Magnetic Proximity
SENORS
for Linear Actuators
Quality is our goal.
Canfield Connector is a manufacturer of interconnection devices, electronic timers, modules and specialty electronic devices targeted at the fluid power industry. Our Complete Quality Control Program (CQCP) protects our customers by assuring them of 100% test and inspection prior to shipment of all items produced at Canfield Connector. Most items are tested during the manufacturing process and again during final inspection, making our products double or triple tested for function prior to shipment. Our Quality Policy at Canfield Industries is: Total Customer Satisfaction Through Unmatched Quality, Products, Service, and Integrity. Our Quality Objectives are Customer Satisfaction, On-Time Delivery, Sales and Profit Growth, High Quality Products, and Superior Supplier Performance. Canfield Connector operations have been certified to the ISO 9001 With Design International Quality System Standard.

1 year warranty
All products manufactured by Canfield Connector are warranted by Canfield Connector to be free of defects in material and workmanship for a period of one year from the purchase date. Canfield Connector’s obligation under this warranty is limited to repair or replacement of the defective product or refund of the purchase price paid solely at the discretion of Canfield Connector and provided such defective product is returned to Canfield Connector freight prepaid and upon examination by Canfield Connector such product is found defective. This warranty shall be void in the event that the product has been subject to misuse, misapplication, improper maintenance, or tampering. This warranty is expressed in lieu of all other warranties, expressed or implied from Canfield Connector representatives or employees.

Technical assistance
Our trained technical staff is available at (330) 758-8299 or 1-800-554-5071 to help you with your questions concerning Canfield products. All questions are welcome. We are constantly developing new product lines and custom products for different applications. Ask our sales representative for more details.

Ordering made easy
Our order desk is open 8:00 AM to 5:00 PM EST Monday through Friday. Call us at (330) 758-8299 or 1-800-554-5071 to place your order or fax us at (330) 758-8912.

*DISCLAIMER: Product changes including specifications, features, designs, and availability are subject to change anytime without notice. For critical dimensions or specifications, contact factory. Such changes are not to be considered retroactive, and seller assumes no responsibility for revision of models already in the field. All data is sufficiently accurate for general use, but seller assumes no responsibility for errors or omissions. Certified prints are available on request, at a reasonable charge.
1. GENERAL:
   a. This contract contains the entire agreement between parties and supersedes any prior or contemporaneous oral or written agreements or communications between them relating to the subject matter hereof.
   b. This contract may not be amended, modified or cancelled without Seller’s prior written consent, and any attempt to assign, modify or cancel it without consent shall be absolutely void.
   c. No delay or omission to exercise any right, nor any course of dealing, shall constitute a waiver of any such right, power or remedy of Seller, or shall be construed as a waiver of a weather or to indicate the contract is void. The, delivery of the same, be ineffective to the extent of such prohibition without invalidating the remaining provisions of this contract.
   d. This contract shall be governed by and construed in accordance with the laws of the State of Ohio, excluding however, Ohio law pertaining to conflicts of law.

2. SELLER’S LIMITED WARRANTY AND LIMITATIONS OF LIABILITIES:
   a. The information in this brochure is based on data obtained by our own research and is considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data, the results to be obtained from the use thereof, or that any such use will not infringe any patent. This information is furnished upon the condition that the person receiving it shall make its own tests to determine the suitability thereof for its particular purpose.
   b. All Goods manufactured by Seller will be free from defects in material and workmanship and meet Seller’s published specifications at the time of shipment under usual and normal service and regular maintenance for a period of one (1) year from the date of manufacture of the Good by Seller, unless otherwise agreed upon in writing, and to conform to applicable specifications, drawings, blueprints and samples. Seller’s express warranties are in lieu of and exclude all other warranties, expressed or implied. Seller’s sole obligation under these warranties shall be to issue credit, repair, or replace any item or part thereof which is proved to be other than as warranted; no allowance shall be made for any labor charges of Buyer or Buyer’s agent of adjustment or repair or work, unless such work is authorized in advance by Seller. If goods are claimed to be defective in material or workmanship or not to conform to specifications, drawings, blueprints and samples, Seller upon notice promptly given will either exchange the goods for other goods of like kind and quality, or issue a credit of the cost of return to Seller (transportation costs prepaid by Buyer). In the event any goods are proved to be other than as warranted, transportation costs to and from Seller’s plant will be borne by Seller and reimbursement or credit will be made for amounts of such goods paid for, unless Seller, having examined the alleged defective portion of the products or their suitability or fitness for any particular purpose or use or respecting injury, these warranties shall not extend to any goods or parts thereof which have been subjected to misuse or neglect, damage by accident, rendered defective by reason of improper installation or by the performance of repairs or alterations outside of Seller’s plant except when performed under Seller’s specific authority. These warranties shall not apply to any goods or parts thereof furnished by Buyer or acquired from others, together with Buyer’s specifications. Buyer SHALL NOT IN ANY EVENT BE ENTITLED TO, AND SELLER SHALL NOT BE LIABLE FOR INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE INCLUDING, WITHOUT BEING LIMITED TO, LOSS OF PROFITS, LOSS OF DATA, LOSS OF USE, PROMOTIONAL IMAGE ARISEN FROM OVERHEAD, INJURY TO REPUTATION OR LOSS OF CUSTOMS. BUYER’S RECOVERY FROM SELLER FOR ANY CLAIM SHALL NOT EXCEED BUYER’S PURCHASE PRICE FOR THE PRODUCTS IRRESPECTIVE OF THE NATURE OF THE CLAIM, WHETHER IN CONTRACT, TORT, WARRANTY, OR OTHERWISE.

3. PAYMENT:
   a. Checks are accepted subject to collection and the date of collection shall be deemed the date of payment. Any check received from Buyer may be applied by Seller against any obligation owing by Buyer to Seller, under this or any other contract, regardless of any statement appearing on or referring to such check, without discharging Buyer’s liability for any additional amounts owing by Buyer to Seller; and the acceptance by Seller of such check shall not constitute a waiver of Seller’s right to pursue the collection of any remaining balance.
   b. On any invoice not paid by maturity date (net thirty (30) days), Buyer shall pay interest from maturity to date of final payment at the annual percentage rate of 1/2% (or such lower rate as may be the maximum allowable by law), together with Seller’s collection costs (including reasonable attorneys’ fees).
   c. Buyer agrees to pay the entire net amount of each invoice rendered by Seller pursuant to the terms of such invoice and without any deduction.
   d. Prices for any undeliverable Products may be increased by Seller in the event of any increase in Seller’s cost of supplies, raw materials, labor, or services, or any increase in Seller’s cost resulting from govern- ment action or other cause beyond Seller’s control.

4. CREDIT:
   Seller may in its sole discretion at any time and from time to time change the terms of Buyer’s credit, require payment in cash before shipment of any or all of the Products specified herein, and require anticipated payment of any or all amounts due or to become due under this contract. If Seller believes in good faith that Buyer’s ability to make payments called for by this contract or is may be impaired, Seller may cease this contract or any remaining balance thereof. Buyer remaining liable to pay for any Products already shipped.

5. TAXES/FREIGHT:
   Unless otherwise agreed in writing, the amount of all transportation charges from Seller’s location and all taxes or other charges now or hereafter imposed by any government authority upon sale, purchase, resale, delivery, manufacture, production or possession of the Products specified herein, which may be due seller or to third parties, shall be paid by Buyer to Seller. The Buyer may be liable, shall be paid to Buyer by Seller in addition to the purchase price of the Products.

6. ORDERS:
   a. Each order for Products is subject to acceptance in writing by Seller.
   b. Orders may not be cancelled or rescinded after delivery by Seller to the carrier in the event of allocation of Products, orders that are accepted by Seller will be accepted using a fair scheduling method. 
   c. Orders are terminated upon receipt and will no be cancelled. Any cancellation of Products must be made in writing.

7. DELIVERIES/TITLES:
   a. All goods shall be packed in suitable containers for protection in shipment and storage. No special charges for packing or crating shall be made unless specifically listed as an additional and separate charge on Seller’s quotation or acceptance of Buyer’s order.
   b. Subject to Seller’s right of stoppage in transit, delivery of the Products to a carrier shall constitute delivery to Buyer, and risk of loss thereupon pass to Buyer; however, title shall remain in Seller until Buyer makes payment in full under contract. Products invoiced and held by Seller for any reason shall be at Buyer’s risk and expense. Delivery route shall be the selection of Seller unless specifically designated by Buyer.
   c. Delivery of any installment of Products within 30 days after the date specified therefor shall constitute a shipment. If, however, delivery of the balance of a shipment unless prior to shipment Seller has received written notice of cancellation. Delivery of a quantity which does not vary by more than 10% from the quantity specified therefor shall constitute full performance of such delivery. Delay in delivery of one installment shall entitle Buyer to cancel that installment only.
   d. Should delivery of all or part of the Products specified herein (or any other obligation of Seller) be delayed by events beyond Seller’s control, Seller’s time for performance shall be extended by the period of delay, or at Seller’s option, cancel this contract without liability. Buyer remaining liable for shipments already made. Seller shall not be liable for any delays in or failures of delivery due to acts of God or public authority, labor disturbances, accidents, fires, floods, extreme weather conditions, failures and delays of carriers, shortages of materials, or any other cause beyond Seller’s control.
   e. Buyer is deemed to have accepted the Products unless notice of rejection is given within a reasonable time, which is agreed to be within seven (7) days after receipt. Buyer waives any right to revoke acceptance thereafter.
   f. No return of Products will be accepted by Seller without a return materials authorization number (RMA), which will be issued in Seller’s sole discretion. Returned Products must be in original shipping cartons, and all freight charges and insurance must be prepaid. All such goods are proved to be other than as warranted, transportation costs to and from Seller’s plant will be borne by Seller and reimbursement or credit will be made for amounts of such goods paid for, unless Seller, having examined the alleged defective portion of the products or their suitability or fitness for any particular purpose or use or respecting injury.

8. SPECIFICATIONS AND DESIGNS:
   a. Should Buyer request that changes be made in the specifications or design relating to any goods, delivery dates and schedules shall be revised accordingly, if necessary, and an equitable adjustment, upward or downward, shall be made in price so far as warranted.
   b. Any designs, tools, patterns, drawings, information or equipment furnished by Buyer, or any special tools made or acquired for the Buyer by the Seller which becomes Buyer’s property, shall be used only in the performance of the work called for herein and not otherwise, unless by Buyer’s written consent. Buyer will not, under any circumstances, be held liable for the use, misuse or neglect of any such designs, tools, patterns, drawings, information or equipment while in its possession and control, but shall not be responsible for fire or damage occurring without its fault or negligence or for ordinary wear and tear.

