

Linear and Rotary Position

Position sensors respond to the movement or location of a target, such as a molding press slide or a pulley shaft, by producing either a digital or an analogue output correlated to its location. Honeywell position sensors include digital and analogue Hall-effect position sensors, magnetoresistive digital sensors and potentiometric rotary and linear sensors. Sensors are directly compatible with other electronic circuits for application flexibility.

With the combined capabilities of three well-known brand names - Data Instruments, Clarostat, Electro and New England Instruments - Honeywell the group continuously strives to remain at the forefront of position sensing technology. In this catalogue we present our range of Linear and Rotary Position transducers and Torque Watch gauges, all suitable for use in industrial environments.



⚠ WARNING

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices, or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

Honeywell

www.honeywell.com/sensing

Selection Guide

	Features	Technology	Power Rating/ Supply Voltage	Water Resistant	Applications																	Page number			
					Medical			Industrial OEMs								Transportation			Communi- cations						
					Hospital beds	Medical equipment	Laboratory equipment handling	Injection molding	Printing press	Drill press	Robotics	Animated characters	Packaging/processing	Material handling	Welding/Heating equip	Manual controls/joysticks	Level sensing	Powered access	Electrohydraulic control	Off-road vehicles	Personal mobility		Electric vehicles	Marine controls	Audio controls
Resistive	Hall Effect	Optical																							
Series																									
Position Transducers	Linear	LFII	●		30 Vdc	●				●	●	●												99	
		DR	●		75 Vdc					●	●	●			●										101
		SLF	●		40 Vdc	●				●	●	●			●										102
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Potentiometers	Precision	578	●		0.5 W										●	●	●							111	
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	Commercial	575	●		0.5 W										●	●									112
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		585	●		0.05 W										●								●		115
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Linear and Rotary Position Transducers

Honeywell Sensing and Control manufactures a variety of potentiometric position sensors. The sensors use a tried and true potentiometric technology originally developed for military applications and more recently applied to industrial markets. MystR® conductive plastic potentiometric sensors are long-life units designed for rugged industrial applications. The proprietary MystR® conductive plastic has an extensive temperature range, infinite resolution and provides absolute position measurement on power-up. Intermediate signal conditioning is not required for normal ratio-metric position sensing. Very small stroke units (5 mm [0.2 in]) and units required to withstand exposure to harsh chemicals or work immersed in many different oils are available. If there is heavy hose down or spray from oil or water, a water resistant or waterproof potentiometer such as the AQ series should be used.

Linear products have CE approval, Intrinsically Safe For Class I, II, III, Division 1, Groups A, B, C, D, E, F, G With Enty. Vmax: 30 Vdc, Imax: 100 mA, Ci: 0.0 micro F, Li: 0.0 mH, T4A @ 105 °C Ambient.

Mechanical life:	1 billion dither operations
Approvals:	CE, NEMA 4 - water resistant
Housing:	Anodized aluminium
Element:	MystR® conductive plastic film
Shaft:	Stainless steel
Wiper current:	< 1 uA
Resolution:	Infinite

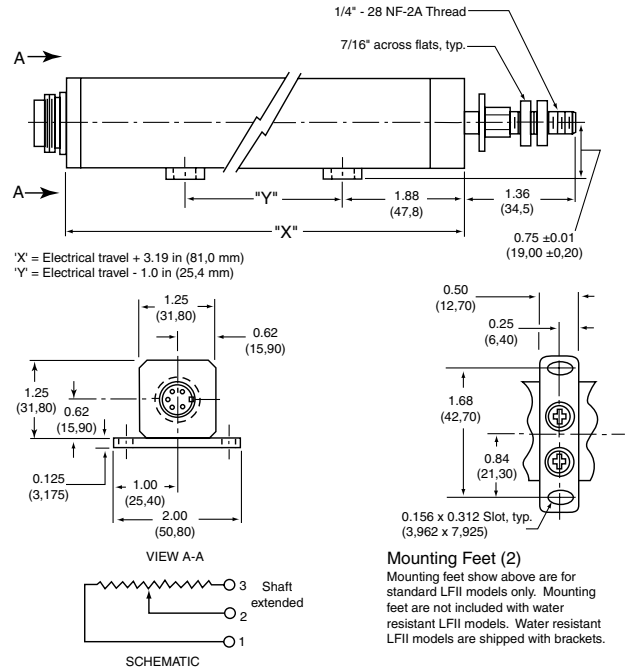
LFII Series Longfellow II linear position transducer



The new Longfellow II incorporates design innovations to increase transducer life and provide greater resistance to vibration, while providing a smooth high-quality signal for demanding factory control applications. It has a solid stainless steel shaft, longer front-end bearings, a vibration-free damped element, a spring-loaded ball joint and a high precision precious metal wiper. Carrier guides are extruded the full length of the housing to ensure smooth operation even under severe side load conditions.

The newly designed internal components provide improvements based on worldwide testing and field experience.

Operating temperature:	-65 °C to 105 °C (-85 °F to 221 °F)
Supply voltage (max.):	30 Vdc
Linearity:	± 0.1 %
Starting force (max.):	
Standard	0,45 kg (1.0 lb)
Water resistant	2,27 kg (5.0 lb)
Backlash (max.):	0,025 mm (0.001 in)
Total Resistance:	5000 Ohm
Shaft Ø:	1/4 in
Termination:	Connector, Binder Series 681
Housing length:	= Electrical travel + 3.19 in (81,02 mm)
Mechanical travel:	= Electrical travel + 0.09 in (2,29 mm)



OPTIONS

Standard

Mating connector, 3718401, sold separately

ELECTRICAL TRAVEL (IN (MM))

6.0 (152,4)
9.0 (228,6)
12.0 (304,8)
14.0 (355,6)
18.0 (457,2)
24.0 (609,6)
30.0 (762,0)
36.0 (914,4)
48.0 (1219,2)

REFERENCE

LF2S06N5KB6A
LF2S09N5KB6A
LF2S12N5KB6A
LF2S14N5KB6A
LF2S18N5KB6A
LF2S24N5KB6A
LF2S30N5KB6A
LF2S36N5KB6A
LF2S48N5KB6A

Water resistant

Mating connector, E02903021, sold separately

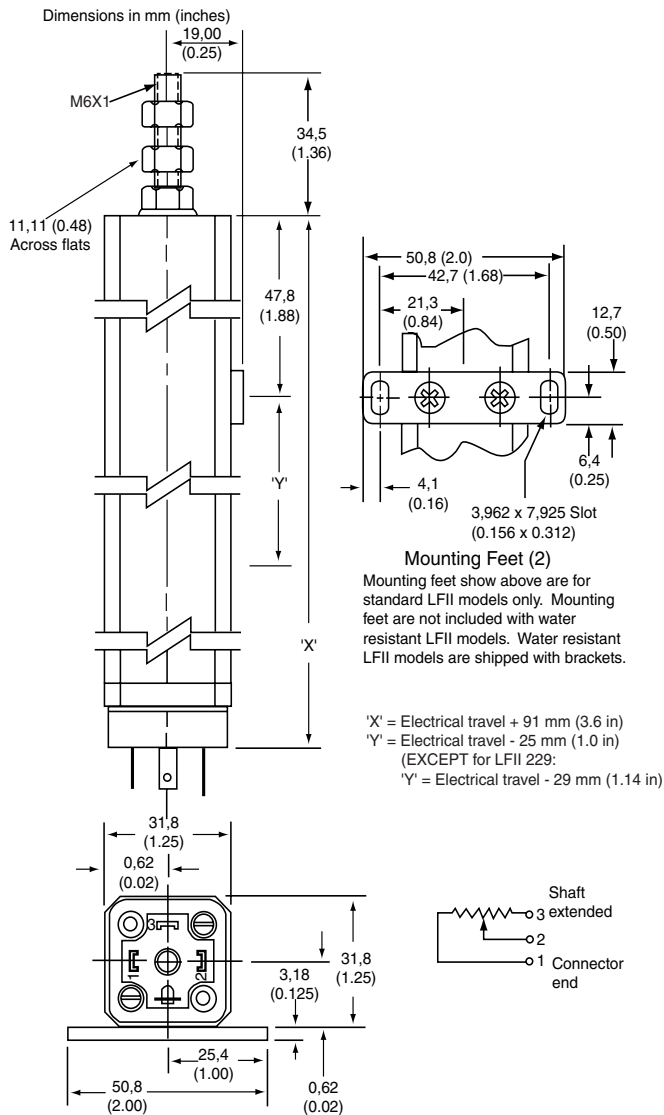
ELECTRICAL TRAVEL (IN (MM))

6.0 (152,4)
9.0 (228,6)
12.0 (304,8)
14.0 (355,6)
18.0 (457,2)
24.0 (609,6)
30.0 (762,0)
36.0 (914,4)
48.0 (1219,2)

REFERENCE

LF2W06N5KB6A
LF2W09N5KB6A
LF2W12N5KB6A
LF2W14N5KB6A
LF2W18N5KB6A
LF2W24N5KB6A
LF2W30N5KB6A
LF2W36N5KB6A
LF2W48N5KB6A

LFII Metric Series
Longfellow II linear position transducer



Operating temperature:	-65 °C to 105 °C (-85 °F to 221 °F)
Supply voltage (max.):	30 Vdc
Linearity:	± 0.1 %
Starting force (max.):	
Standard	0,45 kg (1.0 lb)
Water resistant	2,27 kg (5.0 lb)
Backlash (max.):	0,025 mm (0.001 in)
Total Resistance:	5000 Ohm
Shaft Ø:	1/4 in
Termination:	Connector
	A = Binder Series 681
	G = DIN 43650
Housing length:	= Electrical travel + 91,0 mm (3.6 in)
Mechanical travel:	= Electrical travel + 2,2 mm (0.09 in)

OPTIONS

Standard - Binder

Mating connector, 3718401, sold separately

ELECTRICAL TRAVEL (MM (IN))	REFERENCE
152,4 (6.0)	LF2S0152M5KB8A
228,6 (9.0)	LF2S0229M5KB8A
304,8 (12.0)	LF2S0305M5KB8A
355,6 (14.0)	LF2S0355M5KB8A
457,2 (18.0)	LF2S0457M5KB8A
609,6 (24.0)	LF2S0610M5KB8A
762,0 (30.0)	LF2S0762M5KB8A
914,4 (36.0)	LF2S0914M5KB8A
1219,2 (48.0)	LF2S1219M5KB8A

Standard - DIN 43650

Mating connector included

ELECTRICAL TRAVEL (MM (IN))	REFERENCE
152,4 (6.0)	LF2S0152M5KB8G
228,6 (9.0)	LF2S0229M5KB8G
304,8 (12.0)	LF2S0305M5KB8G
355,6 (14.0)	LF2S0355M5KB8G
457,2 (18.0)	LF2S0457M5KB8G
609,6 (24.0)	LF2S0610M5KB8G
762,0 (30.0)	LF2S0762M5KB8G
914,4 (36.0)	LF2S0914M5KB8G
1219,2 (48.0)	LF2S1219M5KB8G

