

Harwin has an exceptional track record of manufacturing high-reliability connectors for safety-critical applications, with decades of experience in the field. With millions of products in operation, including those from Harwin's High-Reliability Datamate product, Harwin has amassed a wealth of interconnect knowledge and is pleased to announce the latest addition to its high-reliability product portfolio – the Gecko range.

Harwin's Gecko (G125 series) connectors provide a low profile, dual row cable-to-board and board-to-board interconnect solution, ideally suited for stacking and cable mating in areas where PCB real estate is at a premium.

With space and weight a consideration for many high-reliability applications, G125 connectors are designed to offer high performance in a miniature package. Pin spacing of 1.25mm and up to 50 contacts per connector, offers dense pin counts in a small package. This design means that G125 connectors achieve a 35% space saving over other high-performance connectors such as Micro-D. The connectors also accommodate 2A per contact.

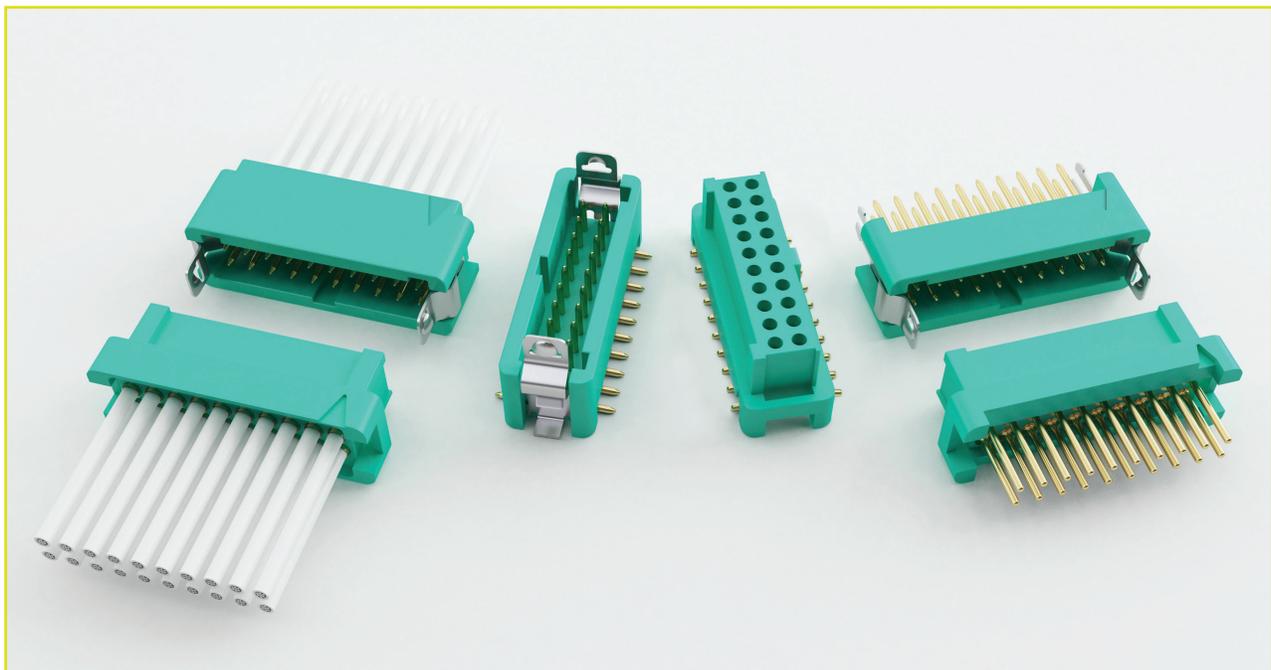
Tested and proven to allow high performance in extreme conditions, the G125 family can operate within a wide

temperature range (-65°C / +150°C) and under extreme vibration (Z axis 100g 6ms). This high performance is made possible by Harwin's four-finger patented (pending*) Copper Alloy Contact.

The connectors are manufactured to withstand high numbers of mating cycles but also featuring low insertion and extraction forces. Mouldings are manufactured from Halogen & Red Phosphorus free, glass-filled thermoplastic, an environmentally friendly material that has eliminated harmful chemicals before they have been added to restricted substances lists. The moulds also feature positive keying that prevent mis-mating and are available with or without latches fitted for extra security of connection.

