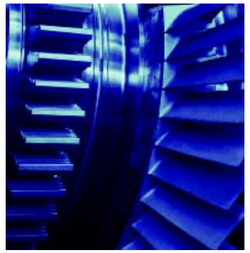
uprox® – FACTOR1: By Far the Best Solution!

Whether for the automotive, the food industry, transport and handling, or the mechanical engineering sector: *uprox*®, the inductive FACTOR 1 sensor, provides the user with decisive advantages for all these areas of application. Alongside sensors in standard housing styles, there are special versions available which perfectly match unique application requirements and specific sensing conditions. Solve your application tasks with optimally adapted sensing solutions!

uprox® in the food industry
Detection of the widely used material stainless steel is the major sensing task in the food industry. Here, our *uprox*® FACTOR 1 sensors with their large switching distance and high sensing accuracy also present a most convincing solution. The housing is made of an exceptionally resistant plastic and is equipped with impermeable connectors (IP68) to withstand the frequent cleaning processes in the food industry.

uprox® in the automotive industry
The quality of automated car-body welding in the automotive industry largely depends on the level of precision achieved. Based on its excellent resistance against magnetic fields and its large switching distance, *uprox*®, our inductive FACTOR 1 sensor, offers significant benefits. Having been developed especially for this industry, the robust teflon-coated sensor housings provide the highest degree of protection.
The Duroplast front is extremely resistant to high temperatures and weld-splatter.

uprox® in transport and handling
In transport and handling applications, the classical 40 x 40 mm and 80 x 80 mm *uprox*® styles, offer the largest switching distances, thus attaining a unique level of reliability even in the most difficult mounting environments.



uprox® in mechanical engineering
uprox®, the FACTOR 1 sensor, provides made-to-measure solutions also for this branch of industry. The combination of a large sensing range with flexible mounting possibilities ensures reliable and precise sensing, even if many different materials have to be detected. The large range of housing styles is suited to match different space and mounting requirements. The hostile and ever-changing environmental conditions in this sector necessitate versatile and robust sensing solutions: thus TURCK offers *uprox*® FACTOR 1 sensors in special stainless steel housings with resistant Duroplast front caps.

TURCK

uprox® – INDUCTIVE FACTOR 1 SENSORS

THE NEW GENERATION

Bitte senden Sie mir Unterlagen:

Sensortechnik
- ❑ Induktive Sensoren
- ❑ Induktive Sensoren für Schwenkantriebe
- ❑ *uprox*® induktive Sensoren
- ❑ Kapazitive Sensoren
- ❑ Magnetfeldsensoren
- ❑ Opto-Sensoren
- ❑ Geräte für den Personenschutz
- ❑ Ultraschall-Sensoren
- ❑ *levelprox*-Füllstandssensoren
- ❑ Strömungswächter
- ❑ Druckwächter
- ❑ Temperaturwächter
- ❑ Linearweg-Sensoren
- ❑ Drehweg-Sensoren
- ❑ Steckverbinder
- ❑ CD-ROM Sensortechnik

Interfacetechnik
- ❑ Interfacetechnik im Aufbaugehäuse
  - – Bauform *multimodul*
  - – Bauform *multisafe*®
  - Allgemeine Informationen
- ❑ Interfacetechnik auf 19"-Karte
  - – Bauform *multicart*®
- ❑ Miniaturrelais, Industrierelais, Zeitwürfel, Sockel
- ❑ Zeit- und Überwachungsrelais
- ❑ Ex-Schutz – Grundlagen für die Praxis (Übersichtsposter)
- ❑ CD-ROM Interfacetechnik

Feldbustechnik
- ❑ *busstop*®-Feldbuskomponenten
- ❑ Bussystem *sensoplex*®*2*
- ❑ Bussystem *sensoplex*®*2 Ex*
- ❑ Bussystem *sensoplex*®*MC*
- ❑ Bussystem AS-Interface®
- ❑ Bussystem DeviceNet™
- ❑ Ethernet Netzwerkkomponenten
- ❑ BL20 I/O-Busklemmensystem
- ❑ Bussystem FOUNDATION™ fieldbus
- ❑ Bussystem PROFIBUS-DP
- ❑ Bussystem PROFIBUS-PA
- ❑ Bussystem *piconet*®
- ❑ Remote I/O *excom*®
- ❑ .....

