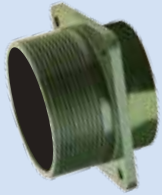


Receptacle TMS3402



Receptacle TMS3401 PG**



Receptacle TMS3400 **A



Plug TMS3406 G**



Plug TMS3408 **A



TMS series

- Coupling: Thread
- Terminal: Crimp

Connector



Index

Profile, Technical Data	2
Part Number Explanation	3-15
Contacts	3
Receptacle① (Panel Mounted, No Protective Enclosure)	4
Receptacle② (Protective Enclosure, Clamp/Gland)	5
Receptacle③ (Free)	6
Receptacle④ (Adapter)	7
Plug	8
Shell Size-Arrangement No.	9-15
Angular Displacement of Insert	16
Size of Receptacle & Plug	17-25
Receptacle① (Panel Mounted, No Protective Enclosure)	17
Receptacle② (Protective Enclosure, Clamp/Gland)	18-19
Receptacle Mounting & Mounting Hole	20
Receptacle③ (Free)	21
Receptacle④ (Adapter)	22
Plug	23-25
Cap	26
Mounting Plate & Gasket	27
Assemble Parts	28
Crimp, Insertion & Extraction	29
Tools	30



High-tech Enterprise Certificate



Foreign Invested Advanced



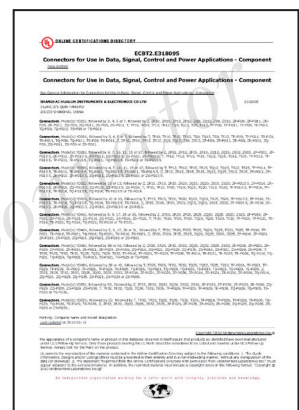
Enterprise Credit Rating AAA



Software Copyright



ISO9001, ISO14001, ISO45001



UL for YD series



TUV SUD



ISO9001

ISO14001

ISO45001



华伦连接器

HuaLun Connector

Profile

- ◆ Design according to MIL5015, interchangeable with equivalent products.
- ◆ Insert: Halogen free & fire resistance thermoplastic UL94V-0; 2-60 pins. More than 50 types.
- ◆ Shell size-arrangement: 14S, 16S, 16, 18, 20, 22, 24, 28, 32, 36, 40.
- ◆ Coupling: thread
- ◆ Terminal: crimp
- ◆ Tools: hand crimp tool-M22520/1-01. Pneumatic crimp tool would be update efficiency and fit for mass crimping.
- ◆ Shell Protection degree: IP65/67
- ◆ Shock vibration: Class 1B (GB/T21563-2018 Shock and vibration test of rail transit locomotive and rolling stock equipment)
- ◆ Technical data qualified to NFF61030 (Normes francaises) & GB/T34119-2017 (Railway rolling stock-Electrical connectors) .
- ◆ Shell color: Black, Army Green
- ◆ TUV certification.

Hualun connectors are appointed by Chinese rail transport, engineering machinery, power electric power, thermoplastic machinery, industrial automation, and robot manufacturing enterprises. as a perennial supporting product.

Technical Data

Environmental

Operating Temperature	Upper limit+125°C * Lower limit-55°C
Relative Humidity	40°C±2°C 93%~95%
Salty Spray Corrosion	≥96hours
Protection Degree	IP65,IP67 (when mated,wired and mounted according to DS)
Shock Vibration	Class 1B (GB/T21563-2018 / IEC61373: 2010)

Note: * The upper limit temperature is the maximum internal hot spot temperature that occurs in either combination of electrical load and environmental conditions.

