

RAILWAYS Range

Beacon

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OMS201

Safety Localization Beacon
SIL4 certified *

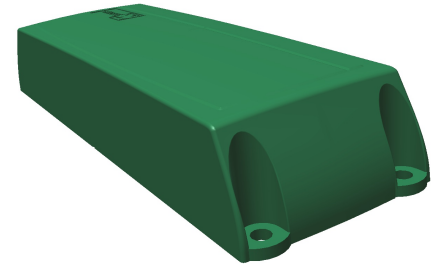
DESCRIPTION

Read only reprogrammable electronic beacon:

- Memory capacity : up to 512 bits.
- No battery.
- Remote powering.
- Remote reading.
- Railways applications.
- General environment conditions according to EN 50125-3.

The Safety Localization Beacon can only be read by the Safety Localization Reader MOS200 1359 NRZ or MOS200 1359 FM0, and by the portable reading tool LP1712 OMS. It must be written or read by other fixed programming tool LPF2629 OMS.

* : for the safety instructions see the user manual ref.15649



FUNCTIONAL DATA

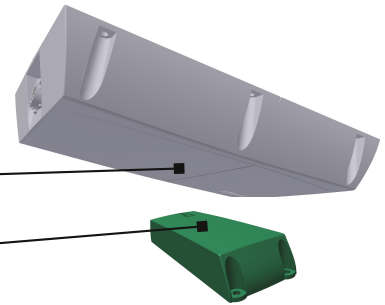
Beacon OMS must be secured on the ground between the rail in the transverse direction and reader MOS200 1359 mounted under the train in the longitudinal direction.

The distance between the higher face of the beacon and the lower face of the reader, lies between 100mm and 250mm.

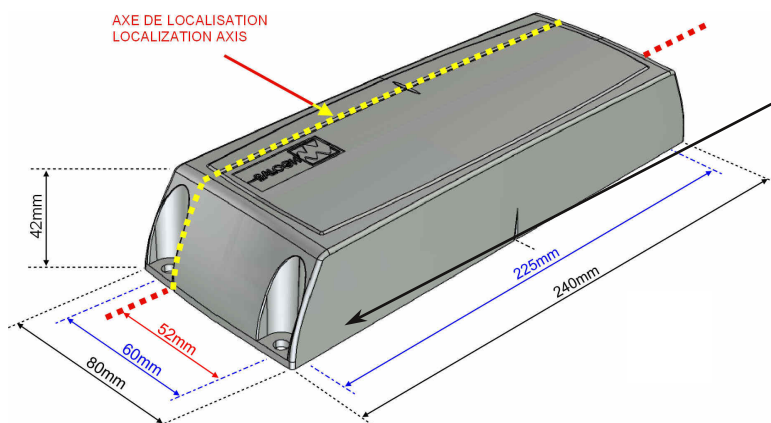
Reader can locate beacon with a precision better than +/- 50mm functionally and up to +/- 200mm in safety

MOS200 1359
(lower face)

OMS201
(higher face)



DIMENSIONS



Marking :

Part number identification :
OMS201

Serial number identification :
yywwxxxxx-nnn-v
yy = year
ww=week
xxxxxx= factory order
nnn=serial number
v=revision index

TECHNICAL SPECIFICATIONS

| | Min. | Typ | Max. | Unit |
|--|------|-----|------|------|
|--|------|-----|------|------|

Radio frequency communication

| | | | | |
|---|---|------|--|-----|
| Carrier frequency | | 6.78 | | MHz |
| Reading range (with MOS200 1359 reader) | refer to reader specifications to recommend reading range | | | |

Memory

| | | | | |
|--|--------|------|-----------|---------|
| Technology | EEPROM | | | |
| Memory capacity | | 144 | 512 | bits |
| Data rate | | 62.5 | | kbits/s |
| Time delay before availability (start-up time) | | | 5 | ms |
| Number of reading | | | Unlimited | |
| Data retention | 40 | 200 | | years |