9. USE OF PRODUCTS:
   a. If technical advice is offered in or given concern in the use of the products it will be as an accommodation to Buyer and without charge and Seller shall have no responsibilities or liabilities whatsoever with respect to or resulting from such advice.
   b. Products sold by Seller are not designed for use in life support or nuclear applications. Seller’s customers using or selling Products for use in life support or nuclear applications do so at their own risk, agree that Seller is not the manufacturer or factor of Products are not, in which event, for claims or claims relating to Products, Seller will be substituted for the word “Government” and the word “Seller” shall be used to the word “contractor” where use is necessary.
   c. Unless the design for the goods shall have been furnished by the Buyer to the Seller and used by the Seller in manufacturing the goods, Seller shall defend and save harmless the Buyer from any claim that arise out of or in any way connected with the sale or use of this matters patent by reason of its sale or use provided Seller is notified in writing within ten (10) days after such claim is made against the Buyer, and provided further that Seller is permitted to defend the same in Buyer’s name if action be brought. If the product or article sold to the Buyer hereunder is manufactured by the Seller according to a design furnished by the Buyer, the Buyer will defend and save harmless the Seller from any claims of infringement of any United States Letters patent.

10. TOOLING:
   Tool, die, and pattern changes, if any, are in addition to the price of the Goods and are due and payable upon completion of the tooling. All such tools, dies and patterns shall be and remain the property of Seller. Charges for tooling, dies, and patterns do not convey to Buyer, title, ownership, or any other rights to possession or removal, or prevent their use by Seller or other purchasers, except as otherwise expressly provided by Seller and Buyer in writing with reference to this provision.

11. INSTALLATION/TRAINING:
   Buyer acknowledges that no installation, training or education is contracted for or purchased under terms of this contract unless specifically agreed in writing. In the event that Buyer receives any training from Seller or Seller’s agents or representatives with respect to the Products, the event, such training is technical to the persons receiving the training, and no instruction or other information given by Seller to such persons shall be deemed to be a waiver of Seller’s obligations under this contract, and Buyer acknowledges that any persons receiving such training may not be capable of operating the Products.

12. RESTOCKING POLICY:
   Merchandise that is returned must be accompanied by pre-approved return materials authorization number (RMA). Return authorizations will be approved by Canfield Connector. When materials are received and concurred, in a returned condition, charges for transportation and handling are non-refundable. Material that does not have an authorization will be returned to the purchaser at their expense.

RETURNED ITEMS MAY ENTAIL A RESTOCKING CHARGE. CONSULT FACTORY FOR EXACT RESTOCKING FEES. AS CHARGES MAY VARY DEPENDING ON THE AMOUNT OF SPECIALTY OF THE ITEMS BEING RETURNED. CUSTOM PARTS & “I” NUMBERS ARE NON-RETURNABLE AND NON-REFUNDABLE (EXCEPT IN CASES OF WARRANTY)
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# Sensor / Groove Cross Reference Chart

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<td><strong>9T</strong></td>
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<td><img src="image35" alt="Image" /></td>
<td><img src="image36" alt="Image" /></td>
<td>SMC</td>
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Note: All trademarks used in this catalog are the property of their respective owners.
Which type of sensor should I use? Reed or Electronic?

The type of sensor that is best for a particular application depends on the operating parameters and cost related issues. Canfield Connector is proud to offer the industry's best value in Reed and Electronic Sensors. However if our sensors are misapplied, they could fail prematurely. Therefore, give careful consideration when selecting the proper proximity sensor for your application. We have prepared this catalog with all the necessary information in order to aid in this decision. If you require more assistance or have any questions, please feel free to call. Our customer service and engineering staff will be happy to assist you. For technical assistance, please call - (330) 758-8299 or visit our web site at www.canfieldconnector.com

Reed Switch Sensors:
If initial cost and versatility are most important, then reed switch sensors should be considered. For example the 7000 Series Type 04 reed switch will operate from 5 to 240 volts AC or DC. Generally, one switch can be stocked to cover a large majority of common applications. Please note, reed sensors do to work well with inrush surge currents and transients (common to inductive & capacitive loads; i.e. relays, coils & long wire runs). If inrush surge currents and transients must be accommodated, switch Types 21 - 29 may be specified. These parameters should be given careful consideration when selecting a proximity device that will be best suited for an application.

Electronic Sensors:
In general, if longevity is a major concern, electronic sensors should be used whenever they fit within the operating parameters specified for a given application. They should receive special attention when high cycle rates are required. If electronic sensors are used within their operating range they will always outperform and out last mechanical reed sensors. The initial added cost associated with a electronic sensor will be outweighed should the application require high cycle rates.

Principles of Operation for Magnetic Proximity Switches

Reed / Electronic Switch Working Principle
Our reed switch sensors contain hermetically sealed reed elements (mechanical contacts) which can be open or closed in their normal state depending on the version selected. When a magnetic field moves within proximity of the switch, magnetism is induced into the leads and forces the contacts to change state (open if normally closed or closed if normally open). Typically used with air cylinders that are built with internal magnetic pistons.

Sinking (NPN) vs. Sourcing (PNP)
Electronic switches are available in Sinking or Sourcing versions. The basic difference between these two ways of solid state switching is as follows:

The Sourcing method connects or switches one side of the load to the positive (+) side of the supply. The negative (-) side is connected directly to the other side of the load as shown in figure 1. PNP is the acronym used to describe the transistor that performs this type of switching in a solid state sensor.

The Sinking method connects or switches one side of the load to the negative (-) side of the supply. The positive (+) side is connected directly to the other side of the load as shown in figure 2. NPN is the acronym used to describe the transistor that performs this type of switching in a solid state sensor.
Proximity Sensor Types

Reed Switch Sensors:

**Type 01 & 05**
These two sensors are the most basic types. They are made up of a reed element only. The Type 01 is single pole, single throw, normally open and the Type 05 is single pole, single throw, normally closed. These sensors act as an in line switch which is actuated in a magnetic field, with no minimum current requirement.

Features:
- Lowest cost
- Non polarity dependent
- CSA versions available
- AC or DC operation
- Zero leakage current
- High power capacity
- Nema 6 versions available

**Type 02 and 04 & 09**
The Type 02 is current limiting and is single pole, single throw, normally open. The Type 04 is single pole, single throw, normally open and Type 09 is single pole, single throw, normally closed. They act as an in line switch which is actuated in a magnetic field. These sensors also include an LED indicator and surge suppression. Surge suppression helps to extend the life of the sensor when it is used to switch higher current loads and / or inductive loads. The Type 04 & 09 are similar to the Type 01 & 05, in that they perform the same function.

Features:
- Lowest cost
- AC or DC operation
- Zero leakage current
- Nema 6 versions available
- LED indicator

**Type 06**
This sensor is a reed type sensor which uses a single pole, double throw element. This enables the switching of two separate loads. One side of the switch is normally closed and the other is normally open. This sensor also included an LED indicator which is connected to the normally open side of the switch. The LED indicator operates when the normally open side is closed with a minimum 5mA current flowing through the switch and a typical 3 volt drop.

Features:
- AC or DC operation
- Zero leakage current
- LED indicator
- CSA versions available
- Nema 6 versions available

**Type 21 & 25 and 23, 24 & 29**
These sensors are designed specifically to switch high power AC loads (including inductive loads) and loads with high transient or inrush currents, although they are not limited to these applications. These sensor types all use a reed element to sense a magnetic field and a triac to drive the output, and include standard surge suppression. This configuration provides excellent longevity even under the most demanding conditions. The Type 21 & 25 utilize a two wired switch has no LED and Types 23, 24 & 29 utilize a three wired switch with LED.

Features:
- Solid state triac output = long life
- Low voltage drop
- Resistant to current inrush
- Nema 6 versions available
- AC operation
- Resistant to shock and vibration
- No minimum current to operate

Electronic Sensors:

**Type 15 & 16**
These two sensors use magnetoresistive elements with no magnetic polarity. They are 100% solid state, and have no moving parts, resulting in extremely long life expectancy. These virtually vibration and shock proof sensors utilize a rugged triac to switch power convenient AC voltage (common to reed switches) combined with the reliability of solid state technology (common to electronic switches).

Features:
- Solid state circuitry = long life
- Low voltage drop
- Resistant to current inrush
- CSA versions available
- Nema 6 versions available
- AC operation
- Resistant to shock and vibration
- No minimum current to operate

**Type 31 & 32**
These sensors use magnetoresistive elements with no magnetic polarity. They are 100% solid state, and have no moving parts, resulting in extremely long life expectancy. They are designed to operate within 6 to 24V DC, and are available in two configurations: NPN (Sinking) output and PNP (Sourcing) output. Both include an indicator light which illuminates when the switch is actuated. No minimum load current and low voltage drop make them ideal for use with programmable controllers.

Features:
- Solid state circuitry = long life
- Low voltage drop
- Resistant to current inrush
- CSA versions available
- Nema 6 versions available
- No minimum current to operate
- AC operation
- High power capacity
- Highly shock and vibration resistant
SERIES 7000

General Description

The Canfield Series 7000 proximity sensors are used to sense position on cylinders. They accommodate 2 to 8 inch bore tie rod cylinders or 3/4 to 4 inch round cylinders. This proven design is rugged yet cost effective. The Series 7000 boasts the largest number of custom circuits to match applications found in the market. Examples include: 1 or 4 Amp reed switches, normally open, normally closed or SPDT switch types, reed or electronic sensing elements in the same package style, and the industry's first 120 VAC Hall sensor. A wide range of enclosures and connector options are available. To reduce stocking requirements, two clamp options feature a self-adjusting clamp for NFPA and other tie rod cylinders from 2 to 8 inch bore. Another clamp option features a band clamp from 3/4 to 4 inch round cylinders.

Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

12mm Quick Connect
Style 5

Standard Cable Module (9 ft)
Style 0

Clamp Styles

(Standard switch shown below. Mix and match with switch styles)

Technical Data

• Temperature Range: Operational from -20° to +80°C.
• Shock: Operational up to 30G (11 ms.) reeds only. Not applicable for electronics.
• Vibration: Operational up to 20 G (10 - 55Hz) reeds only. Not applicable for electronics.
• Sensitivity and orientation: 85 gauss parallel minimum required for proper operation, as measured on sensor surface. Size of sensing area depends on size and strength of magnet and thickness of cylinder wall.

Features

• One switch for a majority of voltages and cylinder sizes
• 2” to 6” bore, 6” to 8” bore or 3/4” to 4” round cylinders
• Wash down compatible NEMA 6 (most versions)
• Materials: Ultem®, Nylon, PVC wire and stainless steel
• CSA approved versions
• “Floating” clamp
• Surge suppression
• Compatible with IS (Intrinsically Safe) barriers
Ordering Information

**Clamp Style**
- 0 - Universal tie rod clamp 2” to 6” bore
- 1 - Round cylinder bracket
- 2 - Round cylinder 3/4” to 1 3/4” bore
- 3 - Round cylinder 1 9/16” to 2 1/2” bore
- 4 - Round cylinder 2 5/16” to 3 1/4” bore
- 5 - Round cylinder 3 1/16” to 4” bore
- 9 - 5/8” tie rod clamp 6” to 8” bore

**Connector Style**
- 0 - Standard cable module (9 ft)
- 5 - 12mm quick connect male*

*Mates with cordset RC12S-F0M030120 (2m) or RC12S-F0M030150 (5m) shown at right.

