Proximity Sensors and Limit Switches
Time-tested, Robust and Reliable Control
Allen-Bradley® proximity sensors set the standard for ruggedness, reliability and application flexibility. Choose from one of the industry's widest selections of proximity sensor models, all of which offer you non-contact object detection. This diverse offering serves the full spectrum of your needs, from light-duty packaging applications to the punishing environments on automotive welding equipment or the harsh washdowns in food processing plants.

Bulletin 872C and 872CP WorldProx™
Cost-effective global solutions for general purpose applications
- 872C models designed with Nickel-plated brass housings and plastic sensing face
- 872CP models designed with an all plastic housing and sensing face
- Standard and short barrel versions
- Multiple operating voltages and output types
- Output indicator with 360° visibility for easy setup and maintenance
- IP67 Environmental rating
- Extended and long range versions available

Bulletin 871P - VersaCube™
Long-range sensing, versatility and durability
- Sensing ranges of up to 40 mm for general purpose/weld-field immune models
- A unique five-way mount makes them easy to mount and adjust
- Same mounting hole pattern as similar cube- and limit switch-style sensors for easy retrofitting
- Equal sensing versions available

Bulletin 871TS
A tough new solution for the food and beverage industry
- 316L stainless steel barrel with FDA Certified PPS sensing face
- ECOLAB certified
- IP67, IP68 and IP69K enclosure ratings
- Extended temperature rating (-40…+80 °C (-40…+176 °F)
- Standard and extended sensing versions available
- Laser-etched product markings
- Threaded or smooth barrel

Bulletin 871TM All-Stainless Steel
The industry benchmark for harsh-duty inductive sensing
- Stainless steel face and barrel for high impact and abrasion resistance
- 1200 psi washdown capability for contaminant and fluid ingress resistance (selected units meet IP69K requirements)
- Standard sensing, equal sensing and intrinsically safe versions
- Available with abrasion resistant, fire retardant ToughLink™ cable that meets SOOW-A requirements
- Extended range models available
**Bulletin 802M/802MC Pre-wired**

Factory sealed for demanding industrial environments

- NEMA 4, 4X, 6P and IP69K enclosure ratings
- Polymeric housings are highly resistant to moisture as well as volatile cleaning agents
- 802MC corrosion-resistant versions are factory sealed and all exposed metal parts are constructed of stainless steel 316
- 2- and 4-Circuit versions available (only 2 circuit available for 802MC)
- Optional LED Output indication
- Standard pre-wired cable is a 5 ft STOOW-A (oil resistant for indoor and outdoor use) cable
- Extended cable lengths and other connector options available

**Bulletin 802B Compact, Precision and Small Precision**

The ideal solution for areas too small for traditional NEMA-style limit switches

- Compact, Precision and Small Precision models
- Precision and Small Precision units offer low trip and reset points for more precise sensing
- Rugged die-cast housings with industry standard dimensions
- Wide range of operating voltages and current ratings
- All units available with a wide variety of operating heads

**440P and 802K IEC Style**

A full range of IEC style solutions for both safety and standard sensing applications

- Cat. 1 devices per En954-1, dual channel interlocks suitable for Cat. 3 or 4 systems
- Four body styles: 30 mm metal, 22 mm metal, 22 mm plastic and 15 mm plastic
- Positive operation, forced disconnection of contacts (direct opening action)
- Snap-acting or slow make/break contact arrangements
- Wide variety of operating heads (all lever-type switches are provided with their respective actuator arm)
## INDUCTIVE SENSOR
### QUICK SELECTION GUIDE