Contact current De-rating

Qty of contacts	1~10	11~20	21~30	31~50	51~80
Drop rate%	0	10	20	30	40

Mechanical Features

Type of contacts [#]	● 16 [#]	⊕ 12 [#]	⊗ 8 [#]
retention force (min)	70N	90N	110N
Minimum separation force	0.56N	0.83N	1.39N

The contact crimp is sufficient to match the tensile strength of the cable

Wire Gauge		Tensile Strength
AWG	mm ²	
20	0.5	60
-	0.75	85
18	0.82	90
-	1.0	108
16	1.3	135
-	1.5	150
14	2.1	200
-	2.5	230
12	3.3	275
-	4.0	310
10	5.3	355
-	6.0	360
8	8.4	370

Mechanical Life ≥500

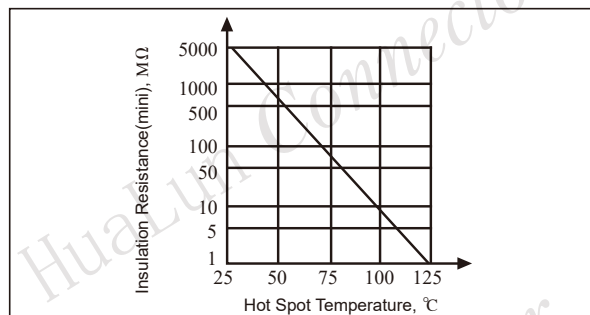
Testing Condition

Temperature: 15°C~35°C	Relative Humidity: 20%~80%	Atmospheric Pressure: 73KPa~106KPa
------------------------	----------------------------	------------------------------------

Electric Features

Service rating	Inst.	A	D	E
Rated Voltage	250VDC	700VDC	1250VDC	1750VDC
	200VAC	500VAC	900VAC	1250VAC
Dielectric Withstand Voltage	1000VAC	2000VAC	2800VAC	3500VAC
Mechanical Spacing	-	1.59mm	3.18mm	4.76mm
Creepage Distance	1.59mm	3.18mm	4.76mm	6.35mm
Insulation Resistance	Normal: >5000MΩ, (Dynamic values see tableA)			
Type of contacts [#]	● 16 [#]	⊕ 12 [#]	⊗ 8 [#]	
Working Current	13A	23A	46A	
Contact Resistance	2.5mΩ	1.3mΩ	0.7mΩ	

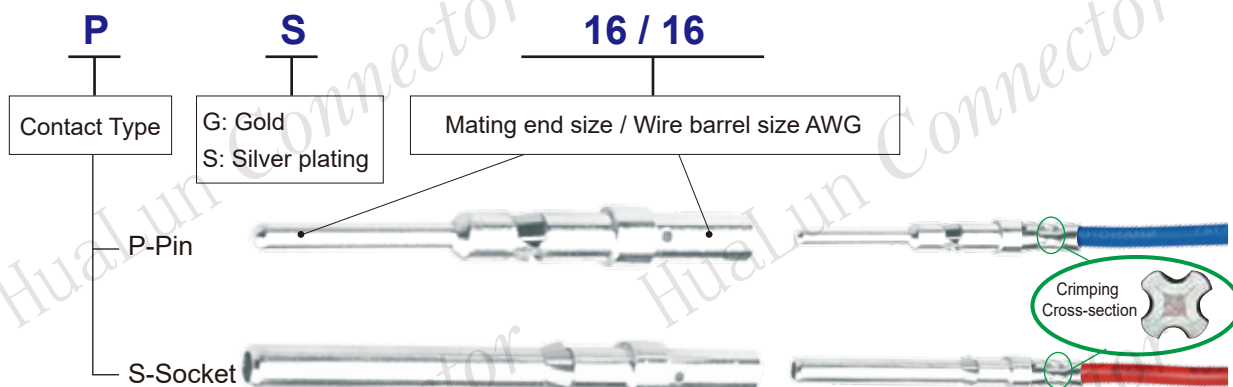
TableA The limit value of insulation resistance varies with temperature



