



canfield connector

*Magnetic Proximity*

# SENSORS

*for Linear Actuators*



# SENSORS

8510 Foxwood Court • Youngstown, Ohio • 44514

ph: 330-758-8299 • fx: 330-758-8912

[www.canfieldconnector.com](http://www.canfieldconnector.com)

800.696.6165

[www.comoso.com](http://www.comoso.com)



## canfield connector

### 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.



**MADE IN USA**

Canfield Industries, Inc.



ISO 9001  
with design  
05.096.1

*\*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.*

**800.696.6165**

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**Canfield Connector**  
8510 Foxwood Court • Youngstown, OH 44514  
**STANDARD TERMS OF SALE AND RESTOCKING**

**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 assigned, 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, per or remedy accruing to Seller upon breach or default by Buyer under this contract shall impair any such right, power or remedy of Seller, or shall be construed as a waiver of any such breach or default. All waivers must be in writing.
- d.) In the event of any of the provisions hereof shall, for any reason, be held void or unenforceable, the remaining provisions shall remain in full force and effect and shall control.
- e.) Any provisions of this contract prohibited by law of any state shall as to said state, be ineffective to the extent of such prohibition without invalidating the remaining provisions of this contract.
- f.) 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 his own tests to determine the suitability thereof for his 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 normal use and regular service and 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/or samples. These express warranties are in lieu of and exclude all other warranties, express 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 for replacement of parts, adjustment or repairs, or any other work, unless such charges are 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/or samples, Seller upon notice promptly given will either examine the goods at their site, or issue shipping instructions for 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 so expended by Buyer. In particular, seller makes no warranty respecting the merchantability of the products or their suitability or fitness for any particular purpose or use or respecting infringement. 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 at Buyer's request and/or to 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 PROFIT, LOSS OF DATA, LOSS OF USE, PROMOTIONAL OR MANUFACTURING EXPENSES, OVERHEAD, INJURY TO REPUTATION OR LOSS OF CUSTOMERS. 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 payment at the annual percentage rate of 18% (or such lower rate as may be the maximum allowable by law), together with Seller's costs of collection (including reasonable attorneys' fees).
- c.) Buyer agrees to pay the entire net amount of each invoice rendered by Seller pursuant to the terms of each such invoice without offset or 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 government 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/or 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 is or may be impaired, Seller may cancel 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 paid by Seller or for which Seller may be liable, shall be paid to Seller by Buyer 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 rescheduled 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 schedule method.
- c.) Special Orders - Special orders for items not normally stocked are non-cancelable and non-returnable.

**7. DELIVERIES/TITLE:**

- 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 shall 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 election 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 timely delivery. Thereafter, delivery shall be deemed timely 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 Seller may, at its option, cancel this contract without liability. Buyer remaining liable for shipments already made. Sellers 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 of and delays by carriers, shortages of material, delays of a supplier due to causes beyond its 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 must be freight prepaid. 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 so expended by Buyer. Notice of defective Products must be made within seven (7) calendar days of receipt. A complete description regarding the nature of the defect must be included with all returned Products. All items not eligible for credit will be returned to Buyer, transportation collect.

**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 in so far as warranted.
- b.) Any designs, tools, patterns, material, 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 production of the goods called for herein and not otherwise, unless by Buyer's written consent. Seller agrees to exercise reasonable care with respect to such property and equipment while in its possession and control, but shall not be responsible for loss or damage occurring without its fault or negligence or for ordinary wear and tear.

**9. USE OF PRODUCTS:**

- a.) If technical advice is offered or given in connection with the use of any Products it will be as an accommodation to Buyer and without charge and Seller shall have no responsibilities or liabilities whatsoever for the content or use of 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 and the Manufacturer of Products are not liable, in whole or in part, for any claim or damage arising from such use, and agree to fully indemnify Seller and the Manufacturer from and against any and all damages, loss, cost, expense or liability arising out of or in connection with the use or performance of Products in life support or nuclear applications.
- c.) Should the Buyer notify the Seller that its order is placed under a prime contract with an agency of the United States Government, the following terms and conditions shall be incorporated into Seller's terms of sale in so far as the Buyer is required to incorporate such provisions in its purchase orders or subcontracts of terms in so far as applicable to the goods sold hereunder.
- d.) The following clause set forth or referred to in Sections 7 and 12 of the Armed Services Procurement Regulations are hereby incorporated by reference: Renegotiation (7-103.13), Eight Hour Law of 1912 (7-103.16 12-303.1), Walsh-Healy Public Contracts Act (7-103.17 12-604), Nondiscrimination in Employment (7-103.18 12-802), Officials Not to Benefit (7-103.19), Buy American Act (7-104.3 6-104.5), Notice to the Government of Labor Disputes (7-104.4), Excess Profit (7-104.11), Military Security Requirements (7-104.12), Examination of Records (7-104.15), Convict Labor (7-104.17 12-203). In order to make the context of the above clauses applicable to these terms of sale, the word "Buyer" shall be substituted for the word "Government" and the word "Seller" shall be submitted for the word "contractor" whenever necessary.
- e.) 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 any product or article sold to the Buyer hereunder in and of itself infringes any United States letters patent by reason of its sale or use/ provided Seller is notified in writing within ten (10) days after any 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 charges, 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 tools, dies, and patterns do not convey to Buyer, title, ownership interest in, or rights to possession or removal, or prevent their use by Seller for 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 with respect to the Products, then, in that event, such training is personal to the persons receiving such training, and Buyer acknowledges that any persons receiving such training may not be capable of operating the Products.

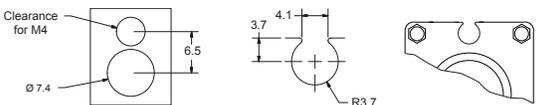
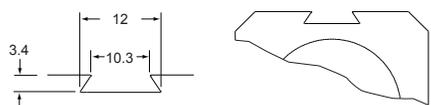
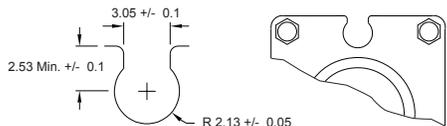
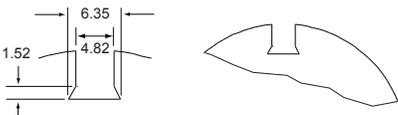
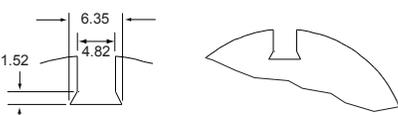
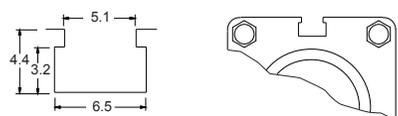
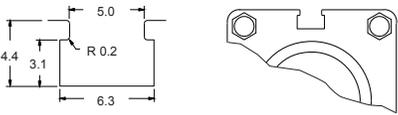
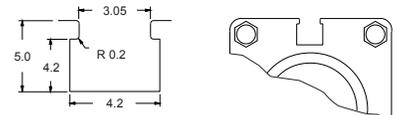
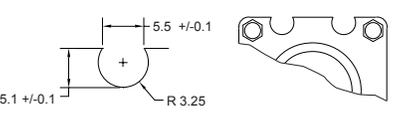
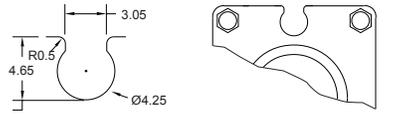
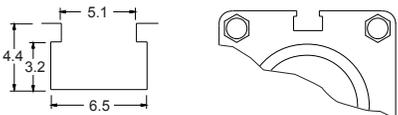
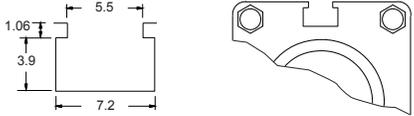
**12. RESTOCKING POLICY:**

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, an inspection will be performed to determine if restocking charges are applicable. 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 & "9-" NUMBERS ARE NON-RETURNABLE AND NON-REFUNDABLE (EXCEPT IN CASES OF WARRANTY)

## MAGNETIC PROXIMITY SENSORS TABLE OF CONTENTS

|    |  |
|----|--|
| 4  | Sensor / Groove Cross Reference Chart                                      |
| 5  | Reed or Electronic   |
| 6  | Proximity Sensor Types   |
| 7  | Series 7000 Reed & Electronic Magnetic Sensors                             |
| 9  | Series 7GL General Location Magnetic Sensors                               |
| 10 | Series 7HL Reed Switch for Hazardous Location                              |
| 11 | Series 8000 Reed & Electronic Magnetic Sensors                             |
| 14 | Series 8D Reed & Electronic Magnetic Sensors                               |
| 16 | Series 8E Reed & Electronic Magnetic Sensors                               |
| 18 | Series 8F Reed & Electronic Sensor for Universal Applications              |
| 20 | Series 8WF Weld Field Immune Electronic Sensor Round, Tie-rod Applications |
| 23 | Series 8WS Reed & Electronic Sensor for 12mm Dovetail Applications         |
| 25 | Series 9C Reed & Electronic Sensor for Round Keyway Applications           |
| 27 | Series 9D Reed & Electronic Sensor for Universal Applications              |
| 30 | Series 9E Reed & Electronic Sensor for Universal Applications              |
| 33 | Series 9F Reed & Electronic Sensor for 4mm "T" Slot Applications           |
| 35 | Series 9G Reed & Electronic Sensor for 6.3mm "T" Slot Applications         |
| 37 | Series 9H Reed & Electronic Sensor for 4.2mm "T" Slot Applications         |
| 39 | Series 9M50 Reed & Electronic Sensor for 6.5mm Groove Applications         |
| 41 | Series 9N Reed & Electronic Sensor for 4.25mm Round Groove Applications    |
| 43 | Series 9Q Reed & Electronic Sensor for Universal "T" Slot Applications     |
| 45 | Series 9T Reed & Electronic Sensor for 7.2mm "T" Slot Applications         |

## Sensor / Groove Cross Reference Chart

|      |   |  |  |
|------|---|--|--|
| 8F   |    |    | Wika   |
| 8WS  |    |    | Numatics   |
| 9C   |    |    | DE-STA-CO<br>Robohand<br>SMC<br>Bimba<br>Compact Air |
| 9D   |    |    | Fabco<br>Numatics<br>Rotomation                      |
| 9E   |    |    | Fabco<br>Numatics<br>Rotomation                      |
| 9F   |   |   | Fabco<br>Festo<br>Numatics<br>Rotomation             |
| 9G   |  |  | Fabco<br>Numatics<br>Rotomation                      |
| 9H   |  |  | 4x4 Groove   |
| 9M50 |  |  | Norgren  |
| 9N   |  |  | SMC  |
| 9Q   |  |  | Parker   |
| 9T   |  |  | SMC  |

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](http://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 not 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.

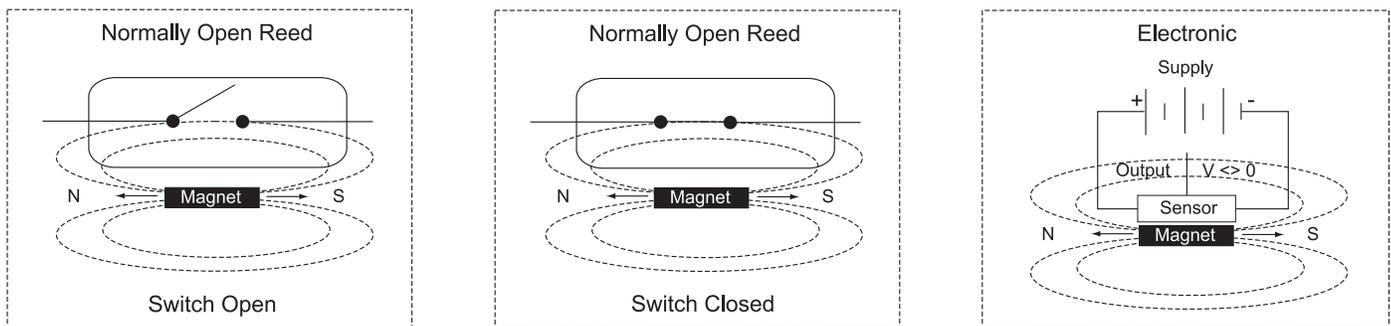
### Electronic Sensors:

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 outlast 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.