High Reliability just got smaller.

* Patent Pending - UK 1205109.0

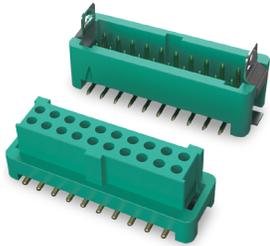


Gecko Connectors

PRODUCT FEATURES

Keyway polarisation points

3 polarising points on each component prevent mis-mating.



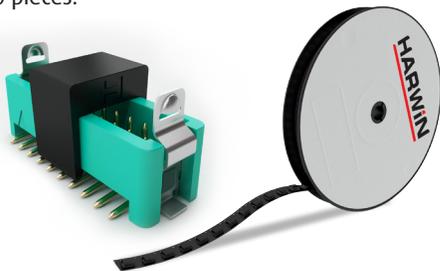
Four Finger Beryllium Copper Contact

Unique patent pending high-reliability contact design ensures signal integrity under extremes of bump, vibration and shock.



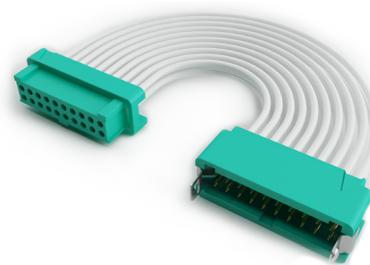
Packaged in Tape & Reel

Packed in industry standard tape & reel packaging for automated assembly and also available as cut strips of 10 pieces.



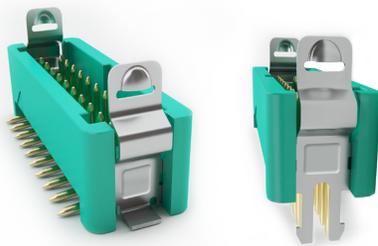
Pre-assembled cable configurations

Cable connectors available in a variety of layouts featuring male and female single and double ended in a variety of standard lengths.



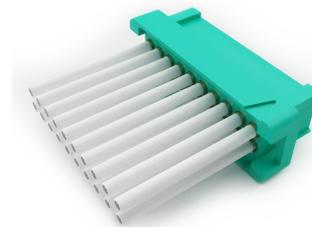
Combined Latching & PCB retention system

Optional latches allow simple and fast de-latching and require no special tooling. Solder tabs for SMT and barbs for PC Tail versions ensuring retention to the PCB.



No. 1 Position identified

Housings are clearly marked with identifier for fast visual inspection.



Potting Wall

Cable connectors feature a rear potting wall adding an extra level of strain relief.



Environmentally Friendly Materials

Mouldings are manufactured from halogen & Red Phosphorus free, glass-filled thermoplastic, an environmentally friendly material. All G125 connectors are RoHS compliant.



Gecko Connectors

SPECIFICATIONS

Materials

Mouldings:	Glass-filled thermoplastic UL94V-0
Female Contacts:	Copper Alloy
Male Contacts:	PCT / SMT: Phosphor Bronze Crimp: Brass
Finish:	Gold

Electrical

Current (individual contacts in isolation):	At 25°C 2.8A max
All contacts simultaneously:	At 25°C 2.0A max
Working Voltage (at sea level 1006 mbar):	450V d.c. or a.c. peak
(at altitude 44mbar)	250V d.c. or a.c. peak
Proof voltage (at sea level 1013 mbar):	600V d.c. or a.c. peak
Contact resistance (initial):	20 mΩ max
Contact resistance (after conditioning):	25 mΩ max
Insulation resistance (initial):	10 GΩ min at 500V d.c.
Insulation resistance (after conditioning):	>1 GΩ min at 500V d.c.