Please send me more information:

Sensors
- ❑ inductive sensors
- ❑ inductive sensors for rotary actuators
- ❑ *uprox*® inductive sensors
- ❑ capacitive sensors
- ❑ magnetic-field sensors
- ❑ photoelectric sensors
- ❑ machine safety equipment
- ❑ ultrasonic sensors
- ❑ *levelprox* level sensors
- ❑ flow controls
- ❑ pressure controls
- ❑ temperature controls
- ❑ linear position sensors
- ❑ rotary position sensors
- ❑ connectors
- ❑ CD-ROM Sensors

Interface technology
- ❑ devices in modular housings
  - – *multimodul* style
  - – *multisafe*® style
  - general information
- ❑ devices on 19" card
  - – *multicart*® style
- ❑ miniature relays, industrial relays, time cubes, sockets
- ❑ programmable relays and timers
- ❑ explosion protection – basics for practical application (overview poster)
- ❑ CD-ROM Interface technology

Fieldbus technology
- ❑ *busstop*® fieldbus components
- ❑ bus system *sensoplex*®*2*
- ❑ bus system *sensoplex*®*2 Ex*
- ❑ bus system *sensoplex*®*MC*
- ❑ bus system AS-Interface®
- ❑ bus system DeviceNet™
- ❑ Ethernet network components
- ❑ BL20 I/O bus terminal system
- ❑ bus system FOUNDATION™ fieldbus
- ❑ bus system PROFIBUS-DP
- ❑ bus system PROFIBUS-PA
- ❑ bus system *piconet*®
- ❑ Remote I/O *excom*®
- ❑ .....

FAX-ANTWORT/FAX REPLY

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Name:

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Tel./Phone: Fax:

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TURCK

Hans Turck GmbH & Co. KG
D–45466 Mülheim an der Ruhr
Phone (+49) (2 08) 49 52-0
Fax (+49) (2 08) 49 52-264
E-Mail turckmh@mail.turck-globe.de
Internet www.turck.com

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uprox® – FACTOR1 SENSORS: INNOVATIVE ELECTRONICS, FLEXIBLE SOLUTIONS

The New Generation

is enjoying continued success!

The new *uprox*® generation combines the qualities of our proven *uprox*® sensors with quite new characteristics, making their application even more simple and safe:

- extremely large switching distances without any compromises
- integrated pre-damping protection through self-compensation
- excellent electromagnetic capability

In addition to the known and well established properties of inductive *uprox*® sensors such as

- factor 1 for all metals
- magnetic field immunity
- high switching frequency
- large temperature range

the new generation offers these novel and exceptional features without accepting the common disadvantages associated with sensors with large switching distances.
The most significant drawback of sensors with extremely large switching distances, i.e., the difficult and hardly practicable mounting procedure, has been completely eliminated.

With TURCK sensors, flush mounting is what you expect: a really fully embeddable design. This is also true for the *uprox*® types with extremely large switching distances, such as the CK40 (40 x 40 mm) with a nominal switching distance of 30 mm (flush mounting). That's a world record! Take full advantage of the sophisticated performance of the entire sensor series - you won't have to make any concessions.

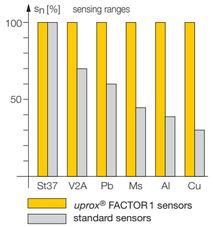
The novel pre-damping protection allows partial embedding of almost all non-flush sensor types in metal. This is achieved by the self-compensation feature of the pre-damping protection, ensuring constant availability of the maximum switching distance. Mounting errors are eliminated, thus enhancing system availability and facilitating system construction. Sensor inventories may also be reduced. The switching distance variations always remain within tolerable limits as opposed to conventional inductive sensors. These are pre-damped when partially embedded in metal and are then liable to deliver faulty signals (e.g. due to temperature drift). Reliable operation is ensured, even when all other features are used (e.g. the full temperature range) – with TURCK's new *uprox*® series you will always be on the safe side!

uprox® – The Facts

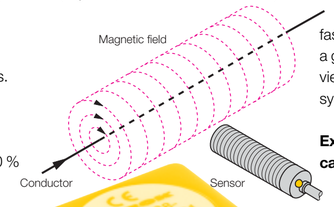
The features of the *uprox*® family:

Extremely large switching distances
uprox® sensors feature a very large switching distance without having to compromise on mounting designs.

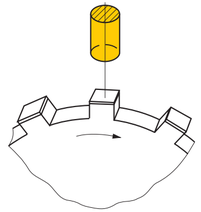
Factor 1
uprox® sensors have the same switching distance for all metals. When monitoring aluminium or stainless steel targets, this technology yields an added switching distance of up to 300 % for aluminium!



Magnetic field immunity
uprox® sensors do not have a ferrite core so that they are immune to interferences caused by strong magnetic fields, occurring frequently during electric welding operations and in many other surroundings (e.g. lifts, electronic furnaces etc.).



