

Presence Sensing

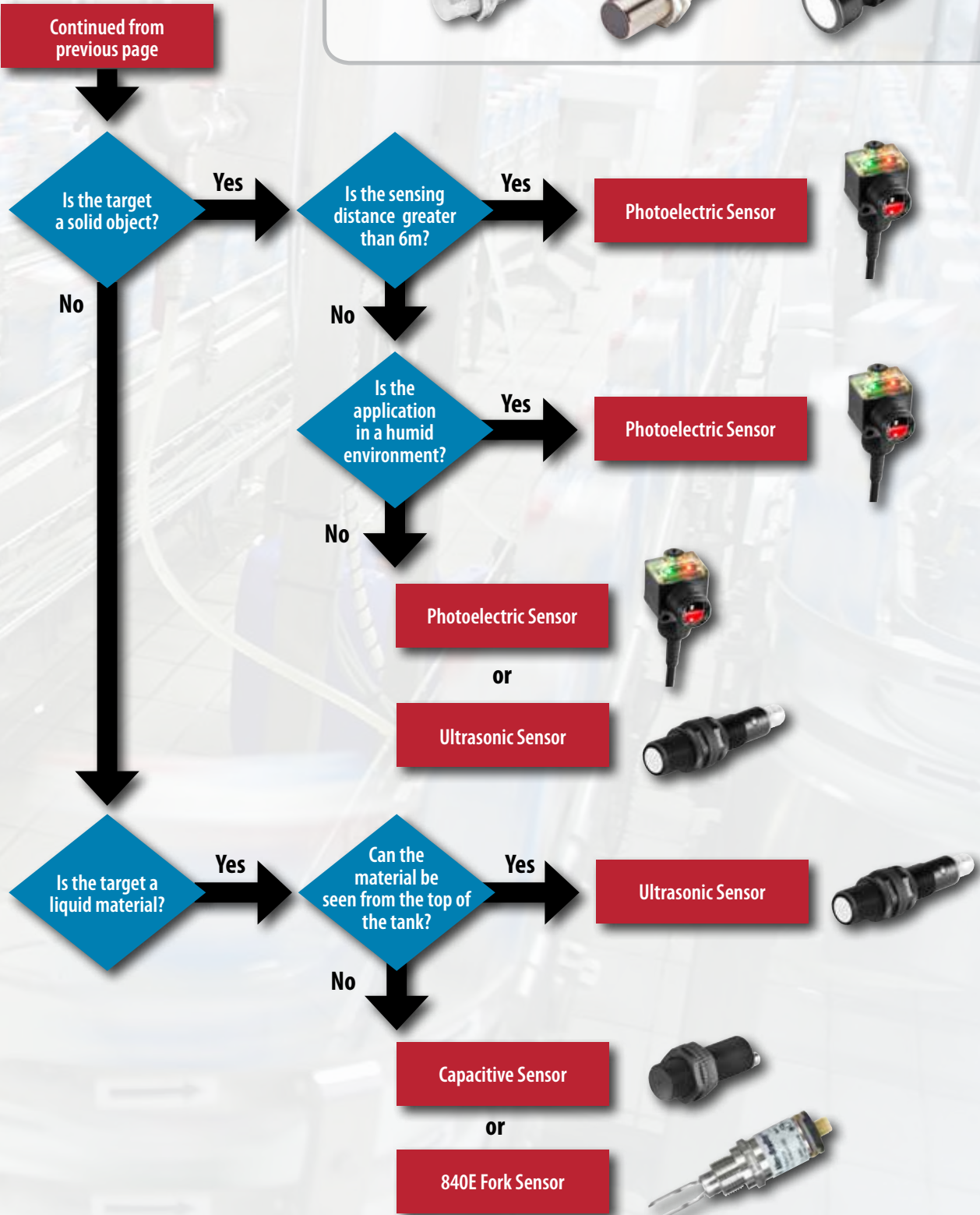
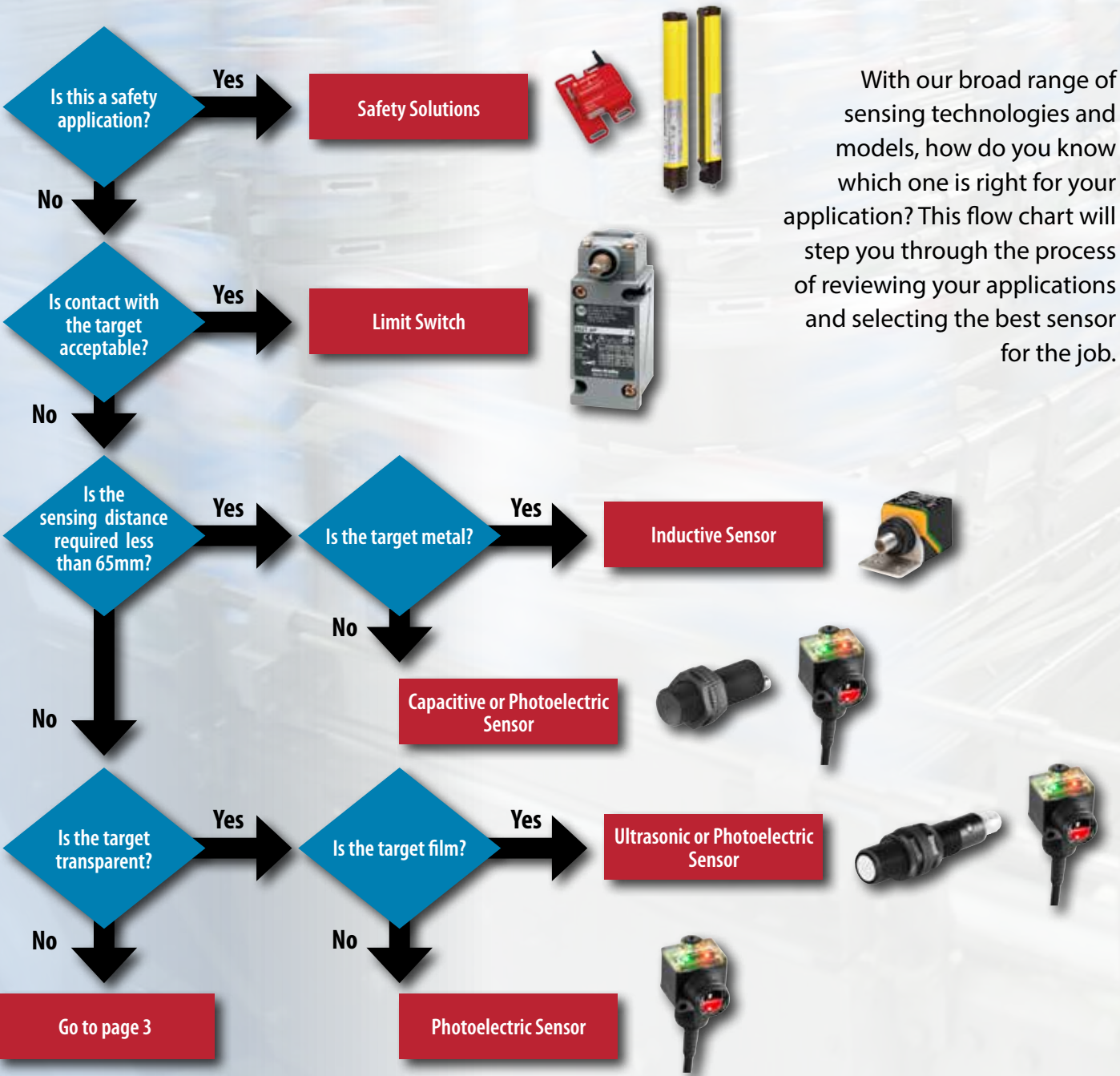
Maximum Flexibility, Reliability and Performance



