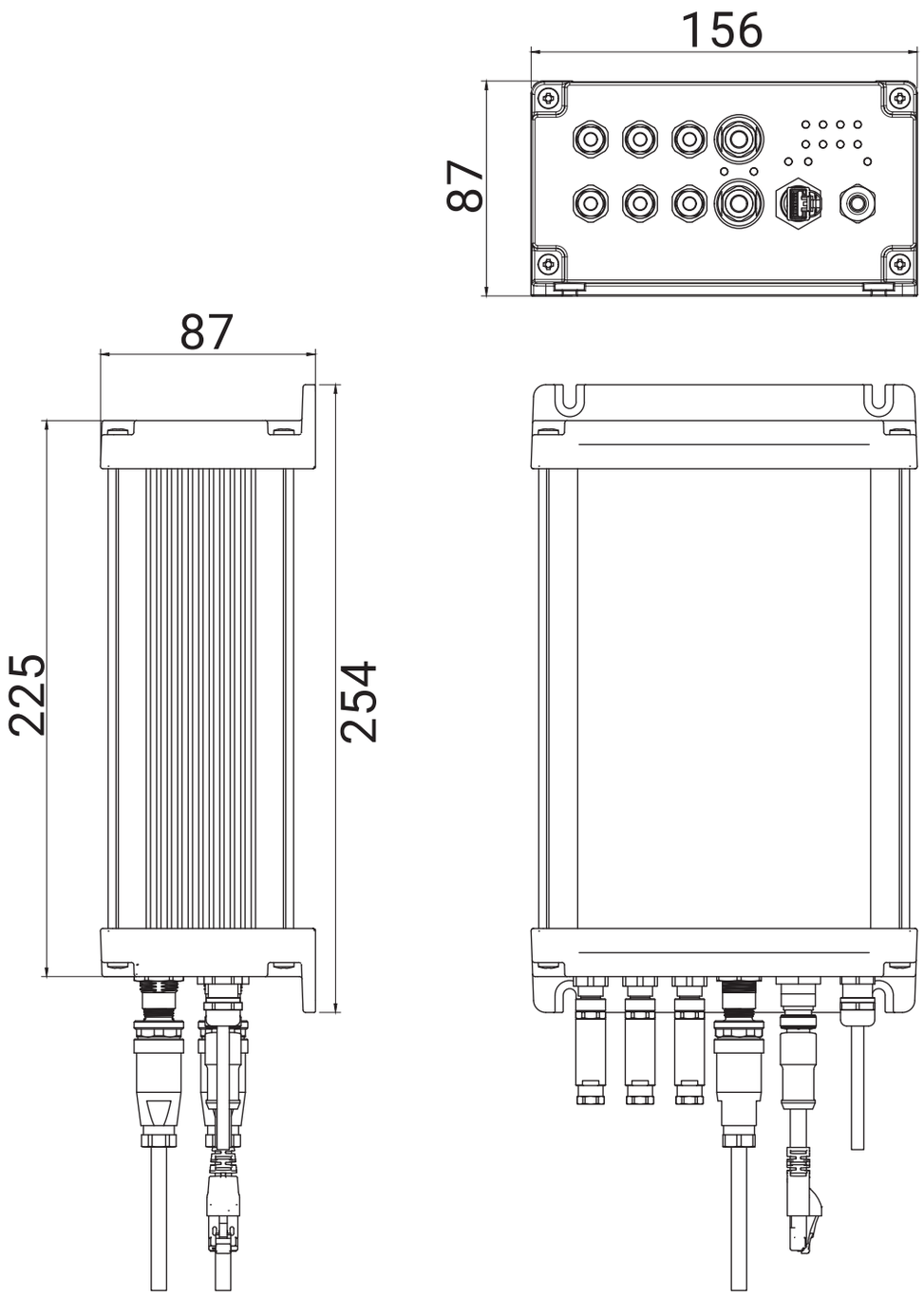
6. 6x M8 connectors power supply cabled sensor nodes
7. 2x M12 Transceiver connectors
8. 1x RJ45 connector or M12 D-coded connector
9. Power cable
10. QR-code identifying the system. Scan for info