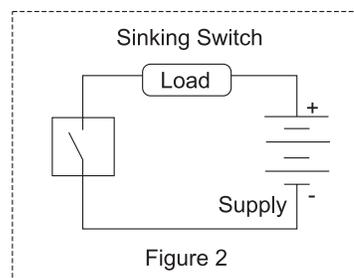
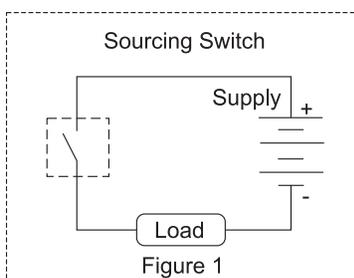
Note: Arrows indicate movement of magnet in relation to switch surface.

### 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
  - Polarity protection
  - CSA versions available
  - AC or DC operation
  - Zero leakage current
  - LED indicator
  - High power capacity
  - Nema 6 versions available

### **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
  - High power capacity
  - Zero leakage current
  - CSA versions available
  - LED indicator on normally open
  - 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
  - High power capacity
  - CSA versions available
  - Low voltage drop
  - Resistant to current inrush
  - Zero leakage current
  - Nema 6 versions available

## 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
  - LED indicator
  - Resistant to current inrush
  - Low voltage drop
  - 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
  - LED indicator
  - Resistant to current inrush
  - Low voltage drop
  - CSA versions available
  - Nema 6 versions available
  - No minimum current to operate
  - High power capacity
  - Highly shock and vibration resistant



**canfield connector**  
 8510 Foxwood Court  
 Youngstown, Ohio 44514  
 (330) 758-8299 Fax: (330) 758-8912  
 www.canfieldconnector.com

**SERIES 7000**

**REED AND ELECTRONIC SENSORS FOR  
 2" TO 8" BORE TIE ROD CYLINDERS  
 OR 3/4" TO 4" ROUND CYLINDERS**

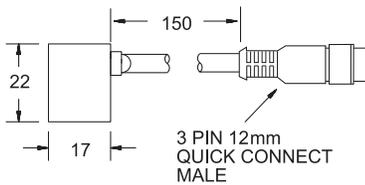
**General Description**

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.

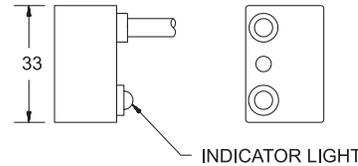
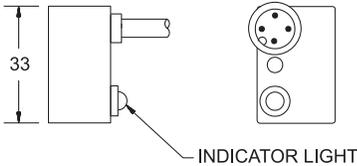
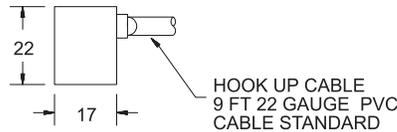
**Dimensional Data**

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

**12mm Quick Connect  
 Style 5**



**Standard Cable Module (9 ft)  
 Style 0**

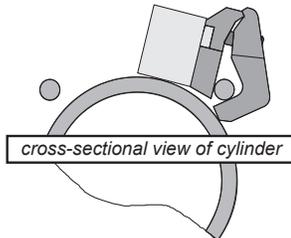


Consult factory for available versions listed by Canadian Standards Association for use with certified electrical equipment.

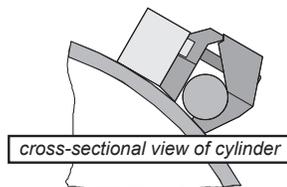
**Clamp Styles**

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

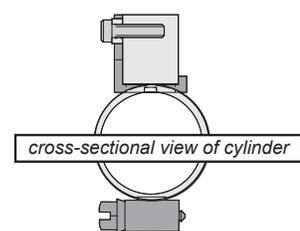
**Universal 2" to 6" Bore  
 NFPA Tie Rod**



**6" to 8" Bore  
 NFPA Tie Rod**



**3/4" to 4" Round Cylinder**



**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

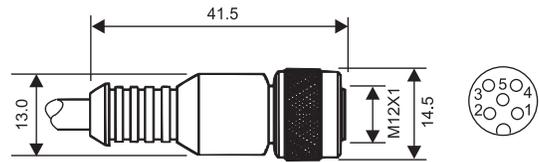
## Ordering Information

7 1 0 -  0 0 -

12mm female molded locking connector (3 pole)

250VAC/DC 4 Amps max.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



Brown = Pin 1  
Blue = Pin 3  
Black = Pin 4  
N/C = Pin 2  
N/C = Pin 5

Order part number

RC12S-F0M030120 (2m length)  
RC12S-F0M030150 (5m length)

### 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.

| 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<br>50/60 Hz | 1 Amp max.                                      | 30 Watts max.   | 0.6 ms operate<br>0.05 ms release          | 0 Volts                      |
| 04   | Reed Switch, MOV, LED, 2 Wire                      | Normally Open SPST           | 5 - 240V AC/DC<br>50/60 Hz | 1 Amp max.<br>.005 Amps min.                    | 30 Watts max.   | 0.6 ms operate<br>0.05 ms release          | 3 Volts                      |
| 05   | Reed Switch, 2 Wire                                | Normally Closed SPST         | 0 - 120V AC/DC<br>50/60 Hz | 1 Amp max.                                      | 20 Watts max.   | 1.0 ms operate<br>0.02 ms release          | 0 Volts                      |
| 06   | Reed Switch, LED, 3 Wire                           | Single Pole, Double Throw    | 5 - 120V AC/DC<br>50/60 Hz | 1 Amp max.<br>.005 Amps min.                    | 20 Watts max.   | 1.0 ms operate<br>0.02 ms release          | 3Volts/load1<br>0Volts/load2 |
| 09   | Reed Switch, MOV, LED, 2 Wire                      | Normally Closed SPST         | 5 - 120V AC/DC<br>50/60 Hz | 1 Amp max.<br>.005 Amps min.                    | 20 Watts max.   | 1.0 ms operate<br>0.02 ms release          | 3 Volts                      |
| 15   | AC Electronic Sensor for Reed Magnets, LED, 3 Wire | Normally Open TRIAC output   | 12-24 VAC                  | 600 mA max.<br>5 Amps Inrush                    | 15 Watts max.   | 1.5 $\mu$ s operate<br>0.5 $\mu$ s release | 1 Volt                       |
| 16   | AC Electronic Sensor for Reed Magnets, LED, 3 Wire | Normally Open TRIAC output   | 120 VAC                    | 600 mA max.<br>5 Amps Inrush                    | 72 Watts max.   | 1.5 $\mu$ s operate<br>0.5 $\mu$ s release | 1 Volt                       |
| 21   | Reed Switch, MOV, 2 Wire                           | Normally Open TRIAC output   | 10 - 240 VAC<br>50/60 Hz   | 4 Amps max.<br>50 Amps Inrush                   | 100 Watts max.  | 0.6 ms operate<br>0.05 ms release          | 1 Volt                       |
| 23   | Reed Switch, MOV, LED, 3 Wire                      | Normally Open TRIAC output   | 10 - 50 VAC<br>50/60 Hz    | 4 Amps max.<br>50 Amps Inrush<br>.005 Amps min. | 100 Watts max.  | 0.6 ms operate<br>0.05 ms release          | 1 Volt                       |
| 24   | Reed Switch, MOV, LED, 3 Wire                      | Normally Open TRIAC output   | 24 - 240 VAC<br>50/60 Hz   | 4 Amps max.<br>50 Amps Inrush<br>.005 Amps min. | 100 Watts max.  | 0.6 ms operate<br>0.05 ms release          | 1 Volt                       |
| 25   | Reed Switch, MOV, 2 Wire                           | Normally Closed TRIAC output | 10-120 VAC<br>50/60 Hz     | 4 Amps max.<br>50 Amps Inrush                   | 100 Watts max.  | 0.6 ms operate<br>0.05 ms release          | 1 Volt                       |
| 29   | Reed Switch, MOV, LED, 3 Wire                      | Normally Closed TRIAC Output | 10-120 VAC<br>50/60 Hz     | 4 Amps max.<br>50 Amps Inrush<br>.005 Amps min. | 100 Watts max.  | 06 ms operate<br>0.05 ms release           | 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 $\mu$ s operate<br>0.5 $\mu$ s release | 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 $\mu$ s operate<br>0.5 $\mu$ s release | 0.5 Volts                    |

Each switch supplied with clamp assembly

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



### 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

800.696.6165



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8510 Foxwood Court  
Youngstown, Ohio 44514  
(330) 758-8299 Fax: (330) 758-8912  
www.canfieldconnector.com

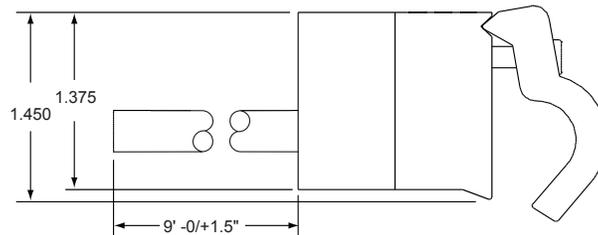
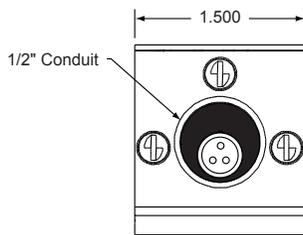
## SERIES 7GL

## GENERAL LOCATION MAGNETIC PROXIMITY SENSORS FOR TIE ROD CYLINDERS

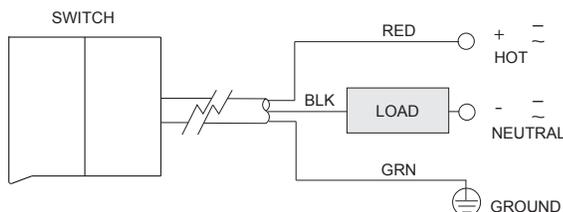
### General Description

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

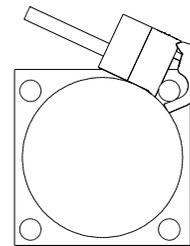


### Electrical, Mounting Installation



— Both direct and alternating current

⊕ Earth (ground) TERMINAL



MOUNTING

### 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

### Ordering Information

Order # 7 G L 1 0 - 0 0 0 - 0 0 1



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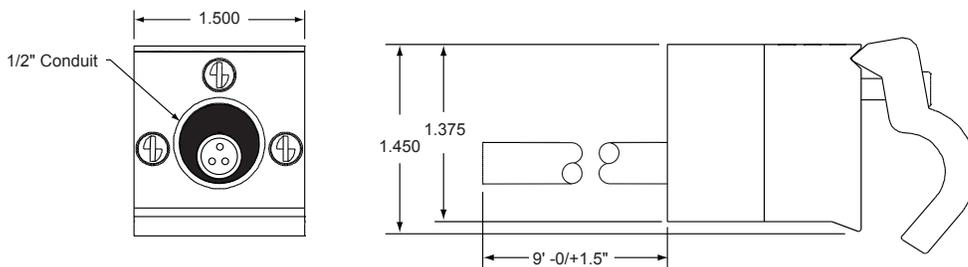
**SERIES 7HL**

**HAZARDOUS LOCATION MAGNETIC PROXIMITY  
 SENSORS FOR TIE ROD CYLINDERS**

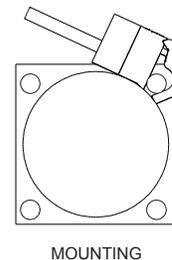
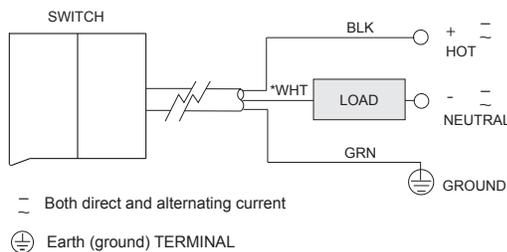
**General Description**

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.

