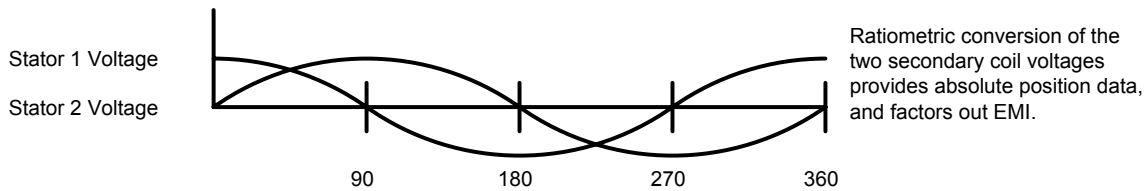


Resolver Story

The Gemco Series 1986 Resolver has been the preferred source for rugged and accurate rotary positioning in a variety of industrial applications. The brushless resolver works on the same principle as a rotary transformer to couple power in the rotor. The internal brushless resolver has three separate windings: a reference winding, a SIN winding and a COS winding. The reference winding is excited by an AC voltage. The SIN and COS winding are set 90° apart and provide two different output voltages whose ratio represent absolute position of the shaft.



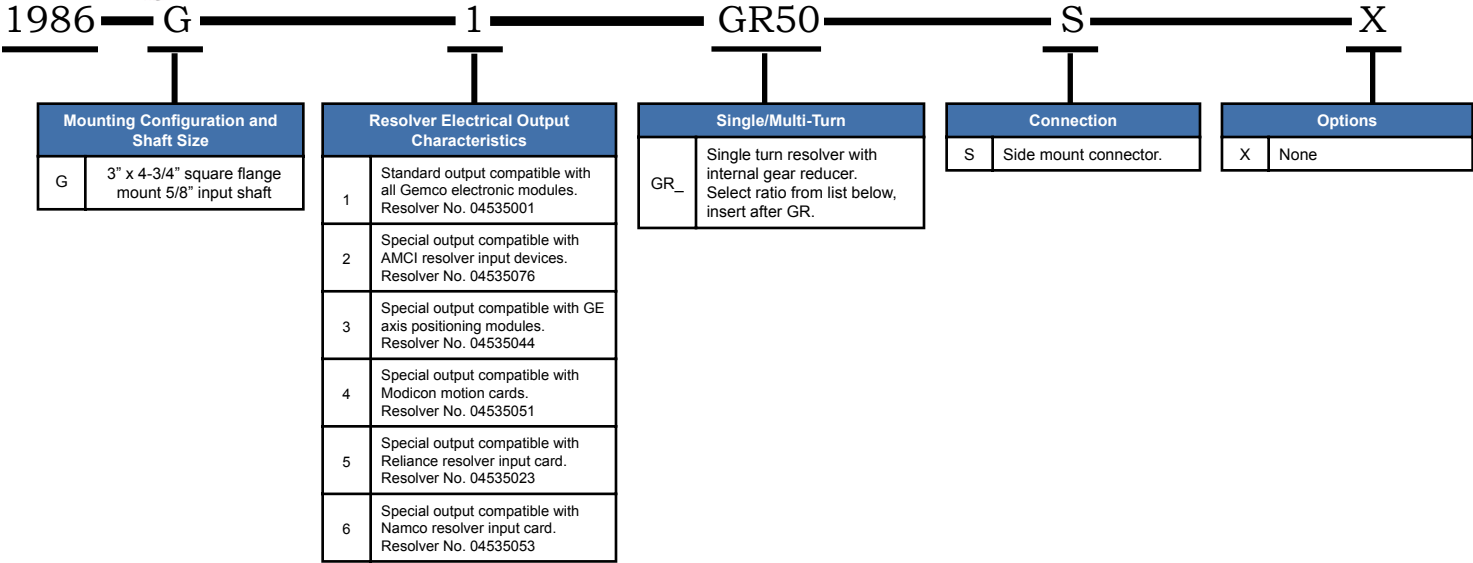
The advantage of resolver transducers over other rotary position products is that resolvers hold up better in harsh environments and they are always absolute, so if power is lost and restored, the exact position data will be communicated. In long cable runs a resolver signal can typically go much further than other technologies. Resolvers have long been the standard rotary position method in packaging, primary metals manufacturing, stamping, automotive, tire and rubber, paper mills and mining.