ReVibe ENERGY

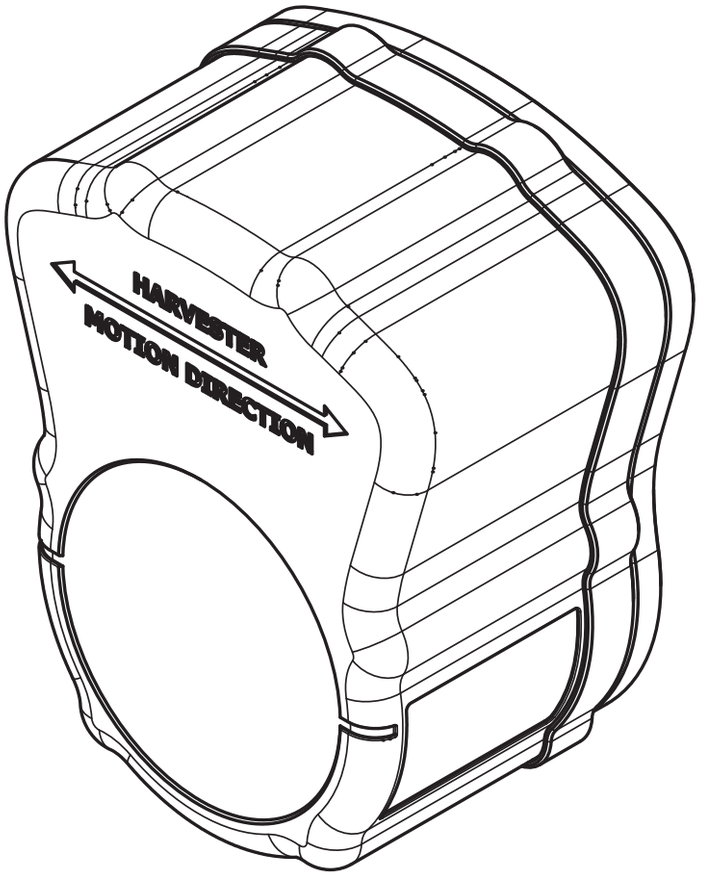
Technical data Gateway

Weight	2940 g
Measurement	230 mm x 150 mm x 70 mm
Operating temperature	-40°C to +80° C (-40°F to 176°F)
Power supply	110V - 230V AC to 12V DC
Power cable length	5 m
Ingress protection	IP65
Casing material	Black anodized aluminium
Communication connector	1x M12 D-coded to Ethernet RJ45
Ethernet cable length	10 m
Cabled node connectors	6x M8 5V DC
Transceiver connectors	2x M12 5V DC

Gateway dimensions



Gateway should be mounted in the direction provided above to protect connectors.



