HEDRO
COLETOR HG3

Datasheet version V1.2

Data Collector Gateway - HG3

(Bluetooth Low Energy, WiFi and Ethernet)

General description:

The **HG3 Data Collector Gateway** was developed with the aim of enabling data collection in harsh industrial environments. Networks established with several HG3 Gateways are capable of collecting data and sending configuration commands to any Hedro Smart Sensor within range. In addition, they offer information on the strength of the perceived signal in each message received, enabling the mobility of sensors and the location of assets.

HG3 uses the MQTT protocol to send data to HEDRO's cloud or local servers, where it can be stored, processed and sent in real time to any application operating in the cloud, through Hedro's data streaming APIs.

The gateways can be powered by 5Vdc ~ 12Vdc sources or external USB source 110Vac ~ 240Vac > 5Vdc and are fixed using a DIN rail or screws. The external antenna with SMA connector allows the Collectors to be installed inside metallic cabinets and their antennas on the external side, increasing the coverage area of each unit.

Applications:

HG3 Collectors are used to provide a robust and dynamic communication infrastructure with Hedro's Intelligent Sensors. Enabling numerous Industry 4.0 projects such as:

- Sensing for predictive maintenance of electric motors;
- Vibration trend analysis;
- Hour meter for electric machines and motors;
- Engine stop detection;
- Detection of cavitation in pumps;
- Monitoring of reduction boxes;
- Surface temperature sensing;
- Location and identification of engines, as well as maintenance history;
- Monitoring the opening and closing of doors and floodgates;
- 3 axis inclinometer;
- Pipeline vibration monitoring;
- Motion detection;
- Inclination of valves and levers;
- Personnel ergonomics monitoring;
- Reservoir level;
- Transformer monitoring.

Benefits:

- Low cost.
- Ease of installation.
- External antenna with the possibility of using extensions.
- Data collection from up to 512 sensors at the same time.
- Dynamic network that allows free movement of sensors.
- Secure connection via WiFi or Ethernet.
- Enables the location of sensors and assets.
- Operation of each independent collector in the network.

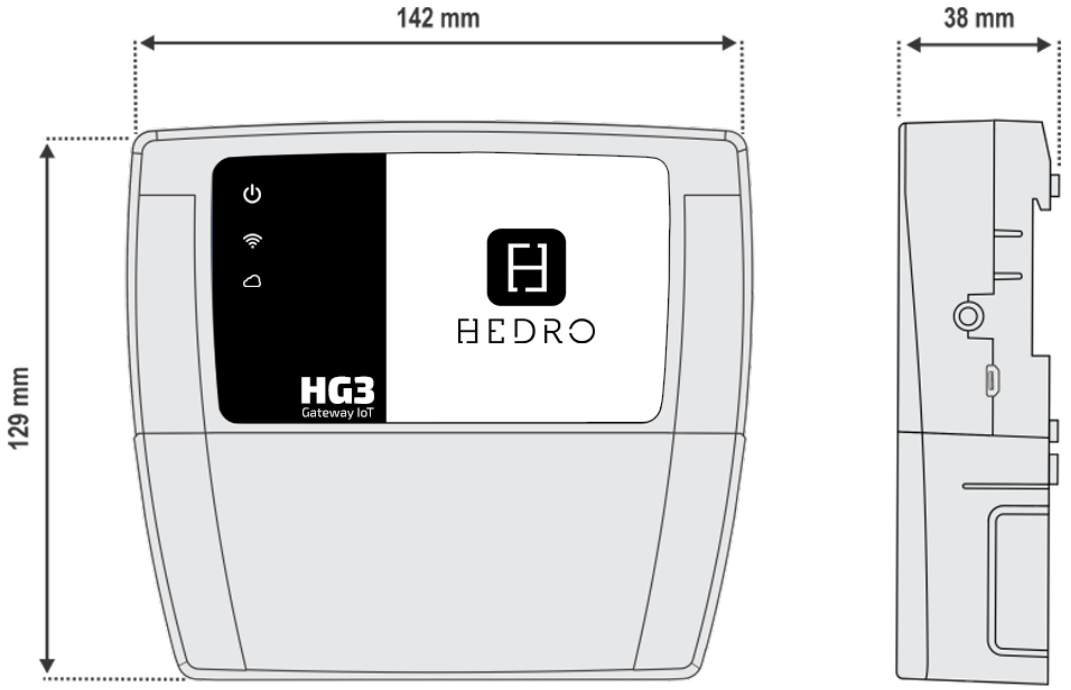
Technical description:

- **Operating and storage conditions:**
  - Operating temperature: -20ºC … 60ºC.
  - Storage temperature: -5ºC … 25ºC.
- **Communication interface:**
  - SouthBound: Bluetooth Low Energy 5.0.
  - NorthBound: Ethernet 10/100 Mb/s, IEEE standard 802.3 and WiFi 802.11 b/g/n 2.4GHz.
  - Cloud communication protocol: MQTT and REST
- **Hardware:**
  - External dimensions (mm): 142 x 129 x 38.
  - Power: 5Vdc to 24Vdc
  - Power input: micro USB or detachable terminals.
  - Bluetooth Low Energy 4.2 (2.4GHz) communication.
  - Bluetooth signal range: 50 to 70 meters without obstacles.
  - Transmission power +8dBm.
  - Receive sensitivity -103dBm.
  - Mounting: DIN Rail or Screw.
  - Housing: ABS + PC.
  - External antenna for BLE: SMA connector (2.4GHz)
  - USB port for 3G/4G MODEM

Status indicator lights

Name	Symbol	Status	Description
Status		Off	device off
		On	device on
		Blinking	-
WiFi		Off	Device disconnected from WiFi network
		On	Device Connected to WiFi Network
		Blinking	Device available for installation on the network (SSID: HEDRO HG3 - XXXX)
Cloud Connection		Off	Device without access to the Online data system
		On	Device connected with Online data system
		Blinking	Uploading data to cloud

Mechanical drawing (mm):



Data visualization and storage (Hedro Platform):

The data generated by Hedro's Intelligent Sensors are sent to Hedro's cloud, where they are uncompressed and made available in dashboards for real-time visualization. They can be stored for up to 3 years and are available to the user through a login on the Hedro website. Through the platform, it is also possible to configure monitoring alarms for the data collected by the sensors.