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KUKDONG Electronic Precision Co., Ltd.

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KDGE SERIES CONNECTOR



www.kdep.co.kr

KDGE connectors are designed, manufactured and tested for KUKDONG HV series, the military detailed specification. The connectors are used in wide ranges of military, high power applications and next generation vehicles.



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Introduction

The KDGE circular Bayonet coupling connector series are used to transmit very high current at low voltage, as for example in the electrical equipment of the army and navy, tank, armored vehicle, submarine, sea-borne vehicles and in industrial facilities. The connectors meet the mating dimensions, mechanical features and rear panel installation requirements of VG95234. These high power connectors feature one contact in a two-piece rigid insulator. The aluminum shell has a chromate finish over cadmium. The operating temperature ranges from -55°C to +125°C. The contacts of copper or copper alloy with gold plating finish are designed for crimping or termination to solid copper conductors with threaded bolts. The bayonet coupling assures fast coupling and uncoupling. Color-coded coupling nut indicate alternate insert posotions. Plugs and receptacles are waterproof in mated conditions IP68 grade. EMI Shielded rate is perfect shielded contitions to be tested according to MIL-STD-461F:2007.

Product features

- Waterproof as the IP68 grade
- Perfect EMI Shielded conditions
- Bayonet coupling for easy mating and unmating
- Ruggedised metal shell

Connector design

Due to the very rugged shell designs in aluminium alloy, this connector complies with the heavy duty and environmental requirements of military equipment. They also withstand abuse during servicing.

The olive drab chromate and cadmium plated finish protects the shell against environmental influences.

Insulators, grommets and O-rings are made of high quality Polytetrafluoroethylene and withstand temperatures up to 300°C.

The contacts, made of copper alloy plated with a gold plating finish guarantee at least 500 mating cycles.

All crimp contacts are pre-tinned and enable fast and high quality harnessing. The crimp contacts allow highly reliable crimping with wires when using the recommended tools according to VG 96929.

The bayonet design allows fast and easy coupling and uncoupling. After a 120° turn of the coupling nut, the roller bolt snaps-in into the locking position of the bayonet groove with a metallic sound. In addition to this audible snap-in, the locked position is marked by colored arrows.

For full environmental sealing each conductor is sealed completely within the special sealing inner structure.

Technical Data

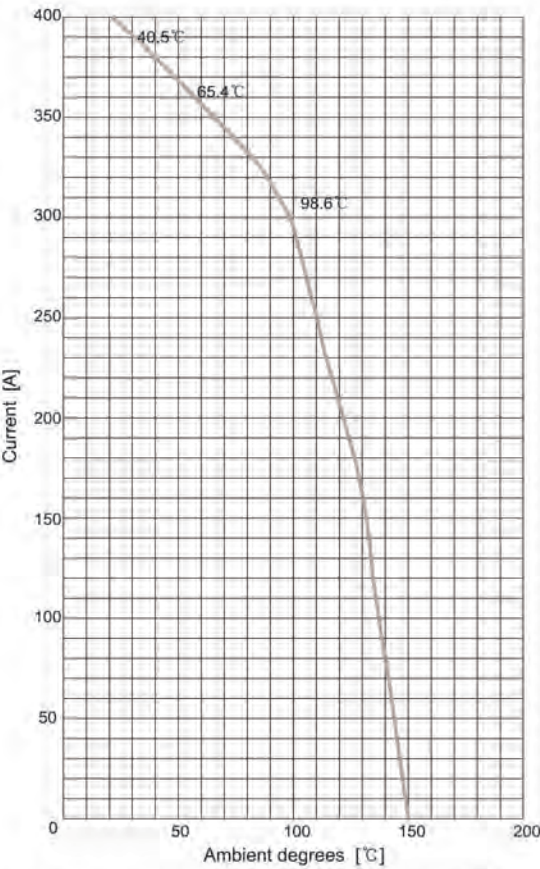
Electrical Data

Contact rating at +20℃

Current max. 350 [A]

Current rating

Depending on ambient temperature



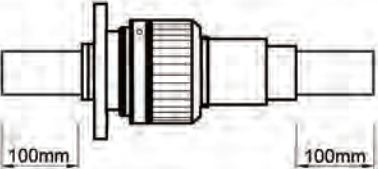
Data from test using connectors each cabled with 2.0 m length of 50 SQ mm. Derating curves generated according to IEC 60512-5-2:2002-02

Insulation resistance

The insulation resistance has to be tested DC 1000V / 5000 MΩ during 2 sec.

Contact resistance

The measurement of contact resistance has to be tested 25sq - 0.6 mΩ less / 50sq - 0.3 mΩ less.



EMI Shielded rate

Perfect (100%) shielded to be tested according to MIL-STD-461F:2007.

Mechanical Data

Ambient temperature

-55℃ to ~ +125℃

Water-proof provisions

IP68

Mating cycles

500 cycle

Materials & Finish

Shell

Aluminum alloy
Olive drab chromate coating over cadmium plating

Insulator

PTFE (Poly-Tetrafluoroethylene)

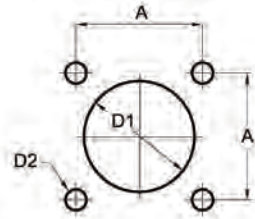
Contact

Copper and Copper alloy
Gold plating

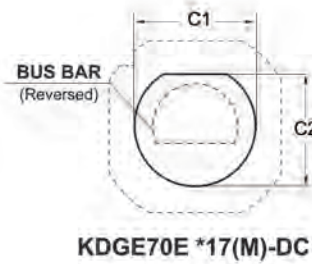
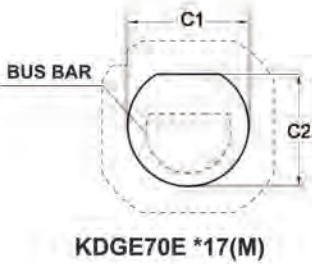
Mounting Dimensions

Mounting holes

Mounting holes for wall mounting receptacles style KDGE00E, 0E, 2E, 70E and TB.



