

Stringpots 101 by Steve Gostick July 09

Design

Stringpots, also known as “Cable Retractors” or “Rope Length Encoders” are combined with a Rotary Encoder to measure linear distances of up to 30m. The Rotary Encoder is attached to the drum inside the Stringpot casing. When the cable is extracted from the Stringpot, the shaft of the Encoder spins giving an output or distance measurement. This combination acts like an electronic tape measure. There are two different styles of Stringpot housings, which provide various different lengths of cable.

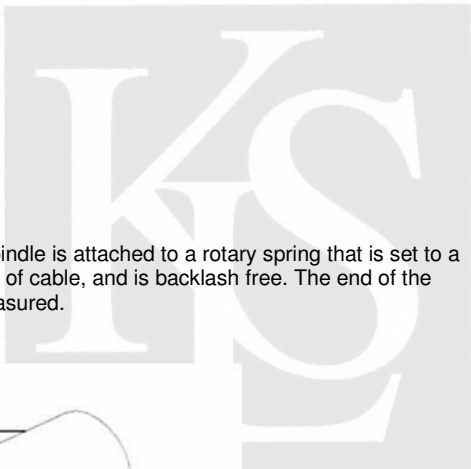
The **SLG** (pictured below) is a heavy duty style, with aluminum housing for the drum and cable and a plastic end cap for the spring coils. The lengths available for the **SLG** are 2m, 5m, 10m, 15m, 20m, 25m and 30m. The **SLG** is IP 65 rated.



The **ME** (pictured below) is a more compact design built with the drum and springs inside the same housing. Cable lengths are limited by this style of housing to lengths of 2.5m, 5m, 7.5m and 10m. The **ME** is IP 65 rated.

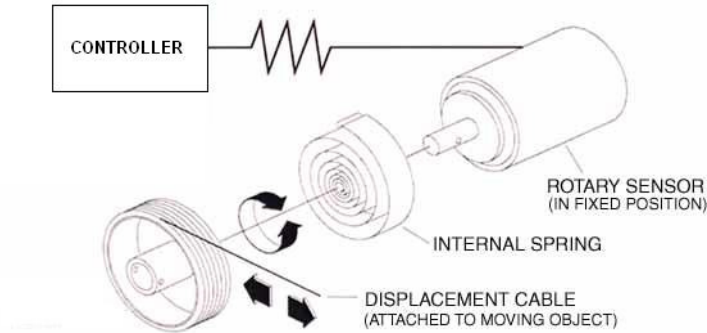


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Construction

The Stringpot has a threaded spindle inside a drum with a cable attached. The spindle is attached to a rotary spring that is set to a specific tension. The spring provides uniform tension throughout the whole length of cable, and is backlash free. The end of the cable is connected with a coupling that is attached to the moving object to be measured.



There are different couplings attached to the end of the cables that vary in style depending on when the Cable Retractor was constructed.



1982-1999

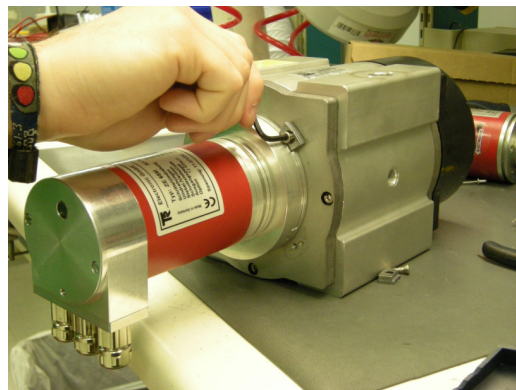


1999-2005



2005-2009

Almost all Rotary Encoders can be mounted to a Stringpot providing flexibility for various measuring resolutions and communication interfaces.



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Applications

There are many different uses for Stringpots; Hydraulic Cylinder Position Measurement, Automotive and Aerospace Testing, Factory Automation, Medical Devices, Oil and Chemical Processing, Structural Testing, and Industrial Machinery are just a few of the many examples where a Stringpot would be the right solution. Almost any moving device that requires repetitive measuring and is capable of having constant cable contact is suitable for a stringpot.

TR Electronic Center of Technical Excellence will work with you on your specific application needs.

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