Water resistant - Binder

Mating connector, E02903021, sold separately

ELECTRICAL TRAVEL (MM (IN))	REFERENCE
152,4 (6.0)	LF2W0152M5KB8A
228,6 (9.0)	LF2W0229M5KB8A
304,8 (12.0)	LF2W0305M5KB8A
355,6 (14.0)	LF2W0355M5KB8A
457,2 (18.0)	LF2W0457M5KB8A
609,6 (24.0)	LF2W0610M5KB8A
762,0 (30.0)	LF2W0762M5KB8A
914,4 (36.0)	LF2W0914M5KB8A
1219,2 (48.0)	LF2W1219M5KB8A

Water resistant - DIN 43650

Mating connector included

ELECTRICAL TRAVEL (MM (IN))	REFERENCE
152,4 (6.0)	LF2W0152M5KB8G
228,6 (9.0)	LF2W0229M5KB8G
304,8 (12.0)	LF2W0305M5KB8G
355,6 (14.0)	LF2W0355M5KB8G
457,2 (18.0)	LF2W0457M5KB8G
609,6 (24.0)	LF2W0610M5KB8G
762,0 (30.0)	LF2W0762M5KB8G
914,4 (36.0)	LF2W0914M5KB8G
1219,2 (48.0)	LF2W1219M5KB8G

DR Series

Durastar rodless linear position transducer



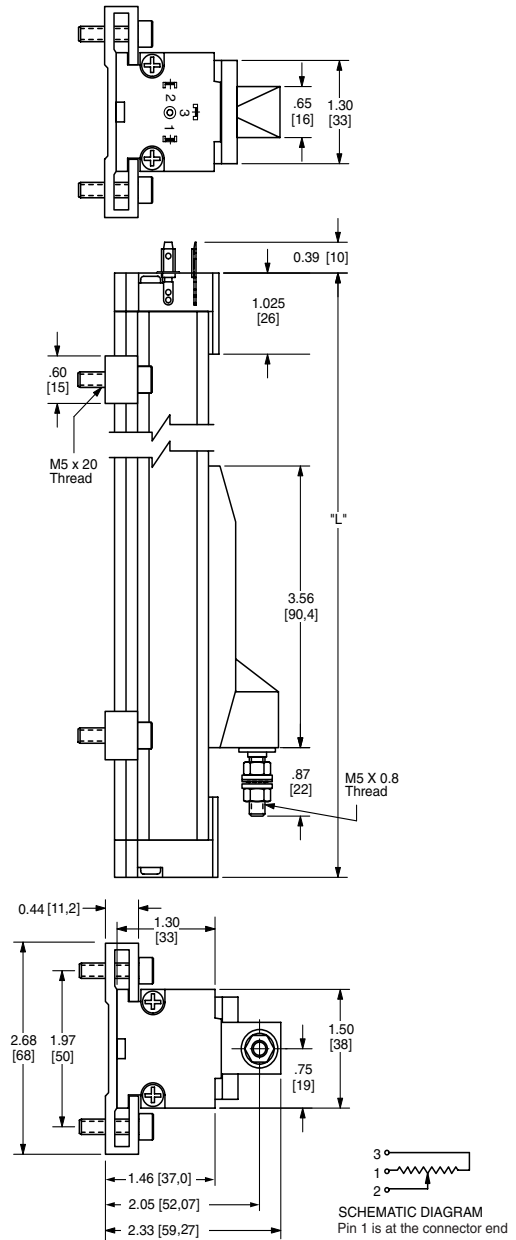
The DuraStar rodless linear position transducer is the longest lasting factory-rugged potentiometer. It allows large misalignment of shaft and housing, while providing whisper-quiet operation and smooth, clean signal output. MystR® provides the DuraStar excellent durability, especially in dither operation which is so often the determining factor in a potentiometer's life. It is an excellent replacement unit to reduce maintenance operations.

The rodless side-sealed DuraStar can also be used to replace a rodded potentiometer in contaminated applications to improve performance while providing long life.

Operating temperature:	-65 °C to 105 °C (-85 °F to 221 °F)
Supply voltage (max.):	75 Vdc
Linearity:	± 0.1 %
Starting force (max.):	0,45 kg (1.0 lb)
Backlash (max.):	0,025 mm (0.001 in)
Shaft:	M5x0.8 metric thread
Termination:	Connector, DIN 43560
Mechanical travel:	= Electrical travel + 5,0 mm (0.2 in)

Mating connector included

ELECTRICAL TRAVEL (MM (IN))	TOTAL RESISTANCE (OHM)	HOUSING LENGTH (MM (IN))	REFERENCE
101,6 (4.0)	2000	250,0 (9.84)	DR04N02KB7G
127,0 (5.0)	2000	280,0 (11.02)	DR05N02KB7G
152,4 (6.0)	5000	300,0 (11.81)	DR06N05KB7G
203,2 (8.0)	5000	352,0 (13.86)	DR08N05KB7G
228,6 (9.0)	5000	375,9 (14.80)	DR09N05KB7G
304,8 (12.0)	5000	452,1 (17.80)	DR12N05KB7G
355,6 (14.0)	5000	514,1 (20.24)	DR14N05KB7G
406,4 (16.0)	5000	553,9 (21.8)	DR16N05KB7G
457,2 (19.0)	5000	605,0 (23.8)	DR18N05KB7G
508,0 (20.0)	5000	656,0 (25.83)	DR20N05KB7G
609,6 (24.0)	10000	757,9 (29.84)	DR24N10KB7G
762,0 (30.0)	10000	910,0 (35.83)	DR30N10KB7G
914,4 (36.0)	10000	1062,5 (41.83)	DR36N10KB7G
1016,0 (40.0)	10000	1164,0 (45.83)	DR40N10KB7G
1270,0 (50.0)	10000	1418,0 (55.83)	DR50N10KB7G



SLF Series

Short Longfellow linear position transducer



The Short Longfellow is frequently used for measuring linear position or displacement up to 6 inches (152,4 mm) on a wide variety of manufacturing and process equipment. The mechanical design of the unit's front bearing, anodized extruded aluminum housing, stainless steel shaft and precious metal wipers are suitable for a factory's harsh environment.

Based on the proprietary MystR[®] conductive plastic film, it provides a high resolution, absolute position measurement without external signal conditioners.

Operating temperature:	-65 °C to 105 °C (-85 °F to 221 °F)
Supply voltage (max.):	40 Vdc
Starting force (max.):	
Standard	0,45 kg (1.0 lb)
Water resistant	2,27 kg (5.0 lb)
Backlash (max.):	0,025 mm (0.001 in)
Shaft Ø:	1/4 in
Termination:	Connector, Binder Series 681
Housing length:	= Electrical travel + 3.05 in (77,5 mm)
Mechanical travel:	= Electrical travel + 0.2 in (5,1 mm)

	Electrical Travel (in (mm))	Total Resistance (Ohm)
SLF01 or SLW01	1.0 (25,4)	1500
SLF02 or SLW02	2.0 (50,8)	3000
SLF03 or SLW03	3.0 (76,2)	4500
SLF04 or SLW04	4.0 (101,6)	6000
SLF06 or SLW06	6.0 (152,4)	9000

OPTIONS

Standard

Mating connector, 3718401, sold separately

± 0.1 % Linearity

ELECTRICAL TRAVEL	REFERENCE
1.0 (25,4)	SLF01N1500B6A
2.0 (50,8)	SLF02N3000B6A
3.0 (76,2)	SLF03N4500B6A
4.0 (101,6)	SLF04N6000B6A
6.0 (152,4)	SLF06N9000B6A

± 1.0 % Linearity

ELECTRICAL TRAVEL	REFERENCE
1.0 (25,4)	SLF01N1500F6A
2.0 (50,8)	SLF02N3000F6A
3.0 (76,2)	SLF03N4500F6A
4.0 (101,6)	SLF04N6000F6A
6.0 (152,4)	SLF06N9000F6A

Water resistant

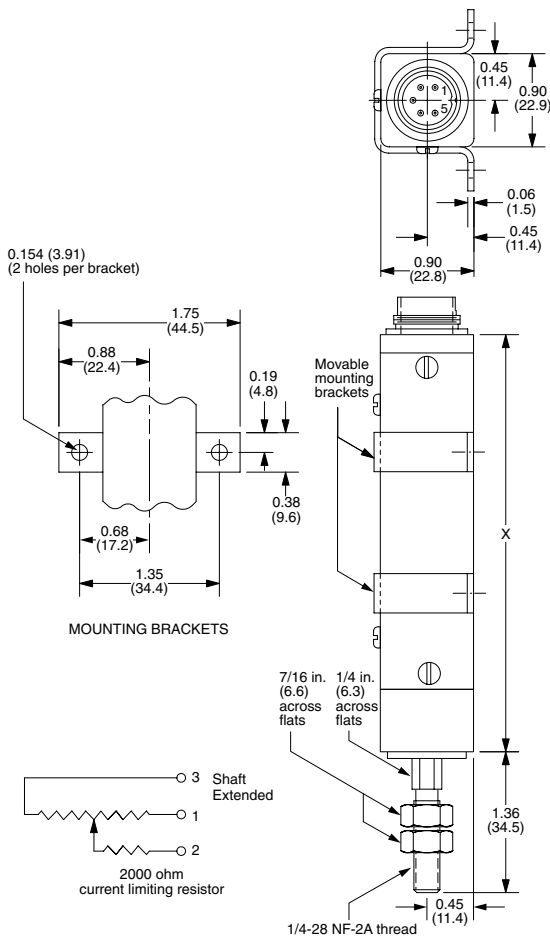
Mating connector, E02903021, sold separately

± 0.1 % Linearity

ELECTRICAL TRAVEL	REFERENCE
1.0 (25,4)	SLW01N1500B6A
2.0 (50,8)	SLW02N3000B6A
3.0 (76,2)	SLW03N4500B6A
4.0 (101,6)	SLW04N6000B6A
6.0 (152,4)	SLW06N9000B6A

± 1.0 % Linearity

ELECTRICAL TRAVEL	REFERENCE
1.0 (25,4)	SLW01N1500F6A
2.0 (50,8)	SLW02N3000F6A
3.0 (76,2)	SLW03N4500F6A
4.0 (101,6)	SLW04N6000F6A
6.0 (152,4)	SLW06N9000F6A