LISTEN.
THINK.
SOLVE.®

Choose from one of the industry's broadest sensor portfolios

Rockwell Automation offers quality Allen-Bradley® components with over 110 years of time-tested reliability and durability. And when it comes to sensors, we have one of the broadest lines in the industry including Allen-Bradley limit switches, proximity, photoelectric, capacitive and ultrasonic sensors. Allen-Bradley sensors and switches set the standard for ruggedness, dependability and application flexibility.



Solutions for your toughest applications

Designed for reliable operation, Allen-Bradley sensors boast features and functions aimed to satisfy applications found in many industries such as material handling, packaging, food processing and transportation. Whether your application requires a general purpose sensor, a full-featured model or a specialty solution, there's an Allen-Bradley sensor to suit your needs.

Photoelectric Sensors

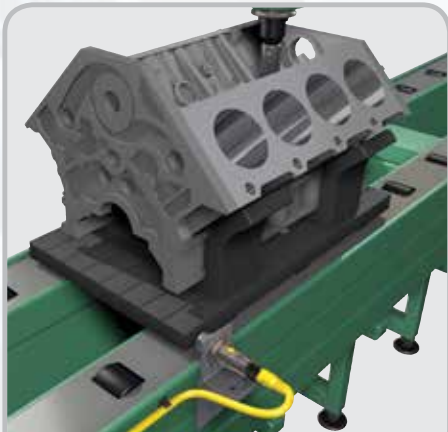


Bottle detection - The 42JT clear object sensor reliably detects clear bottles thanks to specialized optics.

Nobody offers a more comprehensive line of photoelectric sensors than Rockwell Automation.

- General purpose and heavy duty models
- Background suppression
- Laser sensors
- Color registration
- Clear object detection
- Fork, label and luminescence sensors
- Fiber optics
- Light arrays

Inductive Sensors



Automotive application - An 871TM detecting presence of an engine block skid

From miniature models to harsh duty stainless steel models, we offer one of the largest proximity sensor portfolios in the industry.

- General purpose and harsh duty
- Tubular
- Rectangular & cube
- Miniature
- Weld field immune
- Cylinder position
- Ring & slot

Capacitive Sensors

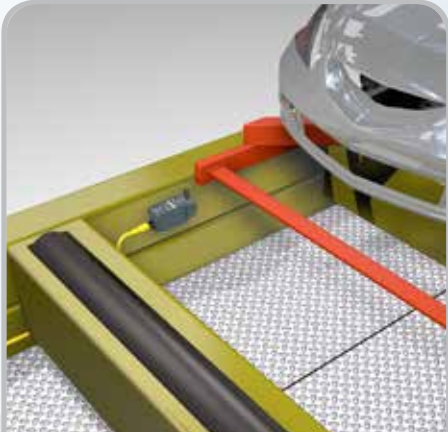


Pellet level detection - An 875CP detects the level of plastic pellets through a glass vessel

Our capacitive models detect metals as well as non-metal solids, making them an ideal choice in applications where other technologies simply won't work.

- Tubular
- Metal and plastic models
- Adjustable sensing distance

Limit Switches



Automotive application - An 802T limit switch detecting skid position in a body shop

In applications where contact with the target is acceptable, our limit switches offer rugged, reliable detection in a simple, cost-effective solution.

- NEMA and IEC styles
- Heavy duty and submersible switches
- Safety models
- Hazardous location versions

Ultrasonic Sensors

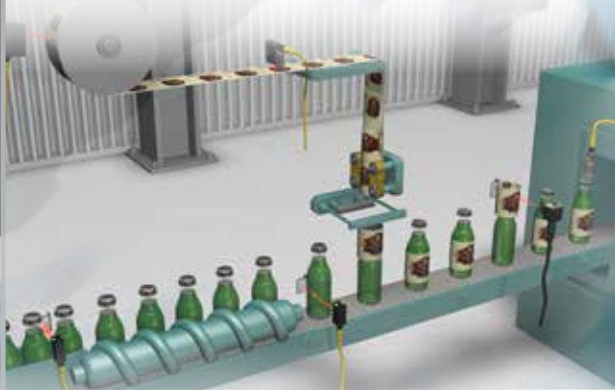


Film position detection - An 873M ultrasonic checks for continual feed of a clear wrap while monitoring tension

For many applications, such as web tension monitoring, our ultrasonic sensors can tackle jobs that would be challenging for other technologies.

