



## **DC2 SERIES POTENTIOMETERS**

Conditioned for use with  
Proportion-Air products

Available in single  
or 10 turn design

Available with  
numeric indicator

## Functional Description

The DC2 Series line of potentiometers is designed for use as a command signal for Proportion-Air control valves. A 10 volt reference is used to provide excitation to the potentiometer. An op-amp measures the output on the wiper of the potentiometer and provides buffering to eliminate external components from affecting the linearity of the potentiometer. A three wire cord is provided and is attached to the pc board to make necessary power signal and common connections.

## Specifications

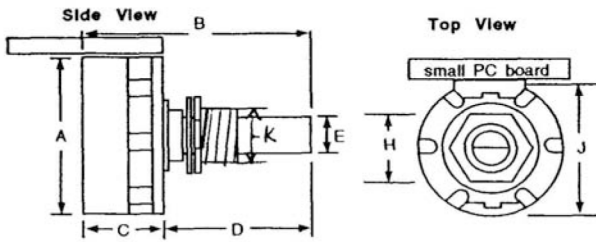
	DC2	DC2C	DC2-10T	DC2-10TC	DC2-10TI	DC2-10TIC
<b>Electrical</b>						
Input voltage	15-24 VDC	15-24 VDC	15-24 VDC	15-24 VDC	15-24 VDC	15-24 VDC
Output voltage	0-10VDC	-	0-10VDC	-	0-10VDC	-
Output current	10mA Max.	4-20mA sourcing	10mA Max.	4-20mA sourcing	10mA Max.	4-20mA sourcing
Linearity	± 1%	± 1%	± 0.25%	± 0.25%	± 0.25%	± 0.25%
Power consumption	20mA	30mA	20mA	30mA	20mA	30mA
Temperature range	32-158 °F 0-70 °C	32-158 °F 0-70 °C	32-158 °F 0-70 °C	32-158 °F 0-70 °C	32-158 °F 0-70 °C	32-158 °F 0-70 °C
Cord length	10 Feet	10 Feet	10 Feet	10 Feet	10 Feet	10 Feet
<b>Mechanical</b>						
	<b>DC2 &amp; DC2C</b>		<b>DC2-10T &amp; DC2-10TC</b>		<b>DC2-10TI &amp; DC2-10TIC</b>	
Rotation	270° ± 3°		3600° + 10s - 0°		3600° + 10s - 0°	
Rotation life	25,000 cycles		50,000 cycles		50,000 cycles	
Bushing length	3/8 (9.52 mm) x 3/8-32 UNEF -2A		5016 (20.64 mm) x 3/8-32 UNEF -2A		5016 (20.64 mm) x 3/8-32 UNEF -2A	
Overall Weight	DC2 ..... 0.34 lb DC2C ..... 0.52 lb		DC2-10T ..... 0.32 lb DC2-10TC ..... 0.50 lb		DC2-10TI ..... 0.50 lb DC2-10TIC ..... 0.50 lb	

## Ordering

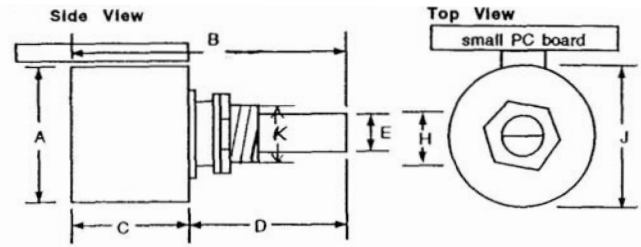
POTENTIOMETERS			
<b>DC2</b>	1 Turn, 50K POT	<b>DC2-10TIC-KIT</b>	10 Turn, 50K with 4-20mA Out - <i>without box</i>
<b>DC2C</b>	1 Turn, 4-20 mA Monitor	<b>DC2-10TI-KIT</b>	10 Turn, 50K POT - <i>without box</i>
<b>DC2-10T</b>	10 Turn, 50K POT	<b>DC2-10T-KIT</b>	10 Turn, 200K POT with OP AMP - <i>without box</i>
<b>DC2-10TC</b>	10 Turn, 4-20 mA Monitor		
<b>DC2-10TI</b>	10 Turn, 50K POT, Indicator		
<b>DC2-10TIC</b>	10 Turn, 50K with 4-20mA Out		

# Dimensions

DC2

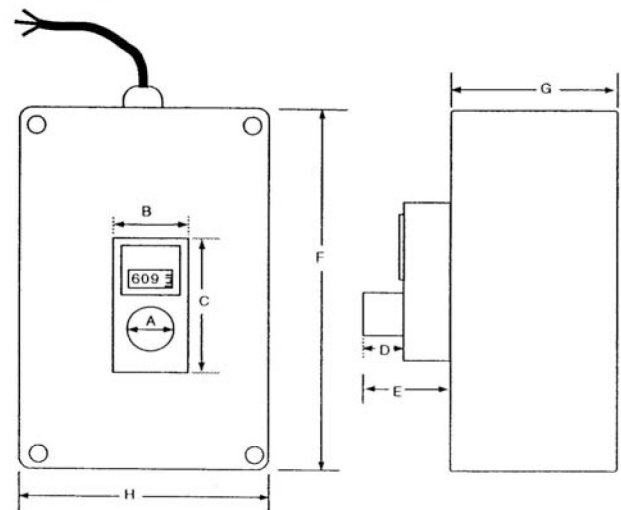


DC2-10T



	DC2		DC2-10T		DC2-10TI* DC2-10TIC	
	INCH	MM	INCH	MM	INCH	MM
A	1.35	34	0.87	22	0.65	17
B	1.50	38	1.57	40	1.00	25
C	0.52	13	0.74	19	1.75	44
D	0.90	23	0.87	22	0.44	11
E	0.25	06	0.25	06	1.00	25
F	-	-	-	-	3.30	85
G	-	-	-	-	1.40	35
H	0.37	09	0.48	12	2.35	60
J	1.05	27	0.90	23	2.35	60
K	Y DRILL		Y DRILL		-	

DC2-10TI & DC2-10TIC\*



\*DC2C & DC2-10TC use the same box but without the indicator.