ØD1 REF	ØD2 REF		Screws to be used		A REF
KDGE00E KDGE0E KDGE2E KDGETB	KDGE00E *14(M) KDGE0E *15(M) KDGE2E *17(M) KDGE2E *18(M) KDGE2E *19(M) KDGETB	KDGE0E *16(M)	KDGE00E *14(M) KDGE0E *15(M) KDGE2E *17(M) KDGE2E *18(M) KDGE2E *19(M) KDGETB	KDGE0E *16(M)	
31.3	3.4	4.5	M3	M4	29.4

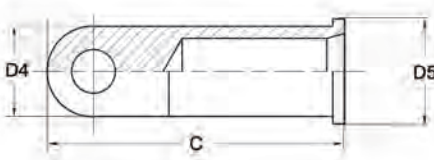
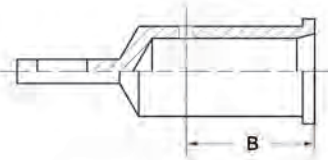


C1 REF	C2 REF
35.1	33.4

Accessories Dimensions

Crimp Lug for KDGE0E & KDGE8E

If required, the following accessories must be ordered separately.



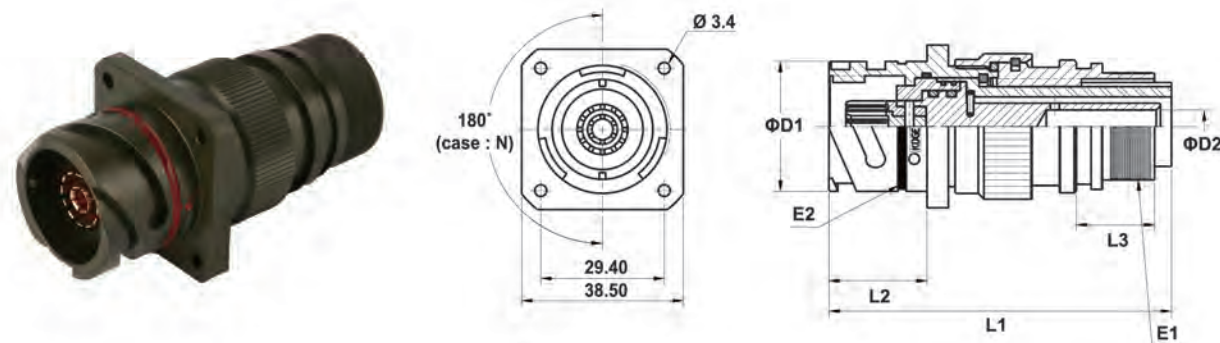
Order No.	ØD4 REF	ØD5 REF	B REF	C REF
K21232006-1	11.0	13.4	25.0	41.9
K21232006-2	15.0	17.4	25.0	41.9

KDGE / HV Connector Series

Connector Dimensions

KDGE00E / 14(M)

Wall mounting socket type receptacle shielded with Tinel-lock adapter

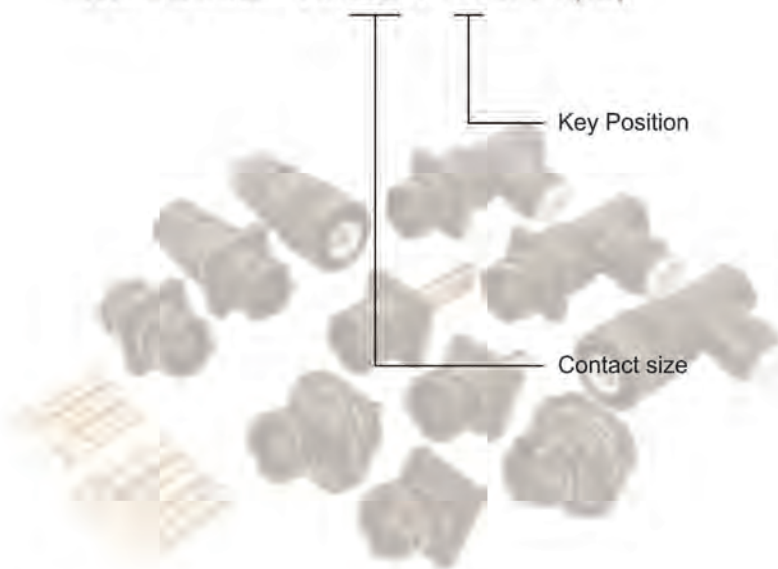


Order No.	L1 MAX	L2 +0.4 0	L3 MAX	ΦD1 0 -0.15	ΦD2 MAX	E1 Tinel-lock Ring	E2 COLOR
KDGE00E 18H2F*B14(M)	82.00	23.10	18.50	30.80	7.80	14AI	**
KDGE00E 18H5F*B14(M)	82.00	23.10	18.50	30.80	11.00	16AI	**

