

**Focused** on the specific needs  
of *OEMs and End Users.*



Solid State Sensors

Merlin Gerin

Modicon

Square D

Telemecanique

Schneider Electric Brands



**SQUARE D**

Schneider Electric

*Get more with the world's Power & Control specialist.*

*At Square D, we look at sensors differently than the competition. We don't focus on the products from a solely technical perspective. We try to see them from yours.*

*Innovative technology, unique capabilities, a range of applications—these are all important attributes of a sensor. But what's most important is what you need.*

*That's why we get to know your concerns and priorities before we try to sell you a product. It's also why we've developed two sensor lines—Economy and Universal—with the distinct requirements of OEMs and end users in mind.*

## Why Telemecanique Sensors from Square D Make More Sense

*Square D has served the sensor market for many years with our Telemecanique® brand products—products which are among the leaders in the world. And we have experience implementing them in thousands of applications.*

*But what's truly unique about us is: we make selecting the right sensor easy. That's a difference you can not only sense, it's a difference you can see—in time and cost savings.*



*With a single Telemecanique Universal sensor, you're covered if almost any sensor in your plant needs replacement.*

### **For End Users, We Make Them Easy.**

If you're an end user in a manufacturing environment, your top priority is maximizing uptime. When it comes to sensors, you want durability and long life, even under the most demanding industrial conditions. If and when a sensor needs maintenance, you want to be able to troubleshoot and replace it quickly. And you don't want to be stuck spending

precious time finding an exact match for a faulty sensor when a line is down—and the clock is ticking.

The Universal line of Telemecanique proximity and photoelectric sensors was developed to meet the special needs of Square D end users. With just a few Universal sensors in stock, you can handle a wide range of sensing requirements on machines throughout your plant, reducing downtime—and inventory expense—at the same time.

### **A World of Applications**

The Universal technology devised by Telemecanique allows one sensor to meet multiple mechanical and electrical specifications. Standard length, Universal two-wire AC/DC devices feature a wide voltage range (24-240V) and can handle most in-plant applications regardless of available power supply. For DC only environments, we also provide Universal three-wire DC models which accommodate 12-24V with selectable NPN/PNP output modes. Unlike competitive sensors, the majority of Universal models can be powered from unfiltered AC sources without any problems.

## Whatever the Demands

To ensure truly “universal” application, Telemecanique also designed its Universal sensors to meet even the most challenging environmental tests. They have an extended temperature range, high radio frequency immunity (RFI) and electro-magnetic field immunity (EMI) as well as high resistance to electrical transients. Their enclosures meet the stringent IP68 standard for withstanding cutting oil at three times normal concentration under pressure and high temperature. To handle the unique demands of the food and pharmaceutical industries, standard-length plastic and stainless steel models are also available.

## Problems Are No Problem

Diagnostics and troubleshooting are simple with Telemecanique Universal sensors. Tubular models come with LEDs that offer 360° visibility to spot problems quickly. Some tubular and block-type models offer multiple LEDs to monitor drops in optical power, potential short circuit conditions and other operating parameters. In addition to on-the-spot

LED warnings, most universal models can remotely indicate a fault condition to a PLC or system controller for centralized maintenance.

Universal photoelectric sensors provide additional early warning and just-in-time service features. Many models have a marginal detection indication which alerts operators to a drop in optical power before the sensor begins to malfunction. A test input feature can also check the sensor and control circuits without a target present.

## Quick Installation

Universal sensors install quickly, with minimum fuss and without special tools. Screw terminals make wiring easy. Plus, Universal connectors in both straight and 90° formats are available so you can replace sensors without powering down or rewiring.

## Easy Alignment

Versatile mounting brackets help you position replacement Universal sensors without gauging. Simple alignment tools and sensitivity adjustments are also built-in to make set-up easy.

## Sensor Selection Made Easy

To get the right sensor for your application, you must usually be prepared to answer a number of questions. Telemecanique Universal sensors from Square D are designed to meet a broad range of mechanical and electrical specifications and environmental demands to simplify the selection criteria and reduce the number of sensors you need to stock.