**Dimensional Data**



**Electrical, Mounting Installation**



\*White wire must be permanently reidentified to indicate its use as an ungrounded conductor, by painting or other effective means at its termination, and each location where the conductor is visible and accessible. Per NEC Article (200.7)



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

**Technical Data**

**Features**

- 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

- 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

**Ordering Information**

**Order # 7HL10-000-001**



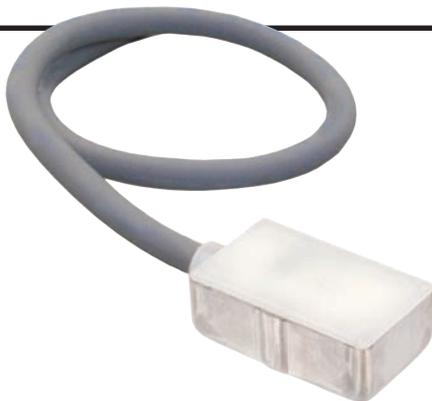
**canfield connector**  
8510 Foxwood Court  
Youngstown, Ohio 44514  
(330) 758-8299 Fax: (330) 758-8912  
www.canfieldconnector.com

## 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

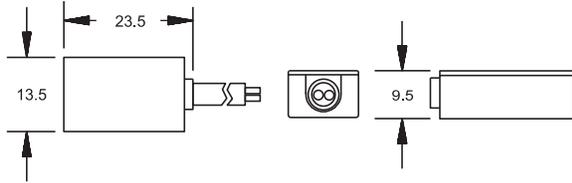


Consult factory for available versions listed by Canadian Standards Association for use with certified electrical equipment.

**Dimensional Data**

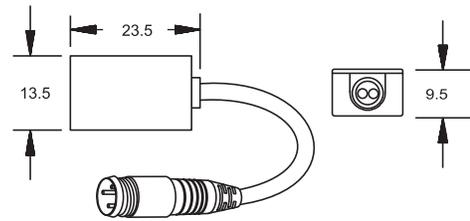
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

**9 ft PVC Cable Switch  
Type 0**

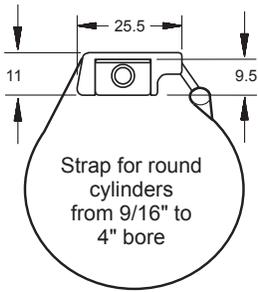


9 ft, 24 gauge PVC cable standard

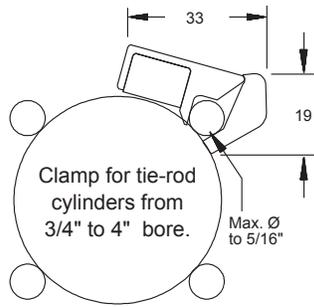
**8mm Quick Connect Male Pigtail  
Type 1**



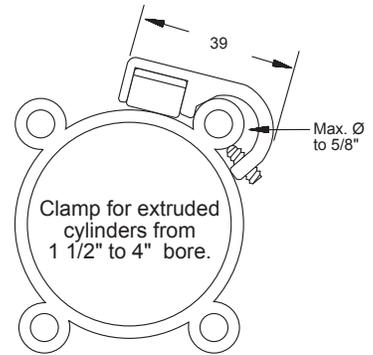
**Clamp Styles**



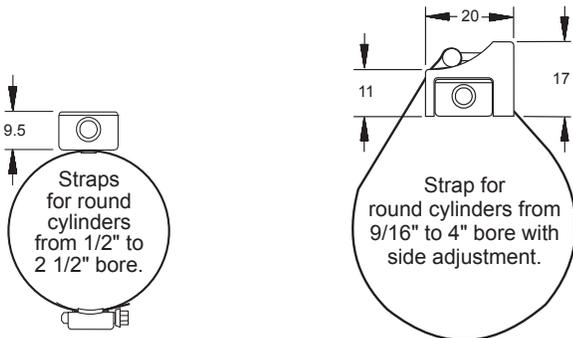
**Standard  
Round Cylinder  
Universal Clamp  
(Style 0)**



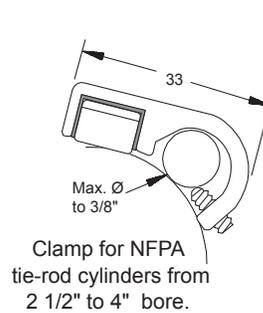
**Standard  
Tie-Rod  
Cylinder Clamp  
(Style 2)**



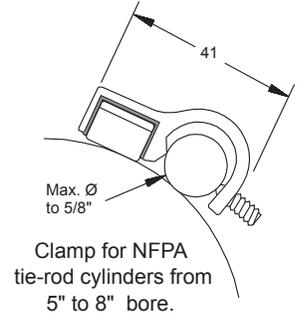
**Extruded  
Cylinder Clamp  
(Style 3)**



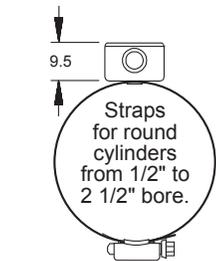
**Side Adjust  
Round Cylinder Clamp  
(Style A)**



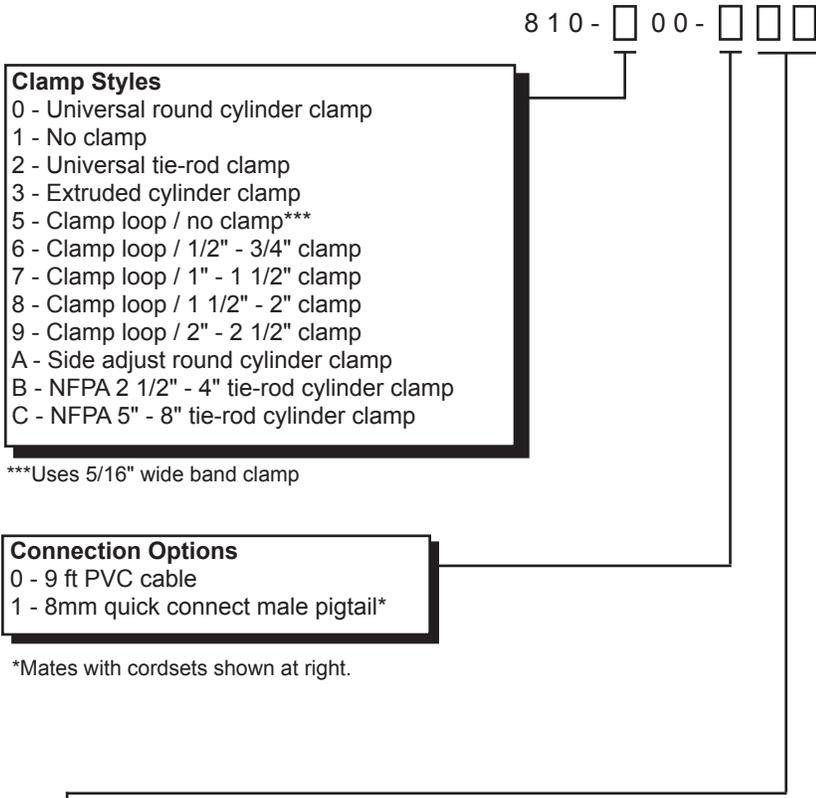
**NFPA Tie-Rod  
Cylinder Clamp  
(Style B)**



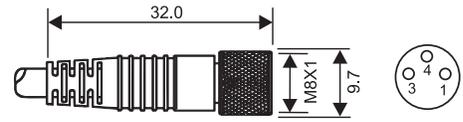
**NFPA Tie-Rod  
Cylinder Clamp  
(Style C)**



**Low-Profile  
Round Cylinder Clamp  
(Style 5-9)**



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 |
|------|--|--------------------|-------------------|------------------------------------|-----------------|--------------|----------------------|
| 01   | Reed Switch                                | Normally Open SPST | 0 - 120V AC/DC    | 0.5 Amps Max.                      | 10 watts Max.   | 0 Volts      | 85 Ga.               |
| 02   | Reed Switch & LED                          | Normally Open SPST | 5 - 120V AC/DC    | 0.025 Amps Max.<br>0.001 Amps Min. | 3 watts Max.    | 6.0 Volts    | 85 Ga.               |
| 04   | Reed Switch, LED & MOV                     | Normally Open SPST | 5 - 120V AC/DC    | 0.5 Amps Max.<br>0.005 Amps Min.   | 10 watts Max.   | 3.0 Volts    | 85 Ga.               |
| 31   | Electronic for Reed Magnet, LED & Sourcing | Normally Open PNP  | 6 - 24 VDC        | 0.3 Amps Max.                      | 7.2 watts Max.  | .5 Volts     | 85 Ga.               |
| 32   | Electronic for Reed Magnet, LED & Sinking  | Normally Open NPN  | 6 - 24 VDC        | 0.3 Amps Max.                      | 7.2 watts Max.  | .5 Volts     | 85 Ga.               |

Ordering Example:

810-000-002

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

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



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## SERIES 8D

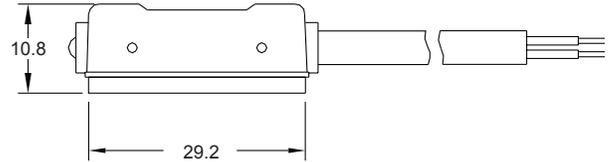
## REED & ELECTRONIC SENSORS FOR ROUND, TIE-ROD, OR EXTRUDED CYLINDERS

### General Description

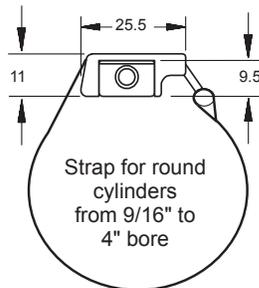
The Canfield Connector Series 8D is a robust yet compact switch designed to sense position of pneumatic cylinders with magnetic pistons. The switch features an all encapsulated design with a metal over housing that protects the internal components from harsh environments. The switch comes in reed, or 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

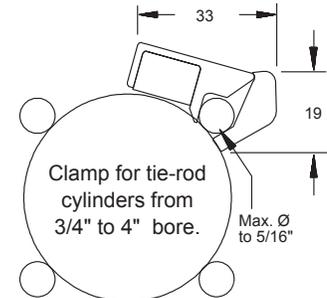
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