* Please refer to the 'How To Order' for Key Position
** Please refer to the 'Key Position table' below for color(E2)

How to order

KDGE00E 18 H2 F N B14(M)



Explanations

Contact size

H2 : 25mm²
H5 : 50mm²

Key Position

Order	Color (E2)	Angle
N	Red	180°
W	Yellow	50°
X	Blue	100°
Y	White	140°
Z	Black	85°
F	Green	200°
G	Brown	240°
H	Purple	290°

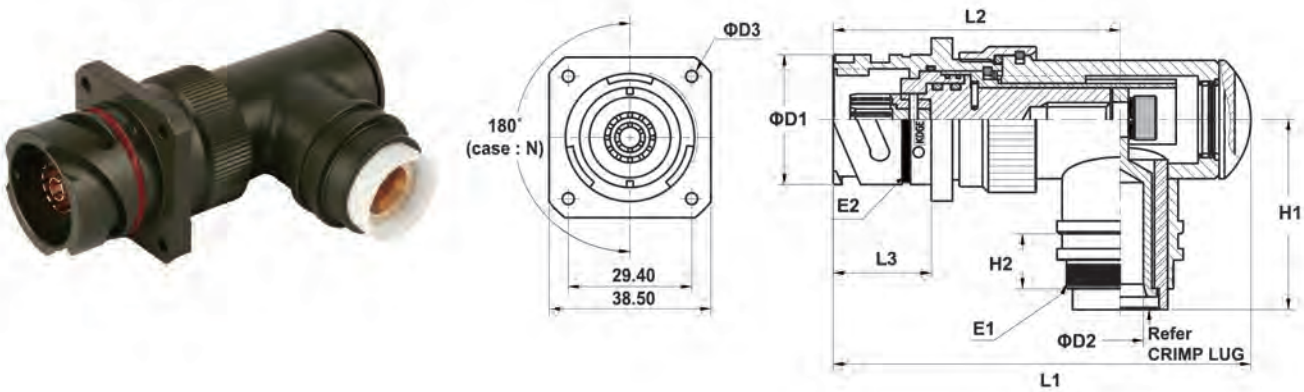
KDGE / HV Connector Series

Connector Dimensions

KDGE0E / 15(M)

KDGE0E / 16(M)

Through holes(-15) or Threaded holes(-16) in flange, Wall mounting socket type receptacle shielded with 90° Tinel-lock adapter

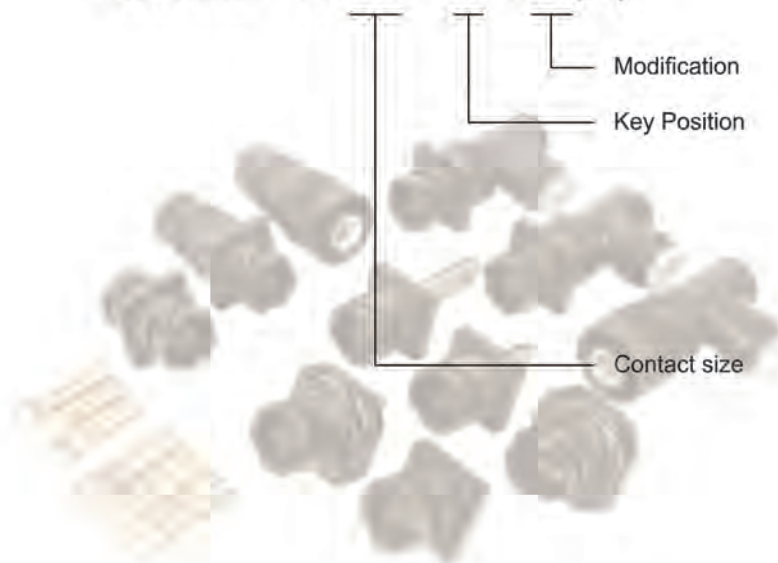


Order No.	L1 MAX	L2 MAX	L3 +0.4 0	H1 MAX	H2 MIN	ΦD1 0 -0.15	ΦD2 MAX	ΦD3 REF	E1 Tinel-lock Ring	E2 COLOR
KDGE0E 18H2F*B15(M)	99.00	67.80	23.10	45.00	13.00	30.80	7.90	3.40	14AI	**
KDGE0E 18H2F*B16(M)	99.00	67.80	23.10	45.00	13.00	30.80	7.90	M4	14AI	**
KDGE0E 18H5F*B15(M)	99.00	67.80	23.10	45.00	13.00	30.80	11.00	3.40	14AI	**
KDGE0E 18H5F*B16(M)	99.00	67.80	23.10	45.00	13.00	30.80	11.00	M4	14AI	**

* Please refer to the 'How To Order' for Key Position
** Please refer to the 'Key Position table' below for color(E2)
*** Please place order by referring to page 4, if you need 'CRIMP LUG'

How to order

KDGE0E 18 H2 F N B15(M)



Explanations

Contact size
H2 : 25mm²
H5 : 50mm²

Modification
15 : Through hole
16 : Threaded hole

Key Position

Order	Color (E2)	Angle
N	Red	180°
W	Yellow	50°
X	Blue	100°
Y	White	140°
Z	Black	85°
F	Green	200°
G	Brown	240°
H	Purple	290°