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<th>Product Family</th>
<th>Product Features</th>
<th>Housing Diameter/ Dimensions (mm)</th>
<th>Sensing Range Shielded (mm)</th>
<th>Sensing Range Unshielded (mm)</th>
<th>Enclosure Ratings</th>
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<tr>
<td>872C WorldProx™</td>
<td>• Nickel-plated brass barrel with plastic face</td>
<td>6.5</td>
<td>2 &amp; 3</td>
<td>3</td>
<td>IP67</td>
</tr>
<tr>
<td></td>
<td>• Standard length and short barrel versions</td>
<td>8</td>
<td>2 &amp; 3</td>
<td>3, 4, 6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Extended range versions available</td>
<td>12</td>
<td>3, 4, 6</td>
<td>4, 6, 10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Wide variety of cable and connector options</td>
<td>18</td>
<td>5, 8, 12</td>
<td>8, 12, 20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Available in 872C product family</td>
<td>30</td>
<td>10, 15, 22</td>
<td>15, 20, 40</td>
<td></td>
</tr>
<tr>
<td>872C/871C Plastic Housing</td>
<td>• Plastic barrel and sensing face</td>
<td>12</td>
<td>3</td>
<td>4</td>
<td>IP67</td>
</tr>
<tr>
<td></td>
<td>• Cable and QD models</td>
<td>18</td>
<td>5</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• AC units available in 871C product family</td>
<td>30</td>
<td>10</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>871TM</td>
<td>• Rugged stainless steel 304 barrel and sensing face</td>
<td>8</td>
<td>3</td>
<td>6</td>
<td>All units IP67 &amp; 1200 psi wash down rated</td>
</tr>
<tr>
<td></td>
<td>• Extended range units available (3-wire DC versions)</td>
<td>12</td>
<td>2 &amp; 6</td>
<td>4 &amp; 10</td>
<td>(Selected units meet IP69K)</td>
</tr>
<tr>
<td></td>
<td>• Wide variety of sensing types available (standard inductive, submersible units, low energy AC/DC units, and intrinsically safe versions)</td>
<td>18</td>
<td>5 &amp; 10</td>
<td>8 &amp; 20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Laser engraved part numbers</td>
<td>30</td>
<td>10 &amp; 20</td>
<td>15 &amp; 40</td>
<td></td>
</tr>
<tr>
<td>871T Ferrous</td>
<td>• Rugged stainless steel 304 barrel and sensing face</td>
<td>18</td>
<td>5</td>
<td>NA</td>
<td>All units IP67</td>
</tr>
<tr>
<td></td>
<td>• Ferrous versions only sense ferrous materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>871S</td>
<td>• Stainless steel 316L barrel and FDA approved PPS plastic sensing face</td>
<td>12</td>
<td>2 &amp; 4</td>
<td>4 &amp; 8</td>
<td>IP67, IP68 &amp; IP69K</td>
</tr>
<tr>
<td></td>
<td>• ECOLAB certified</td>
<td></td>
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<tr>
<td></td>
<td>• Extended temperature ratings (-40˚ to 100 ˚C)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>• Extended range units available</td>
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<td></td>
<td>• Laser engraved part numbers</td>
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<tr>
<td></td>
<td>• Threaded or smooth barrel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>871T</td>
<td>• Stainless steel 304 barrel with plastic sensing face</td>
<td>12</td>
<td>2</td>
<td>4</td>
<td>IP67</td>
</tr>
<tr>
<td></td>
<td>• AC housing and sensing face constructed of stainless steel 304</td>
<td>18</td>
<td>5</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Extended low end temperature ratings (-40˚ to 70 ˚C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>871C Extended Temperature</td>
<td>• Nickel-plated brass barrel and plastic sensing face</td>
<td>12</td>
<td>2</td>
<td>4</td>
<td>IP67</td>
</tr>
<tr>
<td></td>
<td>• Operating temperature from -40˚ to 100 ˚C</td>
<td>18</td>
<td>5</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• PUR cable and QD connector options</td>
<td>30</td>
<td>10</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>871C NAMUR</td>
<td>• Conform to NAMUR specifications (DIN 19 234)</td>
<td>8</td>
<td>1</td>
<td>2</td>
<td>IP67</td>
</tr>
<tr>
<td></td>
<td>• Sensors are appropriate for intrinsically safe applications when used with NAMUR style isolators/amplifiers</td>
<td>12</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Available in 871C product family</td>
<td>18</td>
<td>5</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Available in 871C product family</td>
<td>30</td>
<td>10</td>
<td>15</td>
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</tr>
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### Specialty Solutions