Material of Main Parts

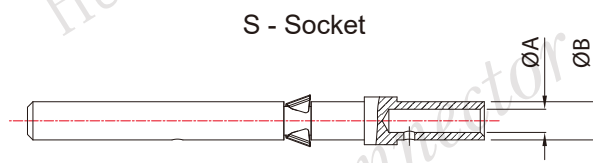
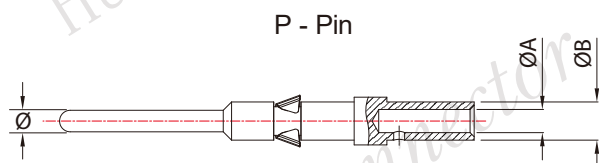
Shell	Material	Aluminum Alloy
	Finish	Electrophoretic Paint; Zinc Passivation
Insert	Material	Halogen free & fire resistance thermoplastic material
	Flame Retardant Grade	UL94V-0
Contacts	Material	Copper Alloy
	Plating	Silver; Gold
Grommet & Bushing		Low Fire Hazard Rubber

Contact Part Number



Example: PS16/20 Order pin, silver plating, mating end size is #16, wire barrel size is 20AWG

SS16/16 Order socket, silver plating, mating end size is #16, wire barrel size is 16AWG



Contact Size & Wire Size

Contact Spec# Size of plug-in end Ømm	Code	Ø A(mm)	Ø B(mm)	Contact Adapter Wire	
				Wire Barrel Size(AWG)	Conductor (the metric system) mm ²
● 16# Ø1.588 ±0.025	16S/20	Ø 1.10	Ø 2.40	20	< 0.50
	16S/16	Ø 1.70	Ø 2.80	16	< 1.25
	16/20	Ø 1.10	Ø 2.40	20	< 0.50
	16/18	Ø 1.30	Ø 2.30	18	< 0.80
	16/16	Ø 1.70	Ø 2.80	16	< 1.25
	16/14	Ø 2.00	Ø 3.20	14	< 2.00
⊕ 12# Ø2.39 ± 0.03	12/16	Ø 1.70	Ø 2.80	16	< 1.25
	12/14	Ø 2.00	Ø 3.20	14	< 2.00
	12/12	Ø 2.50	Ø 3.80	12	< 3.15
⊗ 8# Ø3.61 ± 0.03	8/12	Ø 2.50	Ø 3.80	12	< 3.15
	8/10	Ø 3.50	Ø 4.40	10	< 5.50
	8/8	Ø 4.50	Ø 6.70	8	< 8.00

Note: The length of the pin & socket of type 16S is special (short), and the specifications need to be noted when ordered separately.

Part Number (Explanation)

Receptacle ①

(Panel Mounted)

(No Protective Enclosure)

e.g. **1** TMS 34 02 S16~9 N

e.g. **2** TMS 34 22 P16~9 W L

① ② ③ ④ ⑤ ⑥

Explanation

① **TMS** : Coupling (thread)

② **34** : Terminal (crimp)

③ **02** : Front Mounting
22 : Rear Mounting

{ panel mounted,
No protective enclosure

④ Insert:

S(P) 16 - 9

S: Socket
P: Pin

Shell-size

Arrangement No.

Insert P/N: See Page 9-15

■ Shell Size See Page 17



⑤ Insert Orientation:

N: Cardinal Points; (Default)

W, X, Y, Z, See Page 16

⑥ Shell Color:

◆ **H**: Black

◆ **L**: Army Green

Part Number (Explanation)

Receptacle ②

(Protective Enclosure)

(Clamp/Gland)

e.g. ①	TMS	34	20	S16-9	N	16A	
e.g. ②	TMS	34	00	P16-9	Y	16A	L
	①	②	③	④	⑤	⑥	⑦

Explanation

① **TMS** : Coupling (thread)

② **34** : Terminal (crimp)

③ **00** : Front Mounting
20 : Rear Mounting

{ Protective Enclosure,
Clamp/Gland

④ Insert:

S(P) 16 - 9

S: Socket
P: Pin

Shell-size Arrangement No.