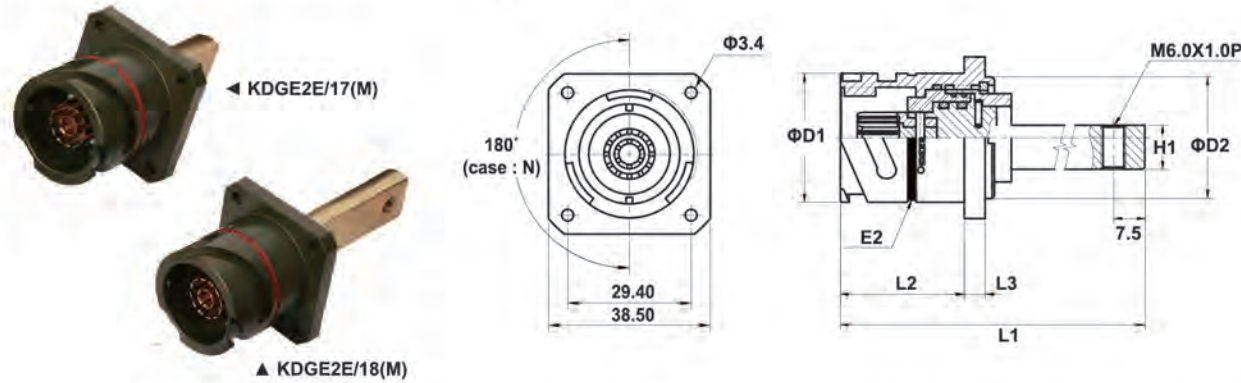
KDGE / HV Connector Series

Connector Dimensions

KDGE2E / 17(M)

KDGE2E / 18(M)

Standard busbar(-17) or Long busbar(-18), Box mounting socket type receptacle shielded for front panel mounting

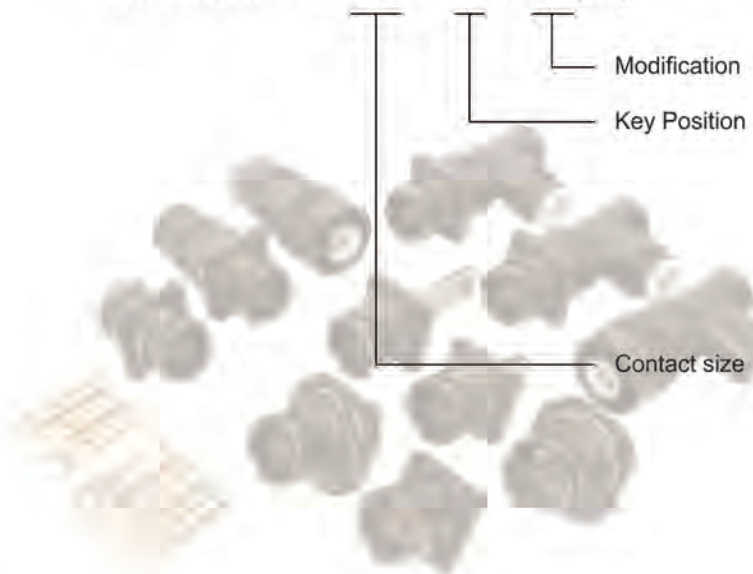


Order No.	L1 MAX	L2 +0.4 0	L3 REF	H1 REF	ΦD1 0 -0.15	ΦD2 MAX	E2 COLOR
KDGE2E 18H2F*B17(M)	69.00	29.50	5.00	10.50	30.80	29.00	**
KDGE2E 18H5F*B17(M)	69.00	29.50	5.00	10.50	30.80	29.00	**
KDGE2E 18H2F*B18(M)	90.00	29.50	5.00	10.50	30.80	29.00	**
KDGE2E 18H5F*B18(M)	90.00	29.50	5.00	10.50	30.80	29.00	**

* Please refer to the 'How To Order' for Key Position
** Please refer to the 'Key Position table' below for color(E2)
*** KDGE2E is identical to both 25SQ and 50SQ. The difference is ordering part number and marking

How to order

KDGE2E 18 H2 F N B17(M)



Explanations

Modification
17 : Standard busbar
18 : Long busbar

Contact size
H2 : 25mm²
H5 : 50mm²

Key Position

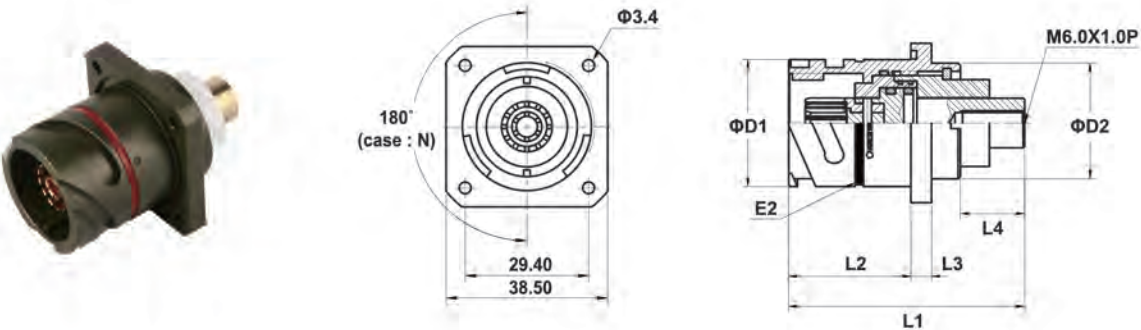
Order	Color (E2)	Angle
N	Red	180°
W	Yellow	50°
X	Blue	100°
Y	White	140°
Z	Black	85°
F	Green	200°
G	Brown	240°
H	Purple	290°