- Detect solid or liquid targets
- Clear object detection
- Analog or discrete outputs
- Programmable

What is IO-Link ?



When it comes to linking end point devices on the plant floor to The Connected Enterprise, Rockwell Automation offers a wide range of smart IO-Link enabled sensors that deliver information, advanced functionality and flexibility. All this while increasing efficiency machine- and plant-wide. Through IO-Link you can access all sensor configuration parameters, process data and diagnostics while monitoring your machine's health as it runs. Plus, IO-Link simplifies setup and commissioning while offering enhanced flexibility for your current – and future – processes.



Look for this symbol for IO-Link enabled sensors

Pages 6-9



Pages 10-11



Pages 10-11



Pages 12-13



Page 14



Additional products
Page 15



Photoelectric Sensors

Allen-Bradley photoelectric sensors are recognized as the most robust in the industrial automation marketplace. From general purpose models to laser sensing solutions and specialty models that address your most challenging applications.

For your selection keep in mind...



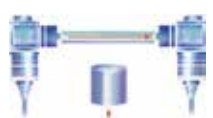
Margin: defined as the measurement of the amount of light from the light source detected by the receiver, expressed as a multiple of the minimum amount of light level required to switch the sensor output. A margin of 2X is reached when the light level received is twice the minimum required to switch the output.

For minimizing maintenance the sensor should be operated at a margin greater than 2X. Detection in dirty environments (or of a low reflectivity target) requires sensors with higher margin.

Light Operate Output (LO): output is ON (energized) when the receiver can see sufficient light from the light source.




Dark Operate Output (DO): output is ON (energized) when the receiver cannot see light from the light source.

| Application Considerations | | | |
|----------------------------|------------------------|----------------|--------------------|
| Target | Environmental | Electrical | Installation |
| Detection Range | Temperature | Supply Voltage | Mounting Space |
| Object | • High | • DC or AC | Cable Connections |
| • Shape | • Low | Output Type | • 2 m cable |
| • Size | Conditions | • PNP, NPN | • Micro M12 QD |
| • Opacity | • Wet or dry | • SPDT relay, | • Pico M8 QD |
| • Reflectivity | • Clean or dirty | MOSFET | Shock/Vibration |
| • Speed | • Humidity | Response Time | Interference |
| | Chemical Substances | Analog Outputs | • Electrical Noise |
| | High Pressure Washdown | Communications | • Sunlight |

| Standard Sensing Modes | Advantages | Precautions |
|--|--|--|
| Diffuse  | <ul style="list-style-type: none">Ideal for short range applicationsNo reflector requiredEasy installation/alignment | <ul style="list-style-type: none">Sensing range depends on target's characteristics (color, reflectivity, etc.)Highly reflective backgrounds may false trigger the sensorRelatively short sensing distance |
| Retroreflective  | <ul style="list-style-type: none">Moderate sensing distancesEasy to alignRequires mounting and wiring of only one emitter/receiver unit | <ul style="list-style-type: none">Shorter sensing distances than transmitted beamMay detect reflections from shiny objects (see polarized retroreflective)Reflector required |
| Transmitted Beam  | <ul style="list-style-type: none">High margin for contaminated environmentsLonger sensing ranges than other technologiesMost reliable sensing mode for highly reflective objects | <ul style="list-style-type: none">Requires proper alignmentNot recommended for clear object sensingSpace required to mount and wire separate emitter and receiver |

| Specialty Sensing Modes | | | | | |
|--|---|---|---|--|--|
| Polarized Retroreflective | Sharp Cutoff Diffuse | Background Suppression Diffuse | Wide Angle Diffuse | Fixed Focus Diffuse | Fiber Optics |
| <ul style="list-style-type: none">Polarized light to overcome first surface reflections from shiny objectsVisible red LED simplifies sensor alignment | <ul style="list-style-type: none">Diffuse sensing that provides some degree of protection against sensing close backgroundsOffers longer range than background suppression sensors | <ul style="list-style-type: none">Ignores backgrounds beyond rated sensing distance regardless of reflectivityDesigned to detect objects regardless of color at the specified distance | <ul style="list-style-type: none">Ideal for detection of objects not accurately positioned, thread or for detection over a broad areaGood at ignoring background reflections | <ul style="list-style-type: none">Accurate detection of small objects at the sensor's specified distanceColor mark detection for high contrast applications | <ul style="list-style-type: none">Allows sensing of very small partsFiber cables can be installed in very tight spacesGlass fibers for high temperature applications up to 482°C (899°F)Plastic fibers can be used for continuous flexing applicationsShock, noise and vibration resistant |

