# Visilion
# Digital Services

Reduce equipment search times with Visilion, our Real-Time Location System (RTLS) for your entire hospital. Our tracking solution provides staff with immediate and accurate location data of equipment that is continuously being moved around or simply lost. This at-a-glance information can help enhance clinical workflows, equipment uptime, and hospital resources.

**Dräger. Technology for Life®**

# Benefits

### Reduction of equipment search times

Medical equipment must be in the right place at the right time when needed. Nurses can spend up to a quarter of their workday looking for equipment[1], wasting valuable time that can be better spent on core tasks such as patient care. Visilion enables live asset positioning on a digital map, which provides hospital staff with the immediate and accurate location of missing equipment. This at glance information can enhance workflows and reduce stress by giving staff more time to focus on their core tasks.

[1] Jones TL, Schlegel C. Can real time location system technology (RTLS) provide useful estimates of time use by nursing personnel? Res Nurs Health. 2014 Dec 11; 37(1): 75-84.

### Improved utilization of equipment

Through the Visilion dashboard, statistical data such as flow and utilization rates can be viewed, analyzed and exported into detailed reports. This information allows for a more efficient allocation of equipment. It can support future purchase decisions when determining to rent or acquire more equipment, improving imbalances throughout the hospital.

Visilion can also provide real-time access to bed availability information, which can minimize delays and bottlenecks. With this information, staff can ensure that empty used beds are cleaned and ready for new patients. This helps ensure the efficient placement of patients in the right bed when needed.

### Optimization of device uptime

Medical devices need routine maintenance and servicing for optimal uptime. However, this care could be delayed or missed when these items cannot be located. Meaning devices can remain unavailable for use even once they are found. Corrective and preventative maintenance of equipment is a rather substantial cost but crucial to prevent the downtime of much-needed equipment. With increased visibility through Visilion, devices can be located in real-time, ensuring equipment can be found for needed maintenance.

### Asset protection from losses

On average, a hospital loses 2-7% of its equipment inventory per year[2]. Valuable medical equipment is continuously being moved around and even stolen. Visilion improves transparency over hospital assets by creating a virtual fence around a department or an entire hospital. This geofencing technology provides direct notification to staff when an asset leaves its dedicated area.

[2] Infinite Leap. How to Calculate Your ROI on RTLS-Enabled Asset Management, 2018.

## Benefits

### Quick and easy installation

Visilion includes hardware, software, and a user-friendly cloud-based application for computers, tablets, and smartphones. It's easy to install and can be integrated into existing hospital infrastructures. Hospital assets are equipped with small, Bluetooth Low Energy tags, which will send information about the current position of tagged devices that is viewable in real-time through the Visilion cloud-based application.

# Technical Data

**Observer 2.0**

The Observer is the enabler of this uniquely flexible plug-and-play indoor positioning system. The Observers, mounted in ordinary power sockets, use 2.4 GHz BLE (Bluetooth Low Energy) radio technology to localize the tags and report via the organization´s existing Wi-Fi network to the cloud-based platform. Based on the information from several observers, the platform calculates and presents each tracked object's real-time position.

**Physical**

| | |
|---|---|
| Part number | 3710108 |
| Dimensions | Length 48 mm, width 40 mm, thickness 23 mm |
| Weight | 41 g |
| Operating temperature | -10 to 60 ℃ |
| Storage and transport temperature | -10 to 60 ℃ |
| Humidity | < 90 % RH, non-condensing |
| Cleaning | Withstands repeated wiping with hospital-grade disinfectants: alcohol based, oxidizing, chlorhexidine-containing, etc |
| Antenna | Integrated (2.4 GHz) chip antenna |
| Mounting | Plugged into electrical outlet |

**Electrical**

| | |
|---|---|
| Power supply | AC 110-240V |
| Operating voltage | 1A @4V DC (~4W) |

**Radio**

| | |
|---|---|
| Transmission power | STS-Observer 2.0 Wi-Fi (max) 20.5 dBm (51 mW) |
| | BLE (max) 4 dBm (3.5 mW) |
| Typical transmission range | 70 m |
| Radio techniques | Bluetooth Low Energy – receiver only |
| | Wi-Fi – 802.11 b/g/n |
| Radio frequencies | 2.4 GHz – BLE |
| | 2.4 GHz – Wi-Fi |