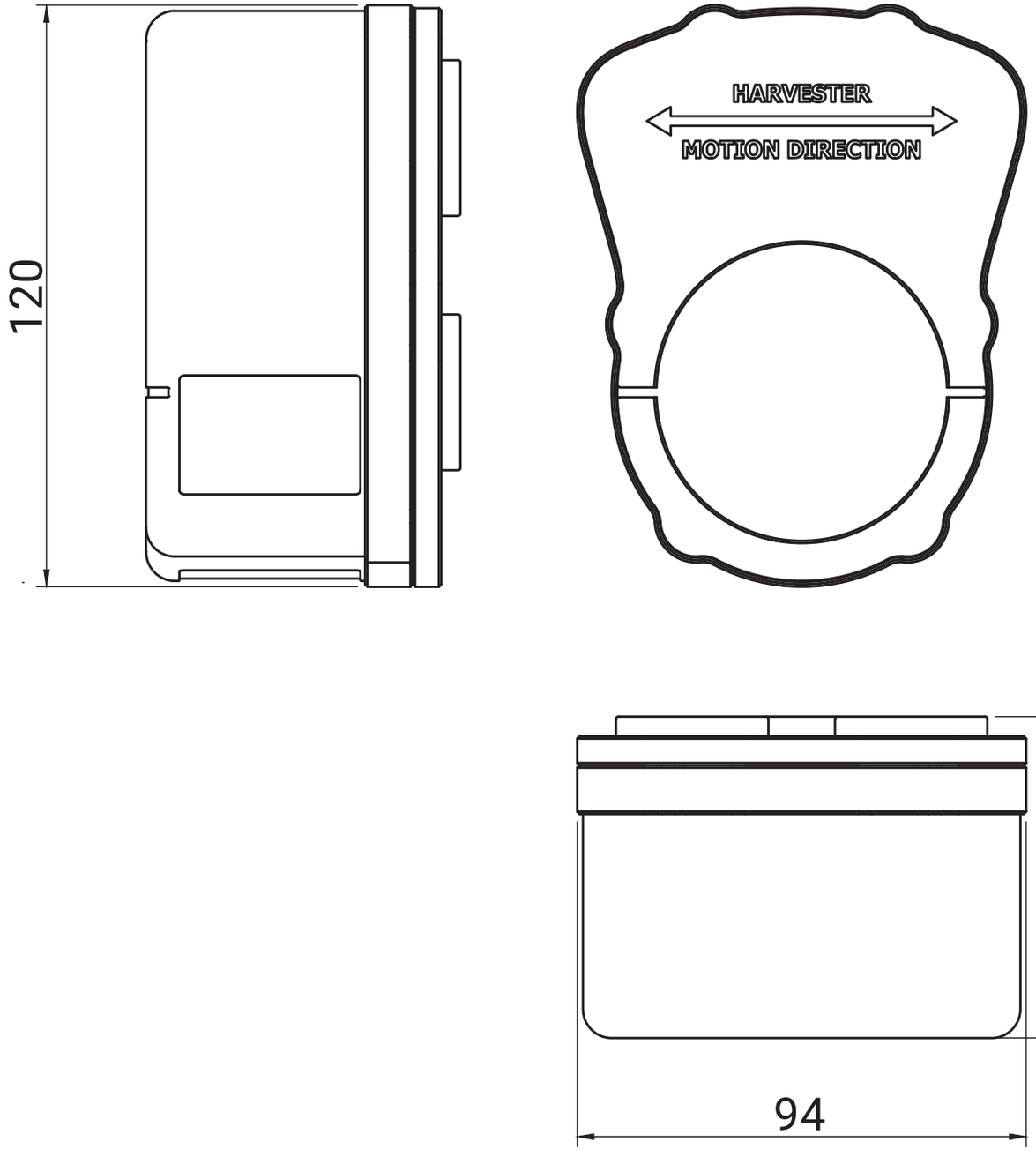
Anura™ sensor node

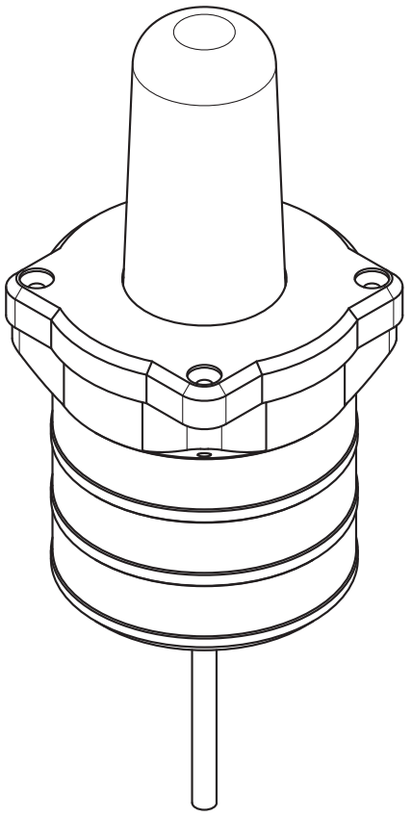
The harvester sensor node takes advantage of the screen's own vibrations in order to power the sensor and radio communication, completely eliminating the need for batteries or power cables. The high grade accelerometer delivers accurate vibration data transmitted over the 2.4 GHz BLE standard. Mounts with 3 industrial neodymium magnets.
Horizontal mount using anti-slip guide.