KDGE / HV Connector Series

Connector Dimensions

KDGE2E / 19(M)

Box mounting socket type receptacle shielded for front panel mounting (Set screw busbar)

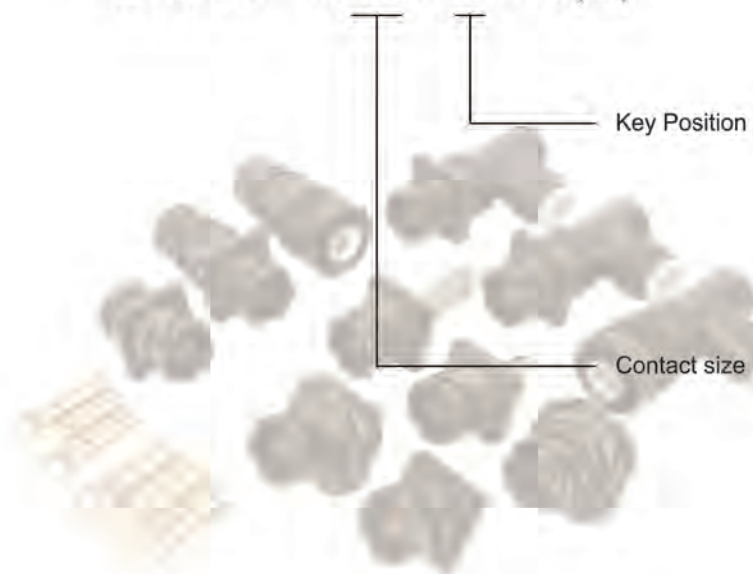


Order No.	L1 MAX	L2 +0.4 0	L3 REF	L4 REF	ΦD1 0 -0.15	ΦD2 MAX	E2 COLOR
KDGE2E 18H2F*B19(M)	58.00	29.50	5.00	15.50	30.80	29.00	**
KDGE2E 18H5F*B19(M)	58.00	29.50	5.00	15.50	30.80	29.00	**

* Please refer to the 'How To Order' for Key Position
** Please refer to the 'Key Position table' below for color(E2)
*** KDGE2E is identical to both 25SQ and 50SQ. The difference is ordering part number and marking

How to order

KDGE2E 18 H2 F N B19(M)



Explanations

Contact size
H2 : 25mm²
H5 : 50mm²

Key Position

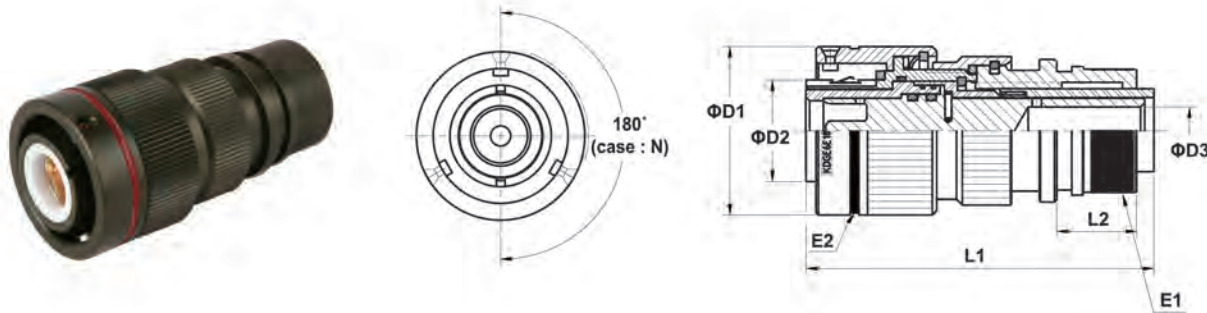
Order	Color (E2)	Angle
N	Red	180°
W	Yellow	50°
X	Blue	100°
Y	White	140°
Z	Black	85°
F	Green	200°
G	Brown	240°
H	Purple	290°

KDGE / HV Connector Series

Connector Dimensions

KDGE6E / 14(M)

Straight Pin type plug shielded with Tinel-lock adapter

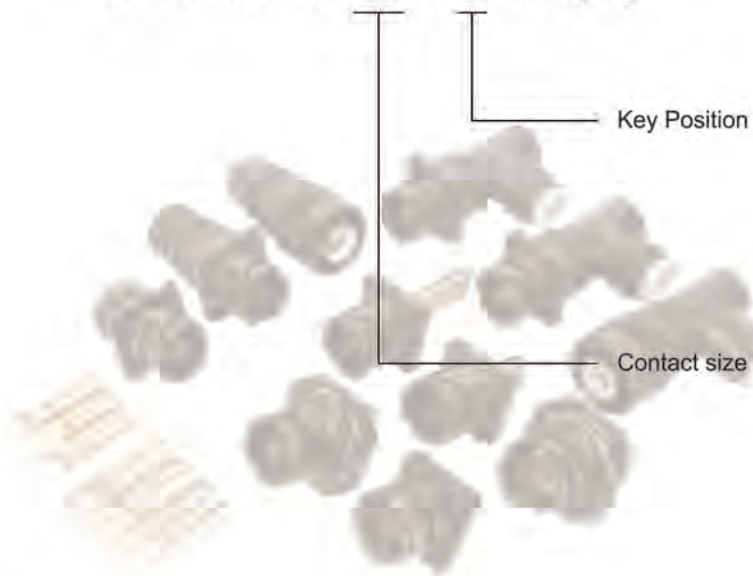


Order No.	L1 MAX	L2 MAX	ΦD1 MAX	ΦD2 0 -0.3	ΦD3 MAX	E1 Tinel-lock Ring	E2 COLOR
KDGE6E 18H2Z*B14(M)	86.00	18.50	39.90	23.60	7.80	14AI	**
KDGE6E 18H5Z*B14(M)	86.00	18.50	39.90	23.60	11.00	16AI	**

