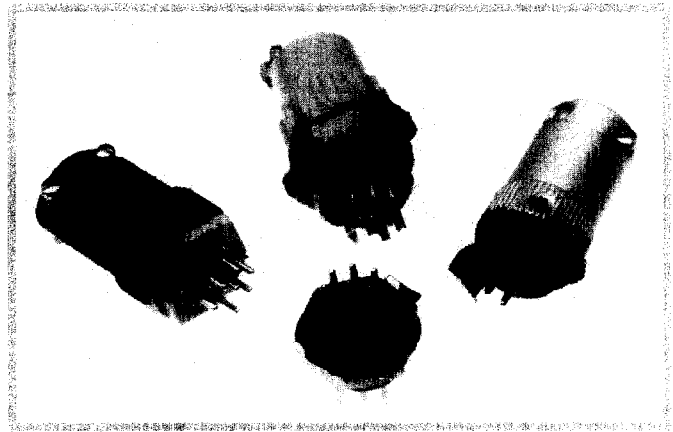


**GH  
SERIES**

## PROFESSIONAL QUALITY, FIXED CONTACT CIRCLE HEX CONNECTORS

**Size 20 Contacts  
High Performance  
Construction  
5 Insulator Variants  
4 through 10 Contacts**

**U.L. Recognized  
File #E49351**



GH Series connectors are high reliability, hexagonal connectors offered with solder and straight solder terminations. Contacts have 0.040 inch (1.02 mm) diameters and are rated to 7.5 amperes per contact. Five connector variants, four through ten poles, are offered.

GH Series connectors have DAP insulators. A variety of plastic and metal hoods are available, and the locking

system is achieved by a lock-ring spring mechanism. Polarization is accomplished by contact layouts or by an oversized contact.

GH Series connectors are ideal for use in industrial and instrumentation applications where light weight, miniature, high reliability interconnections are necessary.

## TECHNICAL CHARACTERISTICS

### MATERIALS AND FINISHES

Insulator:	Glass-filled DAP per ASTM-D-5948, Type SDG-F. Grey color is standard.
Fixed Contacts:	Copper alloy, gold flash over nickel or copper.
Hoods:	Aluminium with yellow or black anodize. Glass-filled diallyl phthalate.
Lock Rings and Lock Springs:	Copper alloy with zinc plate and dichromate seal.

### MECHANICAL CHARACTERISTICS

Fixed Contacts:	
Male:	Size 20: 0.040 inch (1.02 mm) diameter.
Female:	Open entry is standard. "Closed Entry" is available on solder-style contacts for high reliability applications.
Contact Retention in Insulator:	10 lbs. (44.5N), minimum.
Contact Termination:	0.046 inch (1.17 mm) internal diameter on solder style contacts for 20 AWG (0.5 mm <sup>2</sup> ) wire maximum 0.025 inch (0.64 mm) diameter straight solder, printed board mount style contact.
Locking Systems:	Friction, lock spring with lock ring.

### MECHANICAL CHARACTERISTICS, CONT'D

Polarization:	0.056 inch (1.42 mm) diameter male contact in position "A" on Size 4 connector. Molding configuration provides polarization on other sizes.
Mechanical Operations:	
Open Entry Contacts:	250 operations per IEC 512-5.
Closed Entry Contacts:	500 operations per IEC 512-5.

### ELECTRICAL CHARACTERISTICS

Contact Current Rating:	7.5 amps, maximum.
Initial Contact Resistance:	0.010 ohms, maximum.
Flash over Voltage:	1,750 VAC (rms).
Test Voltage:	1,200 VAC (rms).
Insulation Resistance:	5 G ohms.
Clearance and Creepage Distance:	0.025 inch (0.64 mm), minimum.
Working Voltage:	300 VAC (rms).