Insert P/N: See Page 9-15

⑤ Insert Orientation:

N: Cardinal Points; (Default)

W, X, Y, Z, See Page 16

⑥ Outlet Type:

◆ ****A** : Cable Clamp (3057+3420)
size

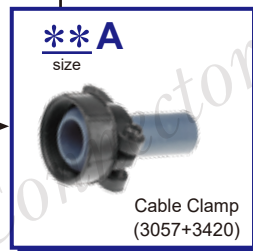
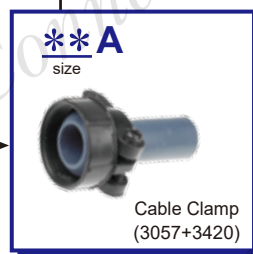
◆ **PG**** : PG Nylon Cable Gland Outlet
size

⑦ Shell Color:

◆ **H**: Black

◆ **L**: Army Green

■ Shell Size See
Page 18~20



Part Number (Explanation)

Receptacle ③

(Free)

e.g. ① **TMS** ② **34** ③ **01** ④ **S16-9** ⑤ **N** ⑥ **16A**

e.g. ① **TMS** ② **34** ③ **01** ④ **P16-9** ⑤ **Y** ⑥ **PG13.5** ⑦ **L**

Explanation

① **TMS** : Coupling (thread)

② **34** : Terminal (crimp)

③ **01** : Free Receptacle

④ Insert:

S(P) 16 - 9

S: Socket
P: Pin

Shell-size

Arrangement No.

Insert P/N: See Page 9-15

⑤ Insert Orientation:

N: Cardinal Points; (Default)

W, X, Y, Z, See Page 16

⑥ Outlet Type:

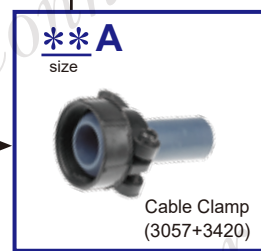
◆ ****A** : Cable Clamp (3057+3420)
size

◆ **PG **** : PG Nylon Cable Gland Outlet
size

⑦ Shell Color:

◆ **H**: Black

◆ **L**: Army Green

■ Shell Size See
Page 21


Part Number (Explanation)

Receptacle ④

(Adapter)

e.g. **1** TMS 34 022 S16-9P N

e.g. **2** TMS 34 011 P16-9S W L

① ② ③ ④ ⑤ ⑥

Explanation

① TMS : Coupling (thread)

② 34 : Terminal (crimp)

③ 022 : Adapter (Square flange)

011 : Adapter (Round flange)

④ Insert:

S 16 - 9 P

S: Socket
P: Pin

Shell-size
Arrangement
No.

P: Pin
S: Socket

Insert P/N: See [Page 9-15](#)

■ Shell Size See [Page 22](#)

022



011



⑤ Insert Orientation:

N: Cardinal Points; ([Default](#))

W, X, Y, Z, See [Page 16](#)

⑥ Shell Color:

◆ **H**: Black

◆ **L**: Army Green

Part Number (Explanation)

Plug

e.g. **1** TMS 34 06 S16-9 N 16A

e.g. **2** TMS 34 08 P16-9 Y PG13.5 L

Explanation

1 TMS : Coupling (thread)

2 34 : Terminal (crimp)

3 06 : Straight
08 : 90° Angled

{ Protective Enclosure,
Clamp/Gland

4 Insert:

S (P) 16 - 9

S: Socket
P: Pin

Shell-size

Arrangement No.

Insert P/N: See Page 9-15

5 Insert Orientation:

N : Cardinal Points; (Default)

W, X, Y, Z, See Page 16

6 Outlet Type:

◆ ****A** : Cable Clamp (3057+3420)
size

◆ **PG**** : PG Nylon Cable Gland
size

◆ **G**** : G Nylon Hose Clamp
size

7 Shell Color:

◆ **H** : Black

◆ **L** : Army Green

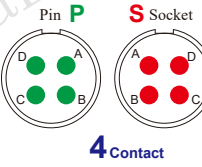
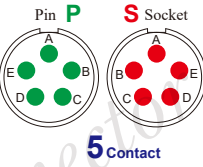
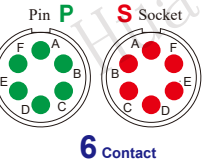
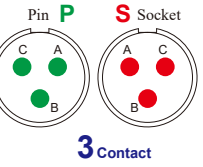
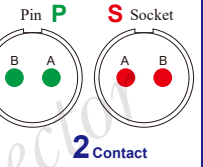
■ Shell Size See Page 23~25