### Inductive Proximity Sensor Selection Questions

<i>Standard</i>	<i>Universal</i>
• Sensing distance or sensor size	• Sensing distance or sensor size
• Target speed	• Target speed
• Target dimensions	• Target dimensions
• Target material	• Target material
• Enclosure rating	• Enclosure rating
• Power supply (AC or DC)	• Power supply (AC or DC)
• If DC: 3-wire PNP or NPN	• If DC: 3-wire PNP or NPN

### Photoelectric Sensor Selection Questions

<i>Standard Sensors</i>	<i>Universal w/ Background Suppression</i>	<i>Universal w/ Polarized Reflex</i>
• Sensing distance	• Sensing distance	• Sensing distance
• Available mounting space	• Available mounting space	• Available mounting space
• Target speed	• Target speed	• Target speed
• Target dimensions	• Target dimensions	• Target dimensions
• Target optical characteristics: – Opaque – Translucent – Transparent	• Target optical characteristics: – Opaque – Translucent – Transparent	• Target optical characteristics: – Opaque – Translucent – Transparent
• Target surface characteristics: – Shiny – Dull	• Target surface characteristics: – Shiny – Dull	• Target surface characteristics: – Shiny – Dull
• Target color	• Target color	• Target color
• Target texture	• Target texture	• Target texture
• Access to target: – one side – two sides	• Access to target: – one side – two sides	• Access to target: – one side – two sides
• Enclosure rating	• Enclosure rating	• Enclosure rating
• Power supply (AC or DC)	• Power supply (AC or DC)	• Power supply (AC or DC)
• If DC: is it PNP or NPN	• If DC: is it PNP or NPN	• If DC: is it PNP or NPN

## For OEMs, We Make Them Economical.

If you're an OEM, you want sensors with a certain set of features. You want them to be small to minimize overall machine size. You want them to be durable to avoid equipment service

You can choose from all the common sensor configurations—PNP/NPN/NO/NC for proximity and PNP/NPN, light/dark for photoelectric. We offer 12-24 DC capacity to meet various power supply requirements. And Economy sensors come in a range of models from tubular,

We also offer miniature and compact, block-type Economy sensors. And in the photoelectric line, fiber optic extensions and models which separate the sensing head and amplifier allow you to get into the tightest spaces and access the smallest targets. By reducing space needs, all of these sensors help you minimize overall machine size.

## Why Telemecanique Sensors from Square D Make More Sense

*Telemecanique Economy sensors are available in a variety of sizes and styles including: cylindrical, miniature, and larger, block-type designs.*



and warranty issues. You want sensors suited to your specific application so you're not paying for extras you don't need. You want leading edge performance. And you want products available in quantity, at an attractive price, without a lot of waiting.

That's a tall order. To fill it, the Economy lines of Telemecanique proximity and photoelectric sensors from Square D are designed with the following key characteristics.

### An Accent on Economy

We developed our Economy sensors around a modular design concept to keep costs low. You specify the sensor you need. We provide it, without unwanted extras.

rectangular and limit switch types to fiber optic versions for photoelectric sensors. With our broad range of products, chances are that you'll find a sensor with the exact capabilities for your purpose.

### Ideal for Tight Spots

Telemecanique Economy sensors bring high performance to the smallest spaces. Our short-barrel, tubular sensors are ideal for narrow access areas and provide extended distance sensing without the extra size. Cylinder diameters are available down to 4 mm for proximity and 8 mm for photoelectric sensors.

### Sensors that Fit Right In

The smaller housings by themselves make installing Economy sensors easier. In addition, we offer indexed mounting brackets for tubular sensors and both non plug-in and plug-in type rectangular sensors. You select the appropriate sensor to meet the needs of your machine. You don't have to design the machine around a sensor.



*The cylindrical design of Telemecanique Economy sensors provides you with the exact functionality you need without unwanted, costly extras.*

### **Built Tough**

Telemecanique Economy sensors are built for tough industrial environments to help you avoid machine downtime—and unhappy customers. Standard metal housings meet or exceed IP 67 (NEMA 6P equivalent) enclosure ratings. For unique environmental demands, we also supply plastic and stainless steel Economy models.