* Please refer to the 'How To Order' for Key Position
** Please refer to the 'Key Position table' below for color(E2)

How to order

KDGE6E 18 H2 Z N B14(M)



Explanations

Contact size

H2 : 25mm²
H5 : 50mm²

Key Position

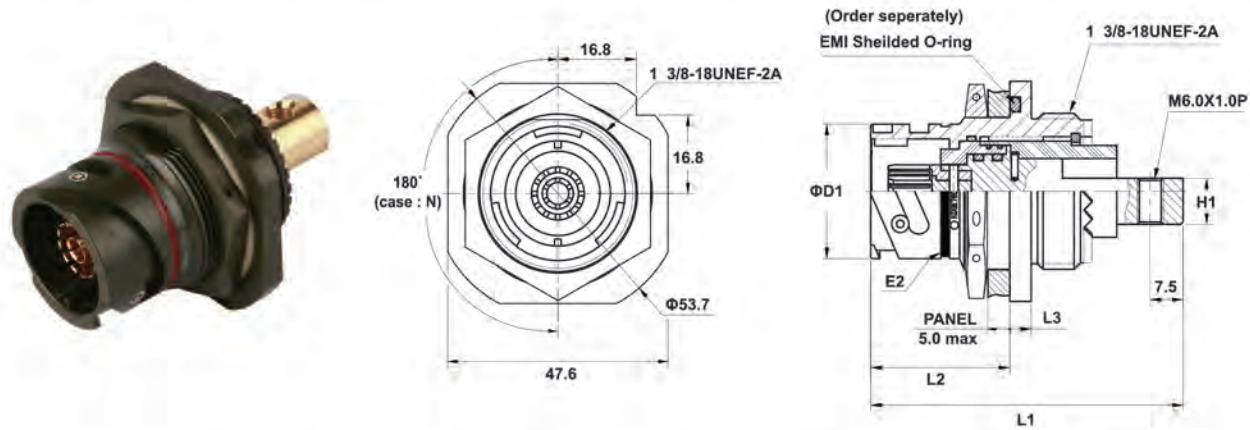
Order	Color (E2)	Angle
N	Red	180°
W	Yellow	50°
X	Blue	100°
Y	White	140°
Z	Black	85°
F	Green	200°
G	Brown	240°
H	Purple	290°

KDGE / HV Connector Series

Connector Dimensions

KDGE70E / 17(M) KDGE70E / 17(M)-DC

Jam nut socket type receptacle shielded for rear panel mounting

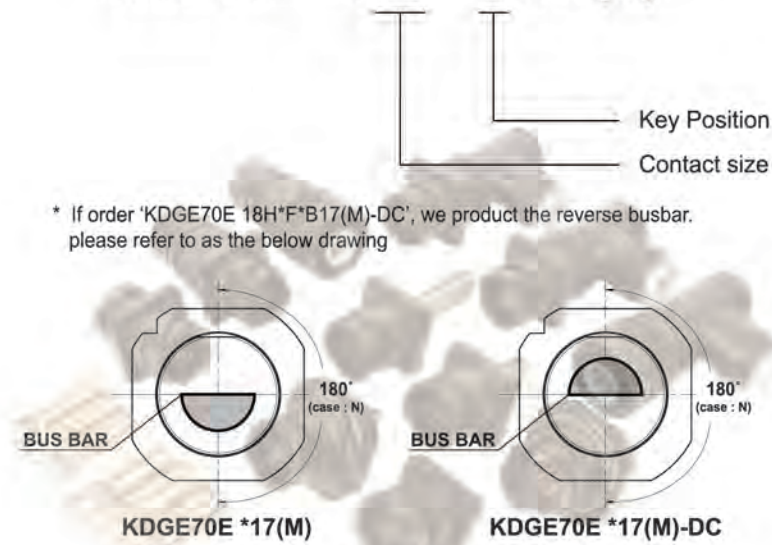


Order No.	L1 MAX	L2 +0.4 0	L3 REF	ΦD1 0 -0.15	H1 REF	E2 COLOR
KDGE70E 18H2F*B17(M)	69.00	32.50	5.00	30.80	10.50	**
KDGE70E 18H5F*B17(M)	69.00	32.50	5.00	30.80	10.50	**

* Please refer to the 'How To Order' for Key Position
** Please contact KUKDONG inquiry center for EMI shielded O-ring
*** KDGE70E is identical to both 25SQ and 50SQ. The difference is ordering part number and marking

How to order

KDGE70E 18 H2 F N B17(M)