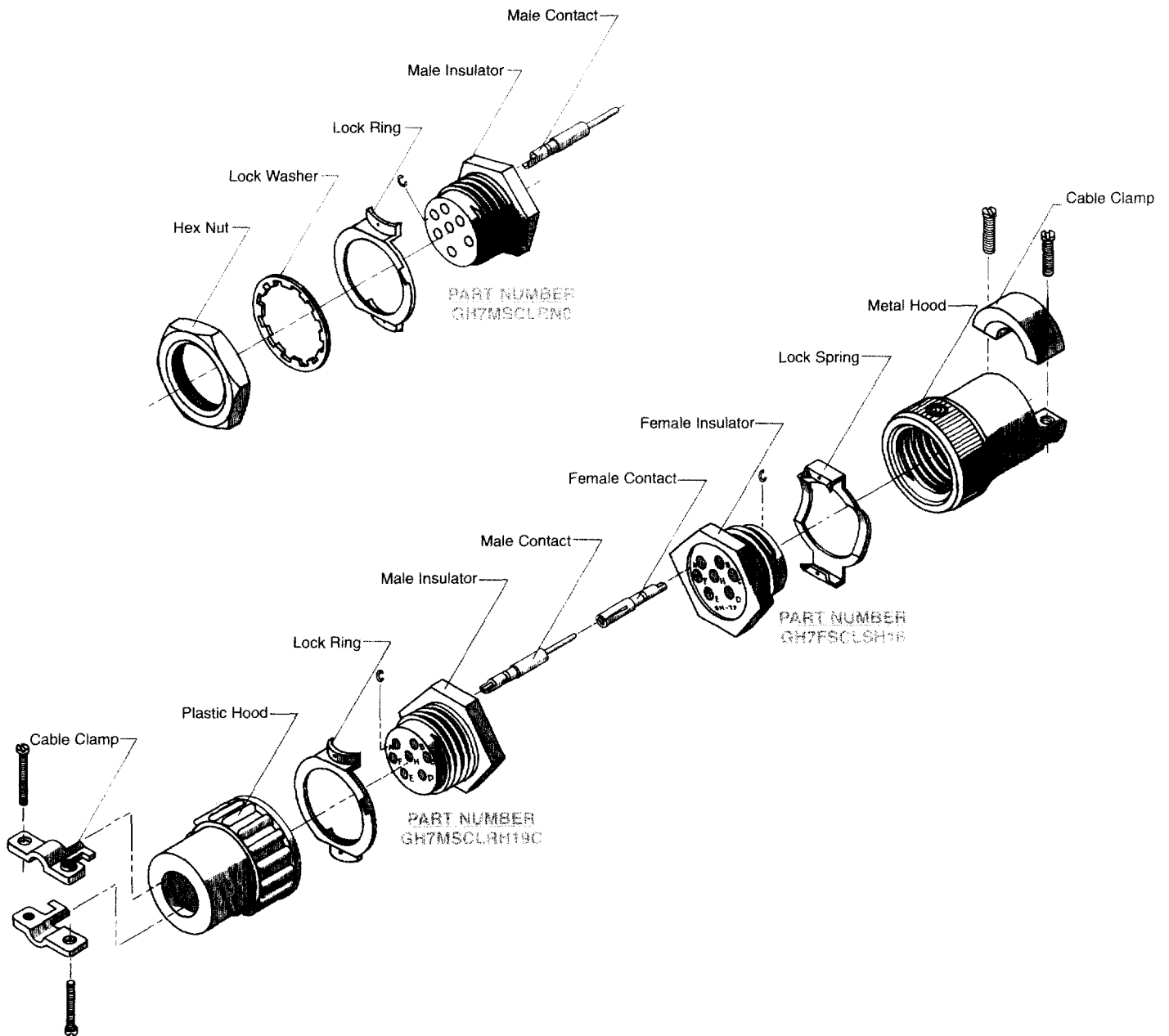
### CLIMATIC CHARACTERISTICS

Temperature Range:	-55°C to +125°C.
Damp Heat, Steady State:	21 days.