General Purpose Solutions

| Product | Product Features | Sensing Range | | | | | | | | | | |
|---|--|---|--------|--------|--------|--------|-----|-----|-----|-----|-----|--------|
| | | 100 mm | 200 mm | 400 mm | 600 mm | 800 mm | 1 m | 2 m | 4 m | 6 m | 8 m | > 30 m |
| 42JS VisiSight™  | <ul style="list-style-type: none">Industry standard small rectangular (20 mm L x 14 mm W x 33 mm H) enclosureVisible red LED on all models for ease of alignmentComplementary LO and DOIP67 enclosure |  | | | | | | | | | | |
| 42JT VisiSight  | <ul style="list-style-type: none">Industry standard small rectangular (20 mm L x 12 mm W x 34 mm H) enclosurePush button teach for easy set upVisible red LED or Laser (Class 1) on all models for ease of alignmentAuto Detection continuously monitors and configures the output automatically to PNP or NPNLO or DO configurable on every modelIP69K enclosure rating suitable for harsh duty environments |  | | | | | | | | | | |
| Series 9000™  | <ul style="list-style-type: none">Universal 30 mm base and thru-hole mountingHigh-pressure washdown (IP69K and 1200 PSI) enclosureStandard ON/OFF, timing and diagnostics output modelsDual (PNP and NPN) with LO or DO selectionDC and AC/DC relay output |  | | | | | | | | | | |
| RightSight™  | <ul style="list-style-type: none">Universal 18 mm base, nose and thru-hole mountingHigh-pressure washdown (IP69K and 1200 PSI) enclosureFixed, teachable and adjustable sensitivityDual (PNP and NPN) outputs or complementary (LO and DO) modelsDC and AC/DC solid state outputs |  | | | | | | | | | | |
| 42KD  | <ul style="list-style-type: none">Our smallest rectangular photoelectric sensorRanges up to 3 mIP67 enclosure ratingAuto PNP/NPNPush button teachThrough-hole or dovetail clamp mountingVisible red |  | | | | | | | | | | |
| MiniSight™  | <ul style="list-style-type: none">Compact rectangular size with 18 mm nose and thru-hole mountingHigh-pressure washdown (1200 PSI) enclosureFast response time (300 µs) modelsSelectable LO and DODC and AC/DC solid state outputs |  | | | | | | | | | | |
| 42CA  | <ul style="list-style-type: none">Industry standard 18 mm enclosurePlastic housing suitable for corrosive environmentsComplementary LO and DOFast response time (0.5 ms) modelsIP67 enclosure |  | | | | | | | | | | |
| 42CS  | <ul style="list-style-type: none">Robust 316L housing materialSmooth barrel version minimizes build up and allows for easy clean up (also available in threaded version)IP69K enclosure rating and ECOLAB certification make this ideal for harsh duty environmentsIndustry standard 18 mm barrel diameterExtended temperature operating rangeFerromagnetic teach provides adjustability without compromising integrityTwo teach modes: standard and precision |  | | | | | | | | | | |
| 42CM  | <ul style="list-style-type: none">Industry standard 18 mm enclosureMetal housing suitable for heavy duty environmentsComplementary LO and DOIP67 enclosure |  | | | | | | | | | | |



Laser Sensors

Discrete Laser Sensors

| Product | Product Features |
|--|---|
| 42JT VisiSight  | <ul style="list-style-type: none">Industry standard small rectangular (20 mm L x 12 mm W x 34 mm H) enclosureAvailable in diffuse (250 mm), polarized retroreflective (15 m), transmitted beam (18 m), and adjustable background suppression (120 mm)Auto Detection continuously monitors and configures the output automatically to PNP or NPNClass 1 laserIP69K enclosure rating suitable for harsh duty environments |
| LaserSight™ RightSight  | <ul style="list-style-type: none">Universal 18 mm base, nose and thru-hole mountingSmall parts detection in light duty environmentsAvailable in diffuse (300 mm), polarized retroreflective (15 m) and transmitted beam (40 m)Dual PNP and NPN outputsIP54 enclosure |
| LaserSight 42CM  | <ul style="list-style-type: none">Industry standard 18 mm metal enclosureMetal housing suitable for heavy duty environmentsAvailable in diffuse (300 mm), polarized retroreflective (30 m) and transmitted beam (50 m)Small spot size beam (0.1 mm @ 100 mm) on diffuse for small object or contrast detectionComplementary LO and DOIP67 enclosure |
| LaserSight 9000  | <ul style="list-style-type: none">Universal 30 mm base and thru-hole mountingHigh pressure washdown (IP69K and 1200 PSI)For long sensing range applications (polarized retroreflective 40 m, transmitted beam 300 m)Dual (PNP and NPN) with LO or DO selectionDC and AC/DC relay output enclosure |

 I/O-Link Enabled

Laser Measurement


| Product | Product Features |
|--|---|
| 45LMS  | <ul style="list-style-type: none">Diffuse range: 8 m (Class 1 laser), 15 m (Class 2 laser)Retroreflective model range: 50 mDiscrete and analog outputsIP65 enclosure |
| 45BPD/45BRD  | <ul style="list-style-type: none">Class 2 visible laserIP67 enclosure45BPD<ul style="list-style-type: none">300 mm or 100 mm sensing rangeOne analog (4-20 mA) and one discrete outputLaser disable inputTeach button lock45BRD<ul style="list-style-type: none">45-85 mm sensing rangeOne analog (0-10V) output |



Roll detection – A 42EF RightSight LaserSight monitors a roll of film to indicate low film level.

Specialty Solutions

Adjustable Background Suppression

| Product | Product Features |
|---|--|
| 42JT VisiSight™  | <ul style="list-style-type: none">120 mm sensing rangeAuto detection continuously monitors and configures the output automatically to PNP or NPNFast response time (500 µs)Selectable LO and DOIP69K enclosure rating suitable for harsh duty environments |
| 42BA  | <ul style="list-style-type: none">Wide variety of sensing range models (30 mm, 50 mm, 100 mm, 200 mm)Diagnostic outputSelectable LO and DOFast response time (350 µs)Compact NEMA 4, 6P, IP67 enclosure |
| 42BT  | <ul style="list-style-type: none">Long range background suppression (1 m and 2 m models)Slim flatpack housing designInfrared LED or Red LED depending on rangeSelectable LO and DODual (PNP and NPN) outputs2 ms response timeIP65 enclosure |
| 42CS  | <ul style="list-style-type: none">Robust 316L housing materialSmooth barrel version minimizes build up and allows for easy clean up (also available in threaded version)Available in diffuse (800 mm), polarized retroreflective (4 m), transmitted beam (20 m), clear object detection (1 m), and adjustable background suppression (100 mm)IP69K enclosure rating and ECOLAB certification make this ideal for harsh duty environmentsIndustry standard 18 mm barrel diameterExtended temperature operating rangeFerromagnetic teach provides adjustability without compromising integrityTwo teach modes: standard and precision |

Color and Contrast Sensors




| | |
|--|--|
| 45CRM  | <ul style="list-style-type: none">Diffuse mode sensor for recording any print markTeach-in, static and dynamic50 µs response time, suitable for extremely rapid scanning processesSensing range: 11 mm ± 2 mm0.7 mm (effective light spot diameter)Complementary LO and DO |
| ColorSight™ 45CLR  | <ul style="list-style-type: none">Wide sensing range toleranceThree-channel color matching (3 outputs)12-32 mm sensing rangeRS-485 models can internally match up to five color configurations and communicate true RGB valuesIP67 enclosure |
| 42JT VisiSight™ Color Mark  | <ul style="list-style-type: none">12 mm sensing range with +/- 2.5 mm tolerance1 x 4 mm spot size at 12 mmWhite LED light source allows for the detection of a wide range of color marks with different color backgroundsLight source provides visual feedback indicating teach settingsPush-pull output (PNP or NPN)Fast 50 µs response timeRemote teach and lock inputIP67, IP69K enclosure |