Mechanical

Durability:	1000 operations
Mating forces (per contact pair):	
Insertion force:	2.8N max
Withdrawal force:	0.2N min
Contact retention in moulding:	6N min

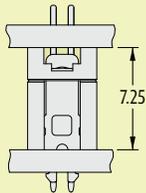
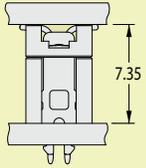
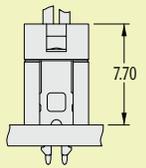
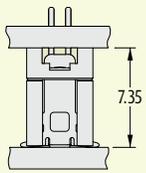
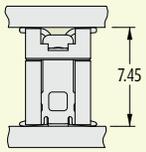
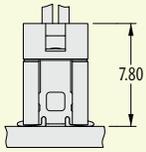
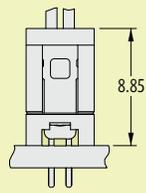
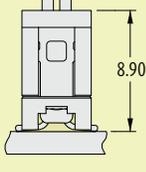
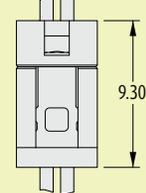
Environmental

Environmental classification:	65/150/96 hours at 95% RH
Operational temperature:	- 65°C to 150°C
* Vibration sensitivity:	10Hz to 2000Hz, 1.5mm, 198mm/s ² (20G), duration 2h
* Bump severity:	390m/s ² (40G), 4000± 10 bumps
* Shock severity:	981m/s ² (100G) for 6ms
* Acceleration severity:	490m/s ² (50G)

* Tested with latched connectors

All preferred sizes of this range are held in stock. Check www.harwin.com for availability.

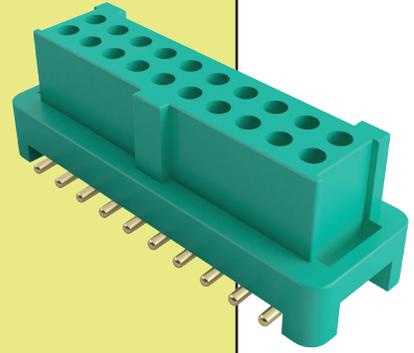
MATING PROFILES

FEMALE \ MALE	VERTICAL PC TAIL	VERTICAL SMT	CABLE
VERTICAL PC TAIL			
VERTICAL SMT			
CABLE			

Gecko Connectors

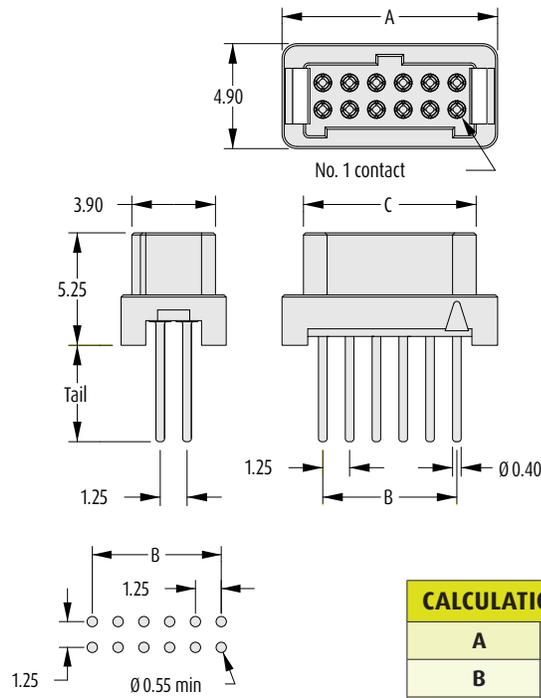
Female PC Tail & Surface Mount

- ❖ 4-finger Beryllium Copper contact.
- ❖ Positive keyway polarisation features.
- ❖ 2A current capacity, resists high vibration and shock.
- ❖ Withstands extremes of temperature: -65°C to +150°C.