<table>
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<tr>
<th>Specialty Solutions</th>
<th>Features</th>
</tr>
</thead>
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<tr>
<td>871D WorldClamp™</td>
<td>• Designed for use in power clamp and gripper applications to indicate open and closed position</td>
</tr>
<tr>
<td></td>
<td>• Weld Field Immune</td>
</tr>
<tr>
<td></td>
<td>• 2 different sensor head styles</td>
</tr>
<tr>
<td></td>
<td>• 3-wire DC and 2-wire AC/DC versions</td>
</tr>
<tr>
<td>871D Cylinder Position Indicator</td>
<td>• Designed to detect the extended or retracted position of a hydraulic or pneumatic cylinder</td>
</tr>
<tr>
<td></td>
<td>• Weld Field Immune</td>
</tr>
<tr>
<td></td>
<td>• Multiple probe lengths to accommodate different size cylinders</td>
</tr>
<tr>
<td></td>
<td>• 3-wire DC and 2-wire AC/DC versions</td>
</tr>
</tbody>
</table>
## INDUCTIVE SENSOR
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<th>2-wire DC</th>
<th>3-wire DC</th>
<th>4-wire DC</th>
<th>2-wire AC</th>
<th>2-wire AC/DC</th>
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<td><strong>Welding</strong></td>
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<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
| 871Z           | • Weld Field Immune  
• PTFE coated brass housing  
• Cable versions available with 500VW cable for excellent weld splatter protection | 12 | 2 | 4 | IP67 |            |           |           |           |           |              |
| 871ZT          | • Weld Field Immune  
• PTFE coated brass housing  
• Equal sensing (detects all metals at the same sensing distance)  
• Unshielded versions offer extended range | 12 | 3 | 8 | IP67 | ✓         |           |           |           |           |              |
| 871P VersaCube™ | • Head can be rotated in 5 different sensing positions  
• Standard sensing and Weld Field Immune versions  
• Optional Toughcoat™ slag resistant coating available on specific models | 40x40 | 20 | 40 | All units IP67 & 1200 psi wash down rated (Selected units meet IP69K) | ✓         | ✓         |           |           |              |
| **Material Handling & Welding** |                 |                                   |                             |                              |                   |            |           |           |           |              |
| 871 Flat Pack  | • Large Flat Pack style sensor for applications that require extremely long sensing range  
• Standard sensing and Weld Field Immune versions | 80x80 | 50 | 65 | All units IP67 & 1200 psi wash down rated (Selected units meet IP69K) | ✓         | ✓         |           |           |              |
| 871L and 872L  | • Head can be rotated in 17 different positions  
• Standard NEMA limit switch mounting pattern  
• Switch selectable N.O. or N.C. outputs on 871L  
• Programmable N.O. or N.C. outputs (via jumper) on 872L | 40x40x120 | 20 | 40 | IP67 | ✓         | ✓         |           |           |              |
| **Automated Assembly & Robotics** |                 |                                   |                             |                              |                   |            |           |           |           |              |
| 871C Mini Tubular | • Compact housing ideal for small part detection, robotic, and gripper applications  
• Stainless Steel barrel and plastic sensing face  
• Fully integrated electronics  
• High switching frequency (≥3 kHz) | 3 smooth barrel | 0.6 & 1 | NA | IP67 | ✓         |           |           |           |              |
| 871FM Mini Flat Pack | • Compact sensor housings for applications with limited mounting area  
• 5x5 and 8x8 solutions offer metal housings while other solutions offer plastic housings  
• AC versions only available in the 28x16x11 and 40x26x12 mm packages | 5x5 | 0.8 & 1.5 | NA | IP67 | ✓         |           |           |           |              |
| **Specialty Solutions** |                     |                                   |                             |                              |                   |            |           |           |           |              |
| 871C Analog    | • Provide a 0–10V output proportional to the distance from the sensor face  
• Available in 12, 18, and 30 mm housings  
• 2 m cable connection | 3 smooth barrel | 0.6 & 1 | NA | IP67 | ✓         |           |           |           |              |
| 871R & 8721S Ring & Slot | • Ring sensors available in 12, 20, 50, and 100 mm diameter sizes  
• Slot sensors available with 30 mm gap  
• All ring and slot sensors 3-wire DC | 5x5 | 0.8 & 1.5 | NA | IP67 | ✓         |           |           |           |              |
<table>
<thead>
<tr>
<th>Product Family</th>
<th>Product Features</th>
<th>Contact Rating</th>
<th>Temperature Rating</th>
<th>Actuator Types</th>
<th>Enclosure Rating</th>
<th>QD Offered</th>
<th>Status Indicator Offered</th>
</tr>
</thead>
</table>
| 801 Light Duty | • General purpose limit switch for a wide variety of applications  
• Multiple 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) | • Fork lever  
• Roller lever  
• Maintained  
• Rod/Chain Lever | NEMA 1, Type 4 or Type 7, and 9 |  |
| 802T Plug-In & Non Plug-In | • Rugged NEMA Type 4 and 13 oil-tight construction  
• Available in standard non plug-in and plug-in version  
• Plug-in design provides for quick and easy installation  
• 2- and 4-circuit versions  
• Simple mode change in head for easy set-up  
• Low 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) | • Low operating force  
• Top and side push (with or without rollers)  
• Cat whisker  
• Wobble stick  
• Neutral position | NEMA 1, 4, 6P (select side rotary styles), 13 | ✓ ✓ |
| 802M/MC Washdown | • Factory sealed to meet the demands of both wet and dry applications  
• Polymeric housing material is highly resistant to moisture as well as volatile cleaning agents  
• 802MC corrosion resistant versions are factory sealed and all exposed metal parts are constructed of stainless steel 316  
• Standard units provided with prewired 5 ft. (1.52 m) STD cable | 2 Circuit: NEMA A600  
4 Circuit: NEMA B300 | 0˚ to 80 °C  
(32˚ to 180 °F) | • Lever  
• Maintained  
• Top and side push (with or without rollers)  
• 802MC corrosion resistant lever | NEMA 1, 4, 4X, 6P, 13 and IP67 | ✓ ✓ |
| 802G | • Plug-in gravity return switch, designed for conveyor-type applications with small or lightweight objects  
• Requires low operating torque  
• Adjustable 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) | • Adjustable rod levers (Requires lever arms specifically designed for the 802G product family) | NEMA 1 | ✓ |
| 802X Hazardous Locations | • NEMA 7 and 9 units appropriate for use in:  
— Class I, Groups B, C or D  
— Class II, Groups E, F or G  
— Class III  
• NEMA 4 watertight versions designed for indoor use | NEMA A600  
NEMA P150 | -46˚ to 121 °C  
(-50˚ to 250 °F) | • Lever  
• Maintained  
• Top and side push (with or without rollers)  
• Wobble stick  
• Neutral position | NEMA Types 7 and 9, NEMA 4/ non-hazardous locations |  |
| 802XR | • Sealed limit switch features a single contact hermetically sealed in glass enclosure  
• Offers excellent contact reliability in contaminated atmospheres  
• Appropriate for use in:  
— Class I, Groups B, C or D  
— Class II, Groups E, F or G | NEMA B600  
NEMA P300 | -29˚ to 121 °C  
(-20˚ to 250 °F) | • Lever  
• Top and side push (with or without rollers)  
• Wobble stick | NEMA Types 7 and 9 |  |
| 802R | • Sealed limit switch features a single contact hermetically sealed in glass enclosure  
• Offers excellent contact reliability in contaminated atmospheres  
• Appropriate for use in:  
— Class I, Div 2, Groups A, B, C, and D | NEMA B600  
NEMA P300 | -29˚ to 121 °C  
(-20˚ to 250 °F) | • Lever  
• Low operating force  
• Top and side push (with or without rollers)  
• Cat whisker  
• Wobble stick | NEMA 13 |  |
### Limit Switch Quick Selection Guide