 I/O-Link Enabled

Clear Object Detection

| Product | Product Features |
|---|--|
| 42JT VisiSight Clear Object  | <ul style="list-style-type: none">2 m sensing range with 92-118 reflectorCoaxial optics for superior clear object detectionAuto PNP and NPN helps streamline inventoryIP69K enclosure |
| ClearSight™ RightSight  | <ul style="list-style-type: none">General purpose plastic film and stretch-wrap detection solution1 m sensing rangeDC and AC/DC models available1 ms response timeNEMA 3, 4X, 6P, 12, 13, IP69K and 1200 psi enclosure |

Fiber Optic

| | |
|---|---|
| 45FPL  | <ul style="list-style-type: none">General purpose contrast sensingTwice the sensing range of DIN rail fiber portfolioLarge status indicator displaysOne touch multi-directional push buttonsStatus indicator displays light levels, operating modes and diagnostic informationTwo-step static teach or dynamic teach functionalityTwo programmable sensing modes: long range (1.8 ms) and high speed (190 µs)Threshold value and current value display |
| 45FVL/45FSL  | <ul style="list-style-type: none">General purpose contrast sensingVisible red, blue, green or white light sourceAutomatic or manual sensitivity adjustment (45FVL)30 µs response time (45FSL)IP40 enclosure |
| RightSight™  | <ul style="list-style-type: none">General purpose long range fiber optic applications (up to 1.5 meters)Individual fiber cables for transmitted beam and bifurcated cable for diffuse applicationsLarge aperture 4.6 mm glass fiber optic cable makes it an ideal solution for high temperature environmentDC and AC/DC models |





Fork Sensors



| | |
|---|--|
| 45LSP  | <ul style="list-style-type: none">30, 50, 80, 120 mm gap sizesDetection of objects as small as 0.2 mmHighly visible power and output LED indicators with output indication along both sides of the forkSelectable LO and DO3 pin and 4 pin pico (M8) QD models250 µs response timeIP67 polycarbonate enclosure |
| 45LST  | <ul style="list-style-type: none">2, 15, 30, 50, 80, 120, 225 mm gap sizesRugged industrial aluminum housingSelectable LO or DO outputs1 ms response time (30 µs on 2 mm gap model)IP65 enclosure |

Proximity Sensors


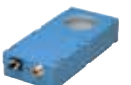
Allen-Bradley proximity sensors set the standard for toughness and versatility. Choose from one of the industry’s widest selections of proximity sensor models. This diverse offering serves the full spectrum of your needs, from light-duty packaging applications to the grueling environments on automotive welding equipment or the harsh washdowns in food processing plants.

Inductive proximity sensors provide non-contact detection of metal objects across relatively short distances (up to 2.5 inches or 65 mm). Capacitive models can detect non-metal solids and liquids in addition to standard metal targets. They can even sense the presence of some targets through certain other materials, making them an ideal choice in those applications where other technologies cannot be used.

| | Product | Product Features | Housing Diameter/ Dimensions (mm) | Sensing Range Shielded (mm) | Sensing Range Unshielded (mm) | Enclosure Ratings | 2-wire DC | 3-wire DC | 4-wire DC | 2-wire AC | 2-wire AC/DC |
|-----------------|---|---|--------------------------------------|--------------------------------|----------------------------------|---|-----------|-----------|-----------|-----------|--------------|
| General Purpose |  872C WorldProx™ | <ul style="list-style-type: none">Nickel-plated brass barrel with plastic faceStandard length and short barrel versions (3-wire DC versions)Extended and long range versions available (3-wire DC and 2-wire AC)Wide variety of cable and connector options | 6.5 | 2 & 3 | 3 | IP67 | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | 8 | 2 & 3 | 3, 4, 6 | | | | | | |
| | | | 12 | 3, 4, 6 | 4, 8, 10 | | | | | | |
| | | | 18 | 5, 8, 12 | 8, 12, 20 | | | | | | |
| | | | 30 | 10, 15, 22 | 15, 20, 40 | | | | | | |
| Harsh Duty |  875C/875CP Capacitive | <ul style="list-style-type: none">Plastic or nickel-plated brass housingsAC or DC models availableAvailable in cable, micro QD or pico QDThreaded or smooth barrels in plastic versions | 12 | 2.5 (metal) | n/a | IP67 | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | 18 | 1...5 (metal) | 2...8 (plastic) | | | | | | |
| | | | 30 | 2...10 (metal) | 5...20 (plastic) | | | | | | |
| | | | 34 | n/a | 7...30 (plastic) | | | | | | |
| Food & Beverage |  871TM | <ul style="list-style-type: none">Rugged stainless steel 304 barrel and sensing faceExtended Range units available (3-wire DC versions)Wide variety of sensing types available (standard inductive, weld-field immune, low energy AC/DC units, and intrinsically safe versions) | 8 | 3 | 6 | All units IP67 & 1200 psi wash down rated (Selected units meet IP69K) | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | 12 | 2 & 6 | 4 & 10 | | | | | | |
| | | | 18 | 5 & 10 | 8 & 20 | | | | | | |
| | | | 30 | 10 & 20 | 15 & 40 | | | | | | |
| |  871TS | <ul style="list-style-type: none">Stainless steel 316L barrel and FDA approved PPS plastic sensing faceECOLAB certifiedExtended temperature ratings -40° to 100°C (-40° to 212°F)Laser engraved part numbersThreaded or smooth barrel | 12 | 4 | 8 | IP67, IP68 & IP69K | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | 18 | 8 | 12 | | | | | | |