**Ordering Example:**
710-000-004
Universal tie rod clamp, Standard cable, reed switch, lighted, MOV surge suppression, normally open, 5 - 240V AC/DC 50/60 Hz

Type | Description | Function | Switching Voltage | Switching Current | Switching Power | Switching Speed | Voltage Drop |
--- | --- | --- | --- | --- | --- | --- | --- |
01 | Reed Switch, 2 Wire | Normally Open SPST | 0 - 240V AC/DC | 1 Amp max. | 30 Watts max. | 0.6 ms operate | 0 Volts |
04 | Reed Switch, MOV, LED, 2 Wire | Normally Open SPST | 5 - 240V AC/DC | 1 Amp max. | 30 Watts max. | 0.6 ms operate | 3 Volts |
05 | Reed Switch, 2 Wire | Normally Closed SPST | 0 - 120V AC/DC | 1 Amp max. | 20 Watts max. | 1.0 ms operate | 0 Volts |
06 | Reed Switch, LED, 3 Wire | Single Pole, Double Throw | 5 - 120V AC/DC | 1 Amp max. | 20 Watts max. | 1.0 ms operate | 3 Volts/loads1 0 Volts/loads2 |
09 | Reed Switch, MOV, LED, 2 Wire | Normally Closed SPST | 5 -120V AC/DC | 1 Amp max. | 20 Watts max. | 1.0 ms operate | 3 Volts |
15 | AC Electronic Sensor for Reed Magnets, LED, 3 Wire | Normally Open TRIAC output | 12-24 VAC | 600 mA max. | 15 Watts max. | 1.5 µs operate | 1 Volt |
16 | AC Electronic Sensor for Reed Magnets, LED, 3 Wire | Normally Open TRIAC output | 120 VAC | 600 mA max. | 72 Watts max. | 1.5 µs operate | 1 Volt |
21 | Reed Switch, MOV, 2 Wire | Normally Open TRIAC output | 10 - 240 VAC | 4 Amps max. | 100 Watts max. | 0.6 ms operate | 1 Volt |
23 | Reed Switch, MOV, LED, 3 Wire | Normally Open TRIAC output | 10 - 50 VAC | 4 Amps max. | 100 Watts max. | 0.6 ms operate | 1 Volt |
24 | Reed Switch, MOV, LED, 3 Wire | Normally Open TRIAC output | 24 - 24 VAC | 4 Amps max. | 100 Watts max. | 0.6 ms operate | 1 Volt |
25 | Reed Switch, MOV, 2 Wire | Normally Closed TRIAC output | 10-120 VAC | 4 Amps max. | 100 Watts max. | 0.6 ms operate | 1 Volt |
29 | Reed Switch, MOV, LED, 3 Wire | Normally Closed TRIAC Output | 10-120 VAC | 4 Amps max. | 100 Watts max. | 0.6 ms operate | 1 Volts |
31 | Electronic for Reed Magnet, LED & Sourcing, 3 Wire | Normally Open PNP | 6 - 24 VDC | 1 Amp max. | 24 Watts max. | 1.5 µs operate | 0.5 Volts |
32 | Electronic for Reed Magnet, LED & Sinking, 3 Wire | Normally Open NPN | 6 - 24 VDC | 1 Amp max. | 24 Watts max. | 1.5 µs operate | 0.5 Volts |

Each switch supplied with clamp assembly.

For convenience and faster shipping, this series is available in Can-Paks.

Ordering Information

**Order part number**
RC12S-F0M030120 (2m length)
RC12S-F0M030150 (5m length)
**General Description**

The Canfield Connector 7GL is an expansion of the popular Series 7000 “floating” clamp design, which adapts to NFPA tie rod linear actuators with 2 to 8 inch bore. This rugged magnetic proximity sensor can sense actuator position in stringent, general location applications. The switch features a robust, aircraft aluminum body, epoxy-filled, vibration and shock resistant, electronic circuit. Available in a normally open contact, the 7GL can switch current up to .5 Amps and has a voltage range of 0-120VAC/VDC 50/60 Hz.

**Dimensional Data**

- **1/2” Conduit**
  - 1.500
- **1.450**
- **1.375**

**Technical Data**

- **Temperature Range:** Operational from -20° to +80°C
- **Shock:** Operational up to 30 G (11ms)
- **Vibration:** Operational up to 20 G (10 - 55 Hz)
- **Sensitivity:** 85 Gauss parallel minimum, as measured on the surface of actuator
- **Environmental protection:** NEMA 1, 4 and 13
- **Body Material:** Anodized 6061-T6 Aluminum, Epoxy encapsulated printed circuit board
- **Wire:** PVC 20/3 Leads
- **Circuit:** S.P.S.T., Normally Open
- **Operating Voltage:** 0 - 120 V AC/DC 50/60 Hz
- **Maximum Load (Power Rating):** 10W, Resistive Only
- **Maximum Current:** 0.5A Max.
- **Response Time ON:** 0.5ms
- **Response Time OFF:** 0.1ms

**Features**

- Normally open reed switch for general location
- Metal body with robust 1/2” conduit
- Fully encapsulated electronics
- Cam-lock clamp ensures proper assembly and sensor position
- Compatible for wash down
- Compatible with anodized 6061 Aluminum material

**Electrical, Mounting Installation**

- **Both direct and alternating current**
- **Earth (ground) TERMINAL**

**Ordering Information**

Order # 7 G L 1 0 - 0 0 0 - 0 0 1
General Description
The Canfield Connector 7HL is a rugged magnetic proximity sensor designed to sense actuator position in stringent, hazardous location applications. The switch features a robust, epoxy-filled, aircraft aluminum body, and has a vibration and shock resistant, electronic circuit. The 7HL is an expansion of the popular Series 7000 “floating” clamp design and will clamp on 2 to 8 inch bore NFPA tie rod linear actuators. This product is designed to operate in hazardous locations, this switch is CSA approved for Class I, Division 2, Groups A, B, C, and D; Class II, Division 2, Groups F and G; and Class III.

Features
- Meets hazardous location specifications
- Metal body with robust 1/2" conduit
- Fully encapsulated electronics
- Cam-lock clamp ensures proper assembly and sensor position
- Compatible for wash down and corrosive environments
- Compatible with anodized 6061 Aluminum material

Technical Data
- Temperature Range: Operational from -20° to +80°C
- Shock: Operational up to 30 G (11ms)
- Vibration: Operational up to 20 G (10 - 55 Hz)
- Sensitivity: 85 Gauss parallel minimum, as measured on the surface of actuator
- Pollution Degree: 3
- Environmental protection: NEMA 1, 4 and 13
- Hazardous location ratings:
  - CSA: Class I, Division 2, Groups A, B, C and D;
  - Class II, Division 2, Groups F and G; and Class III
- Body Material: Anodized 6061-T6 Aluminum, Epoxy encapsulated printed circuit board
- Wire: SJE00W 18/3 Leads
- Circuit: S.P.S.T., Normally Open
- Operating Voltage: 0 - 120 V AC/DC 50/60 Hz
- Maximum Load (Power Rating): 10W, Resistive Only
- Maximum Current: 0.5A Max.
- Response Time ON: 0.5ms
- Response Time OFF: 0.1ms

Ordering Information
Order # 7 H L 1 0 - 0 0 0 - 0 0 1
SERIES 8000

REED & ELECTRONIC SENSORS FOR ROUND, TIE-ROD, OR EXTRUDED CYLINDERS

General Description

The Canfield Connector Series 8000 Reed and Electronic sensors are compact units designed for sensing applications on round cylinders from 9/16” - 4” and tie-rod pneumatic cylinders from 3/4” - 8” bore. These sensors offer a wide voltage range from 0-120 VAC/VDC 50/60 Hz and high current capacity up to 0.5 Amps. They include high intensity indicator lights and a wide viewing angle. The sensor’s small package can fit easily on the smallest cylinder without appearing too large. The Series 8000’s design promotes ease of installation with a tight fit. Options include 9ft. PVC or 8mm quick connect male pigtail.

Features

• Extremely consistent repeatability
• Compact design
• Surge suppression available (standard on electronic)
• Reverse polarity protection
• Wide voltage range
• Compatible with IS (Intrinsically Safe) barriers
• High intensity light (LED) standard on most models
• Compatible with most corrosive and washdown applications
• High current capacity for small size (up to 10 times the competition)
• Both reed and electronic versions work with the same (reed) magnet
• Encapsulated circuit for wet environment

Technical Data

• Temperature Range: Operational from -20° to +80°C
• Shock: Operational up to 30G (11 ms.) reeds only. Not applicable for electronic
• Vibration: Operational up to 20G (10 - 55 Hz) reeds only. Not applicable for electronic
• Sensitivity and orientation: 85 gauss parallel (standard minimum required for proper operation, as measured on sensor surface. Size of sensing area depends on size and strength of magnet and thickness of cylinder wall
• Most versions designed to meet NEMA 4/IP65 specifications

Consult factory for available versions listed by Canadian Standards Association for use with certified electrical equipment.
Dimensional Data

**ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED**

**Clamp Styles**

- **Strap for round cylinders from 9/16" to 4" bore**
- **Clamp for tie-rod cylinders from 3/4" to 4" bore.**
- **Clamp for extruded cylinders from 1 1/2" to 4" bore.**
- **Strap for round cylinders from 9/16" to 4" bore with side adjustment.**
- **Clamp for NFPA tie-rod cylinders from 2 1/2" to 4" bore.**
- **Clamp for NFPA tie-rod cylinders from 5" to 8" bore.**

9 ft PVC Cable Switch

*Type 0*

9 ft, 24 gauge PVC cable standard

8mm Quick Connect Male Pigtail

*Type 1*
**Clamp Styles**
- 0 - Universal round cylinder clamp
- 1 - No clamp
- 2 - Universal tie-rod clamp
- 3 - Extruded cylinder clamp
- 5 - Clamp loop / no clamp***
- 6 - Clamp loop / 1/2” - 3/4” clamp
- 7 - Clamp loop / 1” - 1 1/2” clamp
- 8 - Clamp loop / 1 1/2” - 2” clamp
- 9 - Clamp loop / 2” - 2 1/2” clamp
- A - Side adjust round cylinder clamp
- B - NFPA 2 1/2” - 4” tie-rod cylinder clamp
- C - NFPA 5” - 8” tie-rod cylinder clamp

***Uses 5/16” wide band clamp

**Connection Options**
- 0 - 9 ft PVC cable
- 1 - 8mm quick connect male pigtail*

*Mates with cordsets shown at right.

