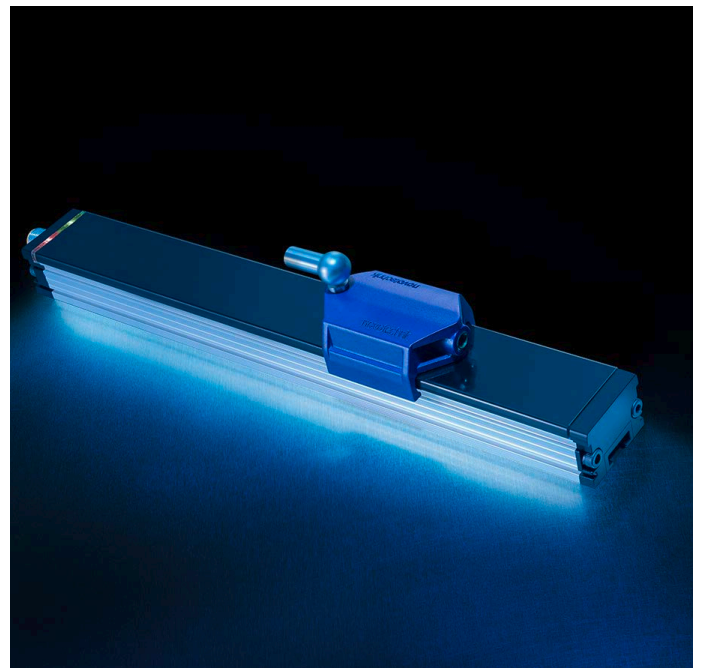


**NOVOPAD  
Transducer  
touchless**

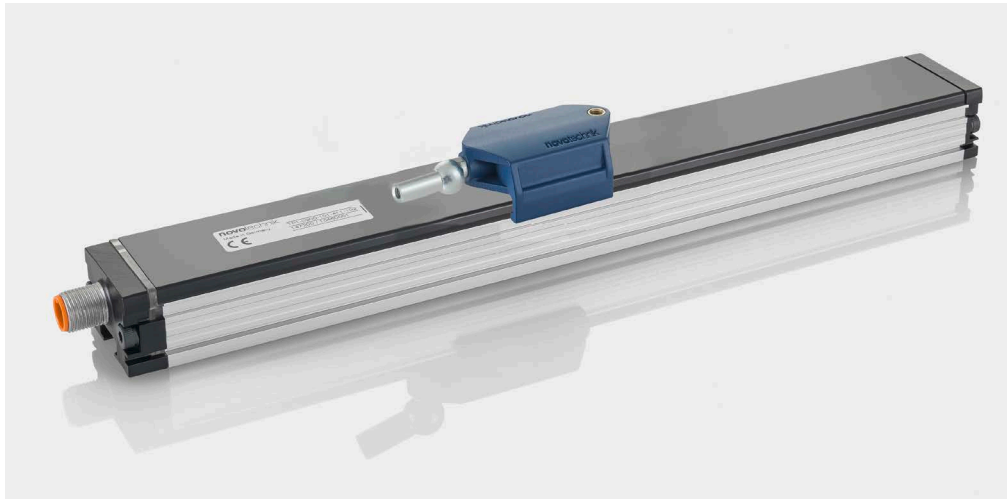


**When quick results create advancements**

Highly dynamic, insensitive und precise:  
The new inductive linear transducer TF1 series

## Novotechnik Position Sensors –

When quick results create advancements,  
measurements do not get worked up by shock and vibration  
and metal debris does not impress at all.



- Inductive measurement technology
- Magnetic field resistant
- Touchless, wear-free
- High dynamic, 10 kHz update rate
- Resolution up to 1  $\mu\text{m}$
- Protection class IP67
- Offset tolerance up to  $\pm 2\text{ mm}$
- Low temperature coefficient  $< 15\text{ ppm/K}$
- Insensitive to shock and vibration



### Inductive Position Sensing

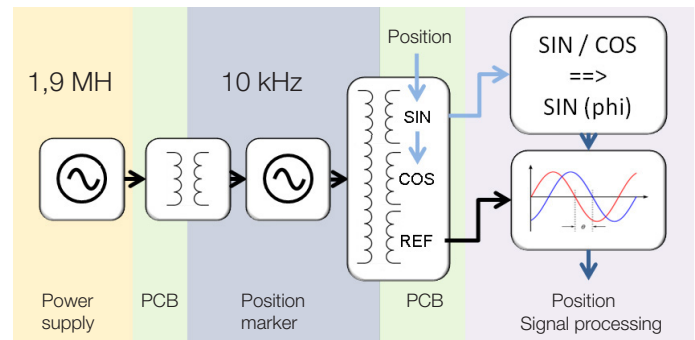
The inductive linear position sensor comprises a system of transmission and receiver coils mounted on a joint circuit board within the sensor as well as a separate “floating” position marker.