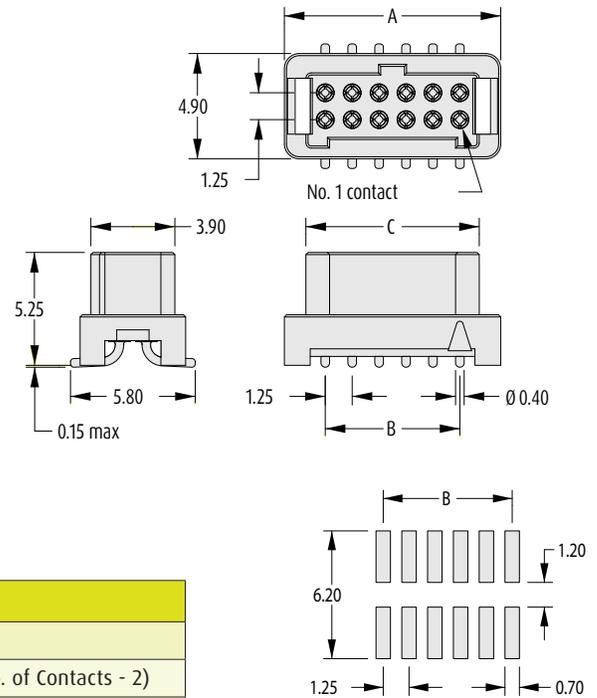
Gecko

PC TAIL



Recommended PC Board Pattern

SURFACE MOUNT



Recommended PC Board Pattern

CALCULATION

A	$B + 3.8$
B	$0.625 \times (\text{Total No. of Contacts} - 2)$
C	$B + 1.8$

HOW TO ORDER

G125 - F XX XX 05 L0 X

SERIES CODE

TYPE

V1	3mm PC Tail
V2	4.5mm PC Tail
S1	Surface Mount

PACKAGING

R	Tape & Reeled
P	Loose

FINISH

05	Gold	
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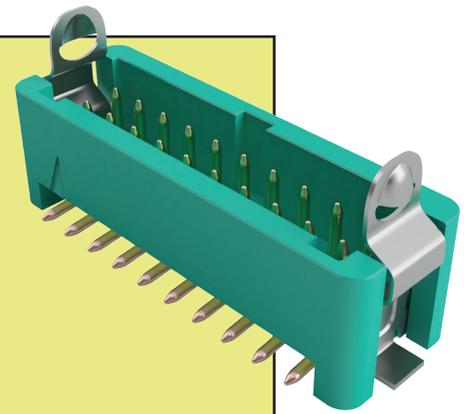
TOTAL NO. OF CONTACTS

06, 10, 12, 16, 20, 26, 34, 50

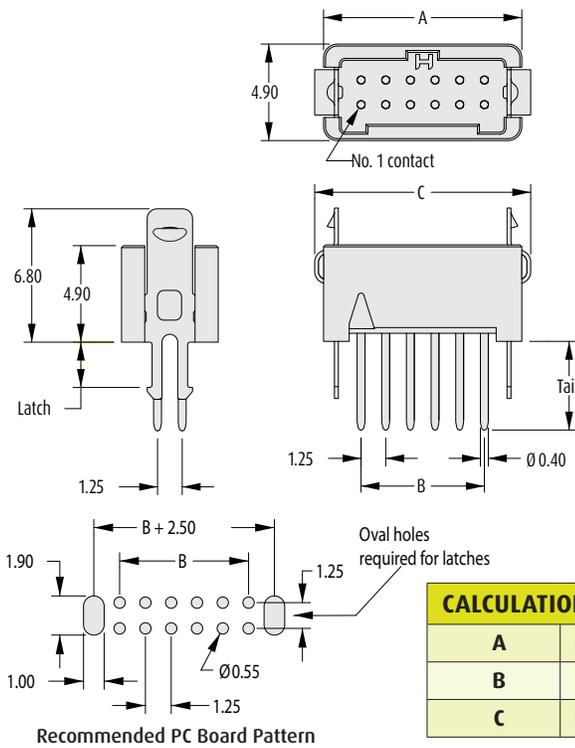
Gecko Connectors

Male PC Tail & Surface Mount

- Secure fixing to the PCB via hold-down tabs (SMT) or retention bars for through hole.
- Easy-to-release latches require no tooling.
- 2A current capacity, resists high vibration and shock.
- Withstands extremes of temperature: -65°C to +150°C.