Gemco has always been a pioneer in the design and manufacturing of “built to order” resolver packages. We can mechanically and electrically match any competitor’s package while improving on the overall design to enhance the performance, accuracy or durability. Through our wide range of materials for construction and precision gear reducers we can extend your sensor’s life many times over. We offer packages with multiple sensors and gear reducers in a variety of materials. We have engineered special resolver packages with stainless steel housings, oil filled packages, high RPM, high resolution, resolver/encoder combinations and tach generators.

Resolver Specifications									
1986 Style	A	B	C	D	E	F	G & GG	H	MD
Shaft Loading Axial	150 lbs. Max.	45 lbs. Max.	45 lbs. Max.	150 lbs. Max.	125 lbs. Max.	200 lbs. Max.	200 lbs. Max.	20 lbs. Max.	50 lbs. Max.
Shaft Loading Radial	100 lbs. Max.	45 lbs. Max.	45 lbs. Max.	100 lbs. Max.	75 lbs. Max.	400 lbs. Max.	400 lbs. Max.	40 lbs. Max.	500 lbs. Max.
Enclosure	NEMA 4	NEMA 4	NEMA 4	NEMA 4	NEMA 4	NEMA 13	NEMA 13	NEMA 13	NEMA 4
Temperature	-40° to 125°C (DeviceNet versions 20° to 70° C)	-40° to 125°C (DeviceNet versions 20° to 70° C)	-40° to 125°C	-40° to 125°C	-40° to 125°C	-40° to 125°C	-40° to 125°C	-40° to 125°C	-40° to 125°C
Shock	50G's for 11 mSec	50G's for 11 mSec	50G's for 11 mSec	50G's for 11 mSec	50G's for 11 mSec	50G's for 11 mSec	50G's for 11 mSec	50G's for 11 mSec	50G's for 11 mSec
Vibration	5 to 200Hz @ 20G's	5 to 200Hz @ 20G's	5 to 200Hz @ 20G's	5 to 200Hz @ 20G's	5 to 200Hz @ 20G's	5 to 200Hz @ 20G's	5 to 200Hz @ 20G's	5 to 200Hz @ 20G's	5 to 200Hz @ 20G's
RPM	5,000 Max.	5,000 Max.	5,000 Max.	5,000 Max.	5,000 Max.	5,000 Max.	5,000 Max.	5,000 Max.	5,000 Max.



G Series



Wiring

Pin #	Rotor	Wire Color
A	R1	Red/White
B	R2	Yellow/White
C	S3	Black
D	S1	Red
E	S2	Yellow
F	S4	Blue

Gemco, GE, Modicon, and Reliance Resolver

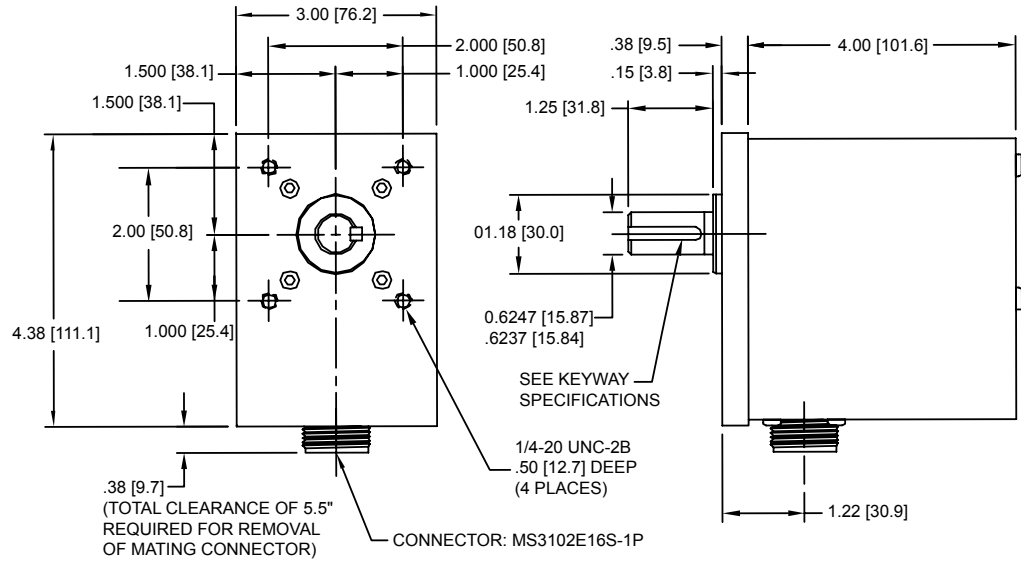
Pin #	Rotor	Wire Color
A	R1	Red/White
B	R2	Yellow/White
C	S4	Blue
E	S2	Yellow
F	S3	Black
G	S1	Red