### Clamp Styles



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



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

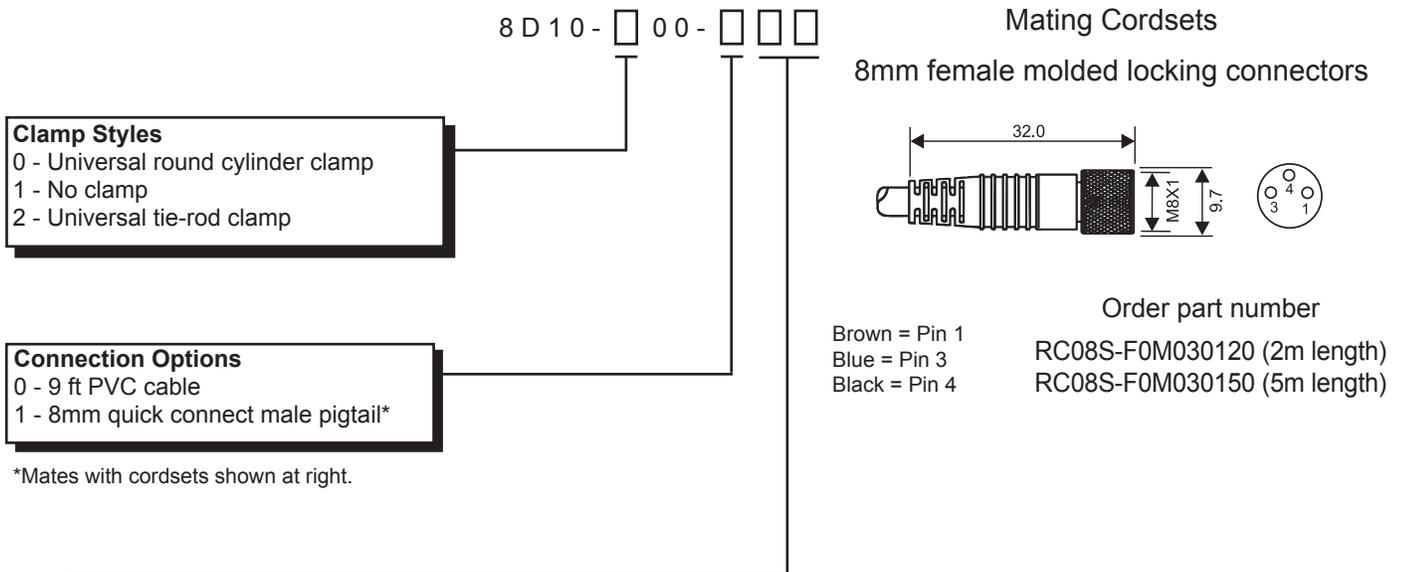
### Features

- 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



\*Mates with cordsets shown at right.

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

\*\*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.

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



### 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



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## SERIES 8E

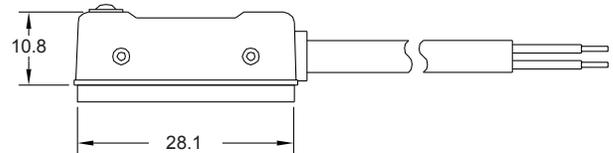
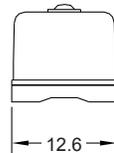
## REED & ELECTRONIC SENSORS FOR ROUND, TIE-ROD, OR EXTRUDED CYLINDERS

### General Description

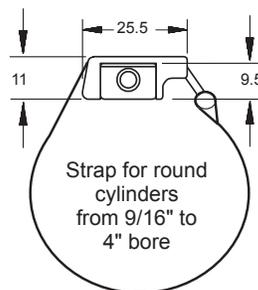
The Canfield Connector Series 8E is a linear actuator magnetic sensor designed for harsh industrial applications. With mounting styles for tie rod or round type linear actuators, the 8E features an all encapsulated body that is covered by a metal housing for strength. The switch is available in reed 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

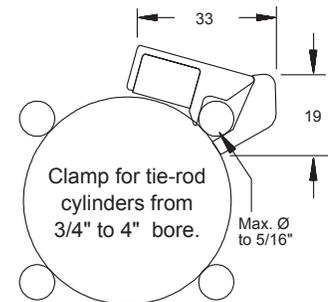
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



### Clamp Styles



**Standard  
Round Cylinder  
Universal Clamp  
(Style 0)**



**Standard  
Tie-Rod  
Cylinder Clamp  
(Style 2)**

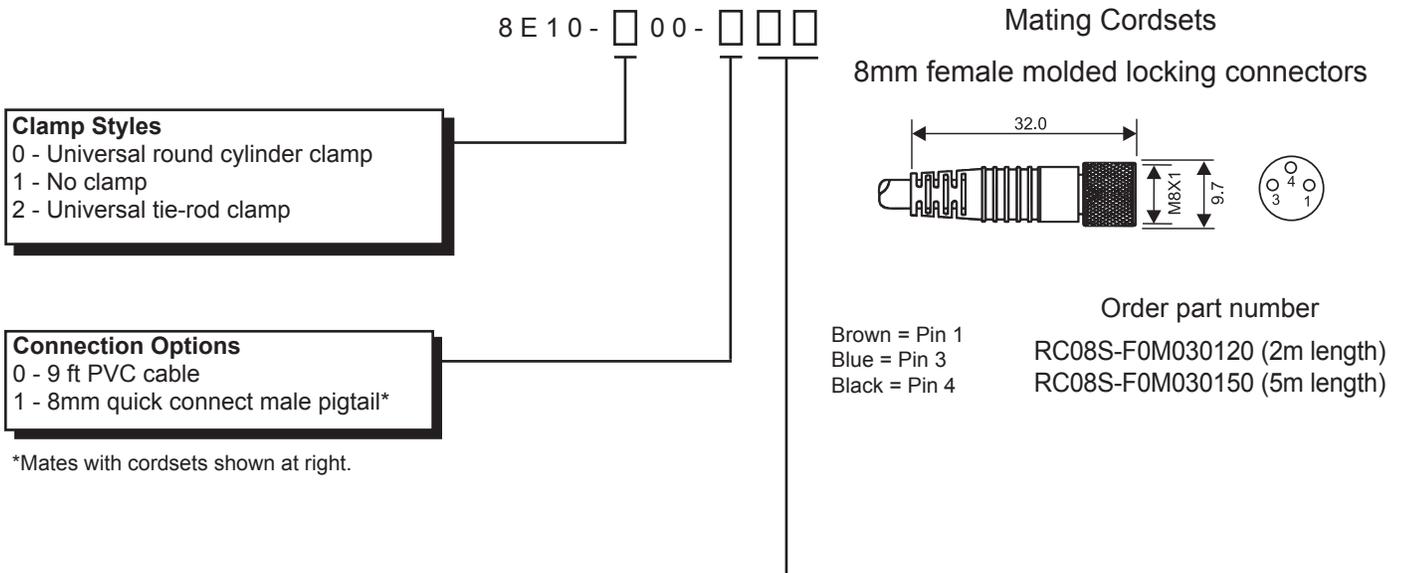
### Features

- 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



| Type | Description                                | Function           | Switching Voltage | Switching Current | Switching Power | Voltage Drop | ** Magnetic Sensitivity |
|------|--|--------------------|-------------------|-------------------|-----------------|--------------|-------------------------|
| 01   | Reed Switch                                | Normally Open SPST | 0 - 240V AC/DC    | 0.5 Amps Max.     | 10 watts Max.   | 0 Volts      | 60 Ga.                  |
| 04   | Reed Switch, LED & MOV                     | Normally Open SPST | 5 - 240V AC/DC    | 100 mA            | 10 watts Max.   | 2.5 Volts    | 60 Ga.                  |
| 31   | Electronic for Reed Magnet, LED & Sourcing | Normally Open PNP  | 5 - 28 VDC        | 0.2 Amps Max.     | 6 watts Max.    | 1.5 Volts    | 60 Ga.                  |
| 32   | Electronic for Reed Magnet, LED & Sinking  | Normally Open NPN  | 5 - 28 VDC        | 0.2 Amps Max.     | 6 watts Max.    | 1.5 Volts    | 60 Ga.                  |

\*\*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

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





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(330) 758-8299 Fax: (330) 758-8912  
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## SERIES 8F

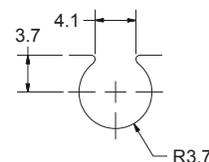
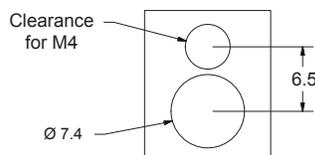
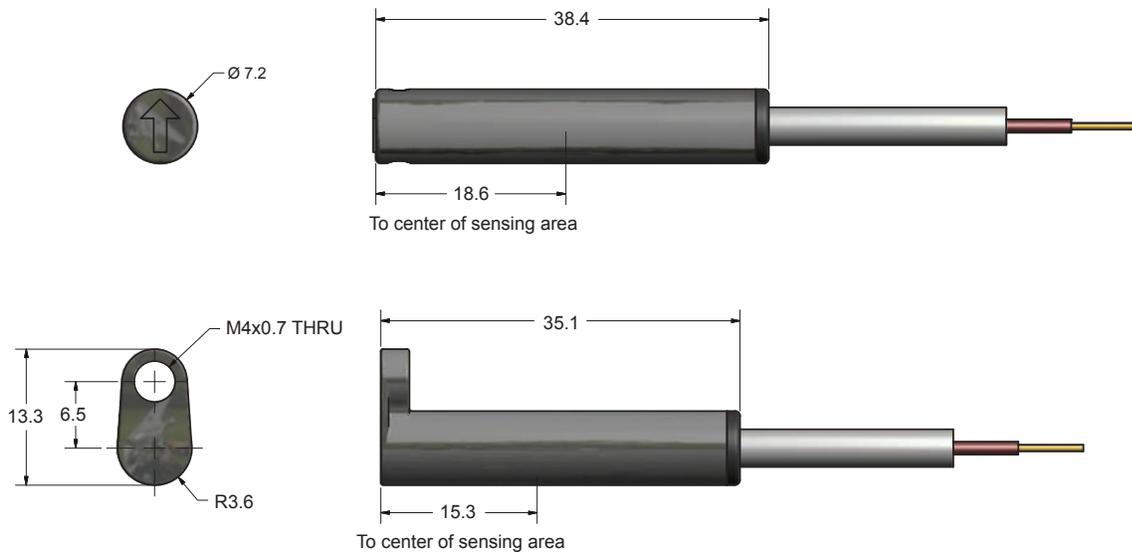
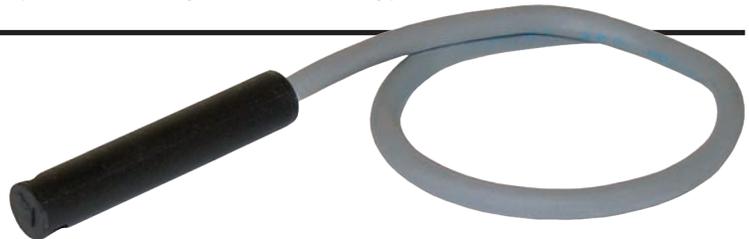
## REED SENSORS FOR UNIVERSAL APPLICATION

### 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

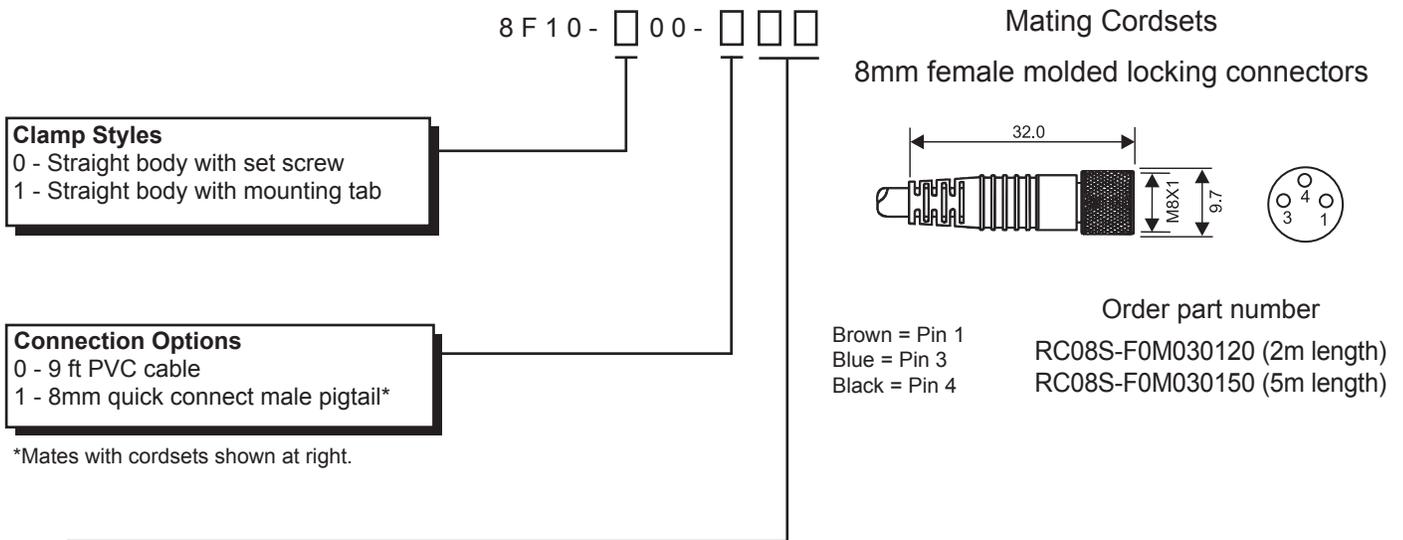
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



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

Ordering Information



\*Mates with cordsets shown at right.

