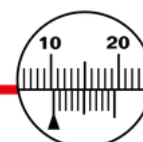
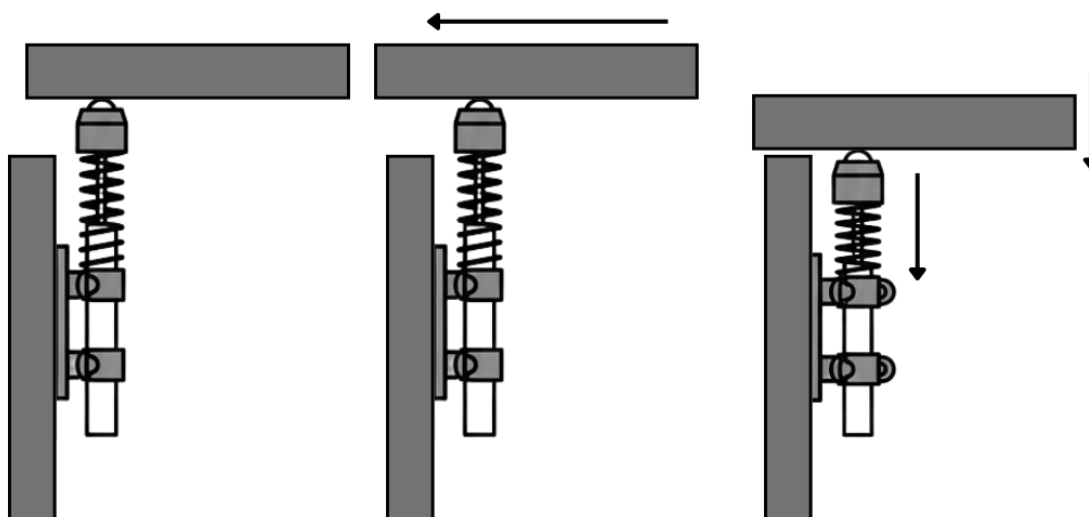


Gauge R2.P – Settlement monitoring for bridges and structures



The R2.P gauge is a connected sensor specifically **designed for monitoring structures subject to combined movements of longitudinal thermal variations and vertical settlement.**

Developed to meet the specific constraints of bridges, this variant of the R2 gauge incorporates a mechanical system that absorbs length variations caused by deck expansion. It thus enables reliable monitoring of bearings, abutments, decks and critical areas of civil engineering structures.



The tool, the measurement, the know-how and the service too

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The R2.P incorporates an optimised mechanical assembly that ensures constant contact, controlled freedom of movement and measurement accuracy all at once:

- a connected R2 gauge (100 mm range),
- a spring system sized to maintain constant contact,
- a head fitted with a bearing ball ensuring omnidirectional sliding,
- a specific part enabling secure mechanical integration.

Thanks to this specific design, the system enables:

- ⇒ the absorption of longitudinal variations caused by thermal expansion,
- ⇒ the precise measurement of vertical displacements (settlement),
- ⇒ stable operation even when the direction of movement changes.

Technical specifications

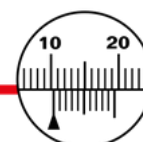
Linear sensor	Resolution: 0.01 mm, Measurement range: 100 mm, Accuracy: $\pm 0.1\%$ of measurement range
Temperature sensor	Resolution: 0.1°C, Measurement range: -40°C to 125°C, Accuracy: $\pm 0.2^\circ\text{C}$
Humidity sensor	Resolution: 1% RH, Measurement range: 0-100% RH, Accuracy: $\pm 2\%$ RH
Measurement frequency	in standard mode: 1h, 2h, 4h, 6h, 8h, 12h, 24h in "Monitoring+" mode (time-limited): 2 min, 5 min, 10 min, 20 min, 30 min
Data transmission frequency	in standard mode: twice a day, every day, every 2 days, every 3 days, every week in "Monitoring+" mode: every hour, every 2h, every 3h, every 4h
Battery life	Estimated between 2 and 8 years
Battery	SAFT 3.6V 13Ah battery included
Operating temperature	Between -30°C and +70°C
Network coverage	Multi-operator industrial SIM card included
Frequency bands	B1, B3, B8, B20 and B28
RF transmission power	+21 dBm
Mounting	Mounting on solid or hollow support with the bracket and screws supplied
Dimensions	Housing: 84 x 84 x 56 mm Sensor (closed): 250 mm x Ø20 mm
Housing material	Polycarbonate with anti-UV treatment
Sealing	Housing: IP66, Sensor: IP65
Weight	350g with the battery
Warranty	2 years



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Warning

The Saugnac R2.P gauge is **not designed or authorised for use in critical applications or in a life-saving alarm system.**

The Saugnac R2.P gauge is a connected measuring instrument that facilitates data collection but does not provide the necessary prerequisites (instant alert sending, guaranteed reliability of the network connection at all times) for use as part of an alarm where there is a risk of personal injury or property damage.

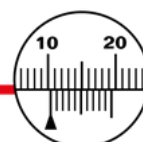
Key features of the R2.P gauge



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Like the R2 gauge it is derived from, it can measure displacements of up to **100 mm**, thanks to a large-range remote linear sensor.

It includes all the electronic and connectivity features of the R2: multi-operator communication via LTE-M and NB-IoT networks, built-in temperature and humidity sensors that correlate the measured changes with ambient conditions, as well as an enhanced monitoring mode that can be activated remotely.

Its battery life can reach **up to 8 years**, depending on the chosen configuration, and a one-year data transmission subscription is included on commissioning. All data remains accessible via the Saugnac web and mobile app, available free of charge.

Monitoring+ mode

To meet occasional needs for more intensive monitoring (e.g. unusual events, works, structural alert), a "Monitoring+" mode can be activated remotely via the app.

This mode increases the frequency of measurements and transmissions, with the following settings:

- measurement frequency: every 2, 5, 10, 20 or 30 minutes
- data transmission frequency: every 1, 2, 3 or 4 hours

This mode is temporary, as it consumes more energy and data.

Measurement frequency	Max. possible duration
2 min	4 days
5 min	10 days
10 min	20 days
20 min	40 days
30 min	60 days

This mode can be activated several times for a series of measurements, up to a limit of 12,000 measurements (i.e. about 4 times per measurement session).

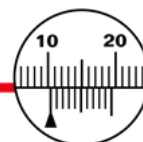
Weather resistance

The housing design achieves an IP66 protection rating. The sensor offers an IP65 protection rating.

The choice of materials and electronic components, and the tests carried out, ensure operation between -30°C and +70°C.

Remote measurement monitoring with the Saugnac app

All data collected by the 3 sensors can be accessed on the Saugnac app <https://saugnac.app/> from a PC or smartphone.



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