| | Product | Product Features | Product | Product Features |
|---------------------|--|--|--|---|
| Specialty Solutions |  871D WorldClamp™ | <ul style="list-style-type: none">Designed for use in power clamp and gripper applications to indicate open and closed positionWeld field immune2 different sensor head styles3-wire DC and 2-wire AC/DC versions |  871D Cylinder Position Indicator | <ul style="list-style-type: none">Designed to detect the extended or retracted position of a hydraulic or pneumatic cylinderWeld field immuneMultiple probe lengths to accommodate different size cylinders3-wire DC and 2-wire AC/DC versions |
| | | | | |

| | Product | Product Features | Housing Diameter/ Dimensions (mm) | Sensing Range Shielded (mm) | Sensing Range Unshielded (mm) | Enclosure Ratings | 2-wire DC | 3-wire DC | 4-wire DC | 2-wire AC | 2-wire AC/DC |
|--|---|---|--------------------------------------|--------------------------------|----------------------------------|---|-----------|-----------|-----------|-----------|--------------|
| Welding |  871Z | <ul style="list-style-type: none">Weld field immunePTFE coated brass housingCable versions available with SOOW cable for excellent weld splatter protection | 12 | 2 | 4 | IP67 | | ✓ | | | ✓ |
| | | | 18 | 5 | 8 | | | | | | |
| | | | 30 | 10 | 15 | | | | | | |
| |  871ZT | <ul style="list-style-type: none">Weld field immunePTFE coated brass housingEqual sensing (detects all metals at the same sensing distance)Unshielded versions offer extended range | 12 | 3 | 8 | IP67 | | ✓ | | | |
| | | | 18 | 5 | 12 | | | | | | |
| | | | 30 | 10 | 20 | | | | | | |
| Material Handling & Welding |  871P VersaCube™ | <ul style="list-style-type: none">Head can be rotated in 5 different sensing positionsStandard sensing and weld field immune versionsOptional Toughcoat™ slag resistant coating available on specific models | 40x40 | 20 | 40 | All units IP67 & 1200 psi wash down rated (Selected units meet IP69K) | | | ✓ | | ✓ |
| | | | 40x40 WFI | 15 & 20 | 25 & 40 | | | | | | |
| |  871F Flat Pack | <ul style="list-style-type: none">Large flat pack style sensor for applications that require extremely long sensing rangeStandard sensing and weld field immune versions | 80x80 | 50 | 65 | All units IP67 & 1200 psi wash down rated (Selected units meet IP69K) | | ✓ | | | ✓ |
| | | | 80x80 WFI | 40 | 50 | | | | | | |
| |  871L and 872L | <ul style="list-style-type: none">Head can be rotated in 17 different positionsStandard NEMA limit switch mounting patternSwitch selectable N.O. or N.C. outputs on 871LProgrammable N.O. or N.C. outputs (via jumper) on 872L | 40x40x120 | 20 | 40 | IP67 | | ✓ | | ✓ | ✓ |
| | | | | | | | | | | | |
| Automated Assembly & Robotics |  871C Mini Tubular | <ul style="list-style-type: none">Compact housing ideal for small part detection, robotic, and gripper applicationsStainless steel barrel and plastic sensing faceFully integrated electronicsHigh switching frequency (≥3 kHz) | 3 smooth barrel | 0.6 & 1 | NA | IP67 | | ✓ | | | |
| | | | 4 smooth barrel | 0.8 & 1 | NA | | | | | | |
| | | | 4 | 0.8 & 1.5 | NA | | | | | | |
| | | | 5 | 1 & 1.5 | NA | | | | | | |
| |  871FM Mini Flat Pack | <ul style="list-style-type: none">Compact sensor housings for applications with limited mounting area5x5 and 8x8 solutions offer metal housings while other solutions offer plastic housingsAC versions only available in the 28x16x11 and 40x26x12 mm packages | 5x5 | 0.8 & 1.5 | NA | IP67 | | ✓ | | | |
| | | | 8x8 | 2 | 3 | | | | | | |
| | | | 28x16x11 | 2 | NA | | | | | | |
| | | | 25x50x10 | 5 | 8 | | | | | | |
|  871C NAMUR | <ul style="list-style-type: none">Conform to NAMUR specifications (DIN 19 234)Sensors are appropriate for intrinsically safe applications when used with NAMUR style isolators/ amplifiers | 8 | 1 | 2 | IP67 | ✓ | | | | | |
| | | 12 | 2 | 4 | | | | | | | |
| | | 18 | 5 | 8 | | | | | | | |
| | | 30 | 10 | 15 | | | | | | | |

| | Product | Product Features | Product | Product Features |
|---------------------|---|---|--|---|
| Specialty Solutions |  871C Analog | <ul style="list-style-type: none">Provide a 0-10V output proportional to the distance from the sensor faceAvailable in 12, 18, and 30 mm housings2 m cable connection |  871R & 8721S Ring & Slot | <ul style="list-style-type: none">Ring sensors available in 12, 20, 50, and 100 mm diameter sizesSlot sensors available with 30 mm gapAll ring and slot sensors 3-wire DC |
| | | | | |

Limit Switches

Rockwell Automation offers one of the most durable lines of limit switches in the industry. Allen-Bradley limit switches are used in a variety of applications and environments because of their ruggedness, simple, visible operation, ease of installation and reliability.

