

fischer 

SensorDisc.
Digital washer for the
inspection of bolt
connections.



The SensorDisc.

A revolution in the monitoring of conventional bolt connections.

Advances in sensor technology and digitalisation are changing the needs of the construction industry. The aim now is to reduce the effort involved in monitoring structures and still guarantee a higher level of safety. The SensorDisc fits seamlessly into these developments and is fischer's answer to the challenges of **structural health monitoring**:

It guarantees a **transparent inspection** and **provides data that is crucial for maintaining and improving building safety**. The knowledge gained by analysing current and historical data makes it possible to recognise maintenance requirements at an early stage, especially for critical bolt connections, and thus minimise downtimes, increase the safety of buildings and extend the service life of components.



Awards:
German Design Award 2023 (SensorDisc)
German Innovation Award 2023 in Gold (SensorDisc)



Transmission technology NFC



The SensorDisc integrates NFC technology for efficient data transmission, which makes it to record measured values wirelessly. This enables an energy self-sufficient system without physical interfaces.

The NFC technology enables **fast and secure reading** of the data with a smartphone or tablet.

All-weather resistant



Thanks to its robust, fully encapsulated design, the SensorDisc defies all weather conditions by protecting its electronic components from moisture, dust and mechanical influences and guarantees lasting reliability in use.

The robust housing of the SensorDisc with fully encapsulated electronics ensures **easy handling and durability**.



The simple and subsequent installation does not require any modification of the fixing point or the use of special tools. (up to screw strength class A70, from M16).

The wireless measurement of the preload force enables **transparent and simple monitoring** of the bolt connection.

The SensorDisc. An interplay of hardware and software.

Ready to go in just a few steps.

Installation of construction monitoring.



Download the app: Start with the first step towards digital monitoring by downloading the fischer PRO app from your app store and install it on your mobile device.



fischer PRO App
iOS-Download



fischer PRO App
Android-Download



Create an account or log in: Open the app and create a new account or log in with your existing access data.

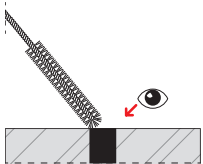


Create new structure: Create a new project by naming it after the building to be monitored and assign specific floors to it to define the structure of your monitoring project.

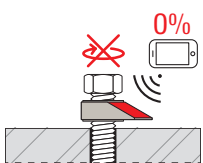


Add SensorDisc to the structure: Add your SensorDiscs to the corresponding floor by scanning them via the app and assigning them a unique location so that you can check the status of your bolt connections at any time.

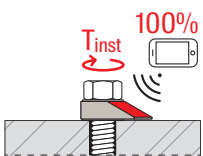
Hardware Installation.



Clean the installation site thoroughly to ensure that the SensorDisc is correctly seated and provides accurate data.



Perform an initial calibration with the app by reading the SensorDisc in a loose state (0% reference) before it is fitted.



Tighten the SensorDisc with the torque specified for the respective bolt connection torque (100% reference) and then scan it again to complete the calibration.



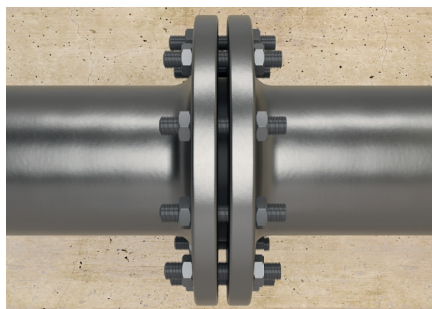
Now add a site plan or a picture to locate the SensorDisc, give the SensorDisc a name and add any necessary annotations before you save the data in the project.



www.fischer-international.com/sensordisc

New horizons in application.

Discover the potential of the SensorDisc.



Process engineering, oil and gas:
Reliable monitoring of critical connections in hazardous areas to ensure their integrity.



Energy infrastructure:
Time savings and increased efficiency as well as extended maintenance intervals for difficult to access fixing points.