# PROFESSIONAL QUALITY, FIXED CONTACT MINIATURE CIRCLE-HEX CONNECTORS

## EXPLODED VIEW OF TYPICAL CONNECTOR ASSEMBLY

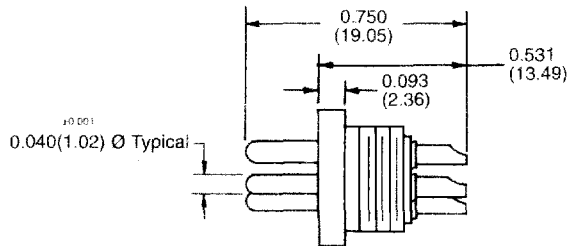
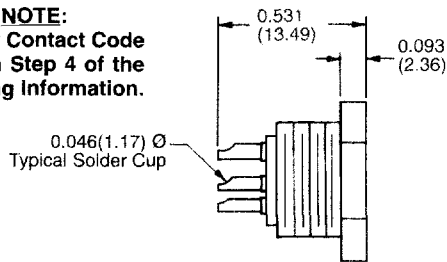




# PROFESSIONAL QUALITY, FIXED CONTACT MINIATURE CIRCLE-HEX CONNECTORS

## GH SERIES CONNECTOR WITH SOLDER CONTACTS

**NOTE:**  
Specify Contact Code  
"SC" in Step 4 of the  
Ordering Information.



MATERIAL: Copper alloy.  
FINISH: Gold flash over nickel or copper.

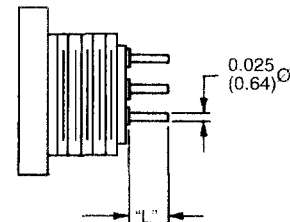
GH4 has 0.056 ±0.001 (1.42) Ø Pin in "A" position for polarization.

## GH SERIES CONNECTOR WITH STRAIGHT SOLDER CONTACTS

**NOTE:**  
Specify Contact Code for  
desired length of contact  
termination in Step 4 of  
the Ordering Information.

CONTACT CODE	"L"
DS3	0.093 (2.36)
DS4	0.125 (3.18)
DS5	0.156 (3.96)
DS6	0.187 (4.75)

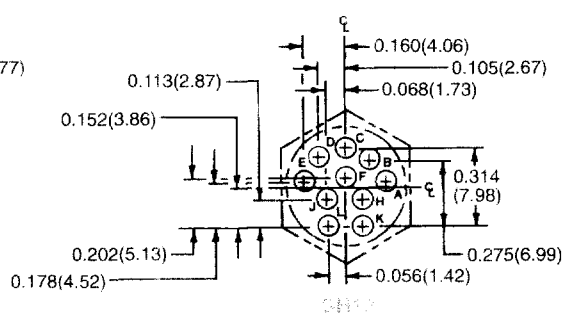
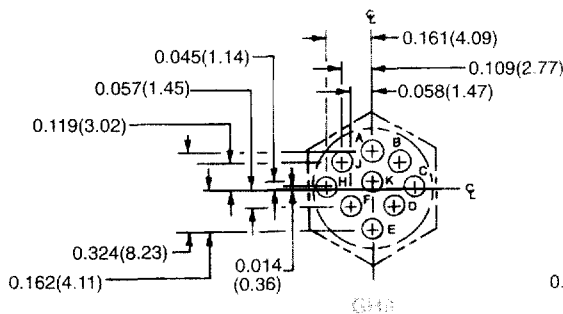
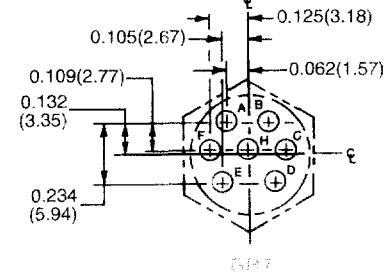
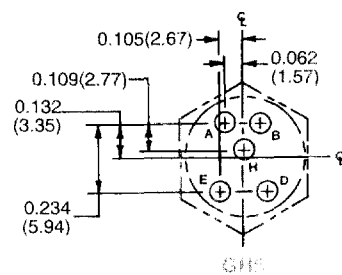
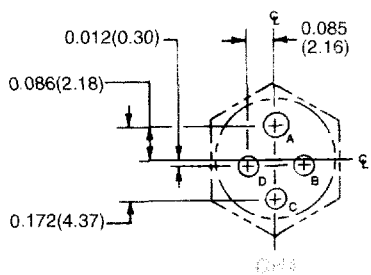
MATERIAL: Copper alloy.  
FINISH: Gold flash over nickel or copper.



