

R2 • Waterproof Axial 1-Channel Wheel Telemetry System



The robust waterproof one-piece Stator-Rotor the new R2

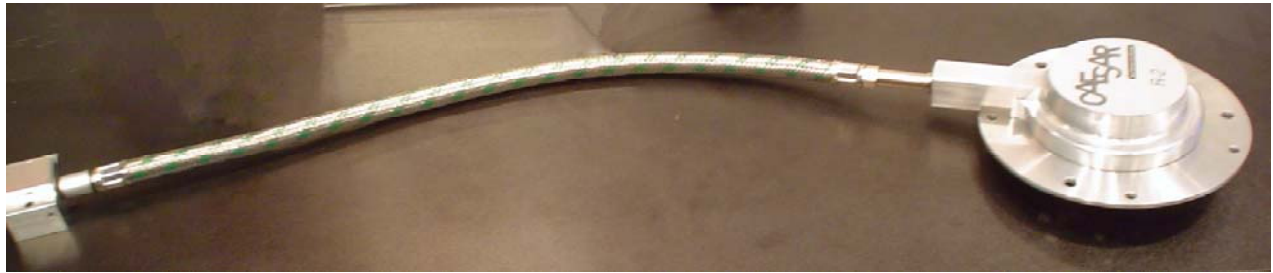
- ❑ **Signal conditioning for strain, temperature or analogue pressure measurements**
- ❑ **Replaces noisy slip rings for automotive wheel measurements**
- ❑ **Maintenance free power supply (inductive) for continuous operation**
- ❑ **Interference free with optical IR data transmission**
- ❑ **Simple assembly using adapter plate**
- ❑ **Connection to the body with flexible armored cable**
- ❑ **Waterproof housing (IP 67)**
- ❑ **Wide operating temperature range**
- ❑ **Ideally suited for torque, brake temperature and tire pressure measurements**

Fast, simple assembly and trouble free data transmission: The new axial single-channel telemetry system R2

The new axial telemetry system R2 from CAESAR DataSystems has been developed from previous models, using customer feedback, to be even more durable. With its sealed waterproof and dustproof housing it is now outstandingly suitable for the continuous collection and transmission of measuring signals from wheels and shafts. The stator-rotor unit can be attached directly on automotive wheel rims using an easily installed carrier system and adapter plate. The attachment takes place fast and securely by means of clamping devices at the hexagonal wheel nuts. Adjustment ensures a range of pitch-circle diameters can be accommodated. The adapter plate is suitable for rims with 4, 5, or 6 wheel nuts.

Clamping devices are available according to standard nut sizes of 17-19-21 mm. Special sizes can be manufactured on request.

As standard, the electronic unit includes signal conditioning for resistance strain gauges. Optionally this can also be extended for thermocouple type K, Pt100 and voltage measurements. Voltage supply and data transmission are made between the stator-rotor unit on the wheel and the body, by a flexible, sealed armored cable. The signal transmission and power transfer are contactless, data being transmitted optically and power inductively. No batteries and no routine maintenance! Typical applications include automotive powertrain and brake system testing and development. The fully sealed environmental housing and extended operating temperature range make it particularly suitable for off-road and winter testing in arduous conditions.



The complete wheel telemetry system R2 with waterproof connector, flexible conduit cable and robust one-piece Stator-Rotor

Technical Data

Connections	<ul style="list-style-type: none"> Attachment head with clip for mounting on fender or on the body Integral female connector (4-pole, waterproof (IP 67), Type Lemos) External male plug (4-pole, waterproof (IP 67) Type Lemos)
Conduit cable connection	<ul style="list-style-type: none"> Flexible, waterproof (IP 67) Standard length approx. 0.6 m (<i>Optional: Modification of the conduit cable length</i>)
One-piece Stator-Rotor	<ul style="list-style-type: none"> Robust, waterproof (IP 67), non-condensing
Mechanical coupling	Mechanical bearing
Rotor power	Electrical (Inductive)
Data transmission	Optical (IR)
Electronic unit (sensor conditioning)	Strain gage, $\geq 350 \Omega$, full-bridge (<i>Optional: Alternative sensor conditioning for thermocouple type K (NiCr-Ni) with cold-junction compensation, Pt100 or voltage measurement ($\pm 5 V$)</i>)
Accuracy	0.1% (60 dB)
Sensitivity	5 mV/V, 10 mV/V, 20 mV/V (Gain: 400, 200, 100) via adjustable switch on the electronic unit
Sensor supply	5 Vdc, 15 mA
Shunt calibration	Automatic at power on (<i>Option</i>)
Signal output	10 kHz ± 5 kHz TTL (<i>Optional: External $\pm 10 V$ signal converter</i>)
Signal bandwidth	dc to 1 kHz (3 dB)
Power supply	+9 to +18 Vdc
Power	< 1.5W (typical)
Operating temperature	-15°C to +75°C (<i>Optional: Extended operating temperature range -40°C to +120°C</i>)
Dimensions	Flange diameter 140 mm (dia) x 41 mm (h)
Weight	Approx. 0.7 kg

Order Numbers and Special Options

Part Number	Description
H-TEL-CTS-R2	R2 waterproof axial 1-channel wheel telemetry, complete system for strain gages
H-TEL-CTS-R2-AS	Alternative sensor conditioning for thermocouple type K, Pt100 or voltage measurement ($\pm 5 V$)
H-TEL-CTS-R2-T	Extended operating temperature range from -40°C to +120°C
H-TEL-CTS-R2-KL-xxx	Modification to the conduit cable length (in cm)
H-TEL-CTS-R2-VK-xxx	Extension cable. Armored, waterproof.
H-TEL-CTS-R2-3DK	Swivel adapter for securing cable to the vehicle body
H-ZUB-PEIS-PL	Adapter plate for fast and secure mounting of the Stator-Rotor assembly to the wheel rim

As competent partners and leading manufacturers of measurably high-quality single and multi-channel telemetry systems, CAESAR DataSystems offers with the R2, a flexible, reliable and above all easy to apply axial telemetry system for the collection and transmission of measuring signals on wheels and shafts. We will be happy to discuss and advise on your individual system requirements. Please contact us!