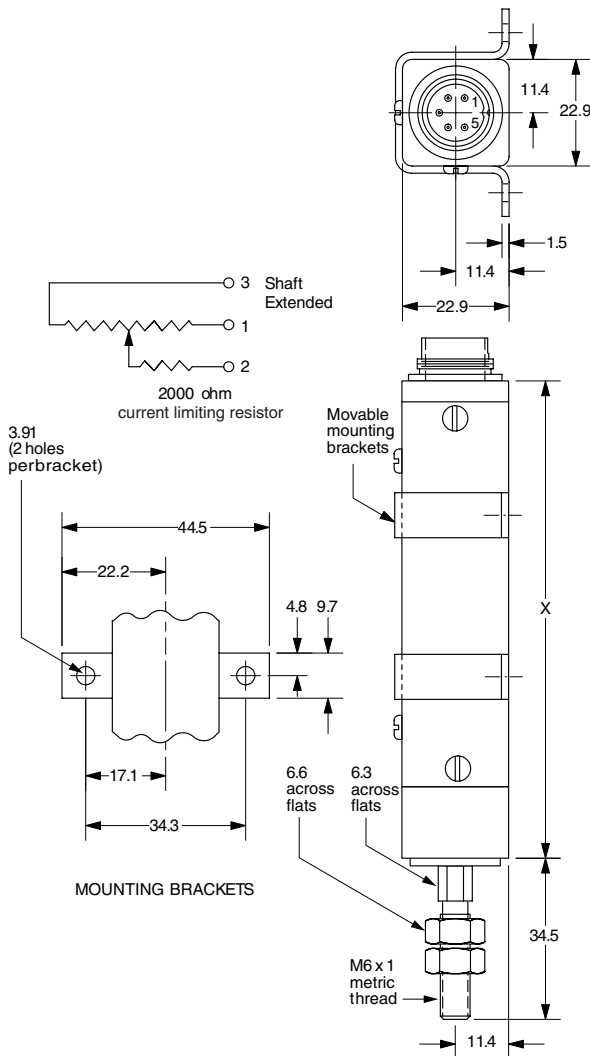


SLF Metric Series

Short Longfellow linear position transducer



Operating temperature: -65 °C to 105 °C (-85 °F to 221 °F)
Supply voltage (max.): 40 Vdc
Starting force (max.):
 Standard 0,45 kg (1.0 lb)
 Water resistant 2,27 kg (5.0 lb)
Backlash (max.): 0,025 mm (0.001 in)
Shaft Ø: M6x1 metric thread
Termination: Connector, Binder Series 681
Housing length: = Electrical travel + 77,5 mm (3.05 in)
Mechanical travel: = Electrical travel + 5,1 mm (0.2 in)



	Electrical Travel (in (mm))	Total Resistance (Ohm)
SLF025R4 or SLW025R4	25,4 (1.0)	1500
SLF050R8 or SLW050R8	50,8 (2.0)	3000
SLF076R2 or SLW076R2	76,2 (3.0)	4500
SLF101R6 or SLW101R6	101,6 (4.0)	6000
SLF152R4 or SLW152R4	152,4 (6.0)	9000

OPTIONS

Standard

Mating connector, 3718401, sold separately

± 0.1 % Linearity

ELECTRICAL TRAVEL	REFERENCE
25,4 (1.0)	SLF025R4M1500B8A
50,8 (2.0)	SLF050R8M3000B8A
76,2 (3.0)	SLF076R2M4500B8A
101,6 (4.0)	SLF101R6M6000B8A
152,4 (6.0)	SLF152R4M9000B8A

± 1.0 % Linearity

ELECTRICAL TRAVEL	REFERENCE
25,4 (1.0)	SLF025R4M1500F8A
50,8 (2.0)	SLF050R8M3000F8A
76,2 (3.0)	SLF076R2M4500F8A
101,6 (4.0)	SLF101R6M6000F8A
152,4 (6.0)	SLF152R4M9000F8A

Water resistant

Mating connector, E02903021, sold separately

± 0.1 % Linearity

ELECTRICAL TRAVEL	REFERENCE
25,4 (1.0)	SLW025R4M1500B8A
50,8 (2.0)	SLW050R8M3000B8A
76,2 (3.0)	SLW076R2M4500B8A
101,6 (4.0)	SLW101R6M6000B8A
152,4 (6.0)	SLW152R4M9000B8A

± 1.0 % Linearity

ELECTRICAL TRAVEL	REFERENCE
25,4 (1.0)	SLW025R4M1500F8A
50,8 (2.0)	SLW050R8M3000F8A
76,2 (3.0)	SLW076R2M4500F8A
101,6 (4.0)	SLW101R6M6000F8A
152,4 (6.0)	SLW152R4M9000F8A

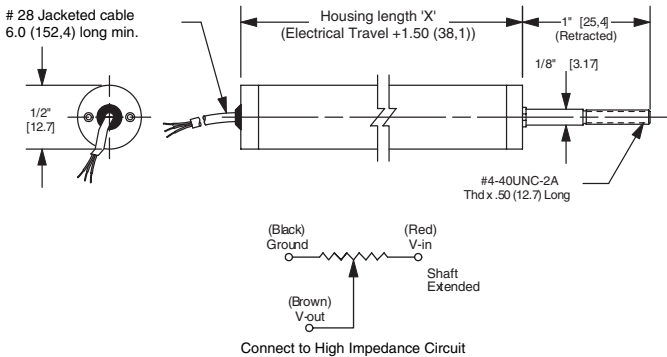
LT Series
Linear position transducer, 1/2 in diameter



The LT Series are 1/2 inch diameter, linear position transducers rugged enough to withstand the hostile environment of the factory. The LT can be provided with shaft seals for spray or hose down environments.

Operating temperature: -40 °C to 80 °C (-40 °F to 176 °F)
Supply voltage (max.): 30 Vdc
Starting force (max.):
 Standard 28,35 g (1.0 oz)
 Water resistant 340,19 g (12.0 oz)
Backlash (max.): 0,00508 mm (0.0002 in)
Shaft Ø: 1/8 in
Termination: Cable
Housing length: = Electrical travel + 1.50 in (38,10 mm)
Mechanical travel: = Electrical travel + 0.05 in (1,27 mm)

	Electrical Travel (in (mm))	Total Resistance (Ohm)
LTS01 or LTW01	1.0 (25,4)	1000
LTS02 or LTW02	2.0 (50,8)	2000
LTS03 or LTW03	3.0 (76,2)	3000
LTS04 or LTW04	4.0 (101,6)	4000
LTS05 or LTW05	5.0 (127,0)	5000
LTS06 or LTW06	6.0 (152,4)	6000
LTS07 or LTW07	7.0 (177,8)	7000
LTS08 or LTW08	8.0 (203,2)	8000
LTS09 or LTW09	9.0 (228,6)	9000
LTS10 or LTW10	10.0 (254,0)	10000



OPTIONS

Standard

± 0.1 % Linearity

ELECTRICAL TRAVEL	REFERENCE
1.0 (25,4)	LTS01N01KB5C
2.0 (50,8)	LTS02N02KB5C
3.0 (76,2)	LTS03N03KB5C
4.0 (101,6)	LTS04N04KB5C
5.0 (127,0)	LTS05N05KB5C
6.0 (152,4)	LTS06N06KB5C
7.0 (177,8)	LTS07N07KB5C
8.0 (203,2)	LTS08N08KB5C
9.0 (228,6)	LTS09N09KB5C
10.0 (254,0)	LTS10N10KB5C

± 1.0 % Linearity

ELECTRICAL TRAVEL	REFERENCE
1.0 (25,4)	LTS01N01KF5C
2.0 (50,8)	LTS02N02KF5C
3.0 (76,2)	LTS03N03KF5C
4.0 (101,6)	LTS04N04KF5C
5.0 (127,0)	LTS05N05KF5C
6.0 (152,4)	LTS06N06KF5C
7.0 (177,8)	LTS07N07KF5C
8.0 (203,2)	LTS08N08KF5C
9.0 (228,6)	LTS09N09KF5C
10.0 (254,0)	LTS10N10KF5C

Water resistant

± 0.1 % Linearity

ELECTRICAL TRAVEL	REFERENCE
1.0 (25,4)	LTW01N01KB5C
2.0 (50,8)	LTW02N02KB5C
3.0 (76,2)	LTW03N03KB5C
4.0 (101,6)	LTW04N04KB5C
5.0 (127,0)	LTW05N05KB5C
6.0 (152,4)	LTW06N06KB5C
7.0 (177,8)	LTW07N07KB5C
8.0 (203,2)	LTW08N08KB5C
9.0 (228,6)	LTW09N09KB5C
10.0 (254,0)	LTW10N10KB5C

± 1.0 % Linearity

ELECTRICAL TRAVEL	REFERENCE
1.0 (25,4)	LTW01N01KF5C
2.0 (50,8)	LTW02N02KF5C
3.0 (76,2)	LTW03N03KF5C
4.0 (101,6)	LTW04N04KF5C
5.0 (127,0)	LTW05N05KF5C
6.0 (152,4)	LTW06N06KF5C
7.0 (177,8)	LTW07N07KF5C
8.0 (203,2)	LTW08N08KF5C
9.0 (228,6)	LTW09N09KF5C
10.0 (254,0)	LTW10N10KF5C

MLT Series

Linear position transducer, 3/8 in Diameter

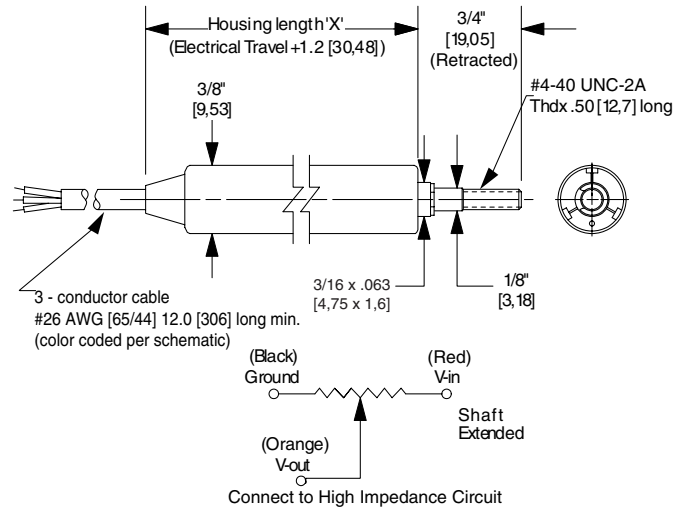


The MLT Series is 3/8 in diameter linear position transducer that is rugged enough to withstand hostile factory environments. Using a proprietary dual wiper, internal ball joint and the MystR® conductive plastic film the MLT provides a usable output at high vibration levels over long periods of time. MLT transducers use precious metal wipers to further enhance reliability.

The MLT's 3/8 inch diameter is among the smallest available and can be used to replace LVDT's in many applications.

- Operating temperature:** -40 °C to 80 °C (-40 °F to 176 °F)
- Supply voltage (max.):** 30 Vdc
- Starting force (max.):** 28,35 g (1.0 oz)
- Backlash (max.):** 0,0127 mm (0.0005 in)
- Shaft Ø:** 1/8 in
- Termination:** Cable
- Housing length:** = Electrical travel + 1.20 in (30,48 mm)
- Mechanical travel:** = Electrical travel + 0.05 in (1,27 mm)

	Electrical Travel (in (mm))	Total Resistance (Ohm)
MLT0R5	0.5 (12,7)	750
MLT001	1.0 (25,4)	1500
MLT002	2.0 (50,8)	3000
MLT003	3.0 (76,2)	4500
MLT004	4.0 (101,6)	6000
MLT005	5.0 (127,0)	7500
MLT006	6.0 (152,4)	9000



OPTIONS

± 0.1 % Linearity

ELECTRICAL TRAVEL	REFERENCE
2.0 (50,8)	MLT002N3000B5C
3.0 (76,2)	MLT003N4500B5C
4.0 (101,6)	MLT004N6000B5C
5.0 (127,0)	MLT005N7500B5C
6.0 (152,4)	MLT006N9000B5C

± 0.25 % Linearity

ELECTRICAL TRAVEL	REFERENCE
1.0 (25,4)	MLT001N1500D5C

± 1.0 % Linearity

ELECTRICAL TRAVEL	REFERENCE
0.5 (12,7)	MLT0R5N0750F5C
1.0 (25,4)	MLT001N1500F5C
2.0 (50,8)	MLT002N3000F5C
3.0 (76,2)	MLT003N4500F5C
4.0 (101,6)	MLT004N6000F5C
5.0 (127,0)	MLT005N7500F5C
6.0 (152,4)	MLT006N9000F5C

AQLT/AQMLT Series

Shaftless, waterproof linear position transducer



The AQLT and AQMLT are shaftless waterproof linear potentiometers designed to operate in wet/washdown and in-tank environments.