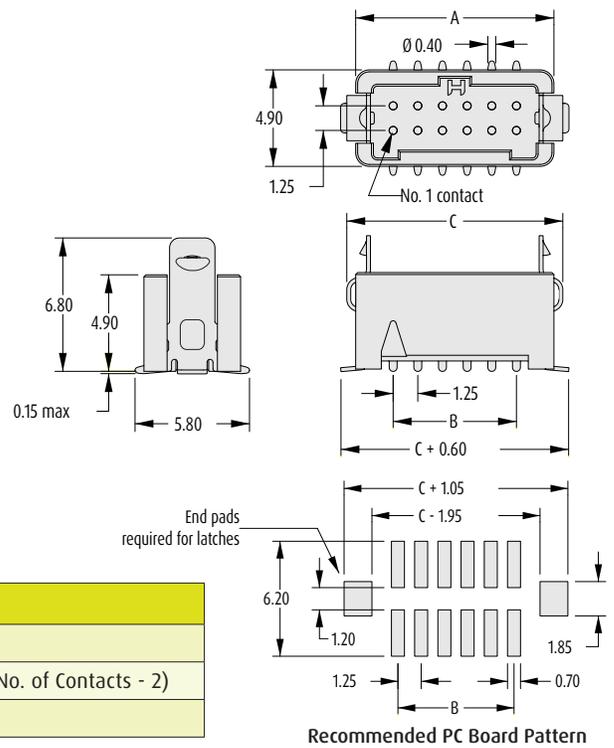


PC TAIL



CALCULATION	
A	$B + 3.8$
B	$0.625 \times (\text{Total No. of Contacts} - 2)$
C	$B + 4.85$

SURFACE MOUNT



HOW TO ORDER

G125 - M XX XX 05 LX X

SERIES CODE

TYPE

V1	3mm PC Tail
V2	4.5mm PC Tail
S1	Surface Mount

TOTAL NO. OF CONTACTS

06, 10, 12, 16, 20, 26, 34, 50

PACKAGING

R	Tape & Reeled
P	Loose

LATCH

L0	No Latch
L1	Latch for 1.6mm PCB
L2	Latch for 2.4 mm PCB
L3	Surface Mount Latch

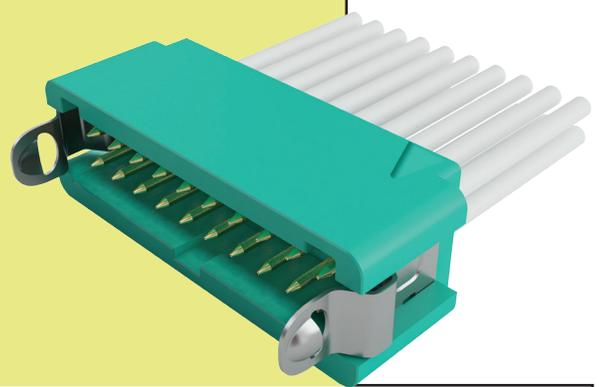
FINISH

05	Gold
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Gecko Connectors

Cable Connectors

- ❖ 4-finger Beryllium Copper contact on a female connector.
- ❖ Features potting wall for extra security.
- ❖ No. 1 position identified on moulding.
- ❖ Crimp barrel meets all crimp guidelines and standards.
- ❖ 2A current capacity, resists high vibration and shock.
- ❖ Withstands extremes of temperature: -65°C to +150°C.



Gecko

FEMALE	CALCULATION	MALE	CALCULATION
	A B + 3.8		A B + 3.8
	B 0.625 x (Total No. of Contacts - 2)		B 0.625 x (Total No. of Contacts - 2)
	C B + 1.8		C B + 4.85

CONTACTS	WIRE STRIPPING DETAILS
<p>Female 4.45</p> <p>Male 5.20</p>	<p>26 AWG - Ø 0.80 max. 28-32 AWG - Ø 0.72 max.</p> <p>1.50 - 1.75 nominal.</p>

TOOLS

Recommended Crimp Tool - Z125-900
Positioner - Z125-901

Contact Insertion/Removal Tool - Z125-902
See page 11

❖ Instruction sheets available at www.harwin.com/downloads/instructions

HOW TO ORDER

SERIES CODE | G125 - XXX XX XX XX

TYPE	
001	Female 26 AWG crimp contact
002	Female 28-32 AWG crimp contact
101	Male 26 AWG crimp contact
102	Male 28-32 AWG crimp contact
204	Female Housing
304	Male Housing