### **Accepted Globally**

Whether you're selling machinery in North America, Europe or Asia, you can save time and money by standardizing on Telemecanique Economy sensors from Square D.

As part of Schneider Electric, a global leader in electrical distribution, industrial automation and control, we're up-to-date on product codes and regulations around the world. We can ensure that your sensors meet the relevant standards set by organizations including UL and CSA. And we can issue declarations of conformity and approval seals such as CE Marking to assure you of market access.

### **Supported Locally**

To meet your delivery needs and the maintenance and supply requirements of your customers, Square D Economy sensors and replacement parts are available at more than 2,500 locations in more than 110 countries.

*There is one more way in which Telemecanique Economy and Universal sensors take ease of selection and use to another level. All of our sensors are compatible with the extensive line of Modicon® and Telemecanique automation and control products available from Square D—as well as many competitive offerings. Every time you specify a Telemecanique sensor from Square D, you can rest assured of receiving not only the industry's most versatile, adaptable and economical sensors, but also the backing of a world leader in complete, integrated automation systems.*

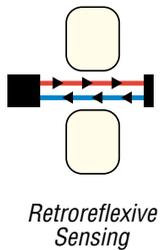
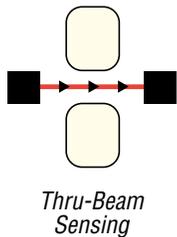
*OSIRIS™ photoelectric sensors are designed with an eye on the total needs of sensor customers. Easy to apply, available in a variety of styles, sizes and housings, very reliable, and simple to maintain, they're lighting the way in superior performance and value.*



**OSIRIS—The Family of Telemecanique Photoelectric Sensors from Square D**

**A Broad Array of Standard Models for Simple to Demanding Applications**

Most OSIRIS™ photoelectric sensors are available in three modes. Your choice depends on such application conditions as access to the target, target size, the target's optical and surface characteristics, its color and texture, and the environment around the target.



**Thru-Beam Sensing**

Thru-beam sensing employs a separate light emitter and receiver placed on either side of a target area. The object to be detected passes between the emitter and receiver and breaks the beam of light. There are several advantages to this approach.

Using a separate emitter and receiver creates a narrow beam with very little divergence. This allows thru-beam sensors to detect small targets, at large distances, with pinpoint accuracy which – in turn – makes them well suited for outdoors, for polluted environments, and for applications which require extended sensing ranges.

**Retroreflexive Sensing**

In retroreflexive sensing, the emitter and receiver are located in the same housing, and a reflector is placed on the other side of the target area. The object to be detected interrupts

the light path to the reflector. The advantage of this system is its simple installation, but it is not suitable for shiny targets.

**Diffuse Proximity Sensing**

Diffuse sensing also uses a housing incorporating both an emitter and receiver. But instead of detecting an object because it is blocking a reflector, it senses the light reflected from the target itself. This method can detect targets from one side. The only time targets may be missed is if the background is more reflective than the targets themselves.

**Advanced Technology to Handle Especially Challenging Applications**

Some targets, such as those that are highly reflective or that pass in front of highly reflective backgrounds, present special sensing challenges. With the OSIRIS line, Telemecanique offers a variety of “fault-tolerant” sensing technologies which provide superior sensing performance virtually without regard to the target.

**Polarized Reflex Sensing**

As noted above, conventional retroreflexive sensing is not suitable for shiny targets. The sensor cannot distinguish between light reflected by the target



*OSIRIS photoelectric sensors are available in various styles and housings including miniature models which offer big performance in very small packages.*

and the reflector. To make detection of highly reflective objects possible, Telemecanique offers polarized reflex sensor models. They can sense differences in the polarization of the light reflected by shiny objects and reflectors to give accurate readings regardless of an object's surface characteristics. This technology is used to "see" transparent objects.

#### **Diffuse Proximity Sensing with Background Suppression**

The accuracy of diffuse proximity sensing can be compromised by shiny backgrounds and variations in target color and texture. To solve these problems, Square D provides diffuse models with true background suppression. Sensors with this feature

ignore reflective backgrounds outside of the sensing range. They will also detect objects of different textures and colors at the same distance.