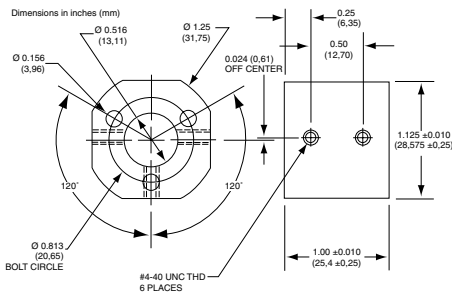
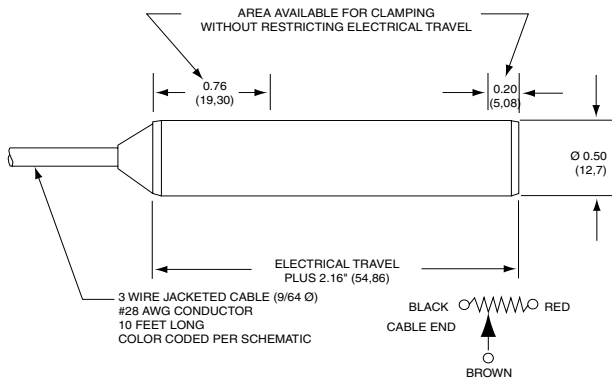
The AQ series features an external actuator magnetically coupled to a position feedback element. The magnetic actuator replaces the shaft, found in traditional linear transducers, and eliminates the need for additional stroke length mounting space.

Precious metal dual wipers, MystR® proprietary conductive plastic, and anodized aluminum housings provide long life and reliable operation in numerous applications.

Operating temperature:	-40 °C to 80 °C (-40 °F to 176 °F)	
Supply voltage (max.):	30 Vdc	
Linearity:	± 1.0 %	
Starting force (max.):	AQMT	56,7 g (2.0 oz)
	AQMLT	28,35 g (1.0 oz)
Sealing:	IP68	
Termination:	Cable	

AQLT Series

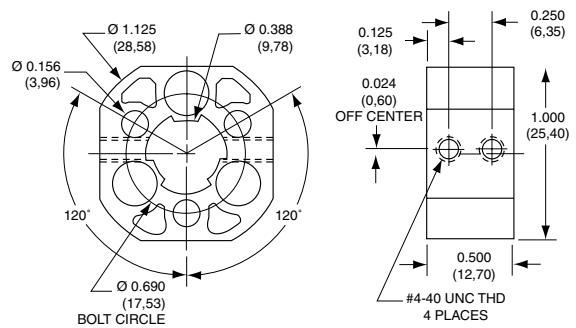
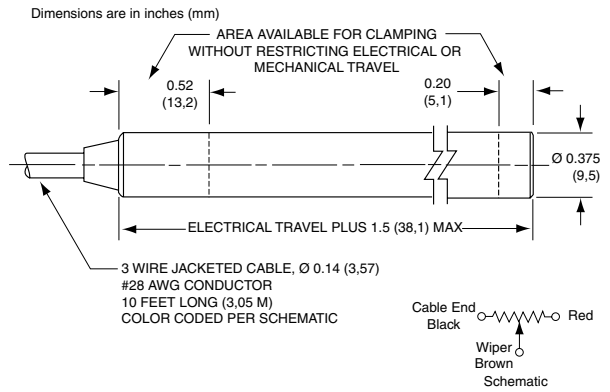
Housing length: = Electrical travel + 54,87 mm (2.16 in)
Mechanical travel: = Electrical travel + 2,54 mm (0.1 in)



ELECTRICAL TRAVEL (MM (IN))	TOTAL RESISTANCE (OHM)	REFERENCE
152,4 (6.0)	6000	AQLT06N06KFC
304,8 (12.0)	12000	AQLT12N12KFC
457,2 (18.0)	18000	AQLT18N18KFC
609,6 (24.0)	24000	AQLT24N24KFC
762,0 (30.0)	30000	AQLT30N30KFC
965,2 (38.0)	38000	AQLT38N38KFC

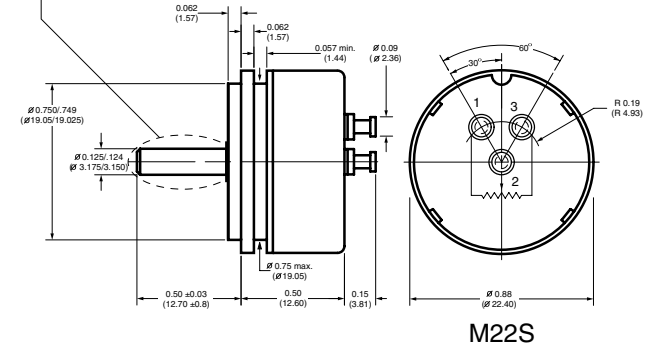
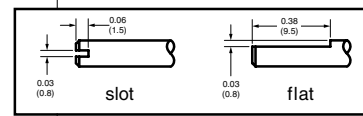
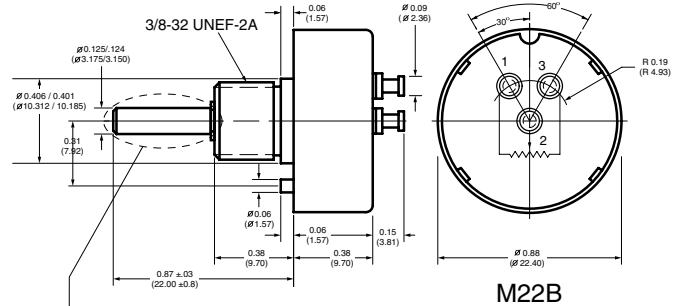
AQMLT Series

Housing length: = Electrical travel + 38,1 mm (1.5 in)
Mechanical travel: = Electrical travel + 2,54 mm (0.1 in)



ELECTRICAL TRAVEL (MM (IN))	TOTAL RESISTANCE (OHM)	REFERENCE
12,7 (0.5)	750	AQMLTR5N00750FC
25,4 (1.0)	1500	AQMLT01N01500FC
76,2 (3.0)	3000	AQMLT03N04500FC
152,4 (6.0)	9000	AQMLT06N09000FC
228,6 (9.0)	13500	AQMLT09N13500FC
304,8 (12.0)	18000	AQMLT12N18000FC

M22 Series Rotary position transducer



The M22 rotary potentiometer, available in servo and bushing mount, utilizes wear-resistant MystR[®] conductive plastic film combined with precious metal wipers to produce a quiet operating, low-noise, stable signal. Gold plated terminals eliminate soldering problems due to tarnish. The high-quality components are packaged in a cost-effective housing designed with an anodized aluminum face plate or nickel-plated brass bushing to handle assembly and operating loads. The integral internal terminations eliminate the need for internal wires which may break under vibration and thermal stress. The M22 series rotary potentiometers are used in position-sensing applications which demand high reliability at low cost.

Operating temperature:		-40 °C to 85 °C (-40 °F to 185 °F)
Supply voltage (max.):		30 Vdc
Starting force (max.):	M22B	0.3 oz in (torque)
	M22S	1.0 oz in (torque)
Total resistance:		2000 Ohm
Backlash (max.):		0.1°
Shaft Ø:		3,175 mm (0.125 in)
Termination:		Gold plated solder terminals
Housing size:		22,0 mm (0.87 in)
Bearing type:		Sleeve
Mechanical travel:	M22B	330°
	M22S	Continuous rotation
Electrical travel:	M22B	320°
	M22S	340°

OPTIONS

Threaded bushing mount

LINEARITY	REFERENCE
± 0.5 %	M22B2KE1S
± 1.0 %	M22B2KF1S

Servo mount

LINEARITY	REFERENCE
± 0.25 %	M22S2KD1S
± 0.5 %	M22S2KE1S
± 1.0 %	M22S2KF1S

WPM Series

Rotary position transducer, servo mount



Available in servo mount styles, the WPM Series rotary transducer provides long life by utilizing the proprietary MystR[®] conductive plastic film, precious metal wipers and shielded ball bearings on the stainless steel shaft.

The MystR[®] film provides exceptionally long rotational and dither life without sacrificing microlinearity or resolution. The shielded ball bearings ensure long life even with side load conditions.

Operating temperature:	-55 °C to 125 °C (-67 °F to 257 °F)
Supply voltage (max.):	60 Vdc
Total resistance:	5000 Ohm
Backlash (max.):	0.01 %
Shaft Ø:	WPM5KA4* 3,175 mm (0.125 in) WPM5KB1* 6,35 mm (0.25 in)
Termination:	Gold plated solder terminals
Bearing type:	Ball bearings
Mechanical travel:	Continuous rotation
Approvals:	MIL-PRF-39023 qualified

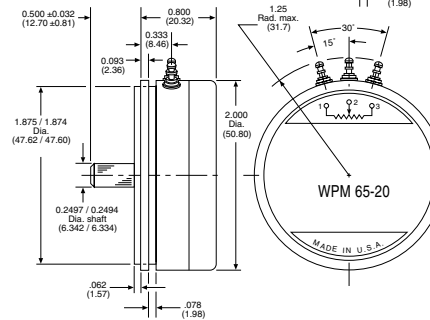
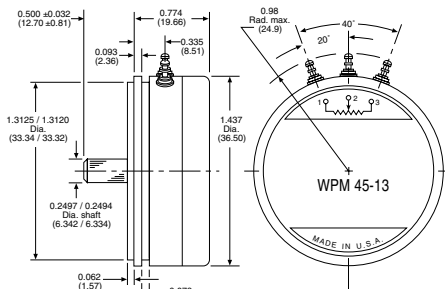
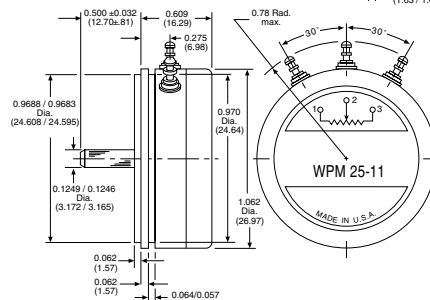
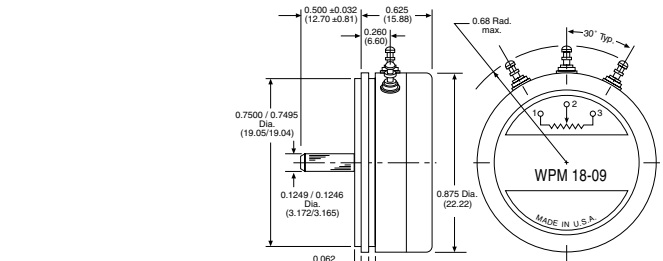
OPTIONS

A4

ELECTRICAL TRAVEL	STARTING FORCE (MAX.)	LINEARITY	REFERENCE
350°	0.8 oz in (torque)	± 0.075 %	WPM5KA4S4513
353°	1.0 oz in (torque)	± 0.075 %	WPM5KA4S6520

B1

ELECTRICAL TRAVEL	STARTING FORCE (MAX.)	LINEARITY	REFERENCE
340°	0.4 oz in (torque)	± 0.1 %	WPM5KB1S1809
345°	0.4 oz in (torque)	± 0.1 %	WPM5KB1S2511



Torque Watch Gauges

The Torque Watch, an industry mainstay when an accurate indication of rotary force is necessary, is simple to use, requiring no special tools or setups. Available in three models they cover ranges from 0.003 to 200 inch-ounces. Attach the gauge to the device being measured, and simply rotate it, for a direct reading dial.