| | Product | Product Features | Contact Rating | Temperature Rating | Actuator Types | Enclosure Rating | QD Offered | Status Indicator Offered |
|----------------------|---|---|--|--|---|---|------------|--------------------------|
| Heavy Duty |  801 | <ul style="list-style-type: none">General purpose limit switch for a wide variety of applicationsMultiple contact arrangements available (Including slow action and snap action)Snap action contacts provide high snap through force | NEMA A600 | 0° to 40 °C (32° to 104 °F) | <ul style="list-style-type: none">Fork leverRoller leverMaintainedRod/chain lever | NEMA 1, Type 4 or Type 7, and 9 | | |
| NEMA General Purpose |  802T Plug-In & Non Plug-In | <ul style="list-style-type: none">Rugged NEMA Type 4 and 13 oil-tight constructionAvailable in standard non plug-in and plug-in versionPlug-in design provides for quick and easy installation2- and 4-circuit versionsSimple mode change in head for easy set-upLow energy versions available | 2 Circuit: NEMA A600 4 Circuit: NEMA A300 | -18 to 110 °C (0° to 230 °F) Optional -40° to 110 °C (-40° to 230 °F) | <ul style="list-style-type: none">Low operating forceTop and side push (with or without rollers)Cat whiskerWobble stickNeutral position | NEMA 1, 4, 6P (select side rotary styles), 13 | ✓ | ✓ |
| Washdown |  802M/MC | <ul style="list-style-type: none">Factory sealed to meet the demands of both wet and dry applicationsPolymeric housing material is highly resistant to moisture as well as volatile cleaning agents802MC corrosion resistant versions are factory sealed and all exposed metal parts are constructed of stainless steel 316Standard units provided with prewired 1.52 m (5 ft) STO cable | 2 Circuit: NEMA A600 4 Circuit: NEMA B300 | 0° to 80 °C (32° to 180 °F) | <ul style="list-style-type: none">LeverMaintainedTop and side push (with or without rollers)802MC corrosion resistant lever | NEMA 1, 4, 4X, 6P, 13 and IP67 | ✓ | ✓ |
| Light Duty Conveyor |  802G | <ul style="list-style-type: none">Plug-in gravity return switch, designed for conveyor-type applications with small or lightweight objectsRequires low operating torqueAdjustable switch point (can be set from 10° to 180° of rotation)Three unique lever arms available | NEMA B600 | 0° to 110 °C (32° to 230 °F) | <ul style="list-style-type: none">Adjustable rod levers (Requires lever arms specifically designed for the 802G product family) | NEMA 1 | | ✓ |
| Hazardous Locations |  802X, 802XR, 802R | <ul style="list-style-type: none">NEMA 7 and 9 units appropriate for use in:<ul style="list-style-type: none">Class 1, Groups B, C or DClass II, Groups E, F or GClass IIINEMA 4 watertight versions designed for indoor use802XR and 802RSealed limit switch features a single contact hermetically sealed in glass enclosureOffers excellent contact reliability in contaminated atmospheresAppropriate for use in:<ul style="list-style-type: none">Class 1, Div 2, Groups A,B, C, and D | 802X NEMA A600 NEMA P150 802XR and 802R NEMA B600 NEMA P300 | 802X -46° to 121 °C (-50° to 250 °F) 802XR and 802R -29° to 121 °C (-20° to 250 °F) | <ul style="list-style-type: none">LeverTop and side push (with or without roller)Wobble stickMaintained (802X only)Neutral position (802X only)Low operating force (802R only)Cat whisker (802R only) | 802X NEMA Types 7 and 9, NEMA 4/ non-hazardous locations, 802XR NEMA Types 7 & 9 802R NEMA 13 | | |



| | Product | Product Features | Contact Rating | Temperature Rating | Actuator Types | Enclosure Rating | QD Offered | Status Indicator Offered |
|--|--|---|---|--|---|---|------------------|--------------------------|
| Compact & Precision |  802B, 802B Precision/Small Precision | <ul style="list-style-type: none">Compact metal housing can be mounted in areas too small for traditional NEMA style solutions3 m pre-wired cable13 unique head configurationsAC or DC LED versionsLow current versionsBooted and panel-mount versions Precision/Small Precision <ul style="list-style-type: none">Low trip and reset points for more precise sensing1/2" Conduit entrySide and flange mounting available | NEMA A300 Precision/Small Precision NEMA B300 | -10° to 70 °C (14° to 158 °F) Precision/Small Precision -10° to 80 °C (14° to 176 °F) | <ul style="list-style-type: none">Rotary armCenter rotary armTop push (with or without rollers)Top push bevelTop push cross rollerWobble stick Precision/Small Precision <ul style="list-style-type: none">Top push rollerTop pushTop push cross rollerRoller leverOne-way roller | NEMA 1, 3, 4, 6, 12, 13 and IP67 Precision NEMA 1, 3, 4, IP60 & IP65 Small Precision NEMA 1, 3, 4, 6, 13 & IP67 | 802B ✓ | 802B ✓ |
| IEC Style Solutions/General Purpose |  802K-M | <ul style="list-style-type: none">Internationally accepted 30 mm cast aluminum housing for safety and non-safety applicationsAvailable with snap-acting, slow make before break or slow break before make contact blocksLarge selection of operator heads and actuators | NEMA A600 NEMA Q600 | -25° to 65 °C (-18° to 149 °F) | <ul style="list-style-type: none">Roller plungerDome plungerShort leverAdjustable leverMetal spring rod | IP66 | | |
| IEC Style Solutions / Safety Solutions |  440P-M | <ul style="list-style-type: none">Internationally accepted 30 mm cast aluminum housing for safety and non-safety applicationsPositive operation, forced disconnection of contactsAvailable with snap-acting, slow make before break or slow break before make contact blocksActuator head can be rotated in 90° incrementsCategory 1 device per EN954 -1Suitable for Category 3 and 4 systems when ganged together | NEMA A600 NEMA Q600 | -25° to 65 °C (-18° to 149 °F) | <ul style="list-style-type: none">Roller plungerDome plungerShort leverAdjustable leverRod leverSpring rodTelescope arm | IP66 | ✓ | |
| |  440P-C | <ul style="list-style-type: none">Internationally accepted 22 mm plastic housing for safety and non-safety applicationsPositive operation, forced disconnection of contactsAvailable with snap-acting, slow make before break or slow break before make contact blocksActuator head can be rotated in 90° incrementsCategory 1 device per EN954 -1Suitable for Category 3 and 4 systems when ganged together | NEMA A600 NEMA Q600 | -25° to 80 °C (-18° to 176 °F) | <ul style="list-style-type: none">Roller plungerDome plungerHinge leverShort leverOffset hingeAdjustable leverRubber roller | IP66 IP69K (pre-wired version) | ✓ | |
| |  440P-A | <ul style="list-style-type: none">Internationally accepted compact 22 mm metal housing for safety and non-safety applicationsPositive operation, forced disconnection of contactsAvailable with snap-acting, slow make before break or slow break before make contact blocksPre-wired 2 m cable, bottom or side exitCategory 1 device per EN954 -1Suitable for Category 3 and 4 systems when ganged together | NEMA B300 NEMA Q300 | 2° to 70 °C (36° to 158 °F) | <ul style="list-style-type: none">Short lever with wide rollerRoller plungerDome plungerCross roller plungerShort lever | IP66/IP67 | | |
| NEMA Style Safety |  802T Direct Opening | <ul style="list-style-type: none">Rugged metal housing and plug-in body style utilize the same mounting dimensions as other NEMA style limit switchesDirect opening contacts ensure normally closed contacts (safety contacts) open even in the event of a contact weld condition, up to 10 Newtons2-Circuit versions suitable for Category 1 systems per EN954-14-Circuit versions suitable for Category 3 and 4 systems per EN954-1 | 2 Circuit: NEMA A600 4 Circuit: NEMA A300 NEMA Q300 | -18° to 110 °C (0° to 230 °F) | <ul style="list-style-type: none">LeverTop push rollerSide push vertical rollerSide push horizontal roller | NEMA 4, 6P, 12, 13, and IP67 | ✓ | |