#### **Meeting a Range of Requirements**

Depending upon your environmental constraints, you can specify OSIRIS photoelectric sensors in various styles and housings including miniature, compact and specialty models. To meet your price and flexibility needs, they also come in both Economy and Universal versions. Our OSIRIS 18 mm line is the most complete and competitive in the world, available in metal or plastic bodies, with many "universal" features for end users or "just enough" features for OEMs.

#### **The Miniature Series**

- both Economy and Universal versions

- available in tubular or flat rectangular styles
- meet and exceed IP67 enclosure rating standards
- sensing ranges from 2.4 in. to 41 ft.
- various special features
- ideal for integration into industrial machines

#### **The Compact Series**

- both Economy and Universal versions

- available in standard and long-range rectangular and limit switch models
- meet and exceed IP67 enclosure rating standards
- sensing ranges from less than 2 to more than 200 ft.
- various special features including sophisticated timers
- ideal for use on the perimeter of industrial, indoor machines



*Our fiber optic sensors provide unmatched application flexibility with very fast and accurate sensing. We offer both plastic and glass cables and innovative amplifiers to meet the most demanding environmental challenges.*

*OSIRIS photoelectric sensors are also available in specialized designs to handle especially challenging application problems.*

## OSIRIS—The Family of Telemecanique Photoelectric Sensors from Square D

*When it comes to fiber optics, we have all your options covered with a choice of cables, housings and sensing tips.*

### Fiber Optic Sensors

For applications that are hard to reach, have very small targets such as electronic components or are subject to extreme temperature or chemical environments, Telemecanique offers a series of fiber optic options. You can choose a terminal block design with plastic or glass fiber optic extensions or rectangular block style for glass fiber optics.

With fiber optic sensing, you need only bring the fiber to the sensing area. Since optical fibers

propagate light efficiently, even around corners or through loops, you can run cables through equipment conveniently, to a target very distant from the amplifier. Optical fibers are also immune to electromagnetic interference, so noise is never a problem.

Glass fiber performs over a wide temperature range—from  $-150^{\circ}\text{F}$  to  $+525^{\circ}\text{F}$ . It is also immune to water, gasoline, oil, sulfuric acid and other organic acids, making it suitable for food and pharmaceutical applications. Plastic fiber, on the other hand, offers cut-to-length convenience. Sensing tips with diameters as small as  $0.02''$  which attach to the end of the fiber make precise alignment with even the smallest targets easy.

### Separate Optical Head Sensors

To give you another option for accessing hard-to-reach places,



Telemecanique also provides sensors with separate optical heads. By separating the housing for amplifiers and logic from the optical head, these sensors allow you to perform very specialized functions in very little space. Extra-flat sensing heads are ideal for difficult-to-access locations like small conveyors. Forked heads may be used for edge or color mark detection. And convergent models supply excellent background suppression.



## Color Mark Detectors

Telemecanique color mark detectors are ideal for printing and packaging applications such as checking positioning or registration of labels. These sensors rely on the contrast between the marks and their background and are available with various color filters to allow flexibility in sensing contrasts. They also feature sophisticated potentiometers for extraordinary sensitivity.

Square D offers two types of Telemecanique color mark detectors. Our XUR is a self-contained, plug-in rectangular sensor which can be set up to emit either red or green light depending upon the colors to be differentiated in your application. It can also be adjusted to look for color contrasts from light to dark or dark to light. The XUR's 31-turn sensitivity potentiometer and high speed on/off switching capability makes high definition mark readings quick and easy.

The XUR "smart" color mark detector is a self-contained, fork photosensor specifically designed for detection of transparent materials or targets on transparent backgrounds. It features very high contrast sensitivity and a microprocessor-based "teach mode" function. At the push of a button, the sensor can "learn" its environment and automatically choose between red or green emissions and adjust power depending upon application requirements.

## Unique Products for Difficult Applications

Telemecanique is continually developing leading edge photoelectric sensing technologies for special challenges. New, top-of-the-line products available from Square D include:

### Fork Photosensors

These all-in-one, thru-beam sensors, which integrate an emitter, receiver and amplifier into a 30 mm fork-shaped housing, are ideal for detecting small

parts and very small deviations from normal positioning. Applications include precise elevator control, edge detection on web presses or conveyor belts, and detection of small guided parts.