AMCI

Pin #	Rotor	Wire Color
A	R1	Red/White
B	R2	Yellow/White
C	S4	Blue
E	S2	Yellow
F	S1	Red
G	S3	Black

Namco Resolver

Dimensions



[] = DIMENSIONS IN MILLIMETERS

Gear Ratios

Single Resolver Gear Reducers			
2:1	7:1	16:1	64:1
2.5:1	8:1	20:1	100:1
3:1	9:1	24:1	105:1
4:1	10:1	36:1	150:1
4.8:1	12:1	40:1	250:1
5:1	13:1	50:1	256:1
6:1	15:1	60:1	





Cable Assemblies & Components

Cable Assemblies for Single Turn Resolvers

SD0481500L_	Resolver cable with straight connector for use with Series 1090 and 1771 PLS's.
SD0481600L_	Resolver cable with right angle connector for use with Series 1090 and 1771 PLS's.
SD0508200L_	Resolver cable with straight connector for use with Series 1746R Resolver Module or Series 2500 PLS.
SD0531400L_	Resolver cable with right angle connector for use with Series 1746R Resolver Module or Series 2500 PLS.
SD0284100L_	Resolver cable with straight connector for use with Series 1988 PLS.
SD0295500L_	Resolver cable with right angle connector for use with Series 1988, 1989, 1991 or 1992 PLS's.
SD0334200L_	Resolver cable with straight connector for use with Series 1989, 1991 or 1992 PLS's with single turn resolver input.
SD0399000L_	Resolver cable with straight connector for use with Series 2110 Shut Height Monitor or 2120 Interface Module with single turn resolver input.
SD0399100L_	Resolver cable with right angle connector for use with Series 2110 Shut Height Monitor or 2120 Interface Module with single turn resolver input.
SD0434300L_	Resolver cable with straight connector for use with AMCI resolver input modules. Color code matches AMCI.
SD0501000L_	Resolver cable with right angle connector for use with AMCI resolver input modules. Color code matches AMCI.
SD0401600L_	Resolver cable with straight connector for use with 1995 PLS.
SD0430800L_	Resolver cable with right angle connector for use with 1995 PLS.
Cable length in feet is required at the end of the part number (SD0295500L 15).	

Cable Assemblies for Multi-Turn Dual Resolvers

SD0334900L_	Resolver cable with straight connector for use with Series 1989 PLS or 1746R Resolver Interface Module with multi-turn dual resolver input.
SD0365900L_	Resolver cable with right angle connector for use with Series 1989 PLS or 1746R Resolver Interface Module with multi-turn dual resolver input.
SD0448700L_	Resolver cable with straight connector for use with AMCI resolver input modules. Color code matches AMCI.
Cable length in feet is required at the end of the part number (SD0334900L 15).	

Mating Connectors and Bulk Cable for Field Fabrication of Cable Assemblies

SD0296000	Mating connector, standard straight version for use with single turn resolver.
SD0370200	Mating connector, right angle version for use with single turn resolvers.
SD0352400	Mating connector, standard straight version for use with multi-turn dual resolvers.
SD0366000	Mating connector, right angle version for use with multi-turn dual resolvers.
01533002L_	Resolver cable for single turn resolvers, 22AWG, 4 twisted pairs with shield.
01533015L_	Resolver cable for multi-turn dual resolvers, 22AWG, 6 twisted pairs with shield.
Cable length in feet is required at the end of the part number (01533015L 15).	