Ultrasonic Sensors

Allen-Bradley ultrasonic sensors detect solid or liquid targets by using sound waves. They are ideal for sensing targets – such as clear, shiny, or non-reflective objects – that can be challenging for other sensing technologies.

Additional Sensing Products

In addition to our comprehensive line of presence sensors and switches, Rockwell Automation offers a full line of complementary technologies. To learn about these products and more Allen-Bradley components, go to: <http://ab.rockwellautomation.com/allenbradley>.

| Product | Product Features | Housing Diameter (mm) | Sensing Direction | Sensing Range (mm (in.)) | Single Discrete (PNP) | Dual Discrete (PNP) | Analog 4...20 mA | Analog 0...10V | Dual Discrete (PNP) and One Analog (0...10V) | Dual Discrete (PNP) and One Analog (4...20 mA) |
|---|--|-----------------------|-------------------|----------------------------|-----------------------|---------------------|------------------|----------------|--|--|
|  | <ul style="list-style-type: none">• Pushbutton teach process and multiple LED indicators simplify programming of sensor outputs and set points• Sensing up to 6 m (19.6 ft)• Synchronization on select models prevents crosstalk• IP67-rated 18 mm and 30 mm PBT plastic threaded barrels for use in tough industrial applications• Window or One Set Point output function• Selectable N.O./N.C. Outputs when in windows mode | 18 | Straight | 50...400 (1.96...15.74) | ✓ | ✓ | ✓ | ✓ | | |
| | | 18 | Straight | 100...900 (3.93...35.43) | | | | | | |
| | | 18 | Straight | 200...2200 (7.87...86.61) | | | | | | |
| | | 30 | Straight | 200...2500 (7.87...98.42) | | | | | | |
| | | 30 | Straight | 250...3500 (9.84...137.79) | | | | | ✓ | ✓ |
| | | 30 | Straight | 350...6000 (13.8...236.2) | | | | | | |
|  | <ul style="list-style-type: none">• Nickel-plated brass 18 mm cylindrical or right-angle threaded barrel provides ease of mounting and reduces installation time• IP67-rated• Windows teaching allows sensing range to be defined inside a user-taught sensing area for both discrete and analog models. The user can achieve superior background suppression• Programming can be accomplished by remote teach or optional programming cable• Bright LEDs allow the user to monitor power, output and margin from any direction - reducing time required for setup and troubleshooting• Selectable N.O./N.C. Output | 18 | Straight | 30...300 (1.18...11.8) | ✓ | | | ✓ | | |
| | | 18 | Right angle | 30...300 (1.18...11.8) | | | | | | |
| | | 18 | Straight | 50...800 (1.97...31.5) | | | | | | |
| | | 18 | Right angle | 50...800 (1.97...31.5) | | | | | | |



Solid-State Condition Sensors

Rockwell Automation offers an impressive line of Allen-Bradley solid-state condition sensing products to meet virtually every application need. With models capable of detecting pressure, temperature, flow and level, Allen-Bradley® condition sensors and switches offer exceptional control for automatic operation of machines and processes.



Encoders

Today's high performance digital servo drive systems require encoders to provide absolute feedback for position control and high resolution incremental feedback for speed control. Rockwell Automation offers a full line of general purpose incremental and absolute encoders as well as Sine Cosine and EtherNet/IP encoders compatible with a variety of motor control products for a wide range of industrial applications.



RFID

Industrial Radio Frequency Identification (RFID) systems are a rugged and reliable way to track and document products as they move through the manufacturing process. Unlike the bar code systems used for similar, less demanding applications, Allen-Bradley industrial RFID systems are designed to withstand harsh environments. Plus, reusable read/write tags allow for flexibility in information and application.



Light Arrays

Allen-Bradley light array sensors create a sensing field instead of a single sensing beam. Therefore, light arrays are capable of detecting or measuring targets over a wider area than traditional photoelectric sensors. This makes them ideal for detecting oddly shaped parts, products with gaps or spaces, or inconsistently positioned targets, at a fraction of the cost of using multiple sensor pairs.

Connectivity & Network Media Solutions

Rockwell Automation offers a full portfolio of Allen-Bradley Connection Systems and Network Media solutions that provide seamless connectivity for your Integrated Architecture and components. We offer one of the most extensive portfolios in the industry, so whether it's a standard cable or customized length, you can get the product you need, when you need it.

- Non-Network Connectivity
- Ethernet Media
- DeviceNet Media
- Safety Connectivity



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The Connected Enterprise

Learn more about the Connected Enterprise transforms real-time data, from intelligent assets and multi-disciplined control from a plant, or a remote site into actionable information.

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Product Selection Toolbox

Our powerful range of product selection and system configuration tools assist you in choosing and applying our products.

www.rockwellautomation.com/en/e-tools



Rockwell Automation, Inc. (NYSE:ROK), the world's largest company dedicated to industrial automation, makes its customers more productive and the world more sustainable. Throughout the world, our flagship Allen-Bradley® and Rockwell Software® product brands are recognized for innovation and excellence.



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