---

**Mating Cordsets**

8mm female molded locking connectors

Order part number
- Brown = Pin 1
- Blue = Pin 3
- Black = Pin 4

RC08S-F0M030120 (2m length)
RC08S-F0M030150 (5m length)

---

**Switching Options**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Function</th>
<th>Switching Voltage</th>
<th>Switching Current</th>
<th>Switching Power</th>
<th>Voltage Drop</th>
<th>Magnetic Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Reed Switch</td>
<td>Normally Open SPST</td>
<td>0 - 120V AC/DC</td>
<td>0.5 Amps Max.</td>
<td>10 watts Max.</td>
<td>0 Volts</td>
<td>85 Ga.</td>
</tr>
<tr>
<td>02</td>
<td>Reed Switch &amp; LED</td>
<td>Normally Open SPST</td>
<td>5 - 120V AC/DC</td>
<td>0.025 Amps Max. 0.001 Amps Min.</td>
<td>3 watts Max.</td>
<td>6.0 Volts</td>
<td>85 Ga.</td>
</tr>
<tr>
<td>04</td>
<td>Reed Switch, LED &amp; MOV</td>
<td>Normally Open SPST</td>
<td>5 - 120V AC/DC</td>
<td>0.5 Amps Max. 0.005 Amps Min.</td>
<td>10 watts Max.</td>
<td>3.0 Volts</td>
<td>85 Ga.</td>
</tr>
<tr>
<td>31</td>
<td>Electronic for Reed Magnet, LED &amp; Sourcing</td>
<td>Normally Open PNP</td>
<td>6 - 24 VDC</td>
<td>0.3 Amps Max.</td>
<td>7.2 watts Max.</td>
<td>.5 Volts</td>
<td>85 Ga.</td>
</tr>
<tr>
<td>32</td>
<td>Electronic for Reed Magnet, LED &amp; Sinking</td>
<td>Normally Open NPN</td>
<td>6 - 24 VDC</td>
<td>0.3 Amps Max.</td>
<td>7.2 watts Max.</td>
<td>.5 Volts</td>
<td>85 Ga.</td>
</tr>
</tbody>
</table>

---

**For convenience and faster shipping, this series is available in Can-Paks.**

---

**Ordering Example:**

810-000-002

Universal round cylinder clamp, 9ft PVC cable, reed switch with LED, SPST, normally open, 5 - 120V AC/DC
**General Description**

The Canfield Connector Series 8D is a robust yet compact switch designed to sense position of pneumatic cylinders with magnetic pistons. The switch features an all encapsulated design with a metal over housing that protects the internal components from harsh environments. The switch comes in reed, or electronic versions and has either 9 ft. PVC or 8mm quick connect male pigtail. A broad range of clamping styles make this a very versatile alternative for sensing round or tie rod type linear actuator. The switch comes standard with an indicator light that shows switching condition.

**Dimensional Data**

All dimensions are in millimeters unless otherwise noted.

**Clamp Styles**

- **Standard Round Cylinder Universal Clamp (Style 0)**
  - Strap for round cylinders from 9/16" to 4" bore

- **Standard Tie-Rod Cylinder Clamp (Style 2)**
  - Clamp for tie-rod cylinders from 3/4" to 4" bore. Max. Ø to 5/16"

**Features**

- Quick connect versions available
- Extremely consistent repeatability
- Compact design
- Reverse polarity protection
- Both reed and electronic versions work with the same (reed) magnet
- Encapsulated circuit for wet environment (NEMA 6)
- Available for tie-rod, round or extruded cylinder mounting
Technical Data

- Temperature Range: Operational from -10° to +70°C
- Shock: Operational up to 30G (11 ms.) reeds, 50G electronic
- Vibration: Operational up to 9G parallel
- Sensitivity and orientation: 60G parallel (standard minimum required for proper operation, as measured on sensor surface. Size of sensing area depends on size and strength of magnet and thickness of cylinder wall
- Most versions designed to meet NEMA 6/IP67 specifications

Ordering Information

Clamp Styles
0 - Universal round cylinder clamp
1 - No clamp
2 - Universal tie-rod clamp

Connection Options
0 - 9 ft PVC cable
1 - 8mm quick connect male pigtail*

Mating Cordsets
8mm female molded locking connectors

Order part number
RC08S-F0M030120 (2m length)
RC08S-F0M030150 (5m length)

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Function</th>
<th>Switching Voltage</th>
<th>Switching Current</th>
<th>Switching Power</th>
<th>Voltage Drop</th>
<th>** Magnetic Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Reed Switch</td>
<td>Normally Open</td>
<td>0 - 240V AC/DC</td>
<td>0.5 Amps Max.</td>
<td>10 watts Max.</td>
<td>0 Volts</td>
<td>60 Ga.</td>
</tr>
<tr>
<td>04</td>
<td>Reed Switch, LED &amp; MOV</td>
<td>Normally Open</td>
<td>5 - 240V AC/DC</td>
<td>100 mA</td>
<td>10 watts Max.</td>
<td>2.5 Volts</td>
<td>60 Ga.</td>
</tr>
<tr>
<td>31</td>
<td>Electronic for Reed Magnet, LED &amp; Sourcing</td>
<td>Normally Open PNP</td>
<td>5 - 28 VDC</td>
<td>.2 Amps Max.</td>
<td>6 watts Max.</td>
<td>1.5 Volts</td>
<td>60 Ga.</td>
</tr>
<tr>
<td>32</td>
<td>Electronic for Reed Magnet, LED &amp; Sinking</td>
<td>Normally Open NPN</td>
<td>5 - 28 VDC</td>
<td>.2 Amps Max.</td>
<td>6 watts Max.</td>
<td>1.5 Volts</td>
<td>60 Ga.</td>
</tr>
</tbody>
</table>

**Minimum gauss rating required for proper operation; as measured 4.5 above sensing surface. Size of sensing area depends upon size and strength of magnet and thickness of cylinder wall.

Ordering Example:
8D10-000-004

Universal round cylinder clamp, 9 ft. cable, standard style reed switch with LED & MOV, SPST, normally open, 5 - 240V AC/DC
SERIES 8E

General Description

The Canfield Connector Series 8E is a linear actuator magnetic sensor designed for harsh industrial applications. With mounting styles for tie rod or round type linear actuators, the 8E features an all encapsulated body that is covered by a metal housing for strength. The switch is available in reed or electronic versions and electrical connection is made by use of 9 ft. PVC or 8mm quick connect male pigtail. The 8E is water resistant and dust tight to IP67.

Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

Clamp Styles

Standard Round Cylinder Universal Clamp (Style 0)

Strap for round cylinders from 9/16" to 4" bore

Standard Tie-Rod Cylinder Clamp (Style 2)

Clamp for tie-rod cylinders from 3/4" to 4" bore.

Features

• Quick connect versions available
• Extremely consistent repeatability
• Compact design
• Reverse polarity protection
• Both reed and electronic versions work with the same (reed) magnet
• Encapsulated circuit for wet environment (NEMA 6)
• Available for tie-rod, round or extruded cylinder mounting
Technical Data

- Temperature Range: Operational from -10° to +70°C
- Shock: Operational up to 30G (11 ms.) reeds, 50G electronic
- Vibration: Operational up to 9G parallel
- Sensitivity and orientation: 60G parallel (standard minimum required for proper operation, as measured on sensor surface. Size of sensing area depends on size and strength of magnet and thickness of cylinder wall
- Most versions designed to meet NEMA 6/IP67 specifications

Ordering Information

Clamp Styles
0 - Universal round cylinder clamp
1 - No clamp
2 - Universal tie-rod clamp

Connection Options
0 - 9 ft PVC cable
1 - 8mm quick connect male pigtail*

Mating Cordsets
8mm female molded locking connectors

Order part number
Brown = Pin 1
Blue = Pin 3
Black = Pin 4
RC08S-F0M030120 (2m length)
RC08S-F0M030150 (5m length)

Connection Options
0 - 9 ft PVC cable
1 - 8mm quick connect male pigtail*

Connection Options
0 - 9 ft PVC cable
1 - 8mm quick connect male pigtail*

**Minimum gauss rating required for proper operation; as measured 4.5 above sensing surface. Size of sensing area depends upon size and strength of magnet and thickness of cylinder wall.

Ordering Example:
8E10-000-004
Universal round cylinder clamp, 9 ft. cable, standard style reed switch with LED & MOV, SPST, normally open, 5 - 240V AC/DC
SERIES 8F

General Description

The Canfield Connector Series 8F is a compact yet rugged magnetic reed type proximity sensor designed for rigorous applications where critical magnetic sensing is needed. The tough nylon shell is over-molded with polyurethane to create an environmentally resilient seal from the elements and is rated to IP67. The compact size and cylindrical shape are ideal for mounting in a simple hole or cylindrical shape. There is a tab mounting version also available. The 8F can be mounted solidly and fit into many common magnetic sensing applications. Offered standard with 9ft. cord or an M8 quick connect connector, the switch is also available in either normally open or normally closed switch types.

Dimensional Data

All dimensions are in millimeters unless otherwise noted.

To center of sensing area

38.4

18.6

13.3

6.5

M4x0.7 THRU

R3.6

Clearance for M4

GROOVE DIMENSIONS
• Temperature Range: Operational from -20° to +80°C
• Shock: Operational up to 30G (11 ms.)
• Vibration: Operational up to 20G (10-55 Hz)
• Environmental Protection: NEMA 6 / IP67
• Sensitivity and Orientation: 85 Gauss parallel

Features
• Small sensor fits most space requirements
• Corrosion and washdown resistance
• Compatible with IS (Intrinsically Safe) barriers
• Molded construction for wet environments (NEMA 6 / IP67)

Technical Data

Ordering Information

Clamp Styles
0 - Straight body with set screw
1 - Straight body with mounting tab

Connection Options
0 - 9 ft PVC cable
1 - 8mm quick connect male pigtail*

Mating Cordsets
8mm female molded locking connectors

Order part number
RC08S-F0M030120 (2m length)
RC08S-F0M030150 (5m length)

*Mates with cordsets shown at right.

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Function</th>
<th>Switching Voltage</th>
<th>Switching Current</th>
<th>Switching Power</th>
<th>Voltage Drop</th>
<th>** Magnetic Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Reed Switch</td>
<td>Normally Open</td>
<td>0 - 120V AC/DC</td>
<td>2 Amps Max.</td>
<td>40 Watts Max.</td>
<td>0 Volts</td>
<td>85 Ga.</td>
</tr>
<tr>
<td>06</td>
<td>Reed Switch</td>
<td>SPDT</td>
<td>0 - 120V AC/DC</td>
<td>0.25 Amps Max.</td>
<td>5 Watts Max.</td>
<td>0 Volts</td>
<td>85 Ga.</td>
</tr>
<tr>
<td>09</td>
<td>Reed Switch</td>
<td>Normally Closed</td>
<td>0 - 120V AC/DC</td>
<td>0.25 Amps Max.</td>
<td>5 Watts Max.</td>
<td>0 Volts</td>
<td>85 Ga.</td>
</tr>
</tbody>
</table>

**Minimum gauss rating required for proper operation; as measured 4.5 above sensing surface. Size of sensing area depends upon size and strength of magnet and thickness of cylinder wall.