Protection against over-torque is provided by a stainless steel internal rotation stop. The low range 366 Series will prevent damage from over-torque up to three times the normal range, whilst the mid range 641 Series and the high range 940 Series will prevent damage up to twice the normal range.

Models are available in standard (ounce inch), metric (gram centimeter) and System International (Newton meter) measuring options.

366 Series Low range 0.003 - 0.60 oz in



The Series 366 Torque Watch accurately measures very low torque. Three miniature adapter chucks allow simple coupling to the device being measured.

OPTIONS

Standard

OUNCE INCHES	REFERENCE
0.06 to 0.6	366-0
0.01 to 0.1	366-2
0.003 to 0.03	366-3

Metric

GRAM CENTIMETER	REFERENCE
6 to 42	366-0M
1 to 7.5	366-2M
0.2 to 2	366-3M

651 Series Mid range 0.05 - 40.0 oz in



The Series 651 Torque Watch provides accurate measurement of low static torque. A 1/4 inch keyed chuck provides a simple means of coupling to the device under measurement.

OPTIONS

Standard

OUNCE INCHES	REFERENCE
0.05 to 1.2	651C-1
1 to 20	651C-2
2 to 40	651C-3
0.1 to 2.4	651X-2
0.25 to 5	651X-3
0.5 to 10	651X-4

Metric

GRAM CENTIMETER	REFERENCE
2.5 to 80	651C-1M
50 to 1.2 K	651C-2M
150 to 2.8 K	651C-3M
5 to 150	651X-2M
10 to 300	651X-3M
25 to 600	651X-4M

System International

NEWTON METER	REFERENCE
0.5 to 9	651C-1SI
10 to 140	651C-2SI
15 to 285	651C-3SI
1 to 18	651X-2SI
2 to 36	651X-3SI
5 to 70	651X-4SI

940 Series High range 15.0 - 200.0 oz in



The Series 940 Torque Watch accurately measures torque in values that range from 15.0 to 200 oz/in. A 3/8 inch keyed chuck and 3/8 inch square socket driver adapter provide a simple means of coupling to the device under measurement.

OPTIONS

Standard

OUNCE INCHES	REFERENCE
30 to 200	940-1
15 to 100	940-2

Metric

GRAM CENTIMETER	REFERENCE
2.5 K to 14.3 K	940-1M
1 K to 7.1 K	940-2M

System International

NEWTON METER	REFERENCE
0.25 to 1.4	940-1SI
0.1 to 0.7	940-2SI

Clarostat Rotary Position Transducers

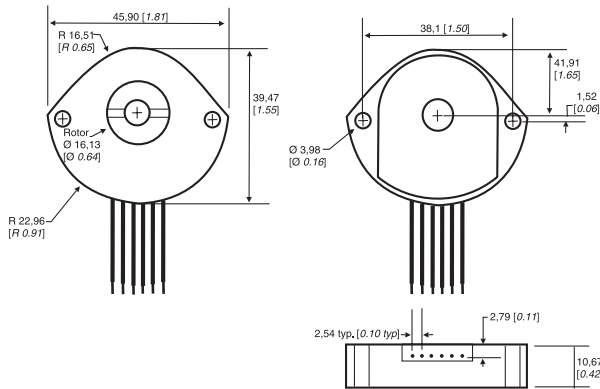
TH100 Series



The TH-100 Series puts Honeywell's proven variable-resistor technology to work in angle-management applications such as control-lever sensing and equipment position feedback. High performance and low cost make it attractive for a wide range of applications. Special electrical and mechanical configurations, including dual tracks, D-shape rotor holes, etc. are available on special order.

The device provides for angle measurements, has 152,4 mm (6.0 in) wire leads, a 6,35 mm (0.25 in) slotted thru hole and is sealed.

Power rating:	0.5 W max.
Element type:	Conductive plastic
Terminal type:	three 20 AWG
Shaft:	6,35 mm (0.25 in) thru hole with .105 w x .090 d slot
Body:	38,1 mm (1.5 in) x 45,72 mm (1.8 in)
Electrical taper:	Linear
Storage & operating temperature:	-40 °C to 120 °C (-40 °F to 248 °F)
Working voltage (max):	350 Vdc
Linearity:	± 5% standard; to ± 1% special
Total resistance:	10 K
Total resistance tolerance:	± 15%
Rotational cycles:	> 1 million



OPTIONS

180° Rotation

TAPER	CABLE CONNECTOR	REFERENCE
Linear	No	640CS103A06NAAY

90° Rotation

TAPER	CABLE CONNECTOR	REFERENCE
Linear	No	640ES103A06NAAY

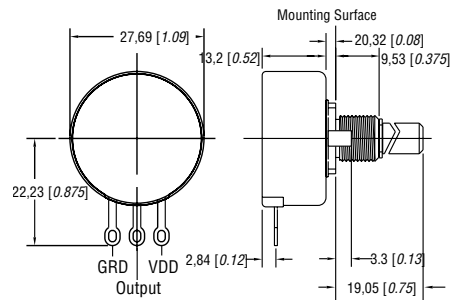
HRS100 Series, Hall-effect



The HRS100 provides angular position information for a variety of sensing and control applications in the automotive, marine, truck, off-road, industrial implementation, aerospace, and rail industries. The use of magnetically coupled information in place of a mechanical wiper assembly provides a long life, cost-effective solution for harsh environments that include temperature, vibration, dither, moisture and dirt.

This position sensor incorporates Hall-effect to provide a sensing device that will last for more than 50 million operations. The device is packaged in a metal housing with a 9,5 mm (0.375 in) diameter bushing and a 6,35 mm (0.25 in) diameter slotted shaft and solder lug terminals.

Terminal type:	Straight solder lug
Bushing:	9,52 mm (.375 in) FMS, includes C-ring
Shaft:	Slotted 6,32 mm ± 0,03 (0.249 in ± 0.001)
Body:	27,79 mm (1.094 in) Ø
Electrical taper:	Linear
Operating temperature:	-40 °C to 85 °C (-40 °F to 185 °F)
Supply voltage (max):	5 Vdc
Linearity:	± 2%
Rotational cycles:	10 million
Mechanical operating angle:	90°



OPTIONS

90° Rotation

SHAFT	LUG	REFERENCE
Slotted	Straight Solder	HRS100SSAB090

Clarostat Rotary Potentiometers and Position Transducers

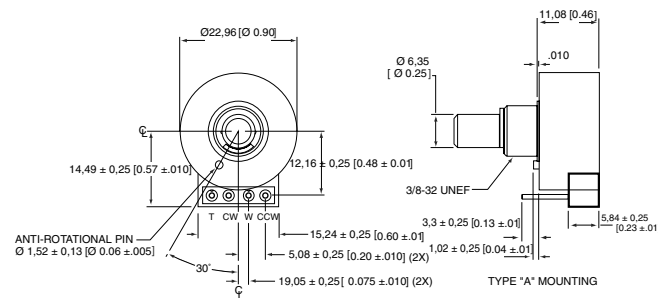
578 Series, Precision potentiometer



The 578 Series conductive plastic precision potentiometer puts Honeywell's proven variable resistor technology to work in a high performance, cost-effective device. With its compact size, rugged construction and advanced versatility, the 578 provides superior control for applications such as joy-stick controllers and position-sensing devices.

The model 578 features a 9,5 mm x 9,5 mm (0.375 in x 0.375 in) bushing, 6,35 mm x 19,05 mm (0.25 in x 0.75 in) slotted shaft, linear taper, and type A pc pins (please consult with the factory for custom OEM configurations).

Power rating:	0.5 W @ 70 °C (158 °F)
Element type:	Conductive plastic
Terminal type:	PC pin type A
Bushing:	9,52 mm (0.375 in) D x 9,52 mm (0.375 in) L
Shaft:	6,35 mm x 19,05 mm (0.25 in x 0.75 in) Slotted
Body:	22,86 mm (0.900 in) Ø
Electrical taper:	Linear
Operating temperature:	-40 °C to 100 °C (-40 °F to 212 °F)
Working voltage:	400 Vdc
Linearity:	1%
Total resistance tolerance:	± 10%
Revolutions:	5 million
Mechanical rotation:	320° ± 5°



OPTIONS

1 kOhm Resistance

SHAFT	RESISTANCE TAPER	REFERENCE
Slotted stainless steel	Linear	578X1G48S102SA

5 kOhm Resistance

SHAFT	RESISTANCE TAPER	REFERENCE
Slotted stainless steel	Linear	578X1G48S502SA

10 kOhm Resistance

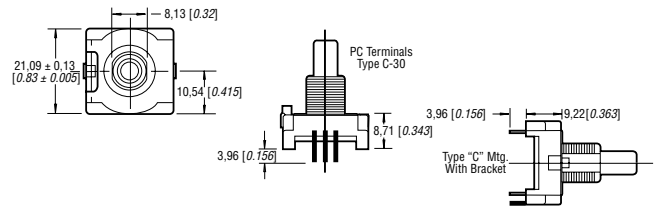
SHAFT	RESISTANCE TAPER	REFERENCE
Slotted stainless steel	Linear	578X1G48S103SA

574 Series, Commercial potentiometer



The 574 Series conductive plastic potentiometer offers low mounting profile, smooth feel, and robust construction with a thermoplastic housing, bushing, and shaft. Terminals are PC style with a bracket for vertical mounting. No hardware is included.

Power rating:	0.25 W @ 70 °C (158 °F)
Element type:	Conductive plastic
Terminal type:	PC terminals type C with C mounting bracket
Bushing:	M9 x 6,35 mm (0.25 in) L
Shaft:	6,35 (0.25 in) Ø x 19,05 (0.75 in) L
Body:	21,08 mm (0.830 in) square
Electrical taper:	Linear
Operating temperature:	-40 °C to 120 °C (-40 °F to 248 °F)
Working voltage:	350 Vac
Linearity:	± 5%
Total resistance tolerance:	± 20%
Rotational cycles:	50,000
Mechanical rotation:	300° ± 5°



OPTIONS

Flatted Shaft

RESISTANCE	TAPER	REFERENCE
1 kOhm	Linear	574SX1M48F102SD
10 kOhm	Linear	574SX1M48F103SD
100 kOhm	Linear	574SX1M48F104SD
50 kOhm	Linear	574SX1M48F503SD

Slotted Shaft

RESISTANCE	TAPER	REFERENCE
1 kOhm	Linear	574SX1M48S102SD
10 kOhm	Linear	574SX1M48S103SD
100 kOhm	Linear	574SX1M48S104SD
50 kOhm	Linear	574SX1M48S503SD

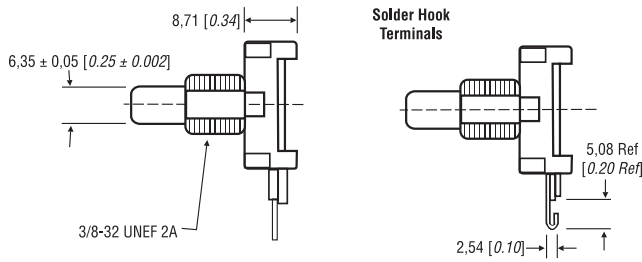
Clarostat Rotary Potentiometers and Position Transducers (continued)

575 Series, Commercial potentiometer



The 575 Series conductive plastic potentiometer offers a smooth feel and robust construction, with a thermoplastic housing, bushing, and shaft. Terminals are solder-hook style for panel mounting. No hardware is included.