### Laser Photosensors

When you need a sensor that can detect objects with very high precision at very long range, Telemecanique 18 mm tubular laser photosensors can do what standard thru-beam products can't. Mounted along the length of large machines, they can sense any displacement in equipment, down to the smallest vibrations, before major problems occur. Placed along the perimeter of a machine, they can also detect breaks in the beam at distances up to 500 meters and trigger alarms or safety guards.

## Transparent Material Detectors

For reliable sensing of "hard-to-see" materials such as glass, PVC, PE film and PET bottles, there is no better choice than Telemecanique 18 mm transparent material detectors. These retroreflexive sensors closely monitor changes in the light levels reflected back to them and can sense the presence of even the clearest materials. No competitive product delivers comparable sensing accuracy.



*Telemecanique offers photoelectric sensors dedicated to color mark and label detection for packaging machine applications.*



*The Telemecanique line of proximity sensors is one of the broadest in the world including:*

- *Inductive proximity models for detecting the presence, absence or flow of metal objects.*
- *Capacitive proximity models for detecting all types of materials from bulk substances to liquids.*
- *A variety of proximity sensors for special applications.*

## Telemecanique Proximity Sensors from Square D

For an index of all Sensors product literature and technical information, please call your local sales office or visit the Square D website at [www.squared.com](http://www.squared.com).

### **Inductive Proximity Sensors: For Ease of Application and Reliable Operation, No Competitor Is Even Close**

To match your application need as closely as possible, Telemecanique inductive sensors from Square D are available in several types of housings and sizes—as well as in both Economy and Universal versions. You can choose from a broad range of tubular enclosures, block-type rectangular units and limit switch type sensors. You can also specify standard, compact or sub-compact models, depending upon your space constraints.

### **Tubular Sensors**

Telemecanique tubular sensors offer several unique benefits. They come in a variety of barrel lengths and cylinder diameters to suit almost any application. Their pre-wired, molded cable provides excellent protection in industrial environments. A wide range of connectors are available to make replacement easy by eliminating re-wiring. And with indexed mounting brackets, there is no need to continually adjust the sensors, so you save on maintenance.

Our tubular line includes the following models, all with special characteristics suited to specific applications.

#### ***Economy, Ultra-Short Case Tubular Sensors***

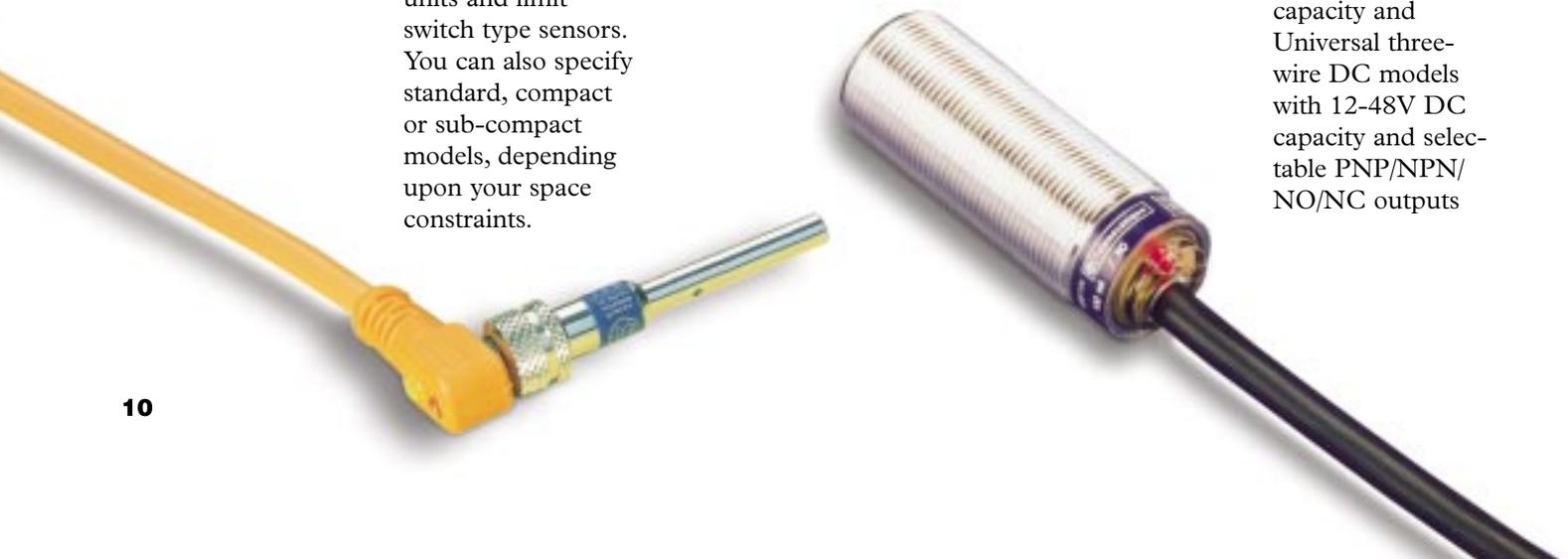
- lengths from 29 to 40 mm allow detection in confined spaces
- 12-24V DC capacity with NO, NC and NO+NC outputs to meet your needs
- extended temperature range from -25° to +80° C (-25° to 176° F)
- available in metal housings for dry “workshop”