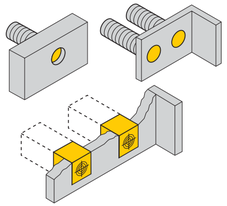
Large temperature range
A temperature range with an additional 35 °C provides sufficient reserves for harsh environments subject to extremely high and low temperatures.



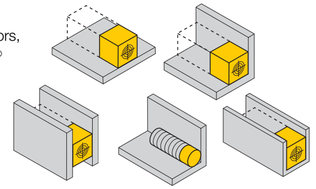
High switching frequencies
With its air-core reactors, our *uprox*® sensor is up to 250 % faster than a conventional sensor - a great advantage, particularly in view of ever faster machines and systems.

Excellent electromagnetic capabilities
All *uprox*® sensors meet current EMC requirements determined by the EN 50082-2 and even exceed the strict provisions of the EN 61000-4-6, which will be integral part of the proximity switch standard from 2005 on. Our *uprox*® is thus perfectly protected against conducted interferences. Moreover, all your installations are equipped for the future.

Mounting modes:



Flush mounting types
All *uprox*® sensors feature a fully embeddable design, meaning that no metal-free zones have to be observed. Most types even allow recessed mounting (1 to 2 mm) to protect the sensor from mechanical damaging. As opposed to many so-called semi-flush mounting sensors, TURCK's flush mountable *uprox*® is really fully embeddable, thus providing additional safety for all mounting environments!



Non-flush mounting types
The integrated pre-damping protection gives our range of *uprox*® sensors unprecedented mounting flexibility. This is achieved by a self-compensation feature with a novel multi-coil system. Metal-free mounting zones may thus be reduced significantly compared to conventional sensors with a ferrite core. Depending on the housing type, even three-side mounting in metal is possible. The pre-damping function automatically adjusts to the self-compensation feature. Partial embedding of non-flush ferrite-core sensors in metal leads to uncontrolled switching operations. Due to the integrated self-compensation feature of non-flush *uprox*® sensors, you can always work with the maximum switching distance: there is no need to make any compromises.

Housing styles, materials, functions – made-to-measure solutions

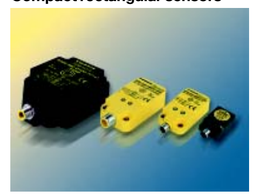
uprox® – inductive sensors

Sensors in threaded barrels

Cylindrical, threaded or smooth barrel		
Sensor type	**Switching distances**	
	Flush mounting	Non-flush mounting
Threaded barrel M8 x 1	1,5 mm	4 mm
Threaded barrel M12 x 1	3 mm	8 mm*
Threaded barrel M18 x 1	5 mm / 8 mm	12 mm*
Threaded barrel M30 x 1	10 mm	20 mm*
Smooth barrel 6,5 mm	1,5 mm	4 mm
Smooth barrel 11 mm	3 mm	8 mm*
Smooth barrel 20 mm	5 mm	12 mm

*Partial embedding in metal permitted
Housing materials: chrome-plated or teflon-coated brass, stainless steel, plastic
Optional Duroplast front caps, excellent mechanical and thermal resistance
Connection types: connectors, terminal chamber, cable connections
Electrical versions: 3-wire DC pnp/npn, 2-wire AC/DC

Compact rectangular sensors



Rectangular and compact – Q*pak*		
Sensor type	**Switching distances**	
	Flush mounting	Non-flush mounting
Q08 20 x 20 mm	5 mm	–
Q10 25 x 25 mm	8 mm	–
Q14 30 x 30 mm	10 mm	–
Q20 40 x 40 mm	15 mm	–
Q80 80 x 80 mm	50 mm	70 mm*
K90 90 x 90 mm	–	100 mm*

*Partial embedding in metal permitted
Housing materials: die cast zinc (Q08), PA12-GF30 (Q10-14-20-80)
Connection types: connectors, cable connection
Electrical versions: 3-wire DC pnp/npn, 4-wire DC pnp/npn

Rectangular sensors – variable

Rectangular, variable		
Sensor type	**Switching distances**	
	Flush mounting	Non-flush mounting
CA25 25 x 25 mm	10 mm	15 mm
CK40 40 x 40 mm	15/20/30 mm	25*/35* mm
CA40 40 x 40 mm	20 mm	–
CP40 40 x 40 mm	15/20/30 mm	25*/40*/50* mm
CP80 80 x 80 mm	–	75 mm

*Partial embedding in metal permitted
Housing materials: metal (CA25/CA40), PA12-GF30 (CP40, CK40, CP80)
Connection types: connectors, terminal chamber
Electrical versions: 3/4-wire DC pnp/npn, 2-wire AC/DC