Ordering Example:

8F10-000-001

Straight body with set screw, 9 ft. cable, reed switch, normally open, 0 - 120V AC/DC
SERIES 8WF  
WELD FIELD IMMUNE ELECTRONIC SENSORS FOR ROUND, TIE-ROD, OR EXTRUDED CYLINDERS

General Description

The Canfield Connector Series 8WF weld field immune electronic sensors are compact magnetic sensors designed for sensing position magnetic pistons on pneumatic actuators while ignoring electromagnetic pulses generated from AC weld fields. Designed for round type cylinders with diameters from 9/16" - 4" and tie-rod type cylinders from 3/4" - 8" bore, the 8WF features a rugged stainless steel and nylon enclosure and high current capacity up to 0.2 Amps and 24VDC input. Included in the sensor is a high intensity indicator light that can be seen from a wide viewing angle. The sensor's small package can fit easily on the smallest cylinder without appearing too large. The Series 8WF design promotes ease of installation with a tight fit. Options include 9ft. PVC or 8mm quick connect male pigtail.

Features

- Extremely consistent repeatability
- Compact design
- Reverse polarity protection
- Wide voltage range
- Compatible with IS (Intrinsically Safe) barriers
- High intensity light (LED) standard on most models
- Compatible with most corrosive and washdown applications
- High current capacity for small size (up to 10 times the competition)
- Encapsulated circuit for wet environment

Technical Data

- Temperature Range: Operational from -20° to +80°C
- Sensitivity and orientation: 85 gauss parallel (standard minimum required for proper operation, as measured on sensor surface. Size of sensing area depends on size and strength of magnet and thickness of cylinder wall
- Most versions designed to meet NEMA 4/IP65 specifications
- Minimum magnetic field application time to activate output - 15m sec.


**Clamp Styles**

- **Standard Round Cylinder Universal Clamp (Style 0)**
- **Standard Tie-Rod Cylinder Clamp (Style 2)**
- **Extruded Cylinder Clamp (Style 3)**

- **Low-Profile Round Cylinder Clamp (Style 5-9)**
- **Side Adjust Round Cylinder Clamp (Style A)**
- **NFPA Tie-Rod Cylinder Clamp (Style B)**
- **NFPA Tie-Rod Cylinder Clamp (Style C)**
**Ordering Information**

**Clamp Styles**
- 0 - Universal round cylinder clamp
- 1 - No clamp
- 2 - Universal tie-rod clamp
- 3 - Extruded cylinder clamp
- 5 - Clamp loop / no clamp***
- 6 - Clamp loop / 1/2" - 3/4" clamp
- 7 - Clamp loop / 1" - 1 1/2" clamp
- 8 - Clamp loop / 1 1/2" - 2" clamp
- 9 - Clamp loop / 2" - 2 1/2" clamp
- A - Side adjust round cylinder clamp
- B - NFPA 2 1/2" - 4" tie-rod cylinder clamp
- C - NFPA 5" - 8" tie-rod cylinder clamp

***Uses 5/16" wide band clamp

**Connection Options**
- 0 - 9 ft PVC cable
- 1 - 8mm quick connect male pigtail*

*Mates with cordsets shown at right.

**Ordering Example:**
8WF10-000-031

Universal round cylinder clamp, 9ft PVC cable, Electronic for Reed Magnet, LED & Sourcing, Normally Open, 6-24 VDC

**Mating Cordsets**

8mm female molded locking connectors

Order part number
- Brown = Pin 1
- Blue = Pin 3
- Black = Pin 4

RC08S-F0M030120 (2m length)
RC08S-F0M030150 (5m length)

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Function</th>
<th>Switching Voltage</th>
<th>Switching Current</th>
<th>Switching Power</th>
<th>Voltage Drop</th>
<th>Magnetic Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>Electronic for Reed Magnet, LED &amp; Sourcing</td>
<td>Normally Open PNP</td>
<td>6 - 24 VDC</td>
<td>0.2 Amps Max.</td>
<td>4.8 watts Max.</td>
<td>1 Volts</td>
<td>85 Ga.</td>
</tr>
<tr>
<td>32</td>
<td>Electronic for Reed Magnet, LED &amp; Sinking</td>
<td>Normally Open NPN</td>
<td>6 - 24 VDC</td>
<td>0.2 Amps Max.</td>
<td>4.8 watts Max.</td>
<td>1 Volts</td>
<td>85 Ga.</td>
</tr>
</tbody>
</table>
SERIES 8WS (WORLDSWITCH)

REED & ELECTRONIC SENSORS FOR PNEUMATIC CYLINDERS WITH 12MM DOVETAIL

General Description

The Canfield Connector Series 8WS reed and electronic magnet sensors are rugged yet compact switches used to sense position on pneumatic actuators equipped with a magnetic piston and 12mm dovetail groove. The switch can be slipped in and tightened from anywhere along the groove that is fabricated into the cylinder wall or clamping system. The switch features a die cast holder which clamps to the cylinder groove while the electronics are fully encapsulated and resistance to environment. These sensors offer a wide voltage range from 0-120 V AC/DC 50/60Hz and have a up to a 500 mA switching current rating. The switch has a high intensity indicator light which indicates power to the switch and load. The switch comes standard with 9 ft. PVC or 8mm quick connect male pigtail.

Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

![Dimensional Diagram](image-url)

- **GROOVE DIMENSIONS**
  - Groove: Numatics

- **8MM PIGTAIL CONNECTOR**
  - Dimensions: 12, 10.3, 3.4

- **9 FT. CABLE**
  - Dimensions: 23.4, 14.2, 11
Technical Data

- Temperature Range: Operational from -20° to +80°C
- Shock: Operational up to 30G (11 ms.) reeds only. Not applicable for electronic.
- Vibration: Operational up to 20G (10 - 55 Hz) reeds only. Not applicable for electronic.
- Sensitivity and orientation: 85 gauss parallel (standard minimum required for proper operation, as measured on sensor surface. Size of sensing area depends on size and strength of magnet and thickness of cylinder wall.
- Most versions designed to meet NEMA 6/IP67 specifications

Features

- Robust design
- Metal housing
- Simple installation
- Reverse polarity
- Quick connect designs available
- Wide voltage range
- High current capacity
- Over voltage protection
- Indicator light can be seen from all angles

Consult factory for available versions listed by Canadian Standards Association for use with certified electrical equipment.

Installation

Ordering Information

Connection Options
0 - 9 ft PVC cable
1 - 8mm quick connect male pigtail*

* Mates with cordset shown at right.

Mating Cordsets
8mm female molded locking connectors

Order part number
RC08S-F0M030120 (2m length)
RC08S-F0M030150 (5m length)

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Function</th>
<th>Switching Voltage</th>
<th>Switching Current</th>
<th>Switching Power</th>
<th>Voltage Drop</th>
<th>** Magnetic Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Reed Switch</td>
<td>Normally Open SPST</td>
<td>0 - 120V AC/DC</td>
<td>0.5 Amps Max.</td>
<td>10 watts Max.</td>
<td>0 Volts</td>
<td>85 Ga.</td>
</tr>
<tr>
<td>02</td>
<td>Reed Switch &amp; LED</td>
<td>Normally Open SPST</td>
<td>5 - 120V AC/DC</td>
<td>0.025 Amps Max.</td>
<td>3 watts Max.</td>
<td>6.0 Volts</td>
<td>85 Ga.</td>
</tr>
<tr>
<td>04</td>
<td>Reed Switch, LED &amp; MOV</td>
<td>Normally Open SPST</td>
<td>5 - 120V AC/DC</td>
<td>0.5 Amps Max.</td>
<td>10 watts Max.</td>
<td>3.0 Volts</td>
<td>85 Ga.</td>
</tr>
<tr>
<td>31</td>
<td>Electronic for Reed Magnet, LED &amp; Sourcing</td>
<td>Normally Open (PNP)</td>
<td>6 - 24 VDC</td>
<td>0.3 Amps Max.</td>
<td>7.2 watts Max.</td>
<td>.5 Volts</td>
<td>85 Ga.</td>
</tr>
<tr>
<td>32</td>
<td>Electronic for Reed Magnet, LED &amp; Sinking</td>
<td>Normally Open (PNP)</td>
<td>6 - 24 VDC</td>
<td>0.3 Amps Max.</td>
<td>7.2 watts Max.</td>
<td>.5 Volts</td>
<td>85 Ga.</td>
</tr>
</tbody>
</table>

**Minimum gauss rating required for proper operation; as measured 4.5 above sensing surface. Size of sensing area depends upon size and strength of magnet and thickness of cylinder wall.

Ordering Example:

8WS10-000-002
9 ft. PVC cable, reed switch for PLC with LED, SPST normally open, 5 - 120V AC/DC
**General Description**

The Series 9C is a compact, universal, magnetically operated proximity switch commonly used on aluminum extruded profile type linear actuators equipped with magnetic pistons. The switches are available in both reed and electronic styles and made to fit into a 4mm key hole type slot. Position fixing is accomplished by means of a screw that is supplied in the switch body. The on board indicator light shows instant switch diagnostics to minimize downtime and facilitate installation and can be seen from wide angles. Available in the standard 9 ft. PVC wired or optional 8mm quick connect, the switch can handle AC or DC current in several configurations. The 9C is assembled in engineered polymers and designed to meet NEMA 6 / IP 67 environmental specifications.

**Dimensional Data**

All dimensions are in millimeters unless otherwise noted.

---

**REED SWITCH**

- Sensing Point: 2.8
- 13.00

**ELECTRONIC SWITCH**

- Sensing Point: 25.5

**GROOVE DIMENSIONS**

- Groove: DE-STA-CO, Robohand, SMC, Bimba, Compact Air
Features

- Ultra small sensor fits where other sensors will not
- Reverse polarity protection and surge suppression (electronic)
- Indicator light
- Corrosion and washdown resistance
- Solid state version available (no moving parts)
- Quick connect version
- 9 ft cable standard

Technical Data

- Temperature Range: operational from -10° to +70°C
- Sensitivity and orientation: 40 gauss parallel (electronic) 60 gauss parallel (reed)
- Meets NEMA 6 / IP67 specifications
- CE Approved

Ordering Information

**Connection Options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 9 ft PVC cable</td>
<td>3 - 8mm quick connect male pigtail*</td>
</tr>
</tbody>
</table>

*Mates with cordsets shown at right.