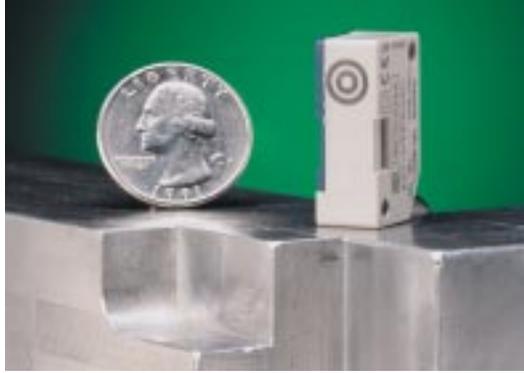
environments or in plastic housings which meet IP68 standards for severe applications in agricultural and food industry machines

- 360° LED visibility for easy status indication
- suited to OEMs in assembly, robotics and molding

#### ***Universal, Standard Length Tubular Sensors***

- complete range of standardized, 8 to 30 mm diameter products to meet all plant needs
- Universal two-wire AC/DC models with 24-240V capacity and Universal three-wire DC models with 12-48V DC capacity and selectable PNP/NPN/NO/NC outputs





*The XS7/8H miniature micro-switch style proximity sensor (with V3 footprint) offers a faster, more durable and flexible alternative than conventional, electromechanical micro-switches.*



*For extended distance sensing, Telemecanique rectangular case inductive proximity models are a flexible, effective solution, and are offered in shielded and non-shielded versions.*



*Telemecanique proximity sensors are designed to stand up to the toughest industrial environments. Our proprietary housings can withstand high temperatures, pressure, electrical interference and cutting oil penetration.*

- extended temperature range from -25° to +80° C (-25° to 176° F)
- two 360° LEDs to aid troubleshooting
- available in IP67 rated metal housings or in plastic housings with IP68 protection for severe applications in agricultural, food and pharmaceutical industry machines

#### **Block-Type Sensors**

For rugged, long distance sensing, Telemecanique also offers several block-type inductive proximity models with many “universal” features for end users and “just enough” features for OEMs. You can select either economical, non-plug-in screw terminals or plug-in bodies for ease of

replacement. The five-position turret head standard on all Telemecanique block type sensors adds flexibility so you can reduce inventory. Your options include:

#### **Compact Plastic Sensors**

- short case length of 45 mm allows for detection in a confined space
- standard 12-24V capacity with DC 2-wire NO functions
- IP67 or IP68 protection for standard or severe applications
- suited to a wide variety of OEM machine builders

#### **Limit Switch and Rectangular Sensors**

- choice of plastic or metal housings that meet international and domestic standards