Straight solder contacts are not available in GH4 connector.

## GH SERIES CONTACT HOLE POSITION DIMENSIONS AND PRINTED BOARD HOLE PATTERN

Hole Identification shown is for mating face of female connector. Use mirror image for male connector.



Suggest 0.040(1.01) Ø holes in printed board for contact terminations.

DIMENSIONS ARE IN INCHES (MILLIMETERS).  
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

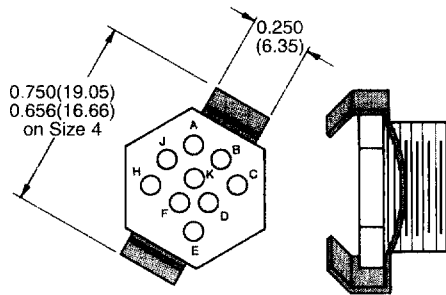




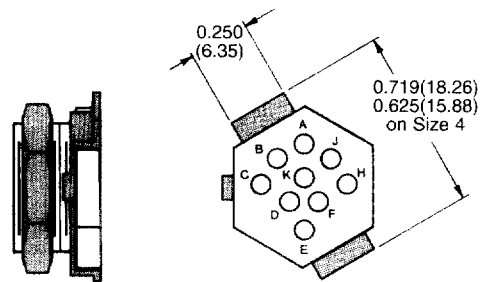
# PROFESSIONAL QUALITY, FIXED CONTACT MINIATURE CIRCLE-HEX CONNECTORS

## GH SERIES LOCKING DEVICES

**LOCK SPRING**

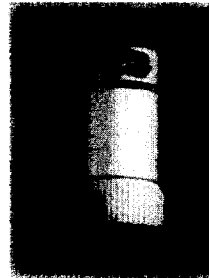
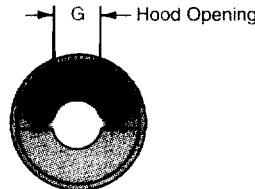
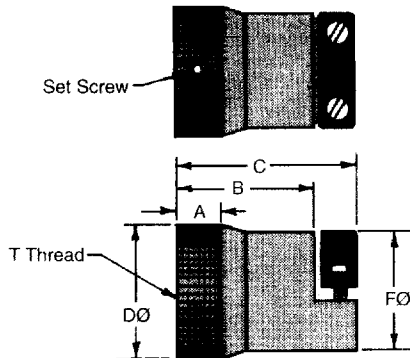


**LOCK RING AND NUT**



MATERIAL: Copper alloy.  
FINISH: Zinc plate with dichromate seal.

## GH SERIES ALUMINUM HOODS



HOOD CODE	CONNECTOR SIZE	A	B	C	D	F	G	T THREAD
H14	GH-4	0.25 (6.4)	0.90 (20.3)	1.06 (26.9)	0.59 (15.0)	0.56 (14.2)	0.22 (5.6)	3/8-24 UNF-2B
H16	GH-5, 7, 9, 10	0.25 (6.4)	0.71 (18.0)	0.94 (23.9)	0.67 (17.0)	0.58 (14.7)	0.25 (6.4)	1/2-20 UNF-2B

MATERIAL: Aluminum.  
FINISH: Yellow anodize is standard.  
Black anodize also available.