LATCHES	
BLANK	Contacts
L0	No Latches (Housing)
L4	Latches (Male Housing)

FINISH	
05	Gold (Pb)
96	Housing (Pb)

TOTAL NO. OF CONTACTS	
00	Contacts
06, 10, 12, 16, 20, 26, 34, 50	Housing

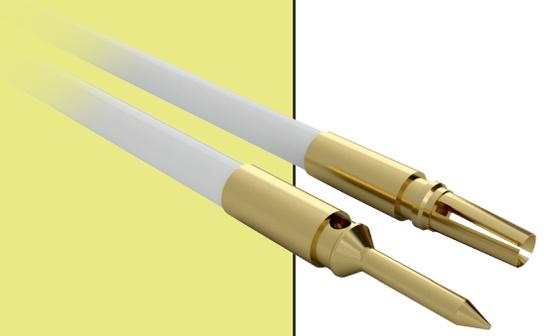
www.harwin-gecko.com

All dimensions in mm

Gecko Connectors

Cable Connectors - Individual Contacts

- ❖ 4-finger Beryllium Copper contact on a female connector.
- ❖ Ready for assembling to housings on page 7.
- ❖ Crimp barrel meets all crimp guidelines and standards.
- ❖ 2A current capacity, resists high vibration and shock.
- ❖ Withstands extremes of temperature: -65°C to +150°C.



FEMALE SINGLE ENDED	FEMALE - FEMALE
MALE SINGLE ENDED	MALE - MALE
MALE - FEMALE	TOOLS
	<p>Contact Insertion/Removal Tool - Z125-902 See page 11</p> <p>❖ Instruction sheets available at www.harwin.com/downloads/instructions</p>

HOW TO ORDER

G125 - X WX XXXX X 94

SERIES CODE

GENDER - FIRST END

M	Male
F	Female

CABLE SIZE

W1	26 AWG
W2	28 AWG
W3	30 AWG
W4	32 AWG

CABLE COLOUR

94	White
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TERMINATION - SECOND END

L	Loose cut end
F	Female
M	Male

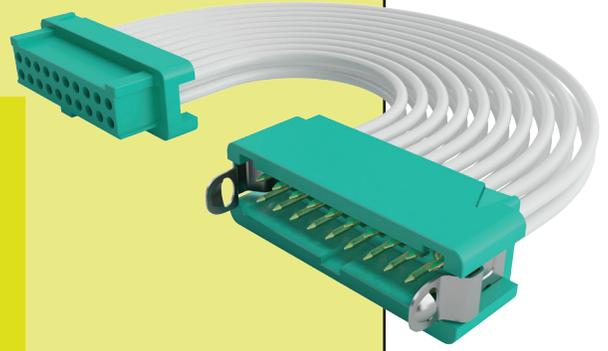
CABLE LENGTH

0150	150mm
0300	300mm (double-ended)
0450	450mm (single-ended)

Gecko Connectors

Cable Assemblies

- ❖ 4-finger Beryllium Copper contact on the female connector.
- ❖ No. 1 position identified on moulding.
- ❖ 2A current capacity, resists high vibration and shock.
- ❖ Withstands extremes of temperature: -65°C to +150°C.
- ❖ Back potted for added strain relief



PART NUMBERING SYSTEM

G125 - X C X XX 05 LX - XXXX X

SERIES CODE

GENDER - FIRST END	
F	Female
M	Male

CABLE SIZE

1	26 AWG
2	28 AWG
3	30 AWG
4	32 AWG

TOTAL NO. OF CONTACTS

06, 10, 12, 16, 20, 26, 34, 50

TERMINATION - SECOND END

L	Loose cut end
F	Female connector
M	Male connector

CABLE LENGTH

0150	150 mm
0300	300 mm (double-ended)
0450	450 mm (single-ended)
XXXX	Special order (length in mm)

LATCHES

L0	No Latches
L4	Latches (male only)