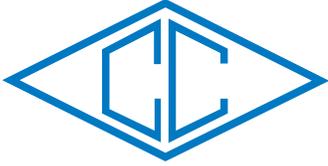
| Type | Description | Function        | Switching Voltage | Switching Current | Switching Power | Voltage Drop | ** Magnetic Sensitivity |
|------|-------------|-----------------|-------------------|-------------------|-----------------|--------------|-------------------------|
| 01   | Reed Switch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

\*\*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



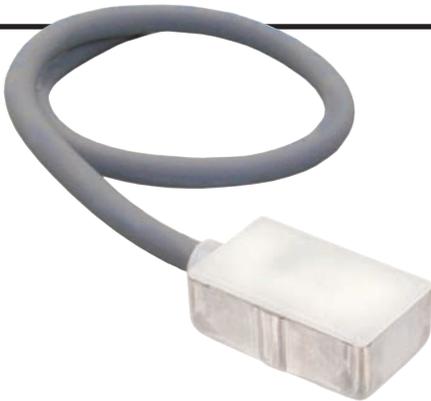
**canfield connector**  
8510 Foxwood Court  
Youngstown, Ohio 44514  
(330) 758-8299 Fax: (330) 758-8912  
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## SERIES 8WF

## 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

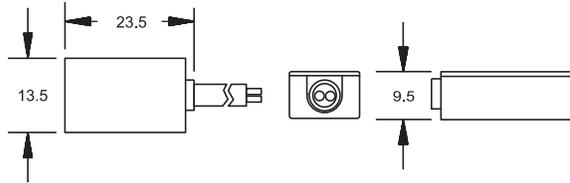
### Technical Data

- 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.

## Dimensional Data

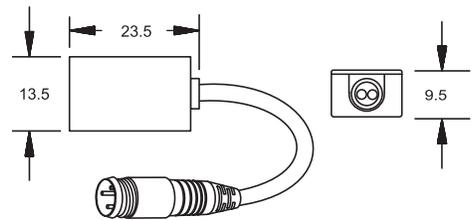
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

9 ft PVC Cable Switch  
Type 0

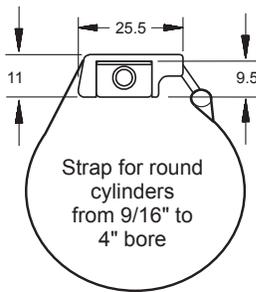


9 ft, 24 gauge PVC cable standard

8mm Quick Connect Male Pigtail  
Type 1

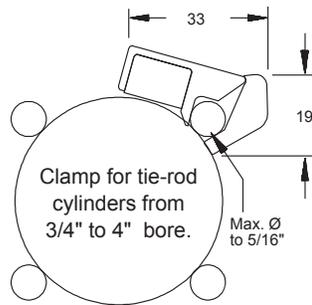


## Clamp Styles



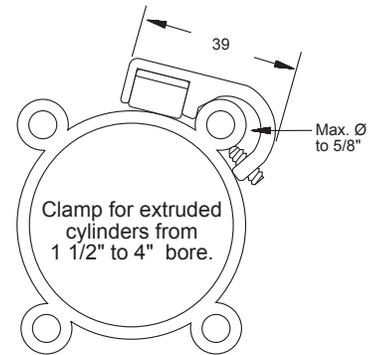
Strap for round cylinders from 9/16" to 4" bore

**Standard Round Cylinder Universal Clamp (Style 0)**



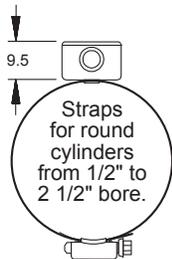
Clamp for tie-rod cylinders from 3/4" to 4" bore.

**Standard Tie-Rod Cylinder Clamp (Style 2)**



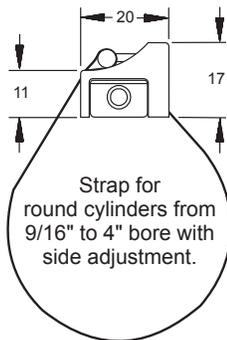
Clamp for extruded cylinders from 1 1/2" to 4" bore.

**Extruded Cylinder Clamp (Style 3)**



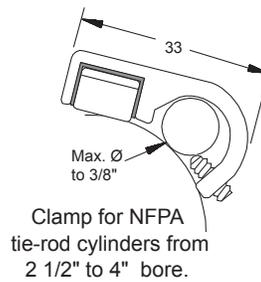
Straps for round cylinders from 1/2" to 2 1/2" bore.

**Low-Profile Round Cylinder Clamp (Style 5-9)**



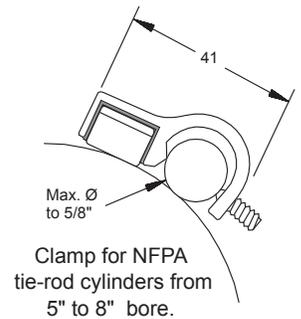
Strap for round cylinders from 9/16" to 4" bore with side adjustment.

**Side Adjust Round Cylinder Clamp (Style A)**



Clamp for NFPA tie-rod cylinders from 2 1/2" to 4" bore.

**NFPA Tie-Rod Cylinder Clamp (Style B)**



Clamp for NFPA tie-rod cylinders from 5" to 8" bore.

**NFPA Tie-Rod Cylinder Clamp (Style C)**

## Ordering Information

8 W F 1 0 -  0 0 -

### 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

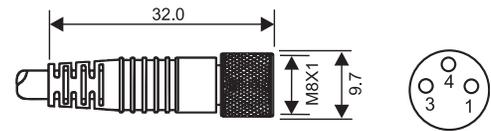
### Connection Options

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

\*Mates with cordsets shown at right.

### Mating Cordsets

8mm female molded locking connectors



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 |
|------|--|-------------------|-------------------|-------------------|-----------------|--------------|----------------------|
| 31   | Electronic for Reed Magnet, LED & Sourcing | Normally Open PNP | 6 - 24 VDC        | 0.2 Amps Max.     | 4.8 watts Max.  | 1 Volts      | 85 Ga.               |
| 32   | Electronic for Reed Magnet, LED & Sinking  | Normally Open NPN | 6 - 24 VDC        | 0.2 Amps Max.     | 4.8 watts Max.  | 1 Volts      | 85 Ga.               |

### Ordering Example:

8WF10-000-031

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



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## SERIES 8WS (WORLDSWITCH)

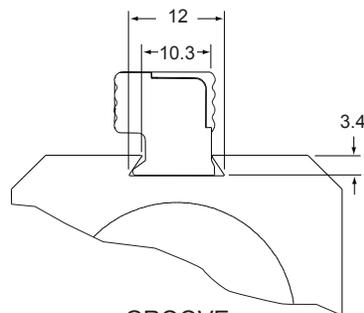
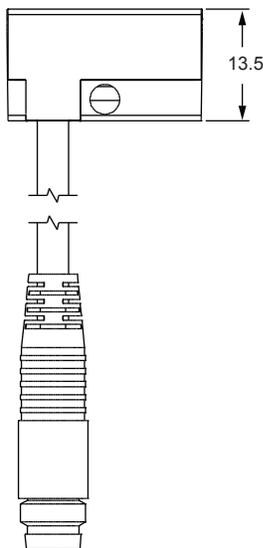
## REED & ELECTRONIC SENSORS FOR PNEUMATIC CYLINDERS WITH 12MM DOVETAILED

### 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.

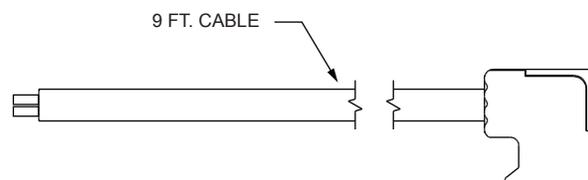
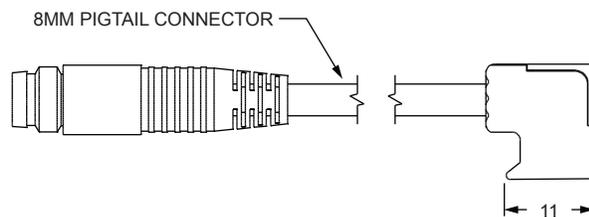
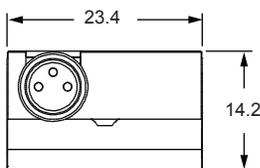
### Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



GROOVE  
DIMENSIONS

Groove:  
Numatics



## 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

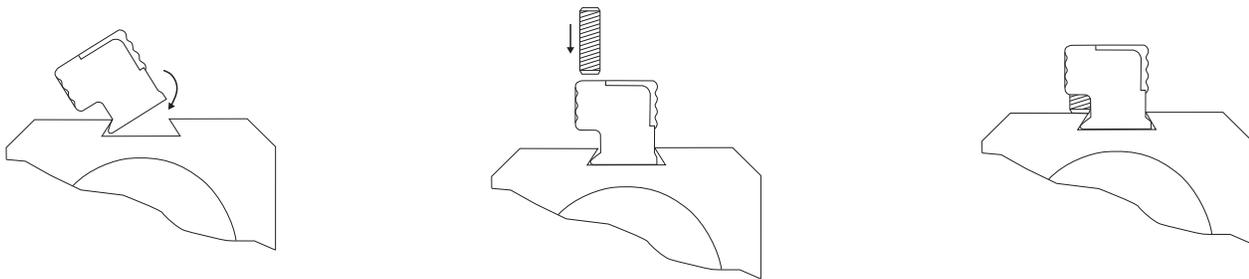
## Features

- 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



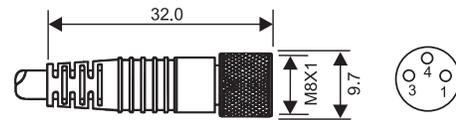
## Ordering Information

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

\*Mates with cordset shown at right.