# Connection

DC Series Wiring	
<b>Black</b>	Power (15-24Vdc)
<b>White</b>	Signal out*
<b>Green</b>	DC Common

\* When wiring a 4-20mA output potentiometer (DC2C, DC2-10TC & DC2-10TIC) to a Proportion-Air control valve, the SIGNAL OUT (white) should be connected to the control valve's (+) command. The control valve's (-) command (if present) should be tied to a DC common (ground).

## **SAFETY PRECAUTIONS**

*Please read the following safety information before installing or operating any Proportion-Air, Inc. equipment or accessories. To confirm safety, observe 'ISO 4414: Pneumatic Fluid Power - General rules relating to systems' and other safety practices.*

### **WARNING**

Improper operation could result in serious injury or loss of life!

#### **1. PRODUCT COMPATIBILITY**

Proportion-Air, Inc. products and accessories are for use in industrial pneumatic applications with compressed air media. The compatibility of the equipment is the responsibility of the end user. Product performance and safety are the responsibility of the person who determined the compatibility of the system. Also, this person is responsible for continuously reviewing the suitability of the products specified for the system, referencing the latest catalog, installation manual, Safety Precautions and all materials related to the product.

#### **2. EMERGENCY SHUTOFF**

Proportion, Inc. products cannot be used as an emergency shutoff. A redundant safety system should be installed in the system to prevent serious injury or loss of life.

#### **3. EXPLOSIVE ATMOSPHERES**

Products and equipment should not be used where harmful, corrosive or explosive materials or gases are present. Unless certified, Proportion-Air, Inc. products cannot be used with flammable gases or in hazardous environments.

#### **4. AIR QUALITY**

Clean, dry air is not required for Proportion-Air, Inc. products. However, a 40 micron particulate filter is recommended to prevent solid contamination from entering the product.

#### **5. TEMPERATURE**

Products should be used with a media and ambient environment inside of the specified temperature range of 32°F to 158°F. Consult factory for expanded temperature ranges.

#### **6. OPERATION**

Only trained and certified personnel should operate electronic and pneumatic machinery and equipment. Electronics and pneumatics are very dangerous when handled incorrectly. All industry standard safety guidelines should be observed.

#### **7. SERVICE AND MAINTENANCE**

Service and maintenance of machinery and equipment should only be handled by trained and experienced operators. Inspection should only be performed after safety has been confirmed. Ensure all supply pressure has been exhausted and residual energy (compressed gas, springs, gravity, etc.) has been released in the entire system prior to removing equipment for service or maintenance.

### **CAUTION**

Improper operation could result in serious injury to people or damage to equipment!

#### **1. PNEUMATIC CONNECTION**

All pipes, pneumatic hose and tubing should be free of all contamination, debris and chips prior to installation. Flush pipes with compressed air to remove any loose particles.

#### **2. THREAD SEALANT**

To prevent product contamination, thread tape is not recommended. Instead, a non-migrating thread sealant is recommended for installation. Apply sealant a couple threads from the end of the pipe thread to prevent contamination.

#### **3. ELECTRICAL CONNECTION**

To prevent electronic damage, all electrical specifications should be reviewed and all electrical connections should be verified prior to operation.

### **EXEMPTION FROM LIABILITY**

**1. Proportion-Air, Inc.** is exempted from any damages resulting from any operations not contained within the catalogs and/or instruction manuals and operations outside the range of its product specifications.

**2. Proportion-Air, Inc.** is exempted from any damage or loss whatsoever caused by malfunctions of its products when combined with other devices or software.

**3. Proportion-Air, Inc.** and its employees shall be exempted from any damage or loss resulting from earthquakes, fire, third person actions, accidents, intentional or unintentional operator error, product misapplication or irregular operating conditions.

**4. Proportion-Air, Inc.** and its employees shall be exempted from any damage or loss, either direct or indirect, including consequential damage or loss, claims, proceedings, demands, costs, expenses, judgments, awards, loss of profits or loss of chance and any other liability whatsoever including legal expenses and costs, which may be suffered or incurred, whether in tort (including negligence), contract, breach of statutory duty, equity or otherwise.

### **WARRANTY**

Proportion-Air, Inc. products are warranted to the original purchaser only against defects in material or workmanship for eighteen (18) months from the date of manufacture. The extent of Proportion-Air's liability under this warranty is limited to repair or replacement of the defective unit at Proportion-Air's option. Proportion-Air shall have no liability under this warranty where improper installation or filtration occurred.

# **PROPORTION**

ProportionAir.com

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Handcrafted in the USA  
ISO 9001-2015 Certified