

# Reference Guide

## Symbols

<b>CC</b>	Center Conductor	<b>FD</b>	Full Detent
<b>LD</b>	Limited Detent	<b>mm</b>	Millimeter
<b>MP</b>	Microporous	<b>PCB</b>	Printed Circuit Board
<b>R/A</b>	Right Angle	<b>R/P</b>	Reference Plane
<b>S/R</b>	Semi-Rigid	<b>SB</b>	Smooth Bore
<b>SQ</b>	Square	<b>∅</b>	Diameter
<b>RF</b>	Radio Frequency	<b>GHz</b>	Gigahertz
<b>dB</b>	Decibels	<b>VSWR</b>	Voltage Standing Wave Ratio
<b>CM</b>	Catchers Mitt		
<b>XD</b>	Extra Deep	<b>SI</b>	Short Interface

## Standard Tolerances

All dimensions are in inches, interpretation per ANSI Y14.5.

.XX ± .010

.XXX ± .005

Fractions ± 1/64

Angular ± 5°

Typical machine surface finish 63 micro inches

## Common Materials and Finishes

- Beryllium copper per ASTM B 196 and/or ASTM B 197. Gold plate per ASTM B 488 over electrolytic nickel per SAE AMS QQ N 290.
- CRES 303 per ASTM A 484 and ASTM A 582 or ASTM A 555 and ASTM A 581. Passivate per SAE AMS 2700.
- Brass per ASTM B 16. Gold plate per ASTM B 488 over electrolytic nickel per SAE AMS QQ N 290.
- Virgin TEFLON® PTFE fluorocarbon per ASTM D 1710.
- KOVAR® Iron-nickel-cobalt sealing alloy per ASTM F 15. Gold plate per ASTM B 488 over electrolytic nickel per SAE AMS QQ N 290.
- Corning® 7070 glass or equivalent.
- Ultem® 1000 (Polyetherimide) per ASTM D 5205.
- Torlon® (Polyamide-Imide) per ASTM D 5204.

## Detent

A captivation system was developed for the GPO®, GPPO®, G3PO™ and G4PO® interconnect systems that provides predictable levels of retention without the use of bulky coupling nuts. This feature is characterized as the connector's detent.

The GPO product is designed with three available detent levels, and two detents exist within the smaller GPPO, G3PO and G4PO series. This is accommodated by the incorporation of a ring in the male pin connector (commonly known as the shroud). This 'detent ring' interacts with the mating connector (female contact) to captivate the pair together.

Each of the detent levels, full detent, limited detent (available only in the GPO series), and smooth bore (or zero detent) provide different levels of force required to mate and de-mate the connectors.

	Engage*				Disengage*				Cycles*			
	GPO	GPPO	G3PO	G4PO	GPO	GPPO	G3PO	G4PO	GPO	GPPO	G3PO	G4PO
<b>Full Detent</b>	7.0 lbs	4.5 lbs	2.5 lbs	.65 lbs	9.0 lbs	6.5 lbs	4.5 lbs	2.2 lbs	100 min	100 min	100 min	100 min
<b>Limited Detent</b>	5.0 lbs	N/A	N/A	N/A	7.0 lbs	N/A	N/A	N/A	500 min	N/A	N/A	N/A
<b>Smooth Bore</b>	3.0 lbs	2.5 lbs	1.2 lbs	.20 lbs	0.5 lbs	1.5 lbs	1.0 lbs	.15 lbs	1000 min	500 min	500 min	500 min

\* The figures listed for the engage/disengage forces are typical and based upon actual data.

Proper care should be used when designing your system to select the required forces for engaging and disengaging. The level of detent selected will also have an impact on the number of engage/disengage cycles. Note, female cable connectors MUST be used with a full detent male to maintain a fully mated condition during shock and vibration.