- limit switch styles provide an easy-to-replace standard proximity sensor along with a convenient alternative to electro-mechanical limit switches
- rectangular case models supply extended sensing distance
- Universal two-wire AC/DC models with 24-240V capacity and Universal three-wire DC models with 12-48V DC capacity and selectable PNP/NPN/NO/NC outputs
- versions with up to 3 LEDs for status indication and troubleshooting assistance
- suited to material handling and large machinery applications

*Square D also offers proximity sensor solutions for special applications such as rotation monitoring for early detection of jamming, level and positioning control, safe operation in hazardous locations, and detection of specific materials.*

## Telemecanique Proximity Sensors from Square D

### Underspeed Inductive Proximity Sensors

As production speeds increase and machine control and material handling systems become more sophisticated, there's an increasing need to monitor and control motion. It's not enough anymore to simply detect the presence or absence of an object on a conveyor, for example. Detecting the object doesn't necessarily indicate whether the conveyor is operating at the proper speed. And undetected problems with motors or drive systems can result in serious damage and expensive maintenance—as well as extensive downtime. Telemecanique's Underspeed Sensors offer a simple, self-contained solution for detecting machinery under-speed or zero-speed conditions.

- all the necessary electronics (sensor, timer and comparator) in a single housing
- greater speed ranges—from 6 to 3,000 impulses per minute—than other devices
- a choice of easily mounted tubular housings
- Universal AC/DC models

### Analog Output Inductive Proximity Sensors

Analog Output Sensors from Square D make more precise positioning control possible. An analog output signal proportional to the sensor's distance from its

target allows you to monitor deformation, displacement or vibration of objects and feed data back to drives.

### “Namur” Inductive Proximity Sensors

For hazardous environments such as automotive painting lines, petrochemical industry environments and grain elevators or silos where electrical problems are out of the question, “Namur” sensors from Square D are the answer. Their low level output signals conform to Namur and DIN 19234 recommendations. When combined with Square D

intrinsically safe relays, they form a Factory Mutual Approved system.

### Capacitive Proximity Sensors

The Telemecanique XT family of capacitive sensors complements our inductive sensor line. They are ideal for detecting non-metallic targets, liquid levels and materials inside a container and are especially useful in handling, filling, metering, bagging and similar applications. Square D offers a complete range of capacitive products with up-to-date technology and features.

*Our complete line of capacitive proximity sensors provides innovative detection of non-metallic materials and material inside containers. Innovative features suppress the effects of contaminants and provide “see through” sensitivity.*





*Microprocessor based, self-teaching IQ Prox™ sensors adjust to their environment on command, detecting only the targets they are programmed to identify.*

- available in all standard tubular sizes from 12 to 30 mm, as well as in a limit switch style body
- tubular sensors offered in both plastic and metal body versions
- directly compatible with standard PLC inputs
- AC and DC capacity
- carries CE marking for high electro-magnetic immunity
- special well mounting brackets provide easy sensor installation in protected, non-contact settings and stand up to the most aggressive chemical agents

### **IQ PROX™ Universal Self-Adjustable Proximity Sensors**

Most standard proximity sensors will not work in applications where small metal targets are passing in front of a metal background or the sensor itself is recessed in a metal mounting for protection. They tend to latch onto the metal background or mounting.

The IQ PROX is a microprocessor-based Universal Self-Adjustable Sensor

from Square D that is designed with an intelligent “Teach Mode” which allows it to distinguish between the metal background and target. At initialization, the sensor looks for the first metal target that moves in front of it, adjusts its sensing parameters accordingly, and retains this data in memory.

(The sensor can also be configured remotely from a PLC or human-machine interface.)

No time-consuming, manual adjustment is ever required. You no longer have to stock non-shielded devices. Plus, the standard “limit switch” style body of the IQ PROX is easy to retrofit.

### **Universal Ferrous and Non-Ferrous Proximity Sensors**

Standard proximity sensors can typically detect carbon steel materials at much greater distances than stainless steel, aluminum or copper targets. Universal Ferrous and Non-Ferrous (Fe/NFe)

Sensors eliminate this differential, with several benefits.

Because they can sense non-ferrous materials at longer ranges, you can specify smaller Fe/NFe devices for applications which used to require larger, more expensive, standard proxs. With Fe/NFe sensors, you can also detect all sorts of targets at the same distance regardless of the specific metals involved—giving you a sure, simple sensing solution.

