

ARL

Pavement deflection & temperature



DESCRIPTION

Autonomous sensor for continuous measurement of the temperature of the pavement's different modules and the deflection basin when vehicles are passing.

Each sensor is autonomous; it doesn't need another box nor a sending station

APPLICATIONS

Predictive maintenance of road behavior.

SENSOR CHARACTERISTICS

DATA RECORDING

| | |
|----------------------------|--|
| Local measurement interval | 1 second (via Bluetooth application) |
| Data reporting interval | 20 minutes (configurable) |
| Reported data | Pavement module temperature Deflection Battery voltage |

TEMPERATURE PROBES

| | |
|-----------------------|------------------------------|
| Measurement principle | Digital |
| Measuring range | -40 ... +125°C |
| Resolution | ±0,0625°C |
| Repeatability | ±0,25°C from -40°C to +125°C |

DEFLECTION MEASUREMENT

| | |
|-----------------------|-------------------------------|
| Measurement principle | Combination of sensors and AI |
|-----------------------|-------------------------------|

LONG DISTANCE RADIO

| | |
|----------------------|-------------------------------------|
| Radio technology | LoRaWAN |
| Security | AES-128 data encryption |
| Supported features | LoRa private or operated, OTAA |
| Radio range | Up to 15 km |
| Transmitted power | Up to 20 dBm (adaptive) |
| Receiver sensitivity | -142 dBm |
| Frequency band | 868 MHz (EU), 915MHz (US, AS, AU) |
| Antenna | Internal or external to the housing |

LOCAL RADIO

| | |
|----------------------|----------------------|
| Radio technology | Bluetooth Low Energy |
| Radio range | Up to 40m |
| Transmitted power | Up to 4 dBm |
| Receiver sensitivity | -96 dBm |
| Frequency band | 2.4 GHz ISM |
| Antenna | Internal to the box |

POWER SUPPLY

| | | |
|-------------------|----------------------------------|---|
| Battery type | Lithium-Ion | |
| Power consumption | < 1mW | |
| Battery life * | Measurement period 20 minutes | Duration (up to) 8 years(non rechargeable) |

* Indicative duration, for use in the conditions of use

SENSOR

| | |
|-----------------------|-------------------|
| Operating temperature | -40 ... +70°C |
| Dimension | 295 x 80 x 80 mm |
| Weight | 2300g |
| Internal memory | 1024 measurements |
| Case | PVC IP68 |

ORDER REFERENCES

ORDER REFERENCES

ARL pavement sensor (temperature and deflection)

Other options: contact us

WARNINGS

Specifications and information in this document are subject to change without notice.

A3IP products are not warranted or licensed for use as a critical component for medical or other life-saving or life-sustaining applications, or other applications where failure could reasonably be expected to cause serious injury, death, or damage to any structure, work or building.

In addition, devices are indications and decision aids and cannot be used in alarm or critical applications.

CONTACT

<https://www.a3ip.com>

contact@a3ip.com

+33 (0)2 40 94 78 41

A3IP
Bâtiment Placel
Route de Vannes
44880 SAUTRON
France