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<th>Product Features</th>
<th>Contact Rating</th>
<th>Temperature Rating</th>
<th>Actuator/Types</th>
<th>Enclosure Rating</th>
<th>QD Offered</th>
<th>Status Indicator Offered</th>
</tr>
</thead>
</table>
| **802B**       | - Compact metal housing can be mounted in areas too small for traditional NEMA style solutions  
- 3 m pre-wired cable  
- 13 unique head configurations  
- AC or DC LED versions  
- Low current versions  
- Booted and panel-mount versions | NEMA B300 | -10° to 70 °C  
(14° to 158 °F) | - Rotary arm  
- Center rotary arm  
- Top push (with or without rollers)  
- Top push bevel  
- Top push cross roller  
- Wobble stick | NEMA 1, 3, 4, 6, 12, 13 and IP67 | ✓ | ✓ |
| **802B Precision/Small Precision** | - Low trip and reset points for more precise sensing  
- 1/2” Conduit entry  
- Booted versions  
- Side and flange mounting available | NEMA A300 | -10° to 80 °C  
(14° to 176 °F) | - Top push  
- Top push roller  
- Top push cross roller  
- Roller lever  
- One-way roller | Precision: NEMA 1, 3, 4, 6P, IP60 & IP65  
Small Precision: NEMA 1, 3, 4, 6, 13 & IP67 | | |
| **802K-M**     | - Internationally accepted 30 mm cast aluminum housing for safety and non-safety applications  
- Available with snap-acting, slow make before break or slow break before make contact blocks  
- Large selection of operator heads and actuators | NEMA A600  
NEMA Q600 | -25° to 65 °C  
(-18° to 176 °F) | - Roller plunger  
- Dome plunger  
- Short lever  
- Adjustable lever  
- Metal spring rod | IP66 | |
| **440P-M**     | - Internationally accepted 30 mm cast aluminum housing for safety and non-safety applications  
- Positive operation, forced disconnection of contacts  
- Available with snap-acting, slow make before break or slow break before make contact blocks  
- Actuator head can be rotated in 90° increments  
- Category 1 device per EN954-1  
- Suitable for Category 3 and 4 systems when ganged together | NEMA A600  
NEMA Q600 | -25° to 80 °C  
(-18° to 176 °F) | - Roller plunger  
- Dome plunger  
- Short lever  
- Adjustable lever  
- Rod lever  
- Spring rod  
- Telescope arm | | ✓ |
| **440P-C**     | - Internationally accepted 22 mm plastic housing for safety and non-safety applications  
- Positive operation, forced disconnection of contacts  
- Available with snap-acting, slow make before break or slow break before make contact blocks  
- Actuator head can be rotated in 90° increments  
- Category 1 device per EN954-1  
- Suitable for Category 3 and 4 systems when ganged together | NEMA A600  
NEMA Q600 | -25° to 80 °C  
(-18° to 176 °F) | - Roller plunger  
- Dome plunger  
- Hinge lever  
- Short lever  
- Offset hinge  
- Adjustable lever  
- Rubber roller | IP66  
IP69K (pre-wired version) | ✓ |
| **440P-A**     | - Internationally accepted compact 22 mm metal housing for safety and non-safety applications  
- Positive operation, forced disconnection of contacts  
- Available with snap-acting, slow make before break or slow break before make contact blocks  
- Pre-wired 2 m cable, bottom or side exit  
- Category 1 device per EN954-1  
- Suitable for Category 3 and 4 systems when ganged together | NEMA B300  
NEMA Q300 | 2° to 70 °C  
(36° to 158 °F) | - Short lever  
with wide roller  
- Roller plunger  
- Dome plunger  
- Cross roller plunger  
- Short lever | IP66/6P7 | | |
| **802T Direct Opening** | - Rugged metal housing and plug-in body style utilize the same mounting dimensions as other NEMA style limit switches  
- Direct opening contacts ensure normally closed contacts (safety contacts) open even in the event of a contact weld condition, up to 10 Newtons  
- 2-Circuit versions suitable for Category 1 systems per EN954-1  
- 4-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) | - Lever  
- Top push roller  
- Side push vertical roller  
- Side push horizontal roller | NEMA 4, 6P, 12, 13, and IP67 | ✓ |
Connection Systems