Ordering Example:

9C10-000-032

9 ft. PVC cable, electronic for reed magnet, LED, sinking, NPN, 5 - 28 VDC

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Function</th>
<th>Switching Voltage</th>
<th>Switching Current</th>
<th>Switching Power</th>
<th>Voltage Drop</th>
<th>** Magnetic Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>Reed Switch &amp; LED</td>
<td>Normally Open SPST</td>
<td>5 - 120V AC/DC 50/60 Hz</td>
<td>0.03 Amps Max.</td>
<td>4 watts Max.</td>
<td>2.5 Volts @ 40mA</td>
<td>60 Ga.</td>
</tr>
<tr>
<td>31</td>
<td>Electronic for Reed Magnet, LED &amp; Sourcing</td>
<td>Normally Open PNP</td>
<td>5 - 28 VDC</td>
<td>0.2 Amps Max.</td>
<td>4.8 watts Max.</td>
<td>.5 Volts @ 200mA</td>
<td>40 Ga.</td>
</tr>
<tr>
<td>32</td>
<td>Electronic for Reed Magnet, LED &amp; Sinking</td>
<td>Normally Open NPN</td>
<td>5 - 28 VDC</td>
<td>0.2 Amps Max.</td>
<td>4.8 watts Max.</td>
<td>.5 Volts @ 200mA</td>
<td>40 Ga.</td>
</tr>
</tbody>
</table>

**Minimum gauss rating required for proper operation. Size of sensing area depends upon size and strength of magnet and thickness of cylinder wall.**

Mating Cordsets

8mm female molded locking connectors

Order part number

- Brown = Pin 1
- Blue = Pin 3
- Black = Pin 4

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC08S-F0M030120</td>
<td>2m</td>
</tr>
<tr>
<td>RC08S-F0M030150</td>
<td>5m</td>
</tr>
</tbody>
</table>

For convenience and faster shipping, this series is available in Can-Paks.
SERIES 9D

General Description

The Canfield Connector Series 9D is a universal, ultra-small, magnetic proximity switch available in both solid state electronic and reed styles. These sensors are designed to fit the most stringent space requirements by use of a standard .250 inch dovetail slot. Many other mounting options are also available. The electronic sensor exhibits greater sensitivity to magnetism with reduced dead-band and hysteresis as compared to competitive devices. The reed sensor offers a wide operating voltage range. The molded switch has an on board indicator light that can be viewed from wide angles. Standard connection to the sensor is provided by a 9 ft. PVC or 8mm quick connect male pigtail. The rugged 20% glass-filled polypropylene switch is shipped with mounting hardware ready for installation.

Dimensional Data

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groove</td>
<td>14.0 x 19.0</td>
</tr>
<tr>
<td>Ø 2.6</td>
<td></td>
</tr>
<tr>
<td>Ø 2.3</td>
<td></td>
</tr>
</tbody>
</table>

Technical Data

- Temperature Range: Operational from -20° to +80°C
- Shock: Operational up to 30G (11 ms.) reeds only. Not applicable for electronic.
- Vibration: Operational up to 20G (10 - 55 Hz) reeds only. Not applicable for electronic.
- Sensitivity and Orientation: 85 gauss parallel (standard for reeds) 25 gauss parallel (standard for electronic)
- Most versions designed to meet NEMA 6/IP67 specifications

Features

- Small sensor fits most space requirements.
- Stand-alone mounting into any 1/4” dovetail slot (machined or extruded)
- Other special mounting clamp styles available
- Indicator light
- Corrosion and washdown resistant.
- Electronic sensing version (no moving parts)
- 60° wire outlet for close mounting
- Reverse polarity protection
- DC or AC voltage versions
- Compatible with IS (Intrinsically Safe) barriers
- Available for dovetail, round, tie-rod and rodless cylinder mountings.
### Mounting Styles
- 0 - 1/4" 60° dovetail (standard)
- 1 - 12mm 60° dovetail adapter
- 2 - 3/8" 60° dovetail adapter
- 3 - Round cylinder clamp 3/4" - 4" bore
- 4 - 14mm 60° dovetail adapter
- F - NFPA tie-rod cylinder clamp 1" - 2 1/2" bore
- G - Flat series cylinder clamp 3/4" - 2" bore
- H - Flat series cylinder clamp 2 1/4" - 4" bore
- J - NFPA tie-rod cylinder clamp 3 1/4" - 8" bore

### Connection Options
- 0 - 9 ft PVC cable
- 3 - 8mm quick connect male pigtail*

*Mates with cordsets shown at right.

### Mating Cordsets
- 8mm female molded locking connectors

**Ordering Example:**

```
9D10-000-002
```

1/4" dovetail, 9 ft. PVC cable, reed switch for PLC's with LED, SPST, normally open, 5 - 120V AC/DC 50/60 Hz
SERIES 9E

General Description

The Canfield Connector Series 9E is a universal, ultra-small, magnetic proximity switch available in both solid state electronic and reed styles. These sensors are designed to fit the most stringent space requirements by use of a standard .250 inch dovetail slot. Many other mounting options are also available. The electronic sensor exhibits greater sensitivity to magnetism with reduced dead-band and hysteresis as compared to competitive devices. The reed sensor offers a wide operating voltage range. The molded switch has an on board indicator light that can be viewed from wide angles. Standard connection to the sensor is provided by a 9 ft. PVC or 8mm quick connect male pigtail. The rugged 20% glass-filled polypropylene switch is shipped with mounting hardware ready for installation.

Technical Data

- Temperature Range: Operational from -20° to +80°C
- Shock: Operational up to 30G (11 ms.) reeds only. Not applicable for electronic.
- Vibration: Operational up to 20G (10 - 55 Hz) reeds only. Not applicable for electronic.
- Sensitivity and Orientation: 85 gauss parallel (standard for reeds) 25 gauss parallel (standard for electronic)
- Most versions designed to meet NEMA 6/IP67 specifications

Features

- Small sensor fits most space requirements.
- Stand-alone mounting into any 1/4" dovetail slot (machined or extruded)
- Other special mounting clamp styles available
- Indicator light
- Corrosion and washdown resistant.
- Electronic sensing version (no moving parts)
- Reverse polarity protection
- DC or AC voltage versions
- Compatible with IS (Intrinsically Safe) barriers
- Available for dovetail, round, tie-rod and rodless cylinder mountings.
Mounting Adapter Data

**Style 0**
- 1/4" 60° Dovetail
- .060"

**Style 1**
- 12mm 60° Dovetail

**Style 2**
- 3/8" 60° Dovetail

**Style 3**
- Strap for round cylinders from 3/4" to 4" bore

**Style 4**
- 14mm 60° Dovetail

**Style F**
- Clamp for NFPA tie-rod cylinders from 1" to 2 1/2" bore
- Ø5/16" max

**Style G**
- Clamp for flat series tie-rod cylinders from 3/4" to 2" bore
- Ø3/16" max

**Style J**
- Clamp for NFPA tie-rod cylinders from 3 1/4" to 8" bore
- Ø5/8" max

**Style H**
- Clamp for flat series tie-rod cylinders from 2 1/4" to 4" bore
- Ø3/8" max
### Order Information

#### Mounting Styles
- **0**: 1/4" 60° dovetail (standard)
- **1**: 12mm 60° dovetail adapter
- **2**: 3/8" 60° dovetail adapter
- **3**: Round cylinder clamp 3/4" - 4" bore
- **4**: 14mm 60° dovetail adapter
- **F**: NFPA tie-rod cylinder clamp 1" - 2 1/2" bore
- **G**: Flat series cylinder clamp 3/4" - 2" bore
- **H**: Flat series cylinder clamp 2 1/4" - 4" bore
- **J**: NFPA tie-rod cylinder clamp 3 1/4" - 8" bore

#### Connection Options
- **0**: 9 ft PVC cable
- **3**: 8mm quick connect male pigtail*

*Mates with cordsets shown at right.

#### Type | Description | Function | Switching Voltage | Switching Current | Switching Power | Switching Speed | Voltage Drop | Magnetic Sensitivity |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Reed Switch</td>
<td>Normally Open</td>
<td>0 - 120V AC/DC 50/60 Hz</td>
<td>0.25 Amps Max.</td>
<td>5 watts Max.</td>
<td>0.4 ms operate 0.1 ms release</td>
<td>0 Volts</td>
<td>85 Ga.</td>
</tr>
<tr>
<td>02</td>
<td>Reed Switch for PLC's, LED (current limiting)</td>
<td>Normally Open</td>
<td>0 - 120V AC/DC 50/60 Hz</td>
<td>0.03 Amps Max. 0.001 Amps Min.</td>
<td>4 watts Max.</td>
<td>0.4 ms operate 0.1 ms release</td>
<td>3.5 Volts @ 5mA</td>
<td>85 Ga.</td>
</tr>
<tr>
<td>31</td>
<td>Electronic for Reed Magnet, LED &amp; Sourcing</td>
<td>Normally Open</td>
<td>5 - 28 VDC</td>
<td>0.2 Amps Max.</td>
<td>4.8 watts Max.</td>
<td>4 μs operate 4 μs release</td>
<td>1.0 Volts</td>
<td>25 Ga.</td>
</tr>
<tr>
<td>32</td>
<td>Electronic for Reed Magnet, LED &amp; Sinking</td>
<td>Normally Open</td>
<td>5 - 28 VDC</td>
<td>0.2 Amps Max.</td>
<td>4.8 watts Max.</td>
<td>4 μs operate 4 μs release</td>
<td>1.0 Volts</td>
<td>25 Ga.</td>
</tr>
</tbody>
</table>

#### Ordering Example:

9E10-000-002

1/4" dovetail, 9 ft. PVC cable, reed switch for PLC's with LED, SPST, normally open, 5 - 120V AC/DC 50/60 Hz
SERIES 9F

REED & ELECTRONIC SENSORS
FOR UNIVERSAL APPLICATIONS 4mm "T" SLOT

General Description
The Canfield Connector Series 9F is a universal, ultra-small, magnetic proximity switch available in both solid state electronic and reed styles. These sensors are designed to fit the most stringent space requirements by using a 4mm "T" slot. The electronic sensor exhibits greater sensitivity to magnetism with reduced dead-band and hysteresis as compared to competitive devices. The reed sensor offers a wide operating voltage range. The molded switch has an on board indicator light that can be viewed from wide angles. Standard connection to the sensor is provided by a 9 ft. PVC or 8mm quick connect male pigtail. The rugged 20% glass-filled polypropylene switch is shipped with mounting hardware ready for installation.