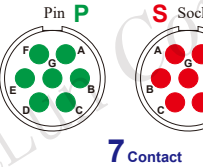
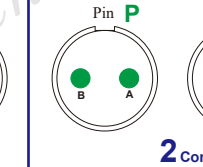
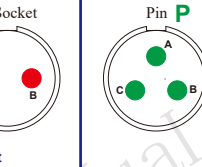
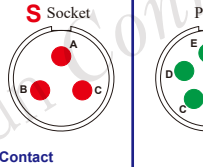
Shell Size - Arrangement No.

View from mating face

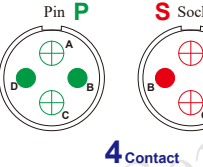
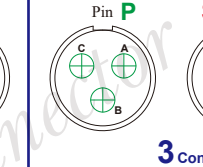
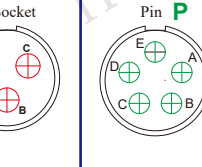
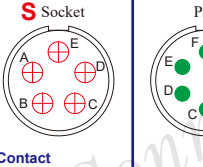
● 16# ⊕ 12#

Shell/Insulator	Size 14S									
P Shell Size- S Arrangement No.	P14S-2	S14S-2	P14S-5	S14S-5	P14S-6	S14S-6	P14S-7	S14S-7	P14S-9	S14S-9
Contact Arrangement	 4 Contact		 5 Contact		 6 Contact		 3 Contact		 2 Contact	
Contact Size×Contact Qty.	16#×4		16#×5		16#×6		16#×3		16#×2	
Service Rating	Inst.		Inst.		Inst.		A		A	

View from mating face

Shell/Insulator	Size 16S							
P Shell Size- S Arrangement No.	P16S-1	S16S-1	P16S-4	S16S-4	P16S-5	S16S-5	P16S-8	S16S-8
Contact Arrangement	 7 Contact		 2 Contact		 3 Contact		 5 Contact	
Contact Size×Contact Qty.	16#×7		16#×2		16#×3		16#×5	
Service Rating	A		D		A		A	

View from mating face

Shell/Insulator	Size 16				Size 18			
P Shell Size- S Arrangement No.	P16-9	S16-9	P16-10	S16-10	P18-11	S18-11	P18-12	S18-12
Contact Arrangement	 4 Contact		 3 Contact		 5 Contact		 6 Contact	
Contact Size×Contact Qty.	16#×2	12#×2	12#×3		12#×5		16#×6	
Service Rating	A		A		A		A	



TUV SUD



ISO9001

ISO14001

ISO45001

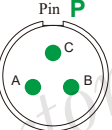
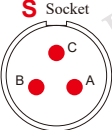
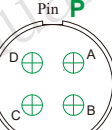
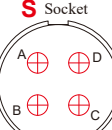
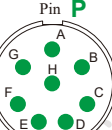
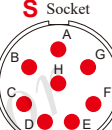


华伦连接器
HuaLun Connector

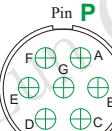
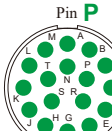
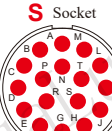
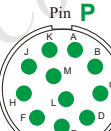
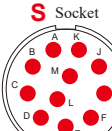
Shell Size - Arrangement No.

