



Temperature Sensor

Product Datasheet WT22-Ex

The WT22-Ex is a digital temperature sensor for tank containers and tank wagons. The WT22-Ex is a non-intrusive sensor that is used for the online monitoring of the temperature of a tank's content. It sends the measured temperature values wirelessly to an IMT communication and location terminal (CLT/HCT), which in turn transmits the sensor data to the IMT platform where it can be accessed remotely via our web application.

The WT22-Ex has a large LCD display which shows the content temperature in °C at all times and in °F for 5 seconds upon pressing a button underneath the display.

The WT22-Ex measures the tank's content temperature with a wired PT1000 probe that is attached directly to the tank wall or placed inside an immersion sleeve. Not only does the WT22-Ex transmit the temperature values to the IMT communication and location terminal, it also stores the measured values in an internal buffer with a capacity of 2 years.

The WT22-Ex is IIC/IIIC certified and can therefore be used in the transportation of hazardous and non-hazardous liquids. The certification allows for probe cable lengths up to 50 meters.

With the LCD display serving as a cover, the WT22-Ex is installed within a recess in the cladding of the tank container or tank wagon. The WT22-Ex is battery powered and has a battery lifetime of 10 years.

The temperature values are displayed in the IMT web application. This application also allows for the setting of (alert) notifications for exceeding low and/or high temperature thresholds, temperature gradients and for combinations of events and temperature values. The data can also be accessed via IMT's open and free API, making it easy to integrate the IMT solution into any pre-existing TMS (transportation management system).

The WT22-Ex can be updated with new firmware wirelessly (OTA) via the IMT communication and location terminal.



Telematics to the next level



Temperature Sensor WT22-Ex

INPUT AND DISPLAY

- **Temperature range:** -50 °C to +260 °C. Other ranges are available on request, like -270 °C to +800 °C.
- **Temperature sensor:** PT1000 Class A probe, optionally a PT100, Thermocouple or other type of temperature measurement is supported.
- **Connector:** M8 connector for replaceable temperature probe.
- **Fahrenheit button:** shows temperature in Fahrenheit for 5 seconds.
- **Display:** offers information about battery voltage, firmware version and a settings menu, upon pressing of the button.
- **Accuracy:** +/- 0.3 °C
- **Calibration:** Factory calibrated
- **Sample interval:** 1 minute
- **Cable length:** 1.5 m., other lengths up to 50 m. available on request
- **Display:** 4 digit 7 segment LCD
- **Display resolution:** 0.1 °C
- **Battery life:** 10 years
- **RF transmitter:** 2.4 GHz RF transmitter for connection to CLT or HCT. Firmware is over-the-air updatable via the CLT or HCT. ITSS IF2 ready



MECHANICAL DATA

- **Dimensions:** ø 130 x 35 mm, excluding probe connector
- **Weight:** 230 g
- **Enclosure:** durable glass filled nylon housing, polycarbonate front panel with customizable layout
- **Fitting:** 4 fixing holes for pop rivet fixing
- **Operation temperature:** -40 °C to +60 °C
- **Protection class:** IP69K rated front panel, IP67 rated casing, impact resistant LCD window, IP67 rated PT1000 probe

APPROVALS

- ATEX Z1 T4 certification
- Intrinsic safety explosion protection
II 2 G Ex ib IIC T4 Gb
II 2 D Ex ib IIIC T135°C Db
- Certified operating temperature in ATEX: -40 °C to +60 °C
- Compliant with EN 60079-0: 2018
- Compliant with EN 60079-0:2018 Annex F, impact and IP tested front panel
- Compliant with EN 60079-11: 2012
- DEKRA 21ATEX0019 X
- Directive 2014/34/EU



LOGGING DATA

- **Memory:** 4 MB memory chip
- **Log capacity:** 2 years temperature logging
- **Logging interval:** 10 minutes
- **Uploading data:** logged data can be uploaded remotely via the IMT CLT or HCT.

IMT IS THE WORLD LEADING INDEPENDENT TELEMATICS SOLUTION PARTNER FOR THE TANK CONTAINER AND RAIL WAGON INDUSTRY

Intermodal Telematics offers a full range of smart sensors and a web-based application with extensive functionality, for all involved parties like fleet owners, lessors and shippers. We provide a complete solution for asset management and product monitoring to increase control, efficiency, product quality and safety.

IMT is by far the biggest supplier of telematics technology for the tank container sector and a major player in the railway business. With our team of 50 hardware, firmware and software engineers and our own in-house assembly line, IMT assures you the best cutting edge telematics solutions with the highest quality. We set the standard in smart sensor technology.

IMT's sensors and platform:

- ✓ Improve operating efficiencies
- ✓ Secure quality of cargo
- ✓ Provide track history of all relevant data of each container / wagon;
location, temperature, pressure, full-empty, heating, load-unload, ...

GET IN TOUCH, WE WOULD LOVE TO HAVE AN OPEN DISCUSSION ABOUT WHAT WE CAN DO FOR YOU.



Intermodal Telematics BU

Korte Huifakkerstraat 8 ▪ 4815 PS Breda ▪ The Netherlands ▪ Tel.: +31 (0)76 231 02 00 ▪ info@intermodaltelematics.com

Version PS_WT22-Ex_v1.0 - 01.22 ▪ Specifications are subject to change without notice

www.intermodaltelematics.com