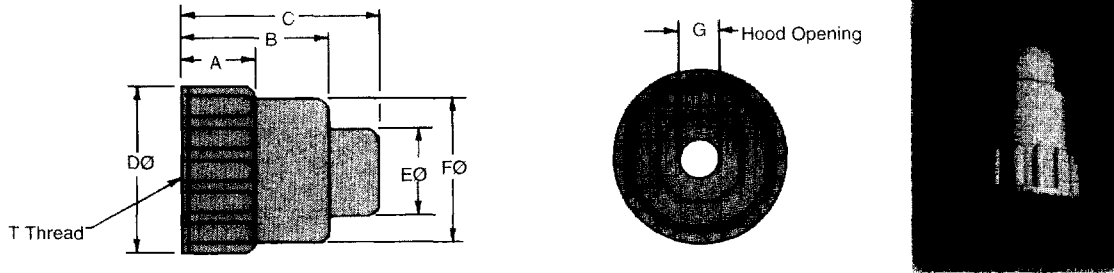
DIMENSIONS ARE IN INCHES (MILLIMETERS).  
ALL DIMENSIONS ARE SUBJECT TO CHANGE.



# PROFESSIONAL QUALITY, FIXED CONTACT MINIATURE CIRCLE-HEX CONNECTORS

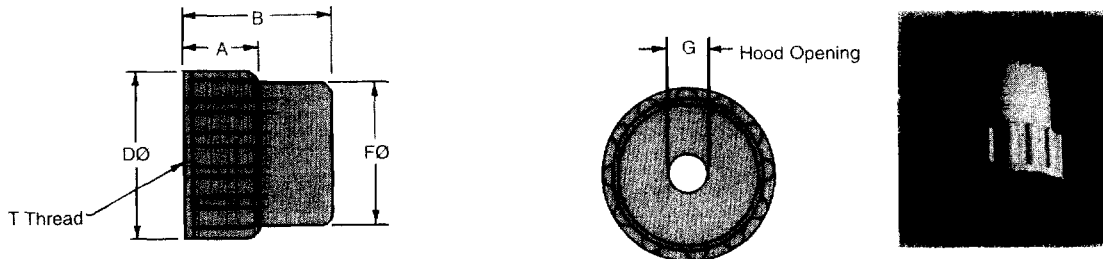
## GH SERIES PLASTIC HOODS

### STANDARD HOOD



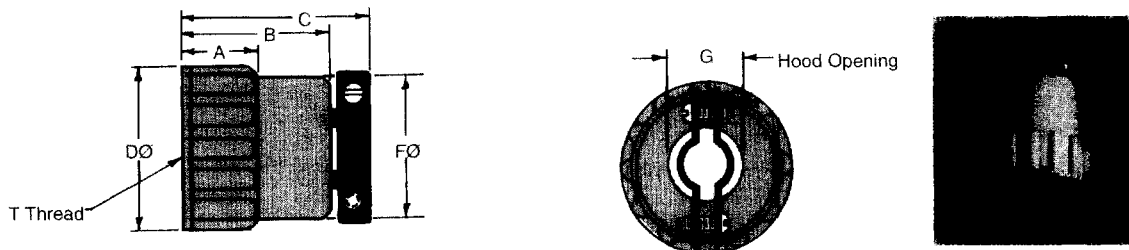
HOOD CODE	CONNECTOR SIZE	A	B	C	D	E	F	G	T THREAD
H10	GH4	0.31 (7.9)	0.69 (17.5)	0.75 (19.1)	0.56 (14.2)	0.25 (6.4)	0.44 (11.2)	0.16 (4.1)	3/8-24 UNF-2B
H19	GH 5, 7, 9, 10	0.28 (7.1)	0.66 (16.8)	0.88 (22.4)	0.66 (16.8)	0.42 (10.7)	0.54 (13.7)	0.30 (7.6)	1/2-20 UNF-2B