Technical data sensor node

Weight	820 g
Measurement	120 mm x 94 mm x 66 mm
Operating temperature	-40°C to +80°C (-40°F to 176°F)
Power supply	Self-powered through vibration energy harvester.
Ingress protection	IP68
Casing material	PA12 casing with aluminium base plate
Mounting	3 neodymium magnets
Communication protocol	Bluetooth Low Energy
Wireless range	50 m line of sight
Time accuracy (between nodes)	<5 ms
Acceleration measurements	Amplitude range: +- 16G Measurement axis: X, Y, Z Sample rate: Configurable, up to 13kHz Accelerometer bandwidth: DC to 5.5kHz

Sensor node dimensions





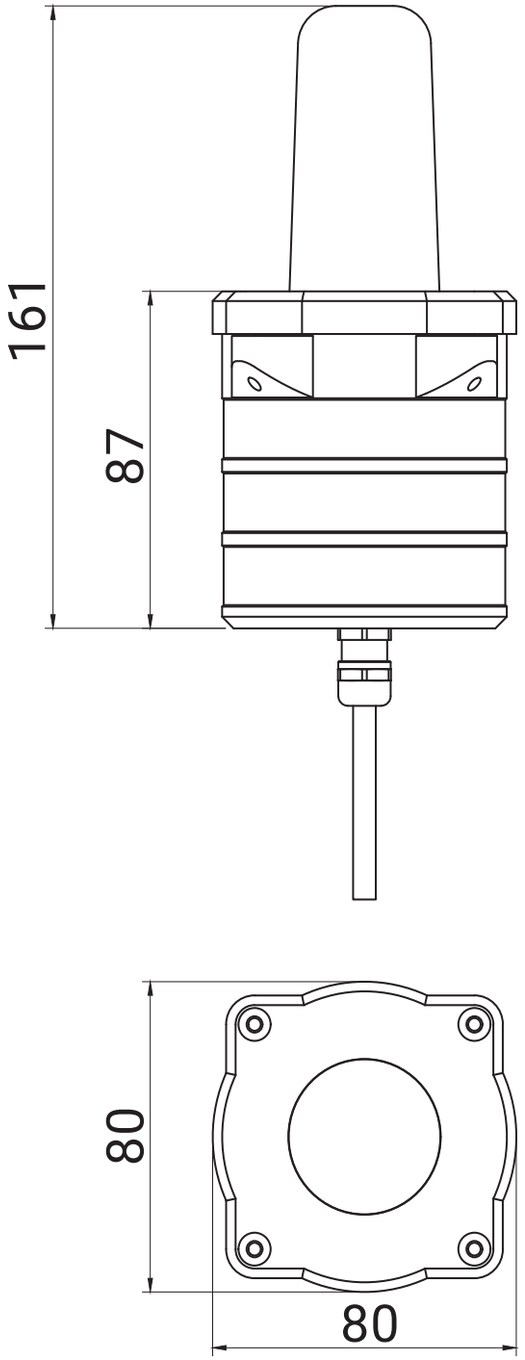
Anura™ transceiver

The bridge connecting the nodes to the gateway.