Explanations

Contact size

H2 : 25mm²
H5 : 50mm²

Key Position

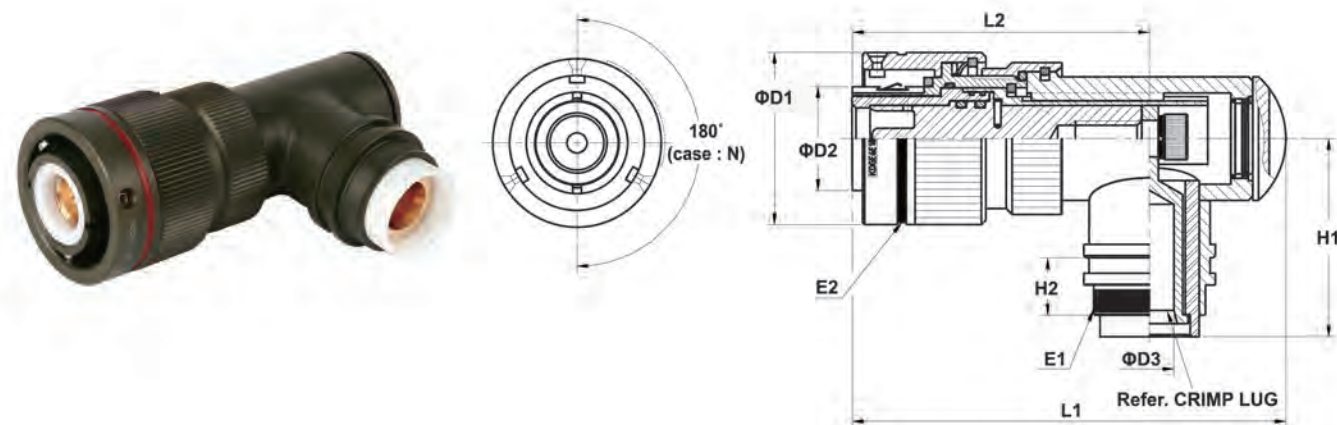
Order	Color	Angle
N	Red	180°
W	Yellow	50°
X	Blue	100°
Y	White	140°
Z	Black	85°
F	Green	200°
G	Brown	240°
H	Purple	290°

KDGE / HV Connector Series

Connector Dimensions

KDGE8E / 15(M)

Pin type plug shielded
for with 90° Tinel-lock adapter

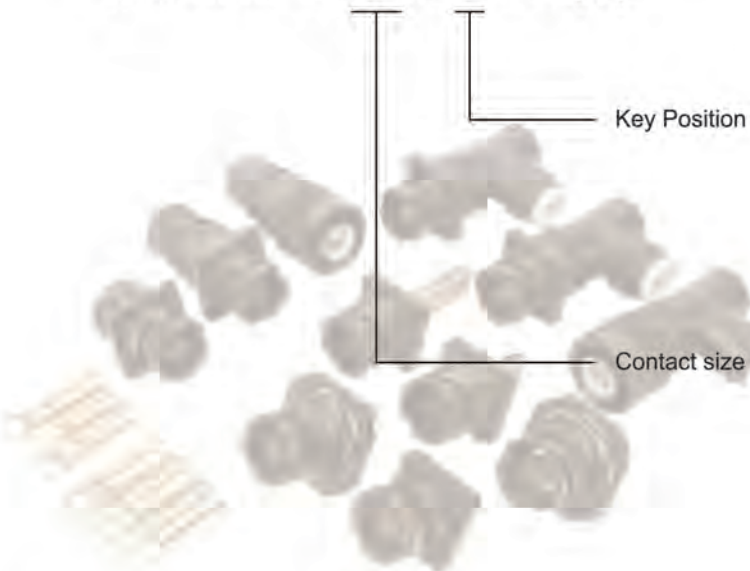


Order No.	L1 MAX	L2 REF	ΦD1 MAX	ΦD2 0 -0.3	ΦD3 MAX	H1 MAX	H2 MIN	E1 Tinel-lock Ring	E2 COLOR
KDGE8E 18H2Z*B15(M)	99.00	67.80	39.90	23.60	7.90	45.00	13.00	14Al	**
KDGE8E 18H5Z*B15(M)	99.00	67.80	39.90	23.60	11.00	45.00	13.00	14Al	**

* Please refer to the 'How To Order' for Key Position
** Please refer to the 'Key Position table' below for color(E2)
*** Please place order by referring to page 4, if you need 'CRIMP LUG'

How to order

KDGE8E 18 H2 Z N B15(M)



Explanations

Contact size

H2 : 25mm²
H5 : 50mm²

Key Position

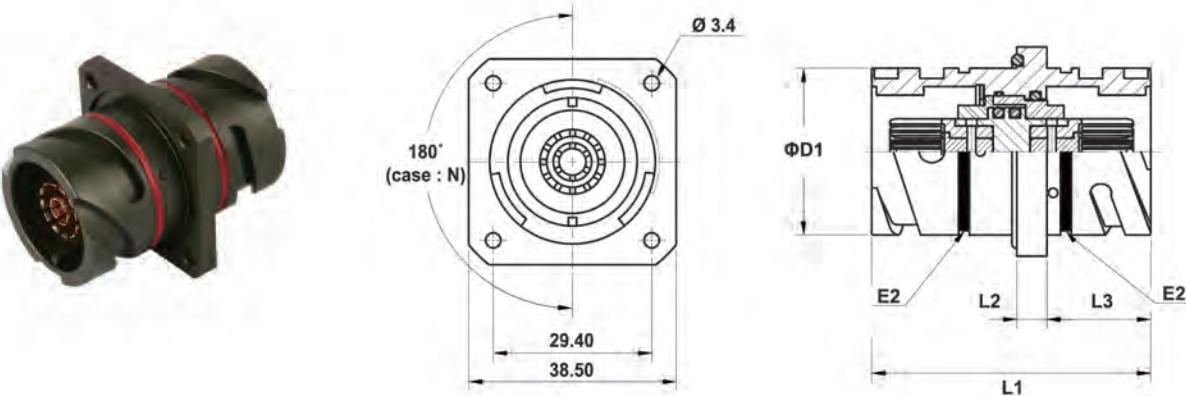
Order	Color	Angle
N		180°
W		50°
X		100°
Y		140°
Z		85°
F		200°
G		240°
H		290°