FINISH

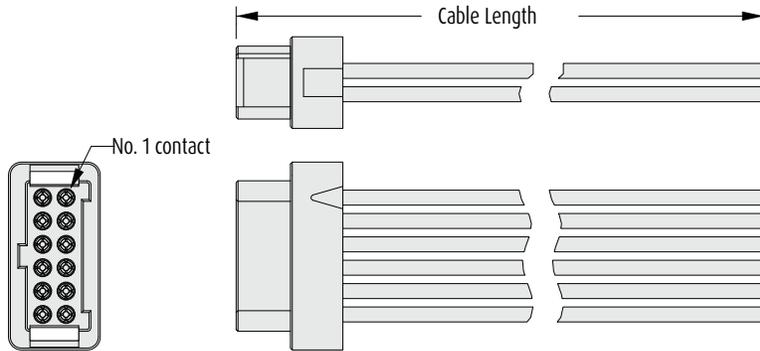
05	Gold 
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Gecko Connectors

CABLE ASSEMBLIES

See page 9 for cable length table

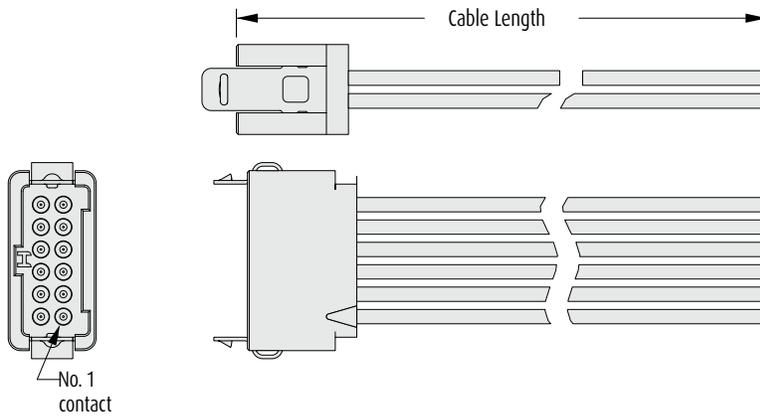
FEMALE SINGLE ENDED



HOW TO ORDER

G125-FCXXX05L0-XXXXL

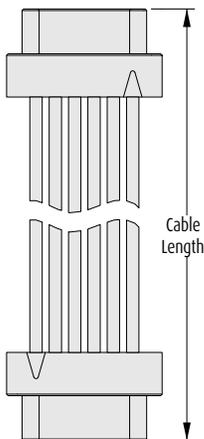
MALE SINGLE ENDED



HOW TO ORDER

G125-FCXXX05LX-XXXXL

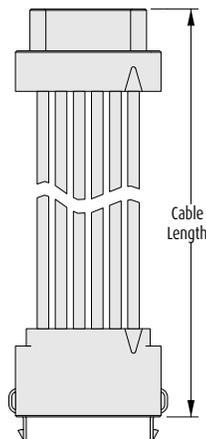
FEMALE - FEMALE



HOW TO ORDER

G125-FCXXX05L0-XXXXF

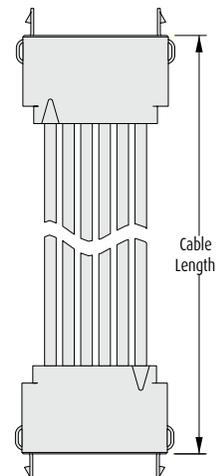
MALE - FEMALE



HOW TO ORDER

G125-MCXXX05LX-XXXXF

MALE - MALE



HOW TO ORDER

G125-MCXXX05LX-XXXXM

www.harwin-gecko.com

All dimensions in mm

❖ Instruction sheets can be accessed at www.harwin.com/downloads/instructions

POSITIONER

- ❖ Must be used with hand crimp tool.



ORDER CODE

Z125-901

HAND CRIMP TOOL

- ❖ Precision tool with ratchet mechanism and 8-indent form.
- ❖ Must be used with positioner.
- ❖ Instruction sheet available.



ORDER CODE

Z125-900

INSERTION/REMOVAL TOOL

- ❖ For inserting and removing crimped contacts into the rear of mouldings.
- ❖ Instruction sheet available.



ORDER CODE

Z125-902



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