**Certification**

| | |
|---|---|
| Certifications | CE |
| Environmental | RoHS, REACH |
| Safety and compliance | EN 60950, EN 301 489, IEC 60601, EN 301 489 |

# Technical Data

**Small tag D52**

D52 is a uniquely small tag that can fit where other tags are too big. Despite this, it has a long battery life of at least 2.5 years. The battery level is continuously reported to the cloud for timely notice about when to replace. The BLE (Bluetooth Low Energy) 2.4 GHz radio technology is tested to comply with all the relevant safety standards and can be used in hospitals, airports, offices, factories, and for patients. The tags broadcast signals about once per second. The signals are collected by Observers that propagate these to the cloud for further processing and calculation of positions. From this, valuable insights can be extracted like utilization, total moved distance, waiting times, flows, bottlenecks and more.

**Physical**

| | |
|---|---|
| Part number | 3710107 |
| Dimensions | Diameter: 30 mm, thickness 8.4 mm |
| Weight | 7.0 g (including battery) |
| Battery type | CR2032, 220 mAh, replaceable |
| Battery life | at least 2.5 years |
| Operating temperature | -10 to 60 ℃ |
| Storage and transport temperature | -10 to 60 ℃ |
| Humidity | < 90 % RH, non-condensing |
| Cleaning | Withstands repeated wiping with hospital-grade disinfectants: alcohol based, oxidizing, chlorhexidine-containing, etc |
| Antenna | 50 ohm, PCB antenna |
| Mounting | Double adhesive, 3 M VHB |

**Electrical**

| | |
|---|---|
| Operating voltage | 1.5-3.6 V DC |

**Radio**

| | |
|---|---|
| Transmission power | 0 dBm (1 mW) |
| Typical transmission range | 70 m |
| Radio techniques | Bluetooth Low Energy |
| Radio frequencies | 2.4 GHz BLE |

**Certification**

| | |
|---|---|
| Certifications | CE, FCC, IC |
| Environmental | RoHS, REACH |
| Safety and compliance | EN 60950, EN 301 489, IEC 60601, EN 301 489 |

# Technical Data

**Large tag D34**

This tag has one of the longest battery life among tags on the market. The robust design enables it to withstand bumps and shocks. The BLE (Bluetooth Low Energy) 2.4 GHz radio technology is tested to comply with all the relevant safety standards and can be used in hospitals, airports, offices, factories, and for patients. The tags broadcast signals about once per second. The signals are collected by Observers that propagate these to the cloud for further processing and calculation of positions. From this, valuable insights can be extracted like utilization, total moved distance, waiting times, flows, bottlenecks and more.

**Physical**

| | |
|---|---|
| Part number | 3710106 |
| Dimensions | Diameter: 48.4 mm, thickness 19.1 mm |
| Weight | 25 g (including battery) |
| Battery type | CR2477, 1000 mAh, replaceable |
| Battery life | Up to 7 years |
| Operating temperature | -10 to 60 ℃ |
| Storage and transport temperature | -10 to 60 ℃ |
| Humidity | < 90 % RH, non-condensing |
| Cleaning | Withstands repeated wiping with hospital-grade disinfectants: alcohol based, oxidizing, chlorhexidine-containing, etc |
| Antenna | 50 ohm, PCB antenna |
| Mounting | Double adhesive, 3 M VHB |

**Electrical**

| | |
|---|---|
| IP class | Up to IP42 guaranteed (contact us for discussion) |
| Operating voltage | 1.5-3.6 V DC |

**Radio**

| | |
|---|---|
| Transmission power | 0 dBm (1 mW) |
| Typical transmission range | 70 m |
| Radio techniques | Bluetooth Low Energy |
| Radio frequencies | 2.4 GHz BLE |

**Certification**

| | |
|---|---|
| Certifications | CE, FCC, IC |
| Environmental | RoHS, REACH |
| Safety and compliance | EN 60950, EN 301 489, IEC 60601, EN 301 489 |

Notes

Notes

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