### SHORT HOOD



HOOD CODE	CONNECTOR SIZE	A	B	D	F	G	T THREAD
H10S	GH4	0.31 (7.9)	0.69 (17.5)	0.56 (14.2)	0.44 (11.2)	0.16 (4.1)	3/8-24 UNF-2B
H19S	GH 5, 7, 9, 10	0.28 (7.1)	0.66 (16.8)	0.66 (16.8)	0.54 (13.7)	0.30 (7.6)	1/2-20 UNF-2B

### HOODS WITH CABLE CLAMPS



HOOD CODE	CONNECTOR SIZE	A	B	C	D	F	G	T THREAD
H10C	GH4	0.31 (7.9)	0.69 (17.5)	0.83 (21.1)	0.56 (14.2)	0.44 (11.2)	0.21 (5.3)	3/8-24 UNF-2B
H19C	GH 5, 7, 9, 10	0.28 (7.1)	0.66 (16.8)	0.86 (21.8)	0.66 (16.8)	0.54 (13.7)	0.30 (7.6)	1/2-20 UNF-2B

MATERIAL: Glass-filled diallyl phthalate per ASTM-D-5948,  
Type SDG-F.

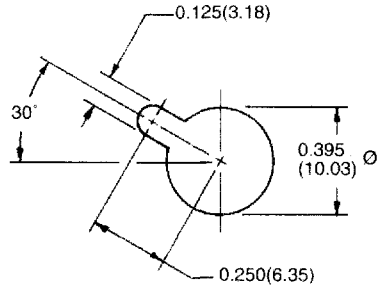
CABLE CLAMPS: Aluminum, yellow anodize finish.

DIMENSIONS ARE IN  
INCHES (MILLIMETERS).  
ALL DIMENSIONS ARE  
SUBJECT TO CHANGE.