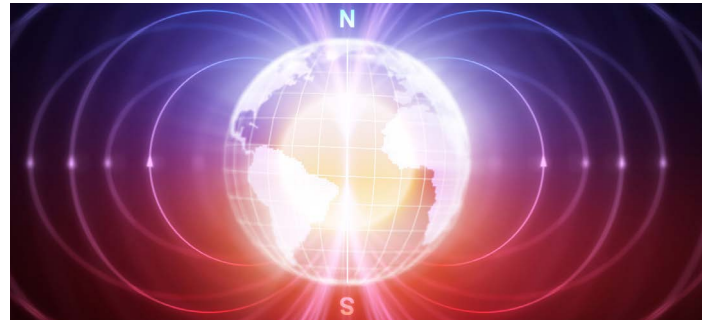
This active position marker is supplied by a high-frequency alternating field generated by the transmission coil. Depending on the position, the position marker induces a current into the receiver coil system.

The receiver coil system's sine/cosine structures are divided into a coarse and a fine track. The coarse track detects the approximate position of the position marker, while the fine track is utilized for high-precision position sensing.

The phase relationship of the signals is the measure of the current position of the position marker and is converted into a linear position signal by the electronics.

The technology is applied for patent.





#### Suitable for highly dynamic positioning tasks

Because of its exceptionally good dynamic characteristics, the new linear position sensor is suitable for very rapid positioning tasks. The measuring system features a update rate of up to 10 kHz, with only a very small contouring error. By thus optimized control dynamics, even rapid motion changes do not result in overshooting. The sensor operates at a resolution down to less than 1  $\mu\text{m}$ .

#### Insensitive to magnetic fields

The inductive Novopad-technology is impervious to the magnetic fields generated by large motors, hydraulic valves, or frequency inverters as the position is not detected via a magnetic but inductive. A further benefit is that no swarfs can accumulate at the non-magnetic position marker.

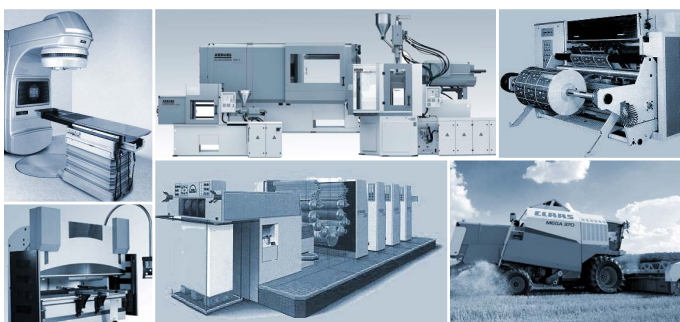


#### Unaffected by vibration and shock

Due to the robust design - the scale is realized by a circuit board - and the offset tolerant inductive transmission, the NOVOPAD technology is suitable for use in vibration-loaded applications. The sensor accuracy and the output will not be affected by such disturbances.

#### The right communication

The measured signal is transmitted as an analog current/voltage signal, digitally via SSI or IO-Link, or via CANopen; Ethernet interfaces are developed. The teaching feature of the analog version allows for the reconciliation of the start and end positions as well as for a reversal of direction.



#### In many applications the first choice

Typical applications are in linear actuators, injection molding and die casting machines, in presses and punches, in sheet metal processing, packaging or woodworking machines or in position detection of fast moving units in production lines.

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### Representatives worldwide

Today, Novotechnik is represented in all of the world's major markets - be it with our own subsidiaries or by approved dealers.

Wherever our customers will be, thanks to this tightly-knit network we can ensure that, they can rely on first-class service and customer care.

Wherever in the world a linear displacement or an angular position needs to be measured with the highest precision, sensors from Novotechnik are the products of choice. The measuring technology expertise that we have gathered in the course of 70 years represents just one of the secrets behind a success story that began in 1947:

The other cornerstones of our success include a passion for technology and an obsession with precision and reliability. Then, there is our love of solution-oriented thinking, coupled with a fascination with new materials and production methods. And of course, there is our constant awareness of the importance of providing sound advice and first-rate service, complementing our overall goal of continuous improvement of our measuring systems.

The greatest secret of our success, however, has been our passion for devising the best possible solution for each individual customer application. To this end, we will continue to focus on the strengths that made us the successful company that we are today.

Leading OEMs from a multitude of different industries are putting their trust in position transducers and rotary sensors by Novotechnik: be it in general engineering, in hydraulics, in pneumatics, in measuring technology, in medical technology, or in automotive engineering.

And, talking of the automobile industry: more than 50,000 of our sensor components are installed into new cars, each and every day.

Your contacts can be found <https://www.novotechnik.de/nc/en/service/representatives/>