/.\ deltabee

/.\ delta bee
wireless temperature monitoring

⚠ **temperature |** the leading indicator of asset failure

monitor the temperature wirelessly to avoid |
costly failures **/** optimize reliability **/** increase safety **/** prevent downtimes

⊘ **stop using |** IR windows **/** thermal imaging **/** surface acoustics **/** fibre optics

^ choose us ^

- state of the art RFID temperature sensing technology
- zero cross-interferences between sensors
- assign unique sensor IDs to prevent false alarms
- virtually unlimited sensors per panel
- ambient and humidity sensors to monitor delta and alarm
- wireless data download through short range encrypted bluetooth
- massive storage of 100 million readings per reader
- custom software for viewing and trending your temperature data

temperature sensing technology

1 → energize sensor →

2 → read temperature command →

antenna

25.6°C
60.3%RH reader

← data (ID **/** temperature) → **3**
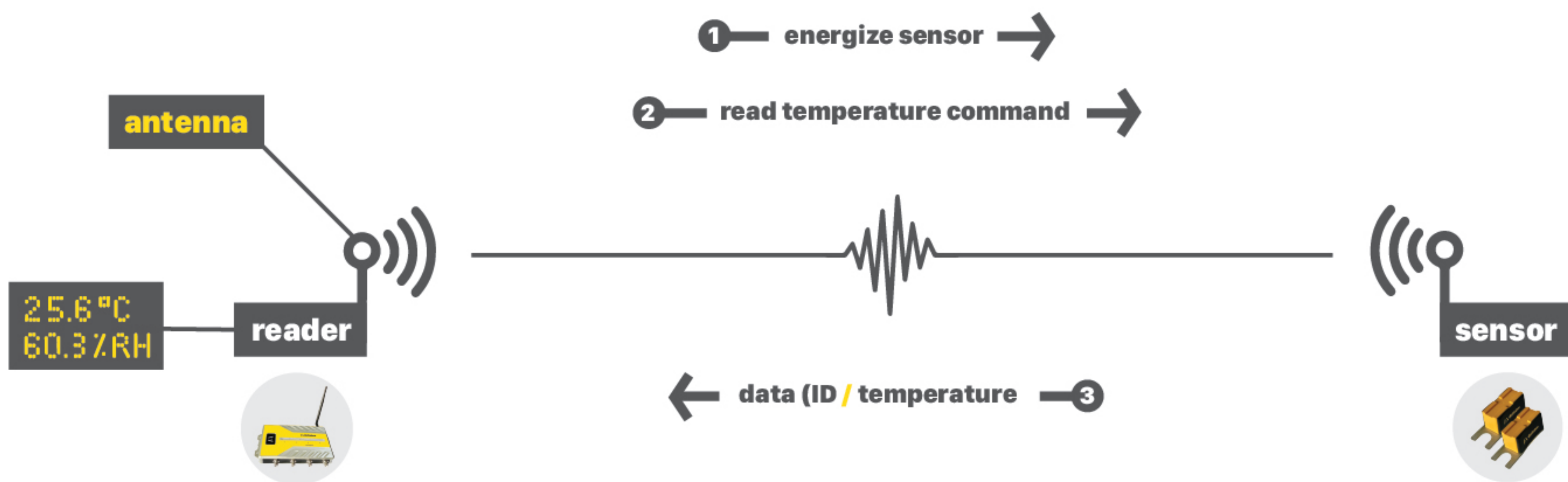
sensor

^ RFID principle diagram ^

smart passive sensing™ is a wireless **/** battery-free technology **/** each sensor harvests a very small amount of energy from the signal put out by the RF reader **|** this provides all the power it needs to perform its sensing function and report back to the reader **|**

as part of the system the reader continuously passes radio frequency signals that are picked up by the chip **|** the chip is then energized and produces a current that passes through the diode **|** the voltage drop produced across the diode depends on the temperature of the surface that the sensor is interfaced with **|**

the variation of the voltage drop is linear to the diode temperature **|** the analog signal of the voltage drop is then converted to a digital signal which is then transmitted over radio frequency to the reader using the antenna **|**

in most cases **/** the reader will command the sensor to perform a sensing operation **|** In other cases **/** the command might be to write a data value on the sensor or to read a memory location **|** when it's done **/** the sensor reports the result back to the RF reader **|** the entire process takes from 3 thousandths of a second (3 msec) to 20 thousandths of a second (20 msec) **/** depending on the operation **|**

⊕ the temperature sensor includes

an intelligent electronic chip that contains a unidirectional diode and antenna

system architecture

reader

bolt / tie sensor

sensor

humidity sensor

antenna

technical specifications

RF reader

part name	/.\ beehive | 4 port reader
frequency range	902 MHZ to 928 MHZ
read range	2 meters
alarm outputs	4 relay outputs
communication interface	RJ-45 / HDMI / RS-485 (modbus) / 4G / WiFi / Bluetooth

antenna

part name	/.\ bee AN - 01
mounting method	rivet hole / magnet
connecting cable type	co - axial cable

sensors

part name	/.\ stingbee	/.\ littlebee	/.\ HAT - 01
measuring range	-40℃ to +125℃	-40℃ to +125℃	-40℃ to +85℃ (temp) / 0% rH to 100% rH (hum)
accuracy	+ / -2℃	+ / -2℃	+ / -2℃ (temp) / + / -3.5 % rH (hum)
mounting method	bolt / cable tie	cable tie	rivet hole / magnet