Dimensional Data
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

Technical Data
• Temperature Range: Operational from -20° to +80°C
• Shock: Operational up to 30G (11 ms.) reeds only. Not applicable for electronic.
• Vibration: Operational up to 20G (10 - 55 Hz) reeds only. Not applicable for electronic.
• Sensitivity and Orientation: 85 gauss parallel (standard for reeds) 25 gauss parallel (standard for electronic)
• Most versions designed to meet NEMA 6/IP67 specifications

Features
• Small sensor fits most space requirements.
• Stand-alone mounting into any 4mm "T" slot (machined or extruded)
• Indicator light
• Corrosion and washdown resistant.
• Electronic sensing version (no moving parts)
• 60° wire outlet for close mounting
• Reverse polarity protection
• Compatible with IS (Intrinsically Safe) barriers
• High temperature versions available
Ordering Information

Connection Options
0 - 9 ft PVC cable
3 - 8mm quick connect male pigtail*

*Mates with cordsets shown at right.

Mating Cordsets
8mm female molded locking connectors

Connection Options
0 - 9 ft PVC cable
3 - 8mm quick connect male pigtail*

*Mates with cordsets shown at right.

Order part number
RC08S-F0M030120 (2m length)
RC08S-F0M030150 (5m length)

Type | Description | Function | Switching Voltage | Switching Current | Switching Power | Switching Speed | Voltage Drop | Magnetic Sensitivity
--- | --- | --- | --- | --- | --- | --- | --- | ---
01 | Reed Switch | Normally Open SPST | 0 - 120V AC/DC 50/60 Hz | 0.25 Amps Max. | 5 watts Max. | 0.4 ms operate 0.1 ms release | 0 Volts | 85 Ga.
02 | Reed Switch for PLC’s, LED (current limiting) | Normally Open SPST | 5 - 120V AC/DC 50/60 Hz | 0.03 Amps Max. 0.001 Amps Min. | 4 watts Max. | 0.4 ms operate 0.1 ms release | 3.5 Volts @ 5mA | 85 Ga.
31 | Electronic for Reed Magnet, LED & Sourcing | Normally Open PNP | 5 - 28 VDC | 0.2 Amps Max. | 4.8 watts Max. | 4 µs operate 4 µs release | 1.0 Volts | 25 Ga.
32 | Electronic for Reed Magnet, LED & Sinking | Normally Open NPN | 5 - 28 VDC | 0.2 Amps Max. | 4.8 watts Max. | 4 µs operate 4 µs release | 1.0 Volts | 25 Ga.

Ordering Example:
9F10-000-002
9 ft. PVC cable, reed switch for PLC’s with LED, SPST, normally open, 5 - 120V AC/DC 50/60 Hz

For convenience and faster shipping, this series is available in Can-Paks.
SERIES 9G

**General Description**

The Canfield Connector 9G linear magnetic position sensor is designed to work with aluminum extrusion type actuators that have a 6.2mm X 4.4mm rectangular groove designed into the body. Available in reed or electronic versions, the 9G fits into commonly used sensor grooves. Standard connection to the sensor is provided by a 9 ft. PVC or 8mm quick connect male pigtail. The switch is water resistant and dust tight to IP67.

**Dimensional Data**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.4</td>
<td>6.2</td>
</tr>
<tr>
<td>29</td>
<td></td>
</tr>
<tr>
<td>8.0</td>
<td>To Center of Sensing Area for Electronic Style</td>
</tr>
<tr>
<td>17.5</td>
<td>To Center of Sensing Area for Reed Style</td>
</tr>
</tbody>
</table>

**Technical Data**

- Temperature Range: Operational from -10° to +70°C
- Shock: Operational up to 30G reed and up to 50G for electronic
- Vibration: Operational up to 9G reed and electronic
- All versions designed to meet NEMA 6 / IP67 specifications
- Sensitivity and Orientation: 40 gauss parallel (electronic) 60 gauss parallel (reed)

**Features**

- T-slot body to fit many popular linear actuators
- All encapsulated body resists environment and vibration
- Available in Reed NPN or PNP Electronic versions
- Reverse polarity protection
- Quick connect versions

**GROOVE DIMENSIONS**

Groove: Fabco, Numatics, Rotomation
**Ordering Information**

**Connection Options**
0 - 9 ft PVC cable
3 - 8mm quick connect male pigtail*

*Mates with cordsets shown at right.

**Mating Cordsets**
8mm female molded locking connectors

**Order part number**
RC08S-F0M030120 (2m length)
RC08S-F0M030150 (5m length)

<table>
<thead>
<tr>
<th>Switch Type</th>
<th>Description</th>
<th>Function</th>
<th>Switching Voltage</th>
<th>Switching Current</th>
<th>Switching Power</th>
<th>Voltage Drop</th>
<th>Magnetic Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>Reed Switch with Red LED</td>
<td>Normally Open</td>
<td>5-120V AC/DC</td>
<td>0.03 Amps Max.</td>
<td>4 watts Max.</td>
<td>2.5 Volts</td>
<td>60 Ga.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SPST</td>
<td></td>
<td></td>
<td></td>
<td>@ 100 mA DC</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Electronic for Reed Magnet, with Gm LED &amp; Sourcing</td>
<td>Normally Open</td>
<td>5-28 VDC</td>
<td>0.2 Amps Max.</td>
<td>4.8 watts Max.</td>
<td>1.5 Volts</td>
<td>40 Ga.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PNP</td>
<td></td>
<td></td>
<td></td>
<td>@ 200 mA</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Electronic for Reed Magnet, with Red LED &amp; Sinking</td>
<td>Normally Open</td>
<td>5-28 VDC</td>
<td>0.2 Amps Max.</td>
<td>4.8 watts Max.</td>
<td>1.5 Volts</td>
<td>40 Ga.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NPN</td>
<td></td>
<td></td>
<td></td>
<td>@ 200 mA</td>
<td></td>
</tr>
</tbody>
</table>

**Ordering Example:**

9G10-000-002

9 ft PVC cable, reed switch with red LED, SPST, 5 - 240V AC/DC 50/60 Hz

For convenience and faster shipping, this series is available in Can-Paks.
SERIES 9H

REED & ELECTRONIC MAGNETIC SENSORS
FOR 4.2MM "T" SLOT APPLICATIONS

General Description
The Canfield Connector Series 9H is a profile mounting type switch that fits in a 4mm X 4mm square groove which normally is designed into an aluminum extrusion type linear actuator. Available in reed or electronic versions, the 9H is also available with a 9 ft. PVC or 8mm quick connect male pigtail. The switch is IP67 which is dust tight and water resistant.

 dimensional Data
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

Technical Data
- Temperature Range: Operational from -10° to +70°C
- Shock: Operational up to 30G reed and up to 50G for electronic
- Vibration: Operational up to 9G reed and electronic
- All versions designed to meet NEMA 6 / IP67 specifications
- Sensitivity and Orientation: 40 gauss parallel (electronic) 60 gauss parallel (reed)

Features
- Small sensor fits most space requirements.
- Indicator light
- Corrosion and washdown resistant
- Electronic sensing version (no moving parts)
- Reverse polarity protection
- CE approved
- AC/DC for reed. DC only for electronic
- Compatible with IS (Intrinsically Safe) barriers
**Ordering Information**

**Connection Options**
- 0 - 9 ft PVC cable
- 3 - 8mm quick connect male pigtail

*Mates with cordsets shown at right.

**Mating Cordsets**
8mm female molded locking connectors

**Order part number**
- Brown = Pin 1
- Blue = Pin 3
- Black = Pin 4

RC08S-F0M030120 (2m length)
RC08S-F0M030150 (5m length)

**Connection Options**
- 0 - 9 ft PVC cable
- 3 - 8mm quick connect male pigtail

* *Mates with cordsets shown at right.

**Ordering Example:**
9H10-000-002

9 ft. PVC cable, reed switch with red LED, SPST, 5 - 120V AC/DC 50/60 Hz

**For convenience and faster shipping, this series is available in Can-Paks.**

---

**Table:**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Function</th>
<th>Switching Voltage</th>
<th>Switching Current</th>
<th>Switching Power</th>
<th>Voltage Drop</th>
<th>Magnetic Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>Reed Switch with Red LED</td>
<td>Normally Open SPST</td>
<td>5 - 120V AC/DC</td>
<td>0.03 Amps Max.</td>
<td>4 watts Max.</td>
<td>2.5 Volts @ 100mA</td>
<td>60 Ga.</td>
</tr>
<tr>
<td>31</td>
<td>Electronic for Reed Magnet, with Grn LED &amp; Sourcing</td>
<td>Normally Open SPST</td>
<td>5 - 28 VDC</td>
<td>0.2 Amps Max.</td>
<td>4.8 watts Max.</td>
<td>.5 Volts @ 200 mA</td>
<td>40 Ga.</td>
</tr>
<tr>
<td>32</td>
<td>Electronic for Reed Magnet, with Red LED &amp; Sinking</td>
<td>Normally Open NPN</td>
<td>5 - 28 VDC</td>
<td>0.2 Amps Max.</td>
<td>4.8 watts Max.</td>
<td>.5 Volts @ 200 mA</td>
<td>40 Ga.</td>
</tr>
</tbody>
</table>
SERIES 9M50

General Description

The Canfield Connector 9M50 is a compact full featured magnetic proximity switch designed to fit a “D” shaped groove detail designed into linear actuators. The innovative design allows the switch to be inserted anywhere along the linear actuator and then rotated and locked into position. When installed the switch lies flat against the cylinder housing and does not protrude beyond the cylinder face making installations neat and clean. The fully encapsulated switch is offered in reed, and electronic styles in either NPN or PNP. The robust epoxy encapsulated design meets IP67, NEMA 6 environmental protection. Voltage ranges are available from 5 to 120 VAC/DC in multiple versions. Maximum current draw is 200 mA. Standard connection is provided by a 9 ft. PVC or 8mm quick connect male pigtail.

Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

Technical Data

- Temperature Range: Operational from -10° to +70°C
- Shock: Operational up to 30G reed and up to 50G for electronic
- Vibration: Operational up to 9G reed and electronic
- All versions designed to meet NEMA 6 / IP67 specifications
- Sensitivity and Orientation: 40 gauss parallel (electronic) 60 gauss parallel (reed)

Features

- Small sensor fits most space requirements.
- Indicator light
- Corrosion and washdown resistant.
- Electronic sensing version (no moving parts)
- Reverse polarity protection
- CE approved
- DC or AC voltage versions
- Compatible with IS (Intrinsically Safe) barriers
- Molded construction for wet environment (NEMA 6)
- Available in Normally Closed versions
**Ordering Information**

**Connection Options**

- 0 - 9 ft PVC cable
- 3 - 8mm quick connect male pigtail*

*Mates with cordsets shown at right.