Power rating:	0.5 W @ 70 °C (158 °F)
Element type:	Conductive plastic
Terminal type:	Solder hook-200 grid
Bushing:	9,52 mm (.375 in) D x 6,35 mm (0.25 in) L
Shaft:	6,35 mm (0.25 in) Ø x 19,05 mm (0.75 in) L
Body:	21,08 mm (0.830 in) square
Electrical taper:	Linear
Operating temperature:	-40 °C to 120 °C (-40 °F to 248 °F)
Working voltage:	350 Vac
Linearity:	± 5%
Total resistance tolerance:	± 20%
Rotational cycles:	50,000
Mechanical rotation:	300° ± 5°



OPTIONS

Flatted Shaft

RESISTANCE	TAPER	REFERENCE
1 kOhm	Linear	575SX1A48F102SS
10 kOhm	Linear	575SX1A48F103SS
50 kOhm	Linear	575SX1A48F503SS

Slotted Shaft

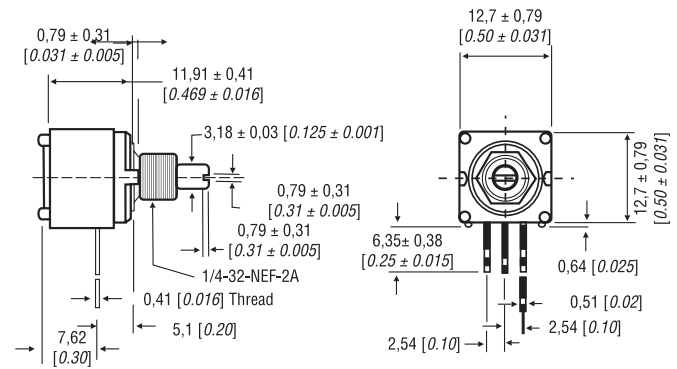
RESISTANCE	TAPER	REFERENCE
1 kOhm	Linear	575SX1A48S102SS
10 kOhm	Linear	574SX1A48S103SS
50 kOhm	Linear	574SX1A48S503SS

590 Series, Commercial potentiometer



The 590 Series conductive plastic modular potentiometer features low electrical noise, smooth feel, robust construction, and brass bushing and shaft. Terminals are PC style. Hardware included. Multiple sections (up to three) are available on special order.

Power rating:	0.5 W @ 70 °C (158 °F)
Element type:	Conductive plastic
Terminal type:	PC, 6,35 mm (0.25 in) long
Bushing:	6,35 mm (0.25 in) Ø x 6,35 mm (0.25 in) L
Shaft:	Slotted, 3,17 mm (0.125 in) Ø x 22,23 mm (0.875 in) L
Body:	12,7 mm (0.50 in) Ø
Electrical taper:	Linear
Operating temperature:	-40 °C to 120 °C (-40 °F to 248 °F)
Linearity:	± 5%
Total resistance tolerance:	± 10% (up to 500 kOhms) ± 20 % (1 MOhm and over)
Rotational cycles:	50,000
Mechanical rotation:	295° ± 5°



OPTIONS

Slotted Shaft

RESISTANCE	TAPER	REFERENCE
100 Ohm	Linear	590SX1N56S101SP
500 Ohm	Linear	590SX1N56S501SP
1 kOhm	Linear	590SX1N56S102SP
5 kOhm	Linear	590SX1N56S502SP
10 kOhm	Linear	590SX1N56S103SP
100 kOhm	Linear	590SX1N56S104SP
500 kOhm	Linear	590SX1N56S504SP
1 MOhm	Linear	590SX1N56S105SP

380 Series, Industrial potentiometer

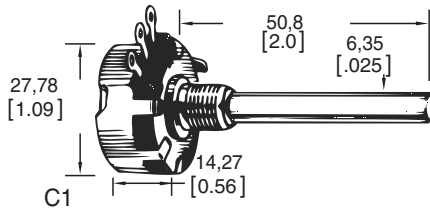


The 380 Series “Quiet One” is a 2-watt conductive plastic potentiometer offering superior dynamic noise and a long rotational life. It meets MIL-R-94 specifications where applicable.

Approvals:	MIL-R-94
Power rating:	2.0 W max.
Element type:	Conductive plastic
Terminal type:	Solder lug
Shaft:	Slotted
Body:	27,79 mm (1.094 in) Ø
Electrical taper:	Linear
Operating temperature:	-55 °C to 120 °C (-67 °F to 248 °F)
Working voltage:	500 Vdc
Linearity:	± 5%
Total resistance tolerance:	± 10% (up to 500 kOhms) ± 20 % (1 MOhm and over)
Rotational cycles:	100,000
Mechanical rotation:	312° ± 3°

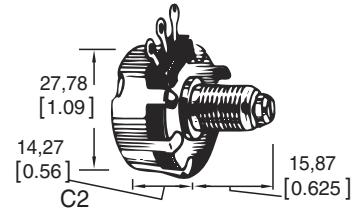
OPTIONS

**C1: 2.0 in (50,8 mm) Round Shaft;
0.375 in (9,5 mm) L bushing**



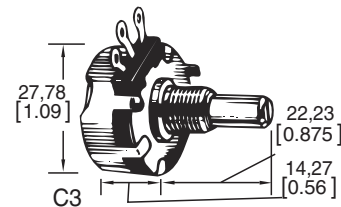
RESISTANCE	REFERENCE
100 Ohm	380C1100
250 Ohm	380C1250
500 Ohm	380C1500
1 kOhm	380C11000
1.5 kOhm	380C11500
2 kOhm	380C12000
2.5 kOhm	380C12500
5 kOhm	380C15000
10 kOhm	380C110K
15 kOhm	380C115K
20 kOhm	380C120K
25 kOhm	380C125K
50 kOhm	380C150K
100 kOhm	380C1100K
200 kOhm	380C1200K
250 kOhm	380C1250K
500 kOhm	380C1500K
1 MOhm	380C11MEG

**C2: 0.625 in (15,88 mm) screwdriver slotted shaft;
0.5 in (12,7 mm) L locking bushing**



RESISTANCE	REFERENCE
250 Ohm	380C2250
1 kOhm	380C21000
5 kOhm	380C25000
10 kOhm	380C210K
25 kOhm	380C225K
50 kOhm	380C250K
100 kOhm	380C2100K
250 kOhm	380C2250K
1 MOhm	380C21MEG

**C3: 0.875 in (22,23 mm) shaft;
0.375 in (9,5 mm) L bushing**



RESISTANCE	REFERENCE
100 Ohm	380C3100
250 Ohm	380C3250
500 Ohm	380C3500
1 kOhm	380C31000
2 kOhm	380C32000
2.5 kOhm	380C32500
5 kOhm	380C35000
10 kOhm	380C3310K
25 kOhm	380C325K
50 kOhm	380C350K
100 kOhm	380C3100K
150 kOhm	380C3150K
200 kOhm	380C3200K
250 kOhm	380C3250K
500 kOhm	380C3500K
1 MOhm	380C31MEG
5 MOhm	380C35MEG

Clarostat Rotary Potentiometers and Position Transducers (continued)

485 Series, Industrial potentiometer

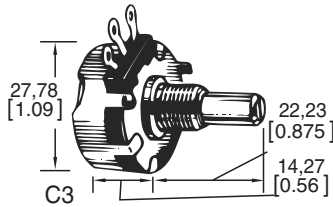


The 485 Series is the extended-life version of the 380 Series. It is a 2-watt conductive plastic potentiometer offering superior dynamic noise and extra long rotational life. It meets MIL-R-94 specifications where applicable.

Approvals:	MIL-R-94
Power rating:	2.0 W max.
Element type:	Conductive plastic
Terminal type:	Solder lug
Shaft:	Slotted
Body:	27,79 mm (1.094 in) Ø
Electrical taper:	Linear
Operating temperature:	-55 °C to 120 °C (-67 °F to 248 °F)
Working voltage:	500 Vdc
Linearity:	± 5%
Total resistance tolerance:	± 10% (up to 500 kOhms) ± 20 % (1 MOhm and over)
Rotational cycles:	1,000,000
Mechanical rotation:	312° ± 3°

OPTIONS

0.875 in (22,23 mm) shaft;
0.375 in (9,5 mm) L bushing



RESISTANCE	REFERENCE
1 kOhm	C0416392
5 kOhm	C0416393
10 kOhm	C0416394

Special version with 45° element

Construction incorporates an internal shaft seal for moisture resistance.

RESISTANCE	REFERENCE
5 kOhm	C0416395

RV4 MIL Series potentiometer

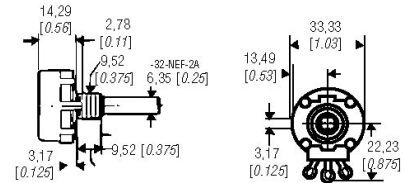


The RV4 is a dual-marked potentiometer with all the fine features of the 380 Series in a more economical package. It is built in strict accordance with MIL-R-94.

Approvals:	MIL-R-94
Power rating:	2.0 W max.
Element type:	Conductive plastic
Terminal type:	Solder lug
Shaft:	Slotted
Body:	27,79 mm (1.094 in) Ø
Electrical taper:	Linear
Operating temperature:	-55 °C to 120 °C (-67 °F to 248 °F)
Working voltage:	500 Vdc
Linearity:	± 5%
Rotational cycles:	25,000
Mechanical rotation:	312° ± 3°

OPTIONS

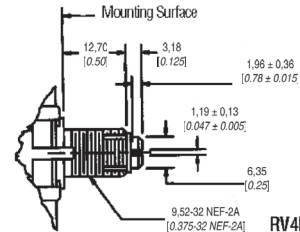
Standard Bushing,
0.875 in (22,23 mm)
shaft length



RV4N

RESISTANCE	TOLERANCE	REFERENCE
100 Ohm	± 10 %	RV4NAYS101A
250 Ohm	± 10 %	RV4NAYS251A
500 Ohm	± 10 %	RV4NAYS501A
1 kOhm	± 10 %	RV4NAYS102A
2.5 kOhm	± 10 %	RV4NAYS252A
5 kOhm	± 10 %	RV4NAYS502A
10 kOhm	± 10 %	RV4NAYS103A
25 kOhm	± 10 %	RV4NAYS253A
50 kOhm	± 10 %	RV4NAYS503A
100 kOhm	± 10 %	RV4NAYS104A
250 kOhm	± 10 %	RV4NAYS254A
500 kOhm	± 10 %	RV4NAYS504A
750 Kohm	± 10 %	RV4NAYS754A
1 MOhm	± 10 %	RV4NAYS105A
5 MOhm	± 20 %	RV4NAYS505B

Locking Bushing



RV4L

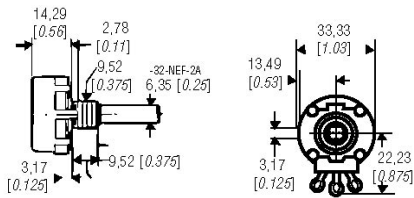
RESISTANCE	TOLERANCE	REFERENCE
100 Ohm	± 10 %	RV4LAYS101A
250 Ohm	± 10 %	RV4LAYS251A
500 Ohm	± 10 %	RV4LAYS501A
1 kOhm	± 10 %	RV4LAYS102A
2.5 kOhm	± 10 %	RV4LAYS252A
5 kOhm	± 10 %	RV4LAYS502A
10 kOhm	± 10 %	RV4LAYS103A
25 kOhm	± 10 %	RV4LAYS253A
50 kOhm	± 10 %	RV4LAYS503A
100 kOhm	± 10 %	RV4LAYS104A
250 kOhm	± 10 %	RV4LAYS254A
500 kOhm	± 10 %	RV4LAYS504A
750 kOhm	± 10 %	RV4LAYS754A
1 MOhm	± 10 %	RV4LAYS105A
5 MOhm	± 20 %	RV4LAYS505B

53 Series potentiometer



The 53 Series has all the fine features of the Series 380 in a more economical package. It is available with a 50,8 mm [2.0 in] long shaft.

