

### INTRODUCTION

This technical tips section is designed to help familiarize you with the Parker line of Coils. In this section we highlight the features and discuss some of the available options.

We also use this section to present some common terminology related to coil and coil technology.

### COMMON OPTIONS

Below are some of the common options to the Super Coil product offering.

**Continuous Duty:** Parker’s standard line of coils are rated for continuous duty operation. This means the coil can be left on continuously without fear of the magnet wire insulation breakdown, when used in standard climate conditions. The Super Coils are made of a high quality Class N magnet wire. This Class N rating signifies the internal wires are rated to 200°C (392°F).

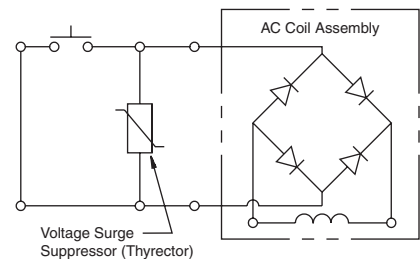
Continuous duty does not mean the coil will have the same amount of power after hours of operation as it had at initial actuation. Coils do heat up during use. This internal heat rise increases the resistance of the coil and thus, decreases the current ( $V = IR$ ). The performance curves presented on the solenoid valve pages are based on a coil at room temperature and 85% of voltage. Thus, when using a valve in continuous duty applications, you may need to derate the performance. In short, the continuous duty rating signifies that while the coil will get hot during use and resistance will increase, it will not generate enough heat to damage the coil.

**Terminations:** Parker offers a wide variety of coil terminations for all coils to meet the demands of your application. Over the years, the dual lead wire and dual spade offerings have been popular due to their ease of installation and availability. In the past few years, the demand for more secure termination connections has increased.

In addition, the integral connectors reduce cost and improve integrity by reducing the number of connections. As such, the DIN, and Integral Deutsch have increased in popularity.

If you do not find your desired coil termination in our catalog, contact your factory sales representative.

**Current Types:** Both direct current (DC) and alternating current (AC) versions are available for the Parker line of coils. The AC versions are essentially DC coils with a full wave rectifier integrally molded into the coil. The rectifiers are rated for voltage peaks up to 1000 volts maximum. For voltage transients greater than 1000 volts, a Harris Thyrector is recommended. The AC coils operate at 50/60 cycles (Hz). Since the AC versions are rectified DC coils, there is no inrush current like with “true” AC coils. It also means DC coils and AC coils are interchangeable.



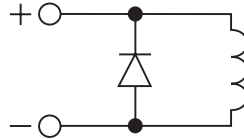
**Voltages:** Parker has a wide selection of coils available to meet your needs. Most coil terminations are available with our standard voltages of 12, 24 Volts DC and 115 Volts AC. Contact your Parker representative should your application call for voltages other than our standard offering.

**Wattages:** Parker offers a variety of coil wattages to meet the demands of your application. However, when using Parker valves, please note that all performance curves/values are based on using the higher watt coil. Selecting a lower watt coil could possibly de-rate the performance of the valve. Contact your Parker representative should your application call for wattages other than our standard offering.

CV	Check Valves
SH	Shuttle Valves
LM	Load/Motor Controls
FC	Flow Controls
PC	Pressure Controls
LE	Logic Elements
DC	Directional Controls
SV	Solenoid Valves
PV	Proportional Valves
CE	Coils & Electronics
BC	Bodies & Cavities
TD	Technical Data

## Technical Tips

**Diodes:** The Parker Coils can be ordered with a diode molded internally. The Super Coil (HSZN termination) uses a Zener Diode that is not polarity sensitive. Other Super Coil terminations that can be available with a IN5627 diode are polarity sensitive. Diodes are sometimes used to protect sensitive, downstream electrical components from potential surges from the coil. By internally molding the diode into the coil, you can reduce the assembly time and cost associated with externally wiring a diode. One should be careful not to switch the polarity (“+” and “-” terminals), when wiring a coil with an internal diode. If these terminals are switched, the first time voltage is applied to the coil; the short circuit will destroy the diode and render the coil use-less.



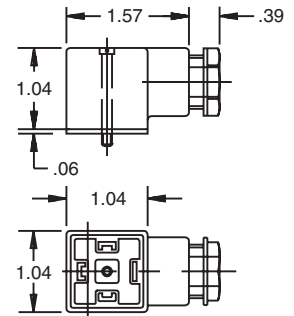
Parker coils with diodes have “+” and “-” molded near the termination outlet to help identify polarity.

## Coils and Electronics

**DIN Connectors:** Parker does offer connectors for use with the DIN style coils. As shown below, the DIN connectors are available in both rectified and non-rectified forms. The cable gland versions can be ordered for type PG9 or PG11.

### Cable Gland

Type	Non-Rectified	Rectified
PG9	710549-00	712126-01
PG11	710549-01	712126-00

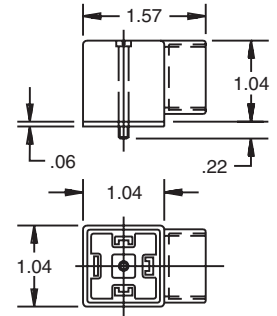
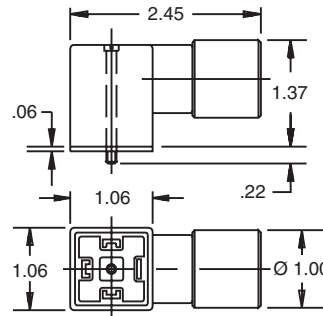


### Conduit

Rectified
712704-00

### Conduit

Non-Rectified
710549-02



CV	Check Valves
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