View from mating face

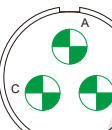
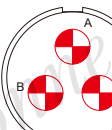
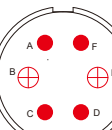
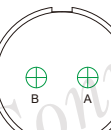
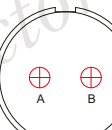
● 16# ⊕ 12# ⊗ 8#

Shell/Insulator	Size 18				Size 20			
P Shell Size- S Arrangement No.	P18-19	S18-19	P18-22	S18-22	P20-4	S20-4	P20-7	S20-7
Contact Arrangement	 10 Contact	 10 Contact	 3 Contact	 3 Contact	 4 Contact	 4 Contact	 8 Contact	 8 Contact
Contact Size×Contact Qty.	16#×10		16#×3		12#×4		16#×8	
Service Rating	A		D		D		A,B,G,H = D Other = A	

View from mating face

Shell/Insulator	Size 20					
P Shell Size- S Arrangement No.	P20-15	S20-15	P20-29	S20-29	P20-33	S20-33
Contact Arrangement	 7 Contact	 7 Contact	 17 Contact	 17 Contact	 11 Contact	 11 Contact
Contact Size×Contact Qty.	12#×7		16#×17		16#×11	
Service Rating	A		A		A	

View from mating face

Shell/Insulator	Size 22					
P Shell Size- S Arrangement No.	P22-2	S22-2	P22-5	S22-5	P22-8	S22-8
Contact Arrangement	 3 Contact	 3 Contact	 6 Contact	 6 Contact	 2 Contact	 2 Contact
Contact Size×Contact Qty.	8#×3		16#×4 12#×2		12#×2	
Service Rating	D		D		E	

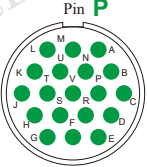
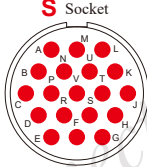
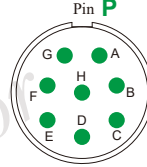
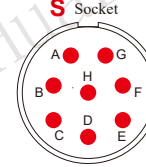
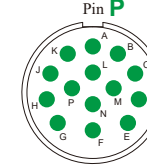
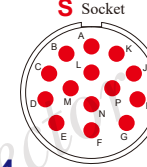
Shell Size - Arrangement No.

View from mating face

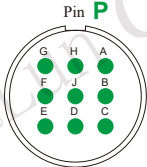
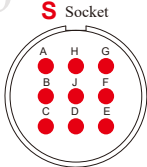
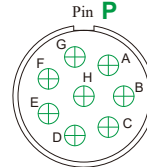
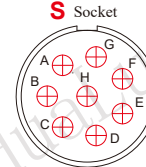
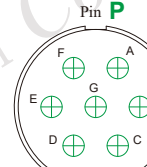
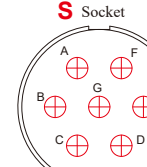
● 16#

⊕ 12#

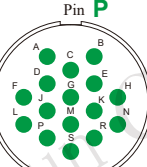
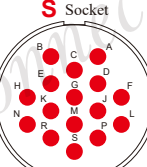
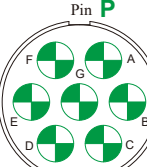
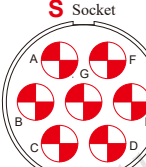
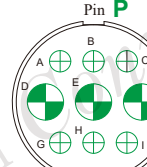
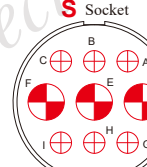
⊗ 8#

Shell/Insulator	Size 22					
P Shell Size- S Arrangement No.	P22-14	S22-14	P22-18	S22-18	P22-19	S22-19
Contact Arrangement	 19 Contact	 19 Contact	 8 Contact	 8 Contact	 14 Contact	 14 Contact
Contact Size×Contact Qty.	16#×19		16#×8		16#×14	
Service Rating	A		C,D,E = A Other = D		A	

View from mating face

Shell/Insulator	Size 22				Size 24	
P Shell Size- S Arrangement No.	P22-20	S22-20	P22-23	S22-23	P24-2	S24-2
Contact Arrangement	 9 Contact	 9 Contact	 8 