Power rating:	2.0 W max.
Element type:	Conductive plastic
Terminal type:	Solder lug
Shaft:	Slotted, 50,8 mm (2.0 in) L
Body:	27,79 mm (1.094 in) Ø
Electrical taper:	Linear
Operating temperature:	-55 °C to 120 °C (-67 °F to 248 °F)
Working voltage:	500 Vdc
Linearity:	± 5%
Rotational cycles:	25,000
Mechanical rotation:	312° ± 3°



OPTIONS

Standard Bushing, 2.0 in (50,8 mm) shaft length

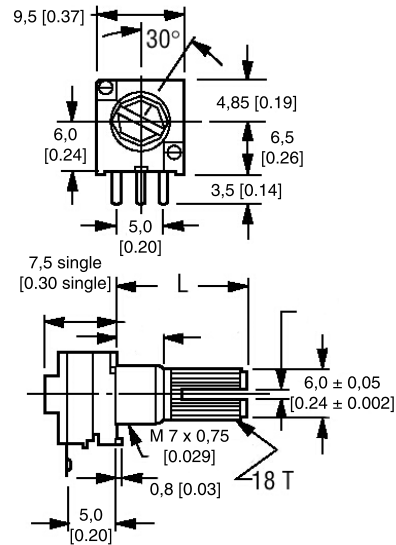
RESISTANCE	TOLERANCE	REFERENCE
100 Ohm	± 10 %	53C1100
250 Ohm	± 10 %	53C1250
500 Ohm	± 10 %	53C1500
1 kOhm	± 10 %	53C11K
2.5 kOhm	± 10 %	53C12500
5 kOhm	± 10 %	53C15K
10 kOhm	± 10 %	53C110K
25 kOhm	± 10 %	53C125K
50 kOhm	± 10 %	53C150K
100 kOhm	± 10 %	53C1100K
150 kOhm	± 10 %	53C1150K
250 kOhm	± 10 %	53C1250K
500 kOhm	± 10 %	53C1500K
750 kOhm	± 10 %	53C1750K
1 MOhm	± 20 %	53C11MEG
2.5 MOhm	± 20 %	53C12.5MEG
5 MOhm	± 20 %	53C15MEG

585 Series, Commercial potentiometer



Our Series 585 offers a robust construction in a low-cost commercial package, using carbon composition elements and a metal shaft and bushing.

Power rating:	0.05 W max. @ 40 °C
Element type:	Carbon composition
Terminal type:	3 in-line
Bushing:	M 7 x 0.75 thread, 7 mm L
Shaft:	6,0 mm (0.24 in) Ø by 25,0 mm (0.98 in) L
Flatted shaft:	12,0 mm (0.47 in) long by 4,5 mm (0.18 in) D standard; round end available
Body:	9,5 mm (0.37 in) square
Operating temperature:	-55 °C to 120 °C (-67 °F to 248 °F)
Resistance tolerance:	± 20%
Rotational cycles:	10,000
Mechanical rotation:	300°



OPTIONS

Linear taper

RESISTANCE	SECTION	REFERENCE
1 kOhm	Single	585SX4Q25F102SP
5 kOhm	Single	585SX4Q25F502SP
10 kOhm	Single	585SX4Q25F103SP
1 kOhm	Double	585DX4Q25F102SP
5 kOhm	Double	585DX4Q25F502SP
10 kOhm	Double	585DX4Q25F103SP

Audio taper

RESISTANCE	SECTION	REFERENCE
1 kOhm	Single	585SX4Q25F102ZP
5 kOhm	Single	585SX4Q25F502ZP
10 kOhm	Single	585SX4Q25F103ZP

Clarostat Rotary Potentiometers and Position Transducers (continued)

RV6/392M MIL Series potentiometer



RV6/392M Series are economical potentiometers designed to meet wave soldering applications for mounting PC boards. They meet flow solderability and washability test requirements, and MIL-R-94 standard apply.

Approvals:	MIL-R-94
Power rating:	0.5 W max.
Element type:	Conductive plastic
Terminal type:	Solder hook
Shaft:	Slotted
Body:	12,7 mm (0.5 in) Ø
Electrical taper:	Linear
Operating temperature:	-40 °C to 120 °C (-40 °F to 248 °F)
Working voltage:	350 Vdc
Linearity:	± 5%
Total resistance tolerance:	± 10% (up to 500 kOhms) ± 20 % (1 MOhm and over)
Rotational cycles:	50,000
Mechanical rotation:	295° ± 5°

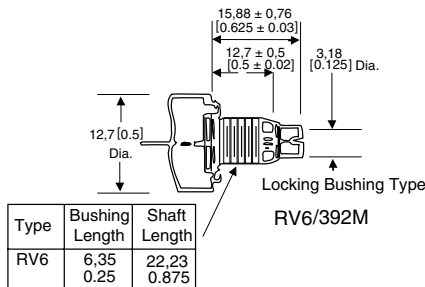
OPTIONS

**Standard Bushing, 6,35 mm (0.25 in) L;
0.875 in (22,23 mm) shaft length**

RESISTANCE	REFERENCE
100 Ohm	RV6NAYSD101A
250 Ohm	RV6NAYSD251A
500 Ohm	RV6NAYSD501A
1 kOhm	RV6NAYSD102A
2.5 kOhm	RV6NAYSD252A
5 kOhm	RV6NAYSD502A
10 kOhm	RV6NAYSD103A
25 kOhm	RV6NAYSD253A
50 kOhm	RV6NAYSD503A
100 kOhm	RV6NAYSD104A
250 kOhm	RV6NAYSD254A
500 kOhm	RV6NAYSD504A
1 MOhm	RV6NAYSD105A

**Locking Bushing, 12,7 mm (0.50 in) L;
0.625 in (15,88 mm) shaft length**

RESISTANCE	REFERENCE
100 Ohm	RV6LAYS101A
250 Ohm	RV6LAYS251A
500 Ohm	RV6LAYS501A
1 kOhm	RV6LAYS102A
2.5 kOhm	RV6LAYS252A
5 kOhm	RV6LAYS502A
10 kOhm	RV6LAYS103A
25 kOhm	RV6LAYS253A
50 kOhm	RV6LAYS503A
100 kOhm	RV6LAYS104A
250 kOhm	RV6LAYS254A
500 kOhm	RV6LAYS504A
1 MOhm	RV6LAYS105A



Encoders

510 Series, Mechanical

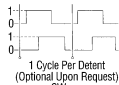
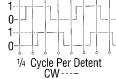


The 510 Series controls are manually operated, rotary, mechanical encoders that provide a two-bit gray code for relative reference applications and a four-bit gray code for absolute electrical reference applications. The "L" channel leads the "R" channel by 90° electrically in the CW position. It features continuous electrical travel and has a rotational life of more than 100,000 shaft revolutions with a positive detent feel.

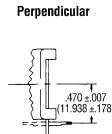
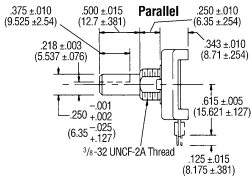
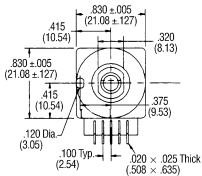
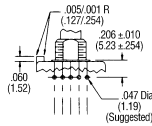
This series is small-sized, 21,08 mm² by 8,71 mm deep (0.83 in² x 0.343 in) long and commonly used in limited-space, panel-mounted applications where the need for costly, front-panel displays can be completely eliminated. Digital gray-code outputs eliminate the need for A/D converters.

- Bushing:** 9,52 mm (0.375 in) Ø x 6,35 mm (0.25 in) L
- Shaft:** Flatted, 6,35 mm (0.25 in) Ø x 19,05 mm (0.75 in) L
- Body:** 21,08 mm (0.830 in) square
- Operating temperature:** -40 °C to 105 °C (-40 °F to 221 °F)
- Rotational cycles:** 100,000

Output Table



Control Dimensions, Single Control



OPTIONS

Vertical Mount, PC Terminals/bent back

GREY CODE OPTIONS

- 2 bit/4 cycles
- 2 bit/6 cycles
- 2 bit/9 cycles
- 4 bit/16 cycles

REFERENCE

- 510E1A48F204PC
- 510E1A48F206PC
- 510E1A48F209PC
- 510E1A48F416PC

Horizontal Mount, PC Terminals/straight

GREY CODE OPTIONS

- 2 bit/4 cycles
- 2 bit/6 cycles
- 2 bit/9 cycles
- 4 bit/16 cycles

REFERENCE

- 510E1A48F204PB
- 510E1A48F206PB
- 510E1A48F209PB
- 510E1A48F416PB

Brackets

MOUNTING DIRECTION

- Vertical
- Horizontal

REFERENCE

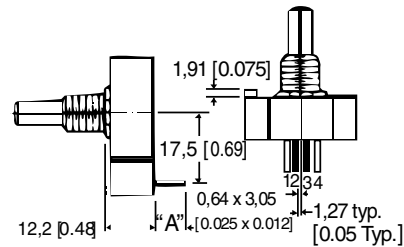
- 510VBKT
- 510HBKT

600 Series, Optical



The 600 Series controls are manually operated, rotary, optical encoders that output two square waves in quadrature at a rate of 128 pulse per channel per revolution as a standard with other resolutions down to 60 pulses available. The outputs are TTL compatible. PC terminals or cable leads are available.