Transceiver specifications

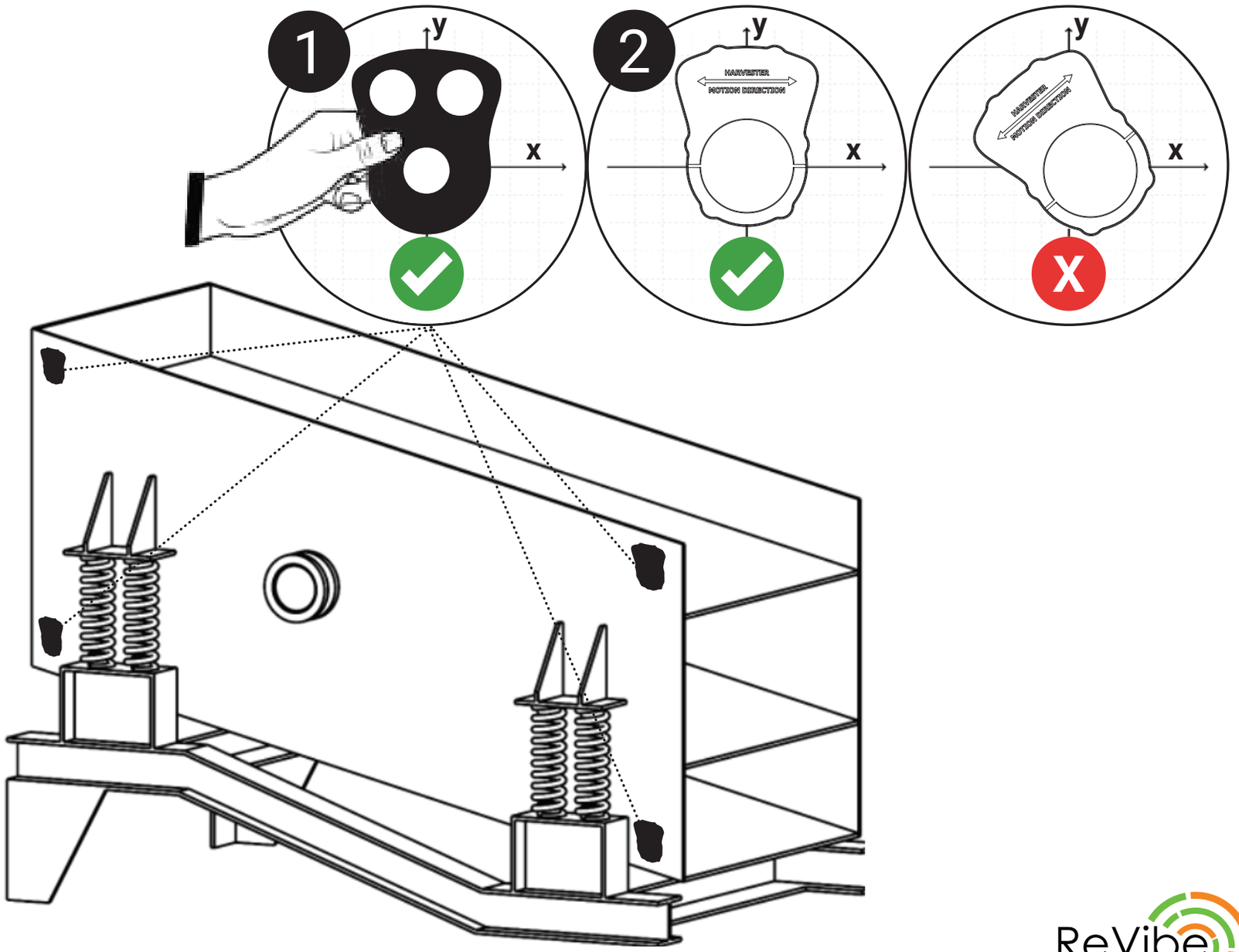
Weight	400 g
Measurement	161 mm x 80 mm x 80 mm
Operating temperature	-40°C to +80°C (-40°F to 176°F)
Power supply	5V DC
Ingress protection	IP68
Casing material	PA12
Wireless communication protocol	Bluetooth Low Energy
Connector	1x M12
Cable length	5 m