8 W S 1 0 - 0 0 0 -

**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 |
|------|--|---------------------|-------------------|------------------------------------|-----------------|--------------|-------------------------|
| 01   | Reed Switch                                | Normally Open SPST  | 0 - 120V AC/DC    | 0.5 Amps Max.                      | 10 watts Max.   | 0 Volts      | 85 Ga.                  |
| 02   | Reed Switch & LED                          | SPST Normally Open  | 5 - 120V AC/DC    | 0.025 Amps Max.<br>0.001 Amps Min. | 3 watts Max.    | 6.0 Volts    | 85 Ga.                  |
| 04   | Reed Switch, LED & MOV                     | SPST Normally Open  | 5 - 120V AC/DC    | 0.5 Amps Max.<br>0.005 Amps Min.   | 10 watts Max.   | 3.0 Volts    | 85 Ga.                  |
| 31   | Electronic for Reed Magnet, LED & Sourcing | Normally Open (PNP) | 6 - 24 VDC        | 0.3 Amps Max.                      | 7.2 watts Max.  | .5 Volts     | 85 Ga.                  |
| 32   | Electronic for Reed Magnet, LED & Sinking  | Normally Open (NPN) | 6 - 24 VDC        | 0.3 Amps Max.                      | 7.2 watts Max.  | .5 Volts     | 85 Ga.                  |

\*\*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.

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



## Ordering Example:

8WS10-000-002

9 ft. PVC cable, reed switch for PLC with LED, SPST normally open, 5 - 120V AC/DC



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## SERIES 9C

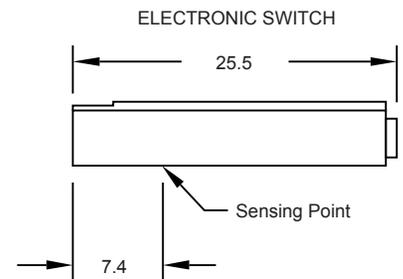
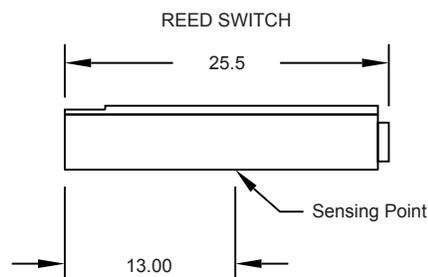
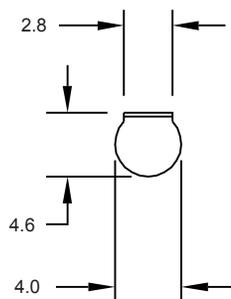
## REED & ELECTRONIC MAGNETIC SENSORS FOR ROUND KEYWAY GROOVE

### General Description

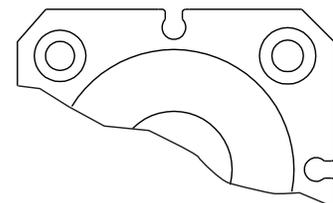
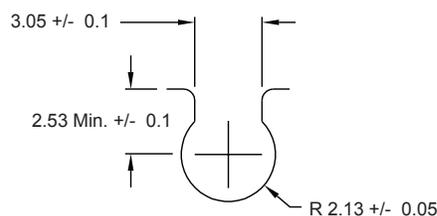
The Series 9C is a compact, universal, magnetically operated proximity switch commonly used on aluminum extruded profile type linear actuators equipped with magnetic pistons. The switches are available in both reed and electronic styles and made to fit into a 4mm key hole type slot. Position fixing is 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



### 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

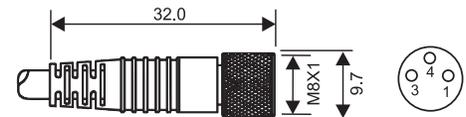
- 0 - 9 ft PVC cable
- 3 - 8mm quick connect male pigtail\*

\*Mates with cordsets shown at right.

9 C 1 0 - 0 0 0 -      

### 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)

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

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

### Ordering Example:

9C10-000-032

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

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





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## SERIES 9D

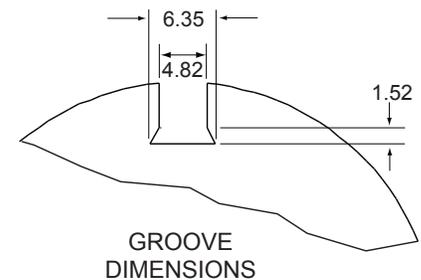
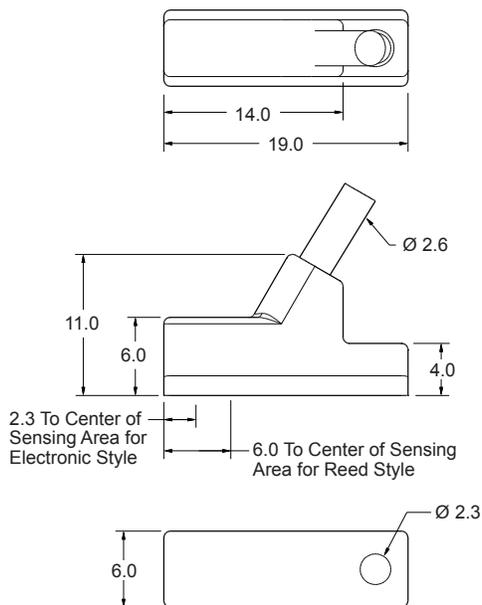
## REED & ELECTRONIC SENSORS FOR UNIVERSAL APPLICATIONS

### 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

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



Groove: Fabco, Numatics, Rotomation

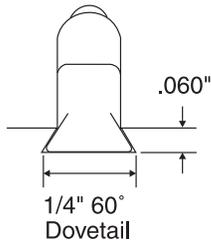
### Technical Data

- 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

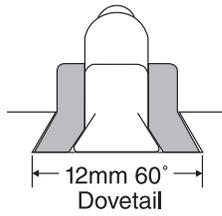
### Features

- 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.

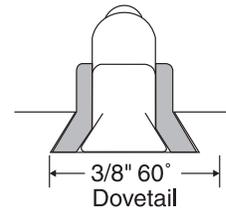
**Style 0**



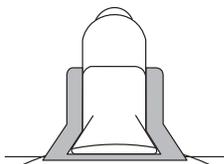
**Style 1**



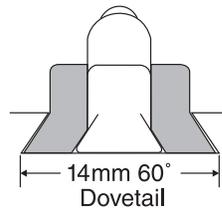
**Style 2**



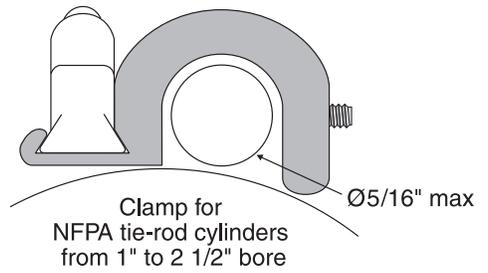
**Style 3**



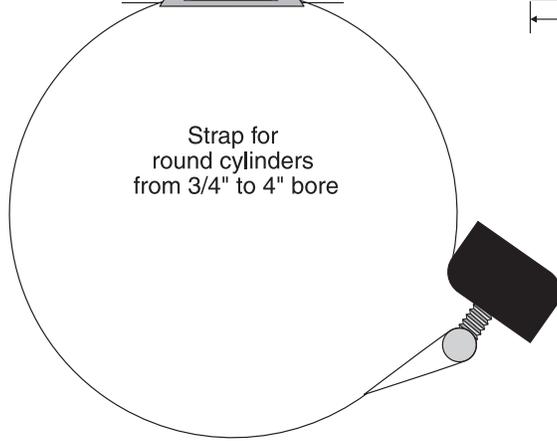
**Style 4**



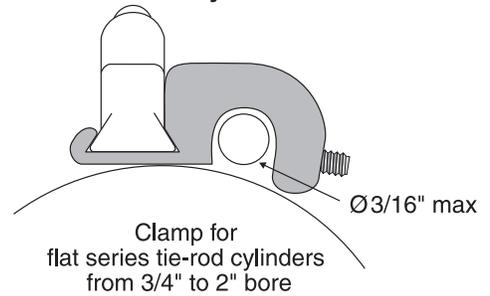
**Style F**



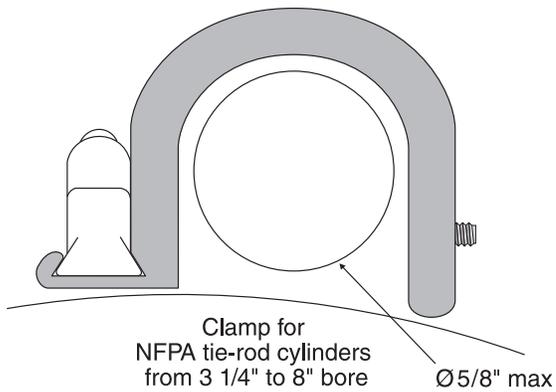
Strap for  
round cylinders  
from 3/4" to 4" bore



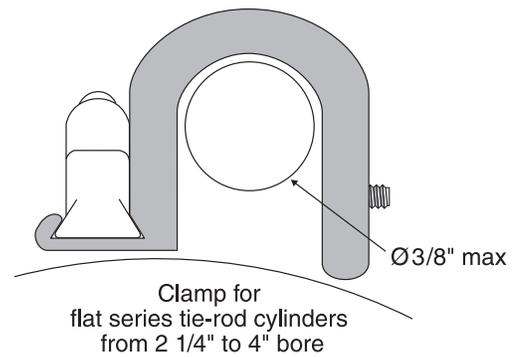
**Style G**



**Style J**



**Style H**



## Ordering Information

9 D 1 0 -  0 0 -

### 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

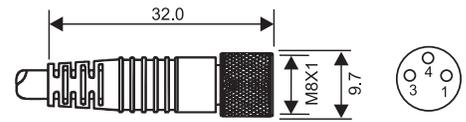
### Connection Options

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

\*Mates with cordsets shown at right.

### Mating Cordsets

8mm female molded locking connectors



### Order part number

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

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<br>50/60 Hz | 0.25 Amps Max.                    | 5 watts Max.    | 0.4 ms operate<br>0.1 ms release | 0 Volts            | 85 Ga.               |
| 02   | Reed Switch for PLC's, LED (current limiting) | Normally Open SPST | 5 - 120V AC/DC<br>50/60 Hz | 0.03 Amps Max.<br>0.001 Amps Min. | 4 watts Max.    | 0.4 ms operate<br>0.1 ms release | 3.5 Volts<br>@ 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<br>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<br>4 µs release     | 1.0 Volts          | 25 Ga.               |

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



### 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



## canfield connector

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## SERIES 9E

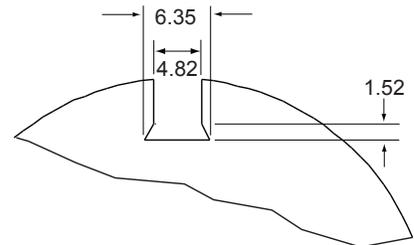
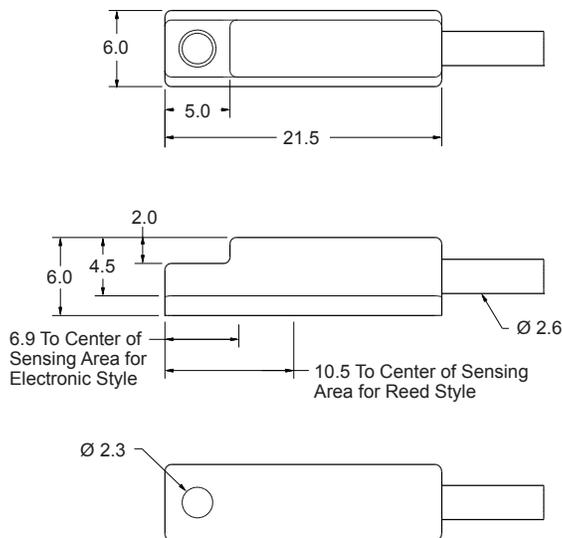
## REED & ELECTRONIC SENSORS FOR UNIVERSAL APPLICATIONS

### 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.

### Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



GROOVE  
DIMENSIONS

Groove: Fabco, Numatics, Rotomation

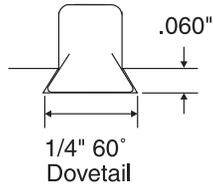
### Technical Data

- 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

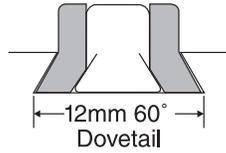
### Features

- 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.