- Pulses per revolution:** 128
- Supply voltage:** 5.0 V
- Body:** 34,93 mm (1.375 in) Ø
- Shaft:** 6,35 mm [0.25 in] dia by 22,23 mm [0.875] long
- Bushing:** 9,52 mm [0.375 in] dia by 9,52 mm [0.375 in] long
- Operating temperature:** -40 °C to 65 °C (-40 °F to 149 °F)
- Revolutions:** 10 million



OPTIONS

Series 600

TERMINATION

- 177,8 mm (7.0 in) long cable
- PC terminals exiting side
- PC terminals exiting rear
- 177,8 mm (7.0 in) long cable with connector

REFERENCE

- 600EN-128-CBL
- 600EN-128-B66
- 600EN-128-C24
- 600EN-128-CN1

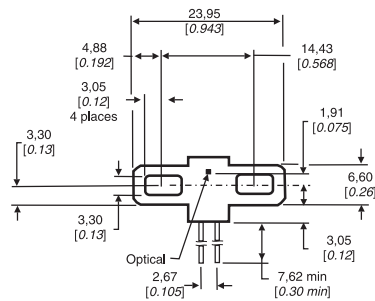
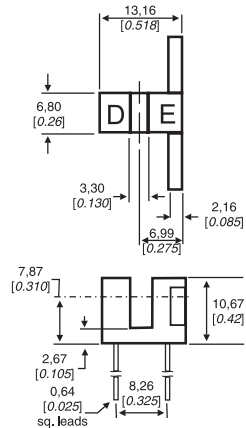
Slotted Optical Switches

S-180 Series



The S-180 Series consists of a gallium arsenide IRED and silicon phototransistor mounted in a rigid one-piece polycarbonate housing. All electrical options are available with either PCB mount or 457,0 mm (18.0 in) minimum length wire termination (26 AWG type UL 1429)

Operating temperature:	-40 °C to 85 °C (-40 °F to 185 °F)
IRED continuous forward current:	50 mA
IRED peak forward current:	3 A
IRED reverse voltage:	3 V
IRED power dissipation:	100 mW
Sensor collector-emitter voltage:	30 V
Sensor emitter-collector voltage:	5 V
Sensor power dissipation:	100 mW

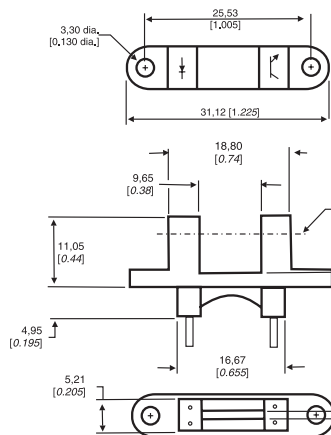


S-800W Series, Wide gap

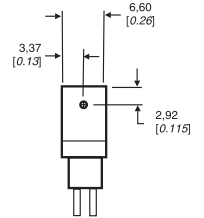


The S-800W Series of wide gap slotted switches consists of a gallium arsenide IRED and silicon phototransistor in an injection-molded housing. The output current range options allow the design engineer the flexibility to choose from three current minimums to best solve application requirements.

Operating temperature:	-40 °C to 80 °C (-40 °F to 176 °F)
IRED continuous forward current:	50 mA
IRED peak forward current:	3 A
IRED reverse voltage:	3 V
IRED power dissipation:	100 mW
Sensor collector-emitter voltage:	30 V
Sensor emitter-collector voltage:	5 V
Sensor power dissipation:	100 mW



PIN functions correspond to the symbols shown in top view



OPTIONS

PCB Mount

$V_{CE(sat)}$	I_L	REFERENCE
0.4 V max @ $I_F = 20$ mA, $I_C = 0.4$ mA	0.5 mA min @ $I_F = 20$ mA and $V_{CE} = 5$ V	S-180-A55
0.4 V max @ $I_F = 10$ mA, $I_C = 0.8$ mA	1.0 mA min @ $I_F = 10$ mA and $V_{CE} = 5$ V	S-180-B55
0.4 V max @ $I_F = 20$ mA, $I_C = 2.0$ mA	2.0 mA min @ $I_F = 20$ mA and $V_{CE} = 5$ V	S-180-C55

OPTIONS

I_L	$V_{CE(sat)}$	REFERENCE
500 μ A min @ $V_{CE} = 10$ V & $I_F = 20$ mA	0.4 V max @ $I_C = 250$ μ A & $I_F = 20$ mA	S-800W
1.0 mA min @ $V_{CE} = 5$ V & $I_F = 10$ mA	0.4 V max @ $I_C = 500$ μ A & $I_F = 20$ mA	S-801W
1.8 mA min @ $V_{CE} = 0.6$ V & $I_F = 20$ mA	0.4 V max @ $I_C = 1.8$ mA & $I_F = 20$ mA	S-802W

Wire Leads

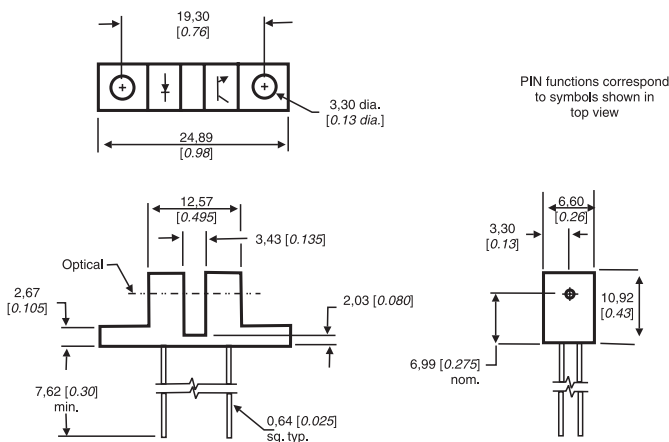
$V_{CE(sat)}$	I_L	REFERENCE
0.4 V max @ $I_F = 20$ mA, $I_C = 0.4$ mA	0.5 mA min @ $I_F = 20$ mA and $V_{CE} = 5$ V	S-180-A55W
0.4 V max @ $I_F = 10$ mA, $I_C = 0.8$ mA	1.0 mA min @ $I_F = 10$ mA and $V_{CE} = 5$ V	S-180-B55W
0.4 V max @ $I_F = 20$ mA, $I_C = 2.0$ mA	2.0 mA min @ $I_F = 20$ mA and $V_{CE} = 5$ V	S-180-C55W

S-860/870 Series



The S-860/870 family of optical switches offers the designer the most flexible semi-custom specification available in commercial optoelectronics. Electrical, optical and mechanical parameters may be specified allowing the use of this standard product in many applications that would otherwise have to be custom designed.

Operating temperature:	-25 °C to 85 °C (-13 °F to 185 °F)
IREC continuous forward current:	50 mA
IREC peak forward current:	3 A
IREC reverse voltage:	3 V
IREC power dissipation:	100 mW
Sensor collector-emitter voltage:	30 V
Sensor emitter-collector voltage:	5 V
Sensor power dissipation:	100 mW



PARAMETER	I_L	$V_{CE(sat)}$
A	0.5 mA @ $I_F = 20$ mA and $V_{CE} = 5$ V	0.4 V max @ $I_F = 20$ mA and $I_C = 0.4$ mA
B	1.0 mA @ $I_F = 10$ mA and $V_{CE} = 5$ V	0.4 V max @ $I_F = 10$ mA and $I_C = 0.8$ mA
C	2.0 mA @ $I_F = 20$ mA and $V_{CE} = 0.4$ V	0.4 V max @ $I_F = 20$ mA and $I_C = 2.0$ mA

OPTIONS

IR Transparent; 5,59 mm (0.220 in) Lead spacing; IRED aperture, 1,27 mm (0.05 in)

ELECTRICAL PARAMETER	MOUNTING/SENSOR	REFERENCE
A	No Tabs/0,25 mm (0.01 in)	S-865-N51
B	No Tabs/0,25 mm (0.01 in)	S-866-N51
C	No Tabs/0,25 mm (0.01 in)	S-867-N51
A	No Tabs/1,27 mm (0.05 in)	S-865-N55
B	No Tabs/1,27 mm (0.05 in)	S-866-N55
C	No Tabs/1,27 mm (0.05 in)	S-867-N55
A	2 Tabs/0,25 mm (0.01 in)	S-865-T51
B	2 Tabs/0,25 mm (0.01 in)	S-866-T51
C	2 Tabs/0,25 mm (0.01 in)	S-867-T51
A	2 Tabs/1,27 mm (0.05 in)	S-865-T55
B	2 Tabs/1,27 mm (0.05 in)	S-866-T55
C	2 Tabs/1,27 mm (0.05 in)	S-867-T55

IR Transparent; 8,13 mm (0.320 in) Lead spacing; IRED aperture, 1,27 mm (0.05 in)

ELECTRICAL PARAMETER	MOUNTING/SENSOR	REFERENCE
A	No Tabs/0,25 mm (0.01 in)	S-860-N51
B	No Tabs/0,25 mm (0.01 in)	S-861-N51
C	No Tabs/0,25 mm (0.01 in)	S-862-N51
A	No Tabs/1,27 mm (0.05 in)	S-860-N55
B	No Tabs/1,27 mm (0.05 in)	S-861-N55
C	No Tabs/1,27 mm (0.05 in)	S-862-N55
A	2 Tabs/0,25 mm (0.01 in)	S-860-T51
B	2 Tabs/0,25 mm (0.01 in)	S-861-T51
C	2 Tabs/0,25 mm (0.01 in)	S-862-T51
A	2 Tabs/1,27 mm (0.05 in)	S-860-T55
B	2 Tabs/1,27 mm (0.05 in)	S-861-T55
C	2 Tabs/1,27 mm (0.05 in)	S-862-T55

IR Opaque; 5,59 mm (0.220 in) Lead spacing; IRED aperture, 1,27 mm (0.05 in)

ELECTRICAL PARAMETER	MOUNTING/SENSOR	REFERENCE
A	No Tabs/0,25 mm (0.01 in)	S-875-N51
B	No Tabs/0,25 mm (0.01 in)	S-876-N51
C	No Tabs/0,25 mm (0.01 in)	S-877-N51
A	No Tabs/1,27 mm (0.05 in)	S-875-N55
B	No Tabs/1,27 mm (0.05 in)	S-876-N55
C	No Tabs/1,27 mm (0.05 in)	S-877-N55
A	2 Tabs/0,25 mm (0.01 in)	S-875-T51
B	2 Tabs/0,25 mm (0.01 in)	S-876-T51
C	2 Tabs/0,25 mm (0.01 in)	S-877-T51
A	2 Tabs/1,27 mm (0.05 in)	S-875-T55
B	2 Tabs/1,27 mm (0.05 in)	S-876-T55
C	2 Tabs/1,27 mm (0.05 in)	S-877-T55

IR Opaque; 8,13 mm (0.320 in) Lead spacing; IRED aperture, 1,27 mm (0.05 in)

ELECTRICAL PARAMETER	MOUNTING/SENSOR	REFERENCE
A	No Tabs/0,25 mm (0.01 in)	S-870-N51
B	No Tabs/0,25 mm (0.01 in)	S-871-N51
C	No Tabs/0,25 mm (0.01 in)	S-872-N51
A	No Tabs/1,27 mm (0.05 in)	S-870-N55
B	No Tabs/1,27 mm (0.05 in)	S-871-N55
C	No Tabs/1,27 mm (0.05 in)	S-872-N55
A	2 Tabs/0,25 mm (0.01 in)	S-870-T51
B	2 Tabs/0,25 mm (0.01 in)	S-871-T51
C	2 Tabs/0,25 mm (0.01 in)	S-872-T51
A	2 Tabs/1,27 mm (0.05 in)	S-870-T55
B	2 Tabs/1,27 mm (0.05 in)	S-871-T55
C	2 Tabs/1,27 mm (0.05 in)	S-872-T55

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