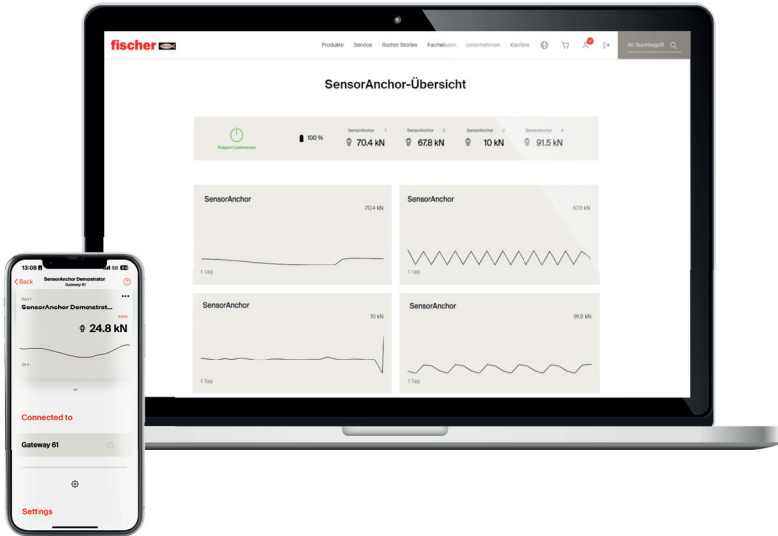
Transport infrastructure:
Reduction of closure or downtimes through shortened inspection times and extended inspection intervals.



Industrial applications:
Permanent inspection of critical points to reduce downtime or simplify maintenance.

Construction Monitoring.

The software module for transparent tracking of sensor data.



From the cloud to all devices.

- Central point of contact for our customers
- All digital applications on one platform
- Available as a mobile app (fischer PRO) and web application
- Interfaces to other systems possible
- Centralised user management for customers

Data- and Device-Management.

Keep an overview of your data, devices and projects. With Construction Monitoring, even large monitoring projects with many sensors can be easily managed.

In addition to managing the measuring points graphical tools are available for preparation of results data, a comment function and an export functionality to third-party systems available.

Seamless integration.

By embedding it in the familiar digital services my-fischer and fischer PRO, Construction Monitoring offers an accessible and user-friendly system for the management and operation of the sensor-integrated fischer products.



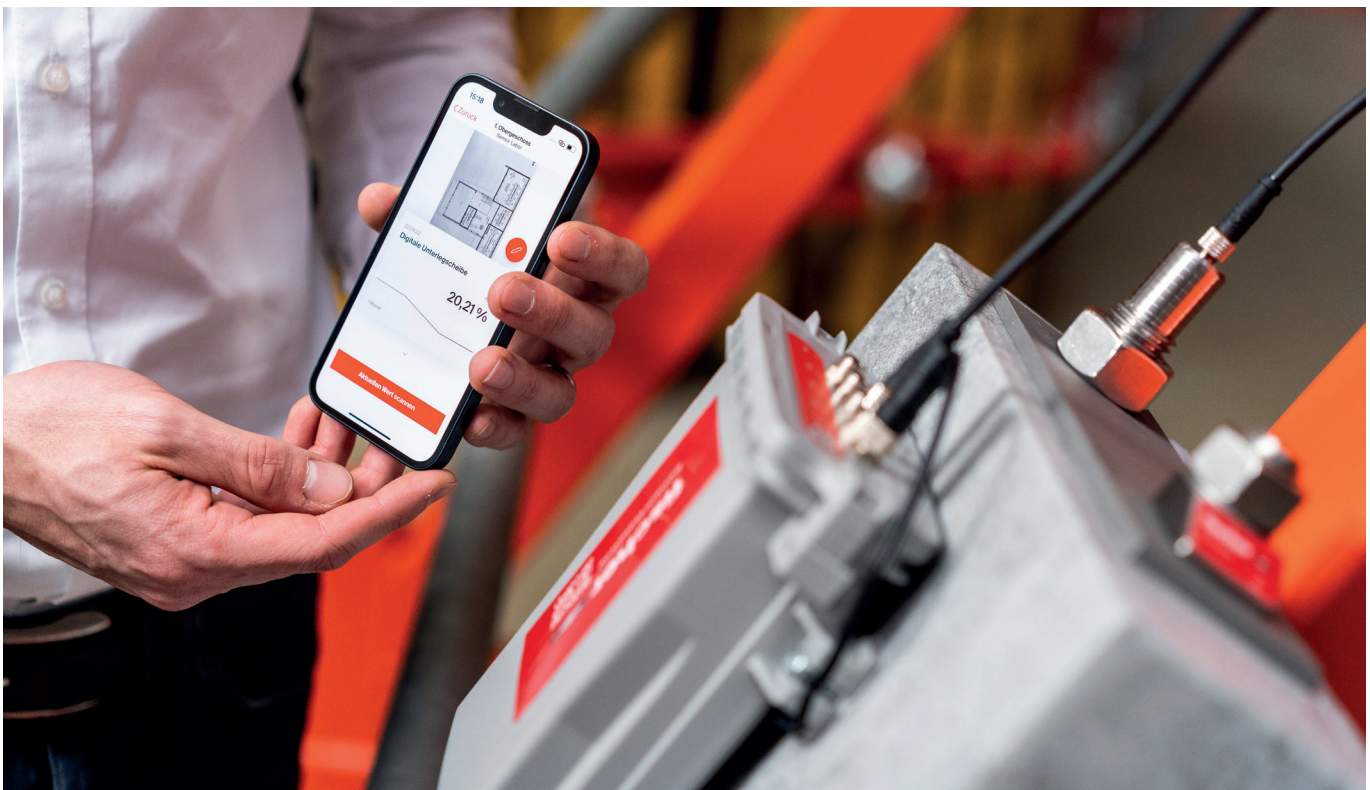
Awards:

Global IoT Award 2023 (Construction Monitoring)

MIMA Microsoft Intelligent Manufacturing Award 2023 Overall

Winner (Construction Monitoring)

DigitalX-Award 2023: 3rd place in the category „Connected Business“ (Construction Monitoring)



Variants, loads, technical data and possible applications.



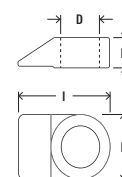
Product variants - Technical data.

SensorDisc



Type	SensorDisc M16	SensorDisc M20	SensorDisc M24	SensorDisc M27*	SensorDisc M30*
length (mm)	43,4	49,5	54,6	59,3	64,1
width (mm)	32	32	36,6	41,3	46,1
height (mm)	14,5	14,5	14,5	14,5	14,5
Inner diameter (mm)	16,5	20,5	24,75	27,9	31

* Special size, only available on request



Loads

SensorDisc

The optimum load range is between the recommended minimum load and the nominal load.

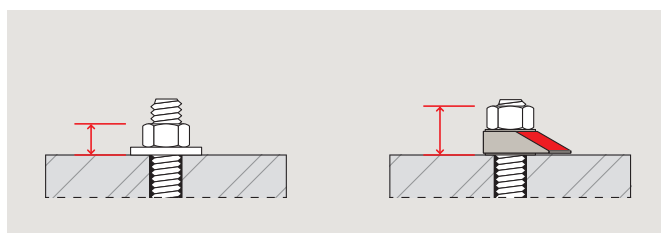
Exceeding the short-term overload limit can lead to a permanent zero point deviation.

Exceeding the breaking load limit can lead to permanent deformation or failure.

Type	SensorDisc M16	SensorDisc M20	SensorDisc M24	SensorDisc M27*	SensorDisc M30*
Nominal load (kN)	60	100	145	200	265
Temporary overload (kN)	72	120	174	240	318
Calculated breaking load (kN)	115	180	255	335	410
Recommended minimum load (kN)	18	30	43,5	60	79,5

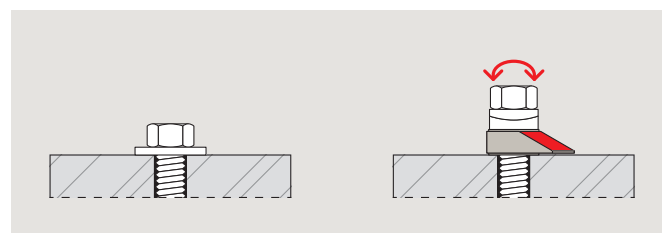
* Special size, only available on request

Installation advice 1



The SensorDisc extends the clamping length of the screw connection by the height of the SensorDisc. This must be taken into account in calculations.

Installation advice 2



The SensorDisc is suitable for both head and nut mounting. In the case of uneven surfaces or inclined position of the fastener, the measuring accuracy can be improved with an additional spherical cap.

Dealer:

www.fischer-international.com



fischer stands for

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