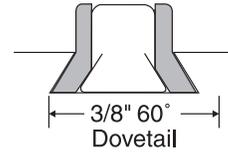
**Style 0**



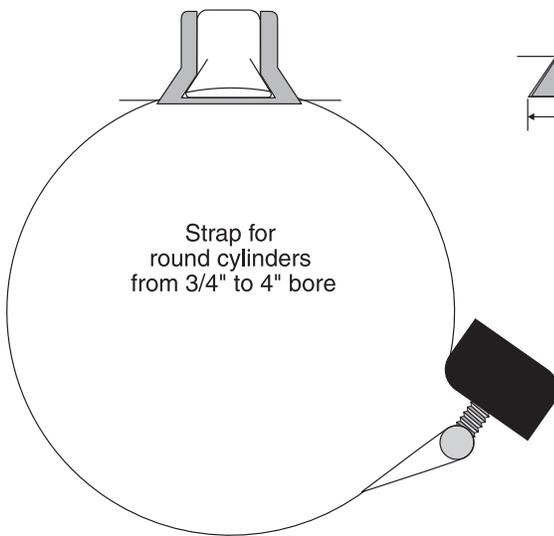
**Style 1**



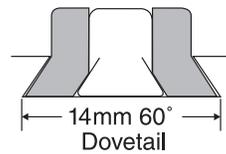
**Style 2**



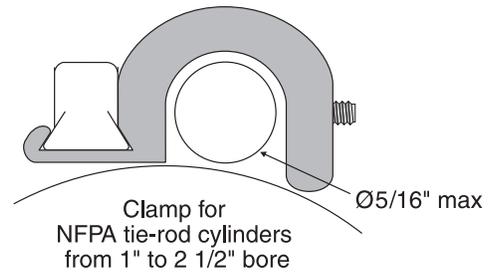
**Style 3**



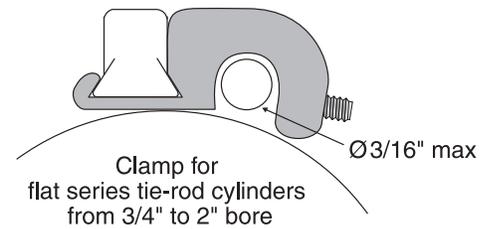
**Style 4**



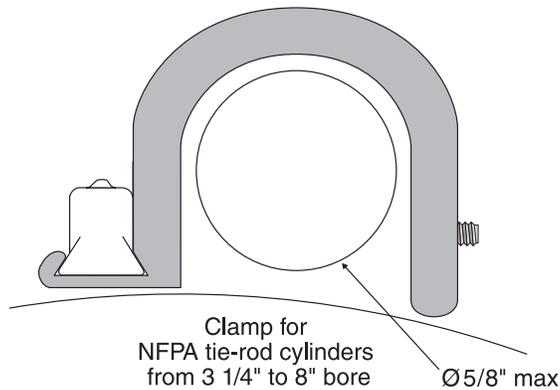
**Style F**



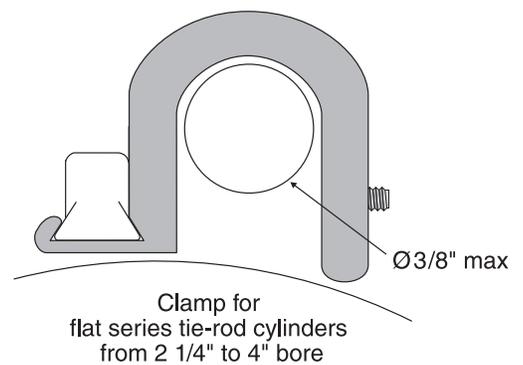
**Style G**



**Style J**



**Style H**



## Ordering Information

9 E 1 0 -  0 0 -

### 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

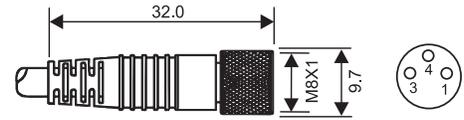
### Connection Options

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

\*Mates with cordsets shown at right.

### Mating Cordsets

8mm female molded locking connectors



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 | Switching Speed                  | Voltage Drop       | Magnetic Sensitivity |
|------|---|--------------------|----------------------------|-----------------------------------|-----------------|----------------------------------|--------------------|----------------------|
| 01   | Reed Switch                                   | Normally Open SPST | 0 - 120V AC/DC<br>50/60 Hz | 0.25 Amps Max.                    | 5 watts Max.    | 0.4 ms operate<br>0.1 ms release | 0 Volts            | 85 Ga.               |
| 02   | Reed Switch for PLC's, LED (current limiting) | Normally Open SPST | 5 - 120V AC/DC<br>50/60 Hz | 0.03 Amps Max.<br>0.001 Amps Min. | 4 watts Max.    | 0.4 ms operate<br>0.1 ms release | 3.5 Volts<br>@ 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<br>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<br>4 µs release     | 1.0 Volts          | 25 Ga.               |

### 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

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



800.696.6165



**canfield connector**  
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## SERIES 9F

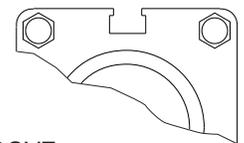
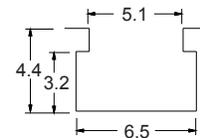
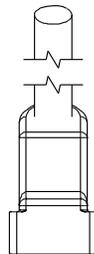
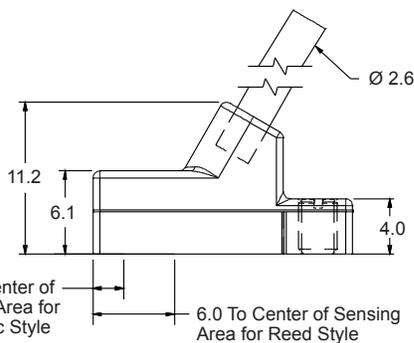
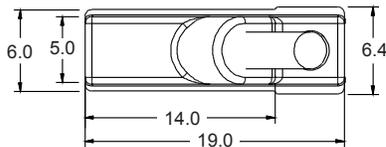
## REED & ELECTRONIC SENSORS FOR UNIVERSAL APPLICATIONS 4mm "T" SLOT

### 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



GROOVE  
DIMENSIONS

Groove: Fabco, Festo, Numatics, Rotomation

### 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**

9 F 1 0 - 0 0 0 -

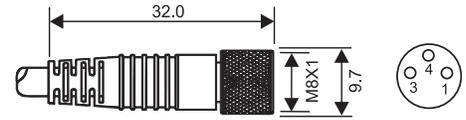
**Connection Options**

- 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)

| 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<br>50/60 Hz | 0.25 Amps Max.                    | 5 watts Max.    | 0.4 ms operate<br>0.1 ms release | 0 Volts            | 85 Ga.               |
| 02   | Reed Switch for PLC's, LED (current limiting) | Normally Open SPST | 5 - 120V AC/DC<br>50/60 Hz | 0.03 Amps Max.<br>0.001 Amps Min. | 4 watts Max.    | 0.4 ms operate<br>0.1 ms release | 3.5 Volts<br>@ 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<br>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<br>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.





**canfield connector**  
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## SERIES 9G

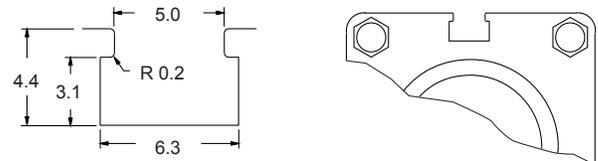
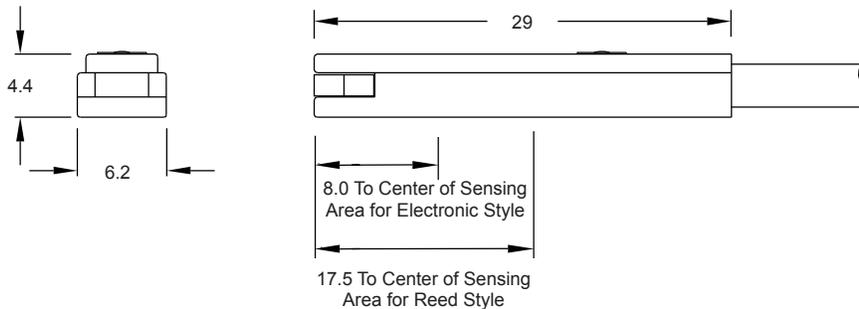
## REED & ELECTRONIC SENSORS FOR 6.3MM "T" SLOT APPLICATIONS

### 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

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



GROOVE  
DIMENSIONS

Groove: Fabco, Numatics, Rotomation

### 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

**Ordering Information**

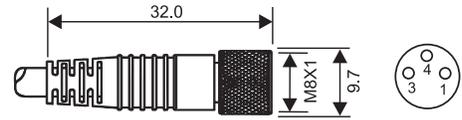
9G10-000-□□□

**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**

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

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

| Switch 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 @ 100 mA DC | 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 @ 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.  | 1.5 Volts @ 200 mA    | 40 Ga.               |

**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.



**canfield connector**  
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## SERIES 9H

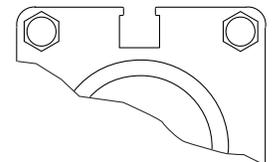
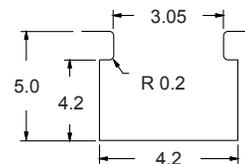
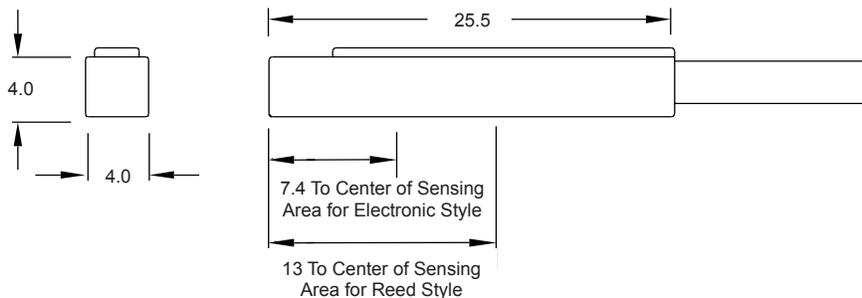
## REED & ELECTRONIC MAGNETIC SENSORS FOR 4.2MM "T" SLOT APPLICATIONS

### 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



GROOVE  
DIMENSIONS  
Groove: 4x4

### 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

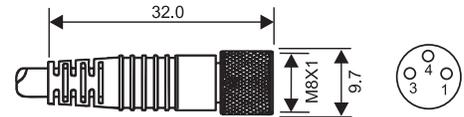
- Small sensor fits most space requirements.
- Indicator light
- Corrosion and washdown resistant
- Electronic sensing version (no moving parts)
- Reverse polarity protection
- CE approved
- AC/DC for reed. DC only for electronic
- Compatible with IS (Intrinsically Safe) barriers

9H10-000-□□□

**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



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 SPST | 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.               |

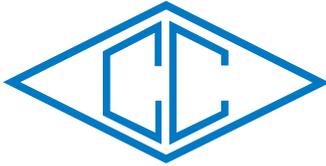
**Ordering Example:**

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.