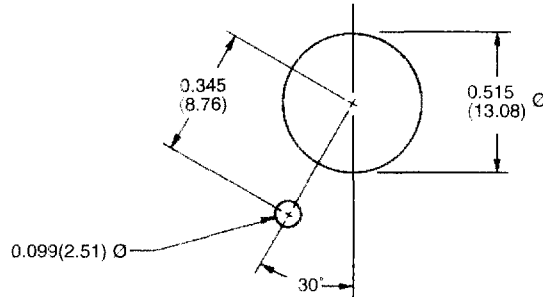
**GH  
SERIES**

**PROFESSIONAL QUALITY, FIXED CONTACT  
MINIATURE CIRCLE-HEX CONNECTORS**

**PANEL CUT-OUT DIMENSIONS FOR GH SERIES**

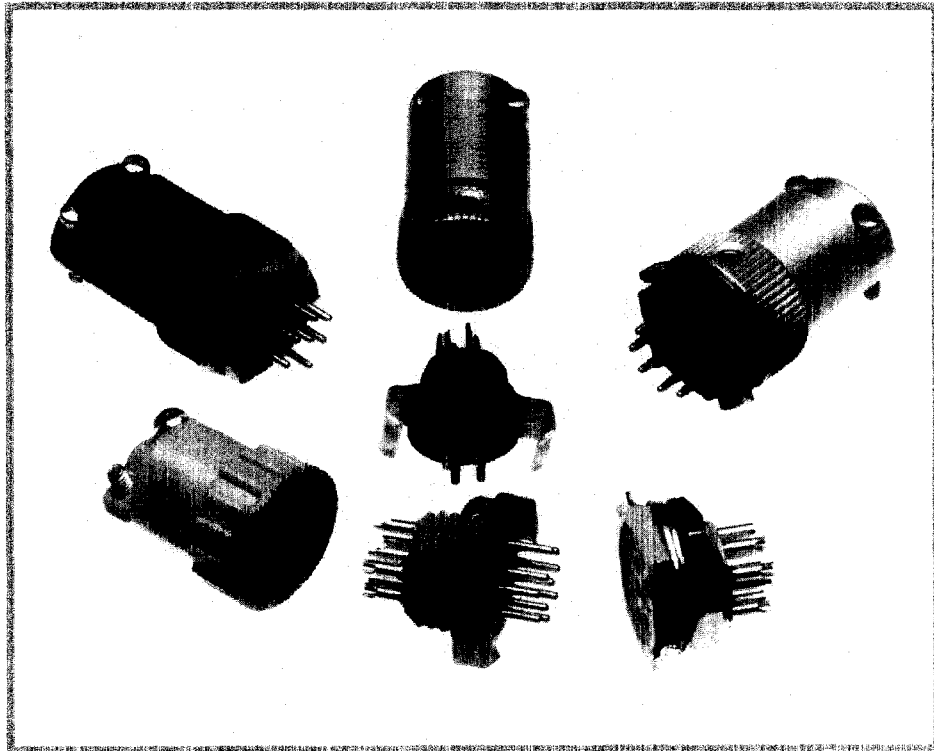


SIZE 4



SIZES 5, 7, 9, & 10

**DIMENSIONS ARE IN INCHES (MILLIMETERS).  
ALL DIMENSIONS ARE SUBJECT TO CHANGE.**





# PROFESSIONAL QUALITY, FIXED CONTACT MINIATURE CIRCLE-HEX CONNECTORS

## ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify the complete connector by following Steps 1 through 7.  
Insert "0" when a step is not used.

STEP	1	2	3	4	5	6	7
	GH	10	M	SC	LRN	0	

### STEP 1 - Basic Series

GH Series

### STEP 2 - GH Series Connector Variants

4, 5, 7, 9, 10

### STEP 3 - Connector Gender

- M - Male Insulator
- F - Female Insulator

### STEP 4 - Contact Termination Type

- SC - Solder. For "Closed Entry" design, add "CE" in Step 7.
- DS3 - Straight Solder, [0.093(2.36)].
- DS4 - Straight Solder, [0.125(3.18)].
- DS5 - Straight Solder, [0.156(3.96)].
- DS6 - Straight Solder, [0.187(4.75)].

NOTE: DS contacts are not available on GH4 connector.

### STEP 5 - Mounting and Locking Accessories

- LR - Lock Ring.
  - LS - Lock Spring.
  - N - Mounting Nut.
  - W - Lockwasher.
  - 0 - If no mounting or locking accessories are required.
- NOTE: When the Lock Ring (LR) or Lock Spring (LS) are ordered with the Mounting Nut (N), a Lockwasher (W) is furnished.

### STEP 7 - Special Customer Requirements

- \* B - For black anodized aluminum parts.
  - CE - "Closed Entry" contacts on female solder contact.
- NOTE: Position "A" of GH4 connector is available as "Open Entry" only.

### STEP 6 - Cable Adapters (Hoods)

- H10 - Standard plastic hood offered on 4 variant.
- H19 - Standard plastic hood offered on 5, 7, 9, and 10 variants.
- H10S - Short plastic hood offered on 4 variant.
- H19S - Short plastic hood offered on 5, 7, 9, and 10 variants.
- H10C - Plastic hood with cable clamps offered on 4 variant.
- H19C - Plastic hood with cable clamps offered on 5, 7, 9, and 10 variants.
- \* H14 - Aluminum hood offered on 4 variant.
- \* H16 - Aluminum hood offered on 5, 7, 9, and 10 variants.
- 0 - If no hoods are required.

**\* NOTE:**  
Yellow anodize finish is standard for aluminium parts.

DIMENSIONS ARE IN INCHES (MILLIMETERS).  
ALL DIMENSIONS ARE SUBJECT TO CHANGE.