Environment

| | | | | |
|---|--------------------------------|--|--------------------|------------------|
| Operating temperature | -40 ⁽¹⁾ | | +70 ⁽²⁾ | °C |
| Storage temperature | -40 | | +85 | °C |
| Electromagnetic compatibility (EMC) | EN 50121-4 | | | |
| Radiofrequency | EN 30 330 | | | |
| Human exposure | EN 50364 | | | |
| Electrical safety | EN 60950 | | | |
| Shocks and vibrations (mounting on sleeper) | EN 50125-3 | | | |
| Fire and smoke | EN 45545 : R23 / HL2 | | | |
| Ingress protection rating | EN 60529 : IP67 | | | |
| Temperature cold test - dry heat test | EN 60068-2-1 & EN 60068-2-2 | | | |
| Temperature damp heat test EN 60068-2-30 | +55°C | | | |
| Humidity EN 50125-3 | 95% | | | |
| Altitude air pressure : EN 50125-3 | 1200 | | | m |
| Solar radiation EN 50125-3 | 1120 | | | W/m ² |
| Rapid temperature variations | EN 60068-2-14 : -40°C to +70°C | | | - |
| Low temperature storage | EN 60068-2-1 : -40 °C | | | - |
| Guarantee of operation under water | Test under 200 | | | mm |
| Guarantee of operation under ice | Test under 100 | | | mm |
| Guarantee of operation under stones of ballast | Test under 100 | | | mm |
| Guarantee of operation under mud | Test under 50 | | | mm |
| Guarantee of operation under snow : fresh snow or sleet | Test under 150 | | | mm |
| RoHS European directive 2011/65/EU and REACH European directive n°1907/2006 | Compliant | | | - |
| RED European directive 2014/53/UE | Compliant | | | - |

(1) : this equipment has not been tested at -50°C, it cannot be installed in Sweden, Norway and Finland.

(2) : including the possible effects of altitude and solar radiation

RAMS features

| | | | | |
|--|--|-------------------|--|---|
| MTBF according to IEC62380 (informative data) Mean ambient temp. of the equipment : winter: +7°C - summer: +50°C Mean variation of the temp. day/night : winter: +10°C - | | 9x10 ⁶ | | h |
|--|--|-------------------|--|---|

TECHNICAL SPECIFICATIONS

Enclosure

| | | |
|--|------|-----|
| Material | PA6 | |
| Weight | 1200 | g |
| Coating | PU | |
| Recommended tightening torque (4 screws) | 5 | N.m |

MOUNTING SPECIFICATIONS

- The Safety Localization Beacon must get a precise location on the wayside in relation with the Safety Localization Reader:

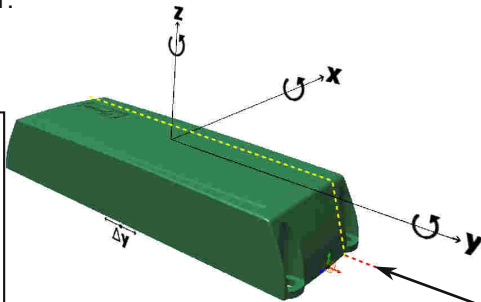
Operational tolerances of the beacon in relation with the reader under the carriage:

$$\Delta y = +/-60\text{mm}$$

$$\theta x = +/-10^\circ$$

$$\theta y = +/-15^\circ$$

$$\theta z = +/-8^\circ$$



- **Metal environment:**

Beacon must be fixed centered on a metal support of at least 260mm x 180mm.

- **Fixing:**

Fixing will be carried out by 4 screws M6 (not provided).

- **Important:**

- Minimum distance between two beacons on flat ground : 2,5 m.
- 2 beacons cannot be put in the field of one reader.

Localisation axis.

ACCESSORIES (to order separately)

- Metal support, reference: PLA2618 OMS.
- Tools for maintenance :
 - fixed reader programmer of the OMS201 beacon, reference: LPF2629 OMS.
 - portable reader of the OMS201 beacon, reference: LP1712 OMS