**Mating Cordsets**

8mm female molded locking connectors

- Brown = Pin 1
- Blue = Pin 3
- Black = Pin 4

Order part number

- RC08S-F0M030120 (2m length)
- RC08S-F0M030150 (5m length)

**Type** | **Description** | **Function** | **Switching Voltage** | **Switching Current** | **Switching Power** | **Voltage Drop** | **Magnetic Sensitivity**
--- | --- | --- | --- | --- | --- | --- | ---
| **02** | Reed Switch with Red LED | Normally Open SPST | 5 - 120V AC/DC | 0.03 Amps Max. | 4 watts Max. | 2.5 Volts @ 100mA | 60 Ga. |
| **31** | Electronic for Reed Magnet, with Grn LED & Sourcing | Normally Open PNP | 5 - 28 VDC | 0.2 Amps Max. | 4.8 watts Max. | 1.5 Volts @ 200mA | 40 Ga. |
| **32** | Electronic for Reed Magnet, with Red LED & Sinking | Normally Open NPN | 5 - 28 VDC | 0.2 Amps Max. | 4.8 watts Max. | 1.5 Volts @ 200mA | 40 Ga. |

**Ordering Example:**

9M5010-000-002

9 ft. PVC cable, reed switch with red LED, SPST, 5 - 120V AC/DC 50/60 Hz

For convenience and faster shipping, this series is available in Can-Paks.
SERIES 9N

REED & ELECTRONIC SENSORS FOR 4.25MM ROUND GROOVE APPLICATIONS

**General Description**

The Canfield Connector 9N is a right angle version of the popular 4.25mm round groove type switches commonly used in aluminum extrusion type linear actuators. The 9N features reed or electronic versions and are available in standard 9 ft. PVC or 8mm quick connect male pigtail. The 9N is IP67 which makes it dust tight and water resistant.

**Dimensional Data**

**GROOVE DIMENSIONS**

- Groove: SMC

- Groove: Ø4.25

- R0.5

- 4.65

- 3.05

**To Center of Sensing Area for Reed Style**

- 22.5

- 13

**To Center of Sensing Area for Electronic Style**

- 18

- 6

**Features**

- Small sensor fits most space requirements.
- Indicator light
- Corrosion and washdown resistant.
- Electronic sensing version (no moving parts)
- Reverse polarity protection
- CE approved
- AC/DC for reed versions, DC only for electronic
**Ordering Information**

9N10-000-

*Connection Options*
- 0 - 9 ft PVC cable
- 3 - 8mm quick connect male pigtail*

*Mates with cordsets shown at right.

**Mating Cordsets**
8mm female molded locking connectors

**Order part number**
- RC08S-F0M030120 (2m length)
- RC08S-F0M030150 (5m length)

**Technical Data**
- Temperature Range: Operational from -10°C to +70°C
- Shock: Operational up to 30G reed and up to 50G for electronic
- Vibration: Operational up to 9G reed and electronic
- All versions designed to meet NEMA 6 / IP67 specifications
- Sensitivity and Orientation: 40 gauss parallel (electronic) 60 gauss parallel (reed)

**Switch Type**

<table>
<thead>
<tr>
<th>Switch Type</th>
<th>Description</th>
<th>Function</th>
<th>Switching Voltage</th>
<th>Switching Current</th>
<th>Switching Power</th>
<th>Voltage Drop</th>
<th>*Magnetic Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>Reed Switch with Red LED</td>
<td>Normally Open SPST</td>
<td>5-120V AC/DC</td>
<td>0.03 Amps Max.</td>
<td>4 watts Max.</td>
<td>2.5 Volts</td>
<td>60 Ga.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>@ 40 mA DC</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Electronic for Reed Magnet, with Grn LED &amp; Sourcing</td>
<td>Normally Open PNP</td>
<td>5-28 VDC</td>
<td>0.2 Amps Max.</td>
<td>4.8 watts Max.</td>
<td>.5 Volts</td>
<td>40 Ga.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>@ 200 mA</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Electronic for Reed Magnet, with Red LED &amp; Sinking</td>
<td>Normally Open NPN</td>
<td>5-28 VDC</td>
<td>0.2 Amps Max.</td>
<td>4.8 watts Max.</td>
<td>.5 Volts</td>
<td>40 Ga.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>@ 200 mA</td>
<td></td>
</tr>
</tbody>
</table>

**Ordering Example:**

9N10-000-002

9 ft. PVC cable, reed switch with red LED, SPST, 5 - 120V AC/DC 50/60 Hz

*For convenience and faster shipping, this series is available in Can-Paks.*
SERIES 9Q

General Description
The Canfield Connector Series 9Q is a magnetic proximity switch that is engineered to fit into extruded actuators that are made with a “T” slot. The unique design of the 9Q enables it to be installed anywhere along the slot and assembled in place without taking off the actuator end-cap. The rugged polyurethane encapsulated switch features an innovative design that incorporates a hard nylon shell. The switches are available in reed or electronic sensing and features a standard on board indicator light. Offered as a flying lead or 8mm quick connect, the sensors are quickly and easily wired in to any application. The sensors meet NEMA 6 / IP67 environmental specifications and are corrosion and wash-down compatible. This sensor is proudly made in the USA.

Dimensional Data

Dimensions are in millimeters unless otherwise noted.

Technical Data

- Temperature Range: Operational from -20° to +80°C
- Shock: Operational up to 30G (11 ms.) reeds only. Not applicable for electronic.
- Vibration: Operational up to 20G (10 - 55 Hz) reeds only. Not applicable for electronic.
- Most versions designed to meet NEMA 6 / IP67 specifications
- Sensitivity and Orientation: 85 gauss parallel (standard for reeds) 25 gauss parallel (standard for electronic)

Features

- Small sensor fits most space requirements.
- Indicator light
- Corrosion and washdown resistance.
- Electronic sensing version (no moving parts)
- Reverse polarity protection
- DC or AC voltage versions
- Compatible with IS (Intrinsically Safe) barriers
- Molded construction for wet environment (NEMA 6 / IP67)
**Ordering Information**

**Connection Options**
- 0 - 9 ft PVC cable
- 3 - 8mm quick connect male pigtail*

*Mates with cordsets shown at right.

**Mating Cordsets**
8mm female molded locking connectors
(for sensor types 01, 02, 31, 32)

Order part number
- RC08S-F0M030120 (2m length)
- RC08S-F0M030150 (5m length)

**Ordering Example:**
9Q10-000-002
9 ft. PVC cable, reed switch for PLC’s with LED, SPST, normally open, 5 - 120V AC/DC 50/60 Hz

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<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Function</th>
<th>Switching Voltage</th>
<th>Switching Current</th>
<th>Switching Power</th>
<th>Switching Speed</th>
<th>Voltage Drop</th>
<th>Magnetic Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Reed Switch</td>
<td>Normally Open</td>
<td>0 - 120V AC/DC 50/60 Hz</td>
<td>0.25 Amps Max.</td>
<td>5 watts Max.</td>
<td>0.4 ms operate</td>
<td>0.1 ms release</td>
<td>0 Volts</td>
</tr>
<tr>
<td>02</td>
<td>Reed Switch for PLC’s, LED</td>
<td>SPST, Normally Open</td>
<td>5 - 120V AC/DC 50/60 Hz</td>
<td>0.03 Amps Max.</td>
<td>4 watts Max.</td>
<td>0.4 ms operate</td>
<td>0.1 ms release</td>
<td>3.5 Volts</td>
</tr>
<tr>
<td></td>
<td>for PLC’s, LED (current limiting)</td>
<td></td>
<td></td>
<td>0.001 Amps Min.</td>
<td></td>
<td></td>
<td></td>
<td>@ 5mA</td>
</tr>
<tr>
<td>31</td>
<td>Electronic for Reed Magnet, LED &amp; Sourcing</td>
<td>Normally Open</td>
<td>5 - 28 VDC</td>
<td>0.2 Amps Max.</td>
<td>4.8 watts Max.</td>
<td>4 µs operate</td>
<td>4 µs release</td>
<td>1.0 Volts</td>
</tr>
<tr>
<td>32</td>
<td>Electronic for Reed Magnet, LED &amp; Sinking</td>
<td>Normally Open</td>
<td>5 - 28 VDC</td>
<td>0.2 Amps Max.</td>
<td>4.8 watts Max.</td>
<td>4 µs operate</td>
<td>4 µs release</td>
<td>1.0 Volts</td>
</tr>
</tbody>
</table>

Brown = Pin 1
Blue = Pin 3
Black = Pin 4
SERIES 9T

**REED & ELECTRONIC MAGNETIC SENSORS**

**FOR 7.2MM "T" SLOT APPLICATIONS**

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**General Description**

The Canfield Connector Series 9T is a compact yet robust switch used to sense position of magnetic pistons designed into aluminum extrusion type linear actuators. The 9T fits a 7.2mm X 3.9mm rectangular groove which is designed into the actuator body. Available in reed or electronic versions, the 9T features standard 9 ft. PVC or 8mm quick connect male pigtails, and are rated IP67 against the ingress of dust and water.

**Dimensional Data**

All dimensions are in millimeters unless otherwise noted.

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**Technical Data**

- Temperature Range: Operational from -10° to +70°C
- Shock: Operational up to 30G reed and up to 50G for electronic
- Vibration: Operational up to 9G reed and electronic
- All versions designed to meet NEMA 6 / IP67 specifications
- Sensitivity and Orientation: 40 gauss parallel (electronic)
  60 gauss parallel (reed)

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**Features**

- Small sensor fits most space requirements.
- Indicator light
- Corrosion and washdown resistant.
- Electronic sensing version (no moving parts)
- Reverse polarity protection
- CE approved
- AC/DC for reed. DC only for electronic
- Compatible with IS (Intrinsically Safe) barriers
- Molded construction for wet environment (NEMA 6)
**Ordering Information**

**Connection Options**
- 0 - 9 ft PVC cable
- 3 - 8mm quick connect male pigtail*

*Mates with cordsets shown at right.

**Mating Cordsets**
8mm female molded locking connectors

**Ordering Example:**
9T10-000-002
9 ft. PVC cable, reed switch with red LED, SPST, 5 - 240V AC/DC 50/60 Hz

**Type** | **Description** | **Function** | **Switching Voltage** | **Switching Current** | **Switching Power** | **Voltage Drop** | **Magnetic Sensitivity**
--- | --- | --- | --- | --- | --- | --- | ---
02 | Reed Switch with Red LED | Normally Open SPST | 5 - 120V AC/DC | 0.03 Amps Max. | 4 watts Max. | 2.5 Volts @ 100mA | 60 Ga.
31 | Electronic for Reed Magnet, with Grn LED & Sourcing | Normally Open PNP | 5 - 28 VDC | 0.2 Amps Max. | 4.8 watts Max. | .5 Volts @ 200 mA | 40 Ga.
32 | Electronic for Reed Magnet, with Red LED & Sinking | Normally Open NPN | 5 - 28 VDC | 0.2 Amps Max. | 4.8 watts Max. | .5 Volts @ 200 mA | 40 Ga.

For convenience and faster shipping, this series is available in Can-Paks.
We appreciate your business!

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