Consolidate component inventory and control cabling with Allen-Bradley connectivity. Take advantage of On-Machine connectivity to reduce Mean Time To Repair (MTTR), expedite commissioning and simplify device wiring by utilizing the broad offering of:

- Bulletin 889 Cordsets and Patchcords: Featuring industry standard overmolded connectors, Allen-Bradley cables provide secure connection for sensors and other field devices.

- Bulletin 879 V- and Y-Cables: These cable splitters consolidate two terminations into a single port. With similar configuration capabilities to cordsets, the split can occur right at a receptacle with a V-cable or at a pre-determined distance with a Y-cable.

- Bulletin 898 Distribution Boxes: These passive junction boxes lower labor costs by reducing installation and troubleshooting time. Distribution boxes reduce the number of terminations needed to be made in a cabinet.

- Bulletin 888 Receptacles: Increase your plug-and-play capabilities with easy to use receptacles. When used on panels or field devices, these solutions expedite maintenance and provide flexibility on system design.

Rockwell Automation® offers a breadth of quality Allen-Bradley® components to fit your specific needs. In order to assist you with your component selection, we offer a variety of configuration and selection tools.

Local Distributor
Call 1.800.223.3354 to contact your local Distributor today.
http://www.rockwellautomation.com/distributor/

On-Line Product Directory
Our extensive product portfolio is designed to improve your processes through every stage of your manufacturing cycle.
http://www.rockwellautomation.com/products/

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

For more information about our Proximity Sensors and Limit Switches, please visit:
http://ab.rockwellautomation.com/Sensors-Switches

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