To meet “universal” needs, Ferrous and Non-Ferrous Sensors are available in DC models with PNP/NPN/NO/NC outputs. You can choose from several body styles including 18 mm and 30 mm tubular housings, as well as a Limit Switch Style Fe/NFe model.



*With Universal Ferrous/Non-Ferrous proximity sensors, you can detect Non-Ferrous targets at longer ranges, eliminating the need for larger, more expensive standard proxs. A complete range of body styles makes selection and installation easy.*



To support your complete application needs, Square D supplies a broad range of connectors, mounting accessories and other options.

## Connectors and Accessories

### Connector Cables and Junction Boxes

In addition to pre-wired proximity and photoelectric sensors, Telemecanique offers a full line of connector versions for ease of installation and replacement. With connectors, you can replace sensors without powering down or rewiring. Connector models with screw terminals are available to give you maximum flexibility in selecting the type and length of cable for your application. And connector junction boxes allow quick connection to multiple sensors with reduced wiring time and errors. Your options include:

#### **NANO Style Connectors**

- DC only
- Straight or 90° connector styles
- 3- or 4-pin types

- Locking style (threaded connection) or non-locking style (snap-on connection)

#### **Micro Style Connectors**

- 3-pin AC/DC keyed style
- 4-pin DC only keyed style
- Straight or 90° connector styles
- LEDs on DC only models for ease of troubleshooting

#### **Mini Style Connectors**

- AC or DC versions
- Straight or 90° connector styles
- 3-, 4-, and 5-pin types

#### **Sensor Dock Connector Junction Box**

- 2-, 4-, 6-, and 8-connector input ports
- LED versions offer ease of troubleshooting
- 5m and 10m connection cable lengths

- Component network versions available

### Other Accessories

To make installation, operation and maintenance of your sensors trouble-free, you may also choose from:

- versatile mounting brackets to help you position replacement sensors without having to gauge and adjust them
- protective lens covers to prevent or reduce dust build-up
- a complete range of round and rectangular reflectors for photoelectric retroreflexive units; unlike ordinary reflectors, our “universal” reflectors do not have blind spots when in close proximity to the sensor, so you can place the reflector as close to the sensor as your application requires.



You can choose from a variety of connectors and mounting accessories for fast, easy sensor installation and replacement.



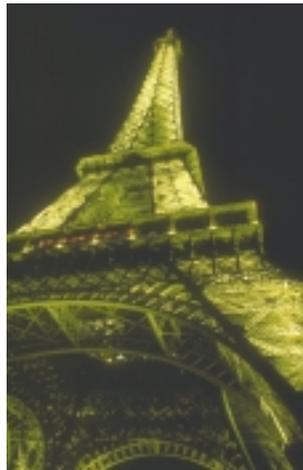
## Worldwide Support

Working with our sister companies in Schneider Electric, Square D can provide you with the most comprehensive service network in the industry. We supply sales and technical support through 620 field offices and 5,000 authorized distributors in 130 countries. This worldwide reach means replacement products and assistance with application problems are typically only minutes or hours away.

Our international connections also allow us to stay up-to-date on emerging electrical standards and ensure that our products conform to local codes and regulations. We can even issue declarations of conformity and approved seals such as CE Marking for our products.

All of our sensors are built in plants that have earned ISO 9000 series certification. This means that every step in the production process is designed with maximum attention to quality.

On-line functional tests and stringent performance checks ensure that our sensors meet the highest quality and reliability standards. You're guaranteed the very best.



For a *free* copy of our Solid State Sensors for Presence Detection catalog, please contact the Square D Literature Fulfillment Center at (800) 888-2448 and request Doc. No. 9006CT2000.

This catalog illustrates one of the broadest lines of photoelectric and proximity sensors in the world. You will find application, troubleshooting, and usage tips for all proximity, photoelectric and magnetic actuated sensors as well as accessories. Additionally, the catalog provides definitions of sensor terminology and interpretation of catalog numbers.

**Visit the Square D web site  
at [www.SquareD.com](http://www.SquareD.com)**

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