



RF55 Rotary Friction Sensors

Catalog MSG33-2375/US



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Application

The RF55 rotary controls belongs to the Parker family of accessories provided to complement electronic control systems. The RF55 is a 0-5 V output, non-contact, rotary friction control for mobile hydraulic applications. The RF55 has twelve inch leads and an attached Deutsch connector.

There are 3 versions of this rotary friction control. Two of the versions are powered by 5 Vdc and have 10%-90% ratiometric outputs. Of these, 1 has a 90° working angle and dual outputs, the other has 360° continuous rotation and a single output.

The third version is powered by the vehicle's 12 V battery and has a 90° working angle and single output.

To make the control suitable for mobile equipment, we have focused upon properties such as reliability, electromagnetic immunity and ease of installation.

Properties

Reliability

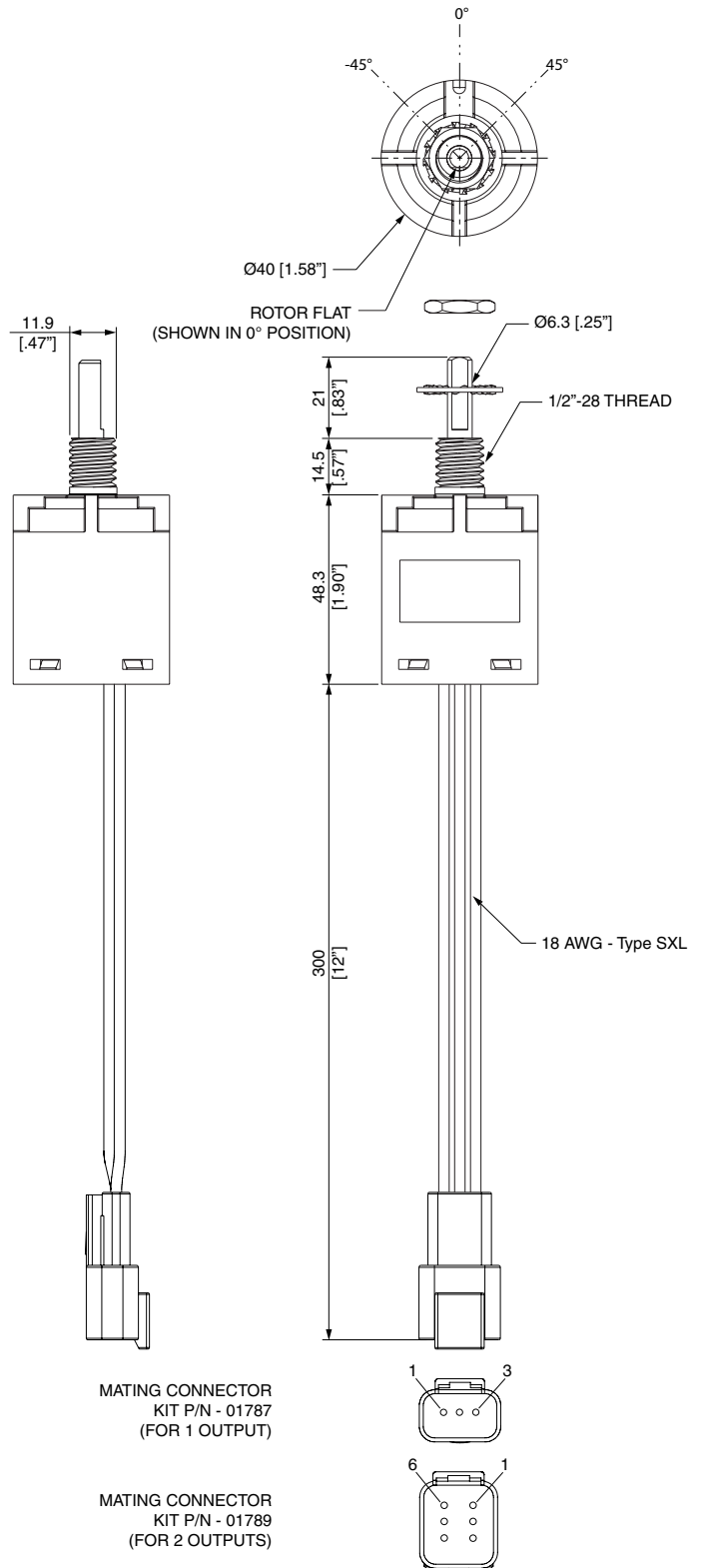
The RF55 has glass-filled nylon construction for strength and corrosion resistance. The control uses non-contact, Hall-effect technology for trouble free operation. The control is very robust and able to withstand rugged applications.

Electromagnetic immunity

The RF55 has a high level of EMI protection.

Installation

The RF55 is well suited for the mobile hydraulics industry. The 3 pin connector is a sealed Deutsch type designed for automotive use. This connector combined with potted electronics gives the control IP66 protection for exposed outdoor applications. The locating flat on the threads provides for easy alignment. The mounting nut and washer are supplied. These features provide for easy installation and removal, even in field conditions.



MATING CONNECTOR
KIT P/N - 01787
(FOR 1 OUTPUT)

MATING CONNECTOR
KIT P/N - 01789
(FOR 2 OUTPUTS)

General

Weight	77 g
Temperature range	-40°C to 85°C
Operating life	1 million cycles
Total accuracy	Max 4.0 % FS
Hysteresis	<1.0%

Ordering part number

153880ECD	12V, 90°, 1 output (0.5 - 4.5 Vdc)
153881ECD	5V, 90°, 3 detents, 2 outputs (10-90%)
153882ECD	5V, 360° continuous, 1 output (10-90%)

Mechanical characteristics

Angular travel	90° or 360° continuous
Connector	Deutsch DTM

Environmental protection

EMI	
ISO 11452-2	150 V/m

Electrical specifications

Working angle	90° or 360°
Supply Voltage, Vs	5.0 ±10% Vdc ¹⁾
Max. Voltage, Vs	8 Vdc ¹⁾
Supply Voltage, V _{BAT}	12.0 ±10% Vdc ²⁾
Max. Voltage, V _{BAT}	16 Vdc ²⁾
Current supply	Max 8.0 mA per output
Output at -45°	10% Vs ³⁾ , 0.5 V ⁴⁾
Output at 0°	50% Vs ³⁾ , 2.5 V ⁴⁾
Output at +45°	90% Vs ³⁾ , 4.5 V ⁴⁾
Output current	Max. 1.0 mA per output

ESD	
EN 61000-4-2	7 kV

Mechanical	
Shock	1m drop
Vibration	30 Gs

Climate	
Sealing (electronics)	IP66

Chemical environment	
Liquids (resistance)	standard automotive

1) 5 V ratiometric versions.
 2) 12 V versions.
 3) 5 V, 90° versions. Output is ratiometric to Vs. Secondary output is inverse.
 4) 12 V, 90° versions. The output is 0.5 - 4.5 Vdc.



WARNING - USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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WARNING - California Proposition 65

This product can expose you to chemicals including TETRAFLUOROETHYLENE, NICKEL COMPOUNDS, CARBON BLACK (AIRBORNE, UNBOUND PARTICLES OF RESPIRABLE SIZE) which is known to the State of California to cause cancer.

For more information go to www.P65Warnings.ca.gov

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