KDGE / HV Connector Series

Connector Dimensions

KDGETB

Socket type thru-bulkhead receptacle
for mating two KDGE socket type plugs
(Only KDGE6E and KDGE8E)

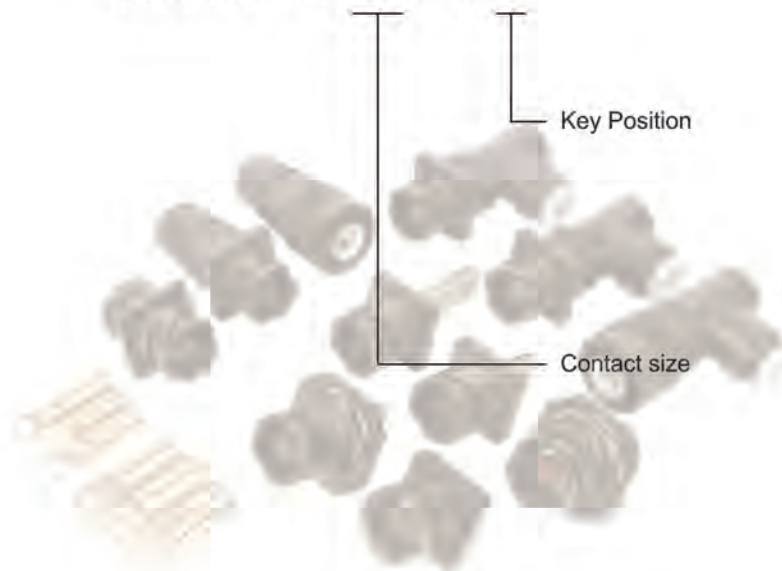


Order No.	L1 MAX	L2 REF	L3 MAX	ΦD1 0 -0.15	E2 COLOR
KDGETB 18H2FF*	52.00	4.00	23.20	30.80	**
KDGETB 18H5FF*	52.00	4.00	23.20	30.80	**

* Please refer to the 'How To Order' for Key Position
** Please refer to the 'Key Position table' below for color(E2)

How to order

KDGETB 18 H2 F F N



Explanations

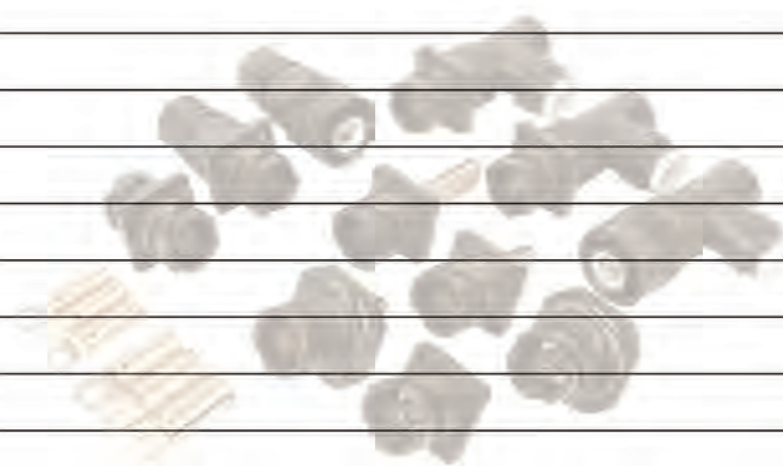
Contact size

H2 : 25mm²
H5 : 50mm²

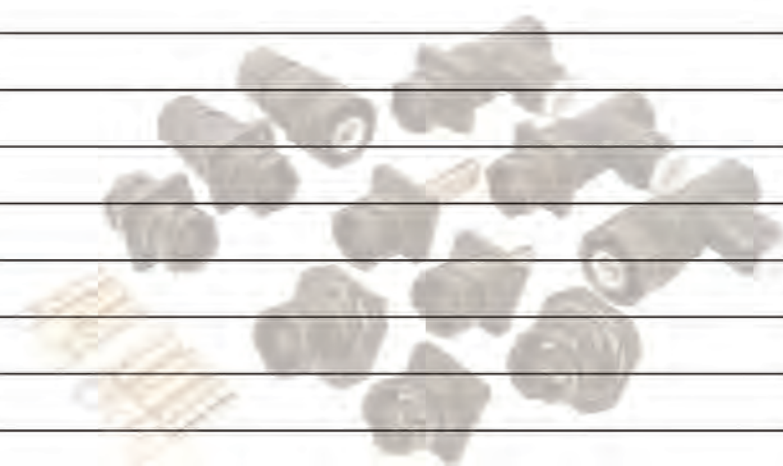
Key Position

Order	Color	Angle
N		180°
W		50°
X		100°
Y		140°
Z		85°
F		200°
G		240°
H		290°

MEMO



MEMO



KUKDONG Electronic Precision Co., Ltd.

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