Transceiver dimensions

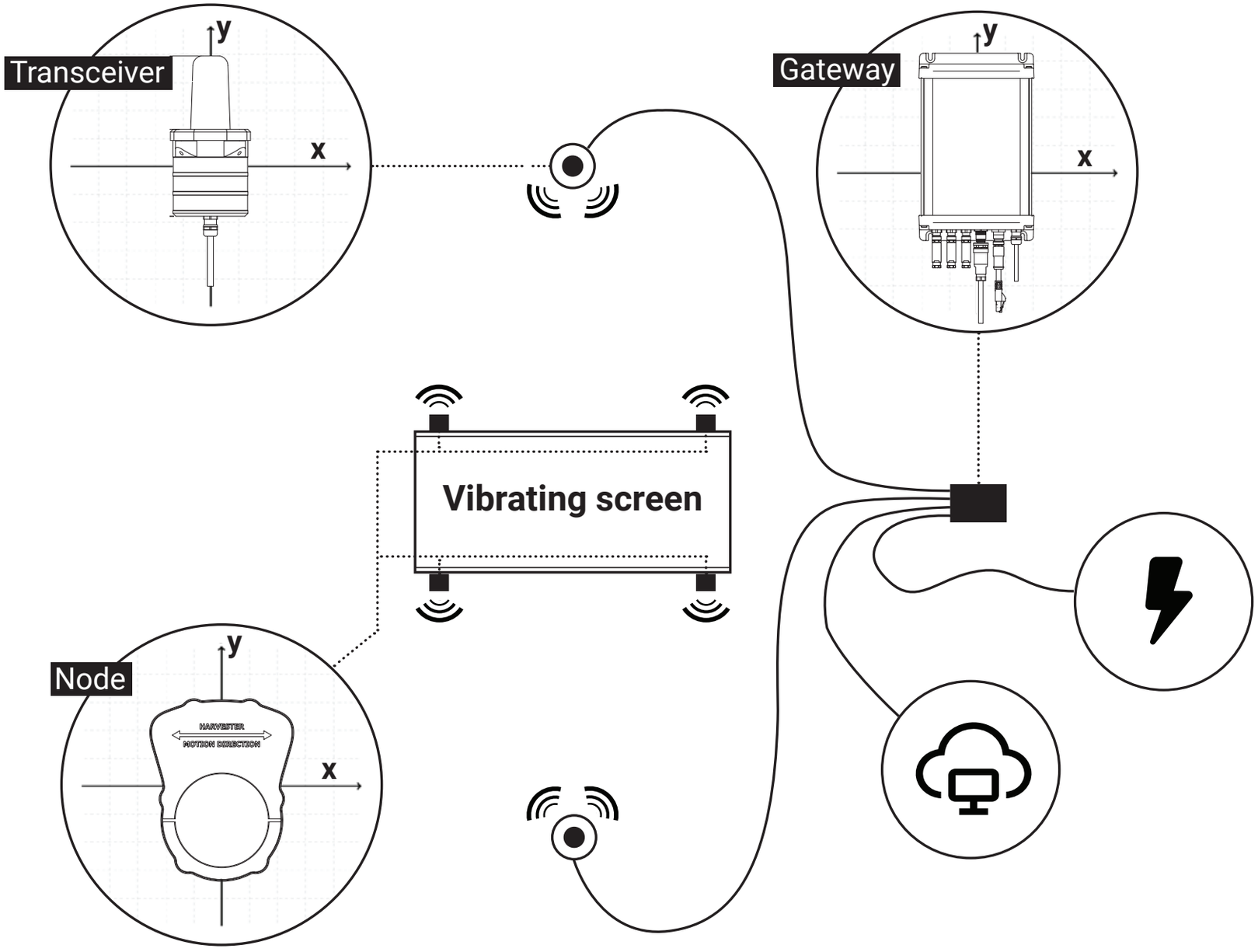


Installing Anura™

Install the sensor nodes in the preferred location on the vibration screen. Use the anti-slip mounting guide combined with a spirit level to achieve a leveled operation of the sensor node, this ensures correctly calibrated data during operation.



Installing Anura™



Installing Anura™

Place the transceivers within line-of sight to the sensor nodes. Placement should be elevated on both sides of the screen.

The gateway mounts in a vertical position to protect against water ingression.

Connect ethernet cable to router providing internet access.

Anura™ system comes pre-configured and will be operational after setting it up according to installation recommendations. A correctly working Anura™ system automatically starts to send measurement data when the vibrating screen is operational.

Note: *The harvester node contains a supercapacitor. If the supercapacitor is completely depleted, a startup time of up to ~7 minutes is required in order for the node to be sufficiently charged and able to send data.*

A charged supercapacitor enables the node to be in standby mode for up to 16 hours. Subsequent operation will be quick and responsive within this timeframe.

If the node loses connection to the gateway and thus the ability to upload data to the cloud. The node buffers 4 hours of data in memory and sends the stored data buffer when connection to the gateway is restored.

Important information

Manual version: 001
For the latest version of the Installation and operating instructions, please visit www.revibeenergy.com/anura

Support

Reporting a fault with your Anura™ system.

To ensure that we will be able to provide the best support for your Anura™ system, we kindly ask you to describe the problem as detailed as possible. Please find the QR code (see page 8 in this manual) and attach a picture of this, along with the fault report. This helps us in identifying your system.

Send fault report to **anurasupport@revibeenergy.com**

Contact information

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