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8510 Foxwood Court  
Youngstown, Ohio 44514  
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## SERIES 9M50

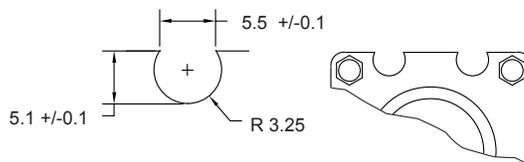
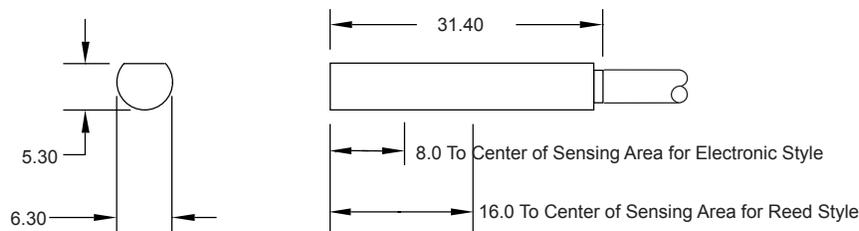
## REED & ELECTRONIC SENSORS FOR 6.5MM GROOVE APPLICATIONS

### 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



GROOVE  
DIMENSIONS

Groove: Norgren



### 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**

9 M 5 0 1 0 - 0 0 0 - 

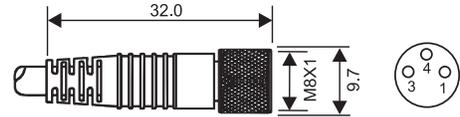
**Connection Options**

- 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)

| 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 @ 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.  | 1.5 Volts @ 200 mA | 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.





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## SERIES 9N

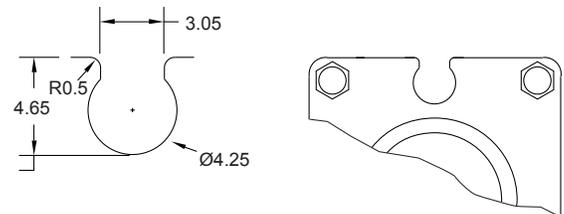
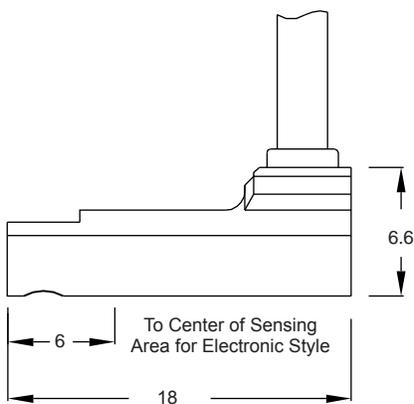
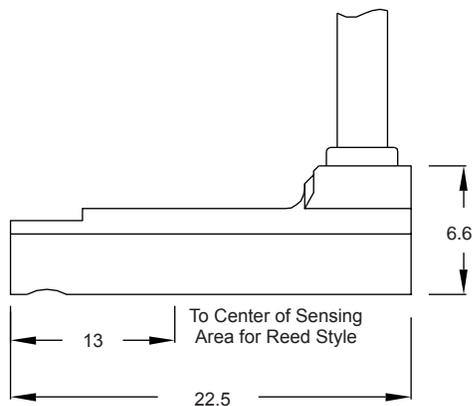
## REED & ELECTRONIC SENSORS FOR 4.25MM ROUND GROOVE APPLICATIONS

### General Description

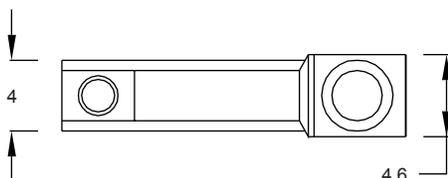
The Canfield Connector 9N is a right angle version of the popular 4.25mm round groove type switches commonly used in aluminum extrusion type linear actuators. The 9N features reed or electronic versions and are available in standard 9 ft. PVC or 8mm quick connect male pigtail. The 9N is IP67 which makes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

### Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



GROOVE  
DIMENSIONS  
Groove: SMC



### 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

## 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)

## Ordering Information

9N10-000-□□□

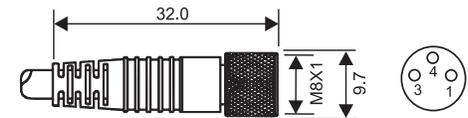
### Connection Options

- 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

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

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

| Switch 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 @ 40 mA DC | 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.                |

### 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.





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## SERIES 9Q

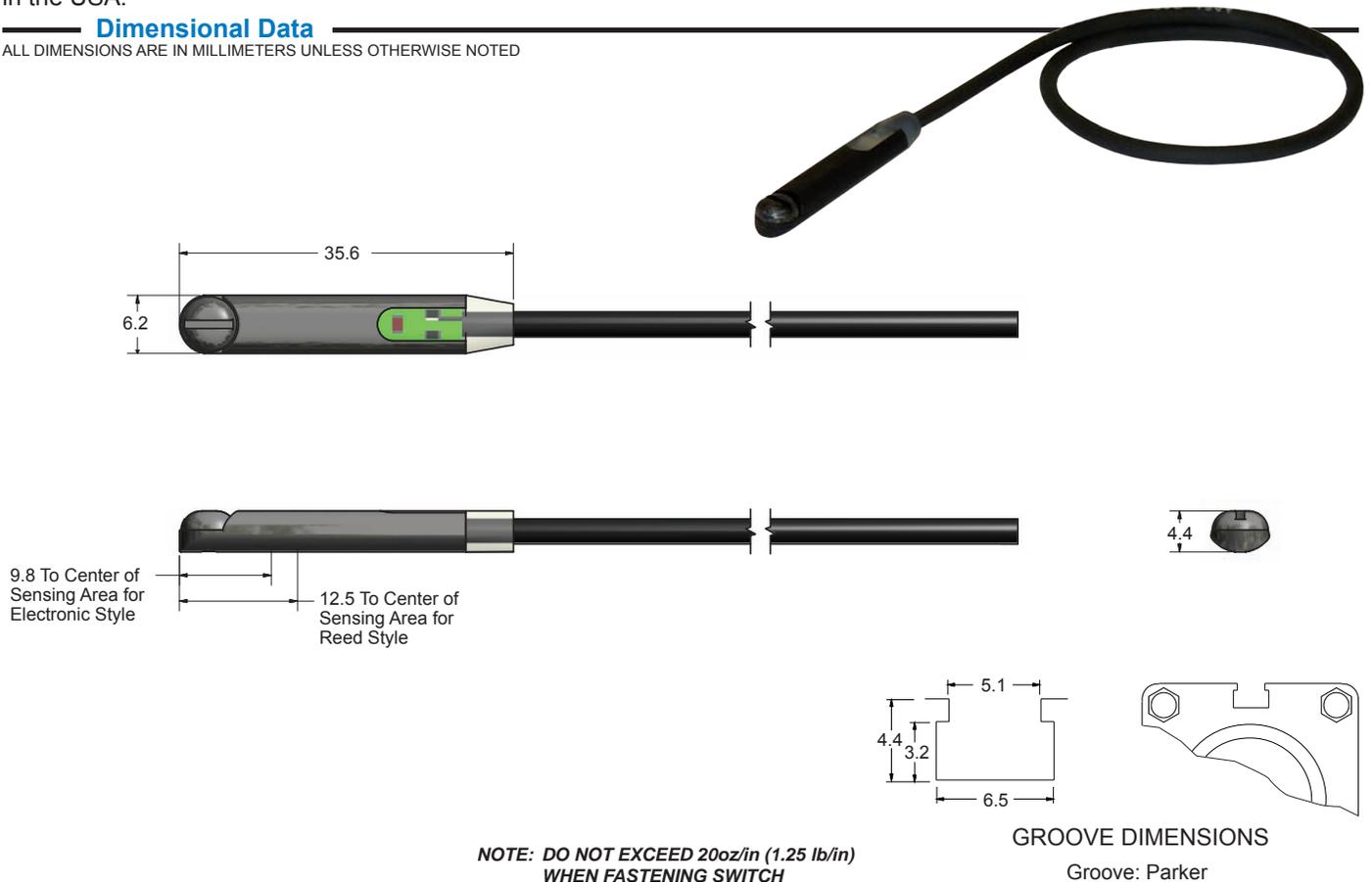
## REED & ELECTRONIC SENSORS FOR UNIVERSAL "T" SLOT APPLICATIONS

### 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

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.
- 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**

9Q10-000- 

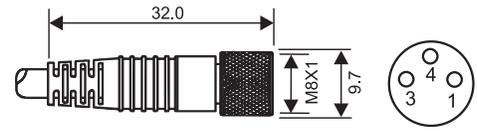
**Connection Options**

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

\*Mates with cordsets shown at right.

**Mating Cordsets**

8mm female molded locking connectors



(for sensor types 01, 02, 31, 32)

**Order part number**

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

- 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          | 0 - 120V AC/DC<br>50/60 Hz | 0.25 Amps Max.                    | 5 watts Max.    | 0.4 ms operate<br>0.1 ms release | 0 Volts            | 85 Ga.               |
| 02   | Reed Switch for PLC's,<br>LED (current limiting) | SPST<br>Normally Open  | 5 - 120V AC/DC<br>50/60 Hz | 0.03 Amps Max.<br>0.001 Amps Min. | 4 watts Max.    | 0.4 ms operate<br>0.1 ms release | 3.5 Volts<br>@ 5mA | 85 Ga.               |
| 31   | Electronic for Reed<br>Magnet, LED & Sourcing    | Normally Open<br>(PNP) | 5 - 28 VDC                 | 0.2 Amps Max.                     | 4.8 watts Max.  | 4 μs operate<br>4 μs release     | 1.0 Volts          | 25 Ga.               |
| 32   | Electronic for Reed<br>Magnet, LED & Sinking     | Normally Open<br>(NPN) | 5 - 28 VDC                 | 0.2 Amps Max.                     | 4.8 watts Max.  | 4 μs operate<br>4 μs release     | 1.0 Volts          | 25 Ga.               |

**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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## SERIES 9T

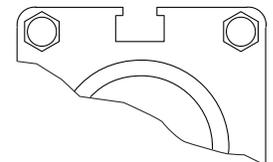
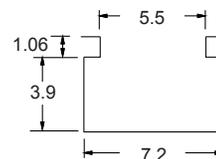
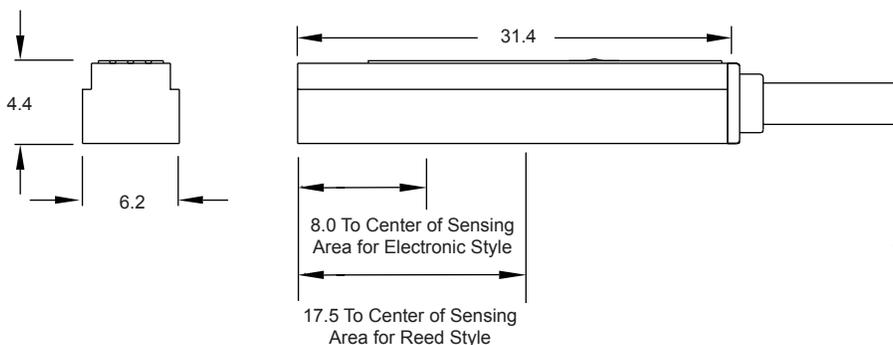
## REED & ELECTRONIC MAGNETIC SENSORS FOR 7.2MM "T" SLOT APPLICATIONS

### 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 pigtail, and are rated IP67 against the ingress of dust and water.

### Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



GROOVE  
DIMENSIONS  
Groove: SMC

### 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
- Molded construction for wet environment (NEMA 6)

## Ordering Information

9T10-000- 

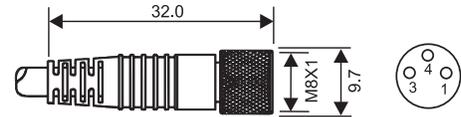
### Connection Options

- 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

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

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.  | .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.               |

### Ordering Example:

9T10-000-002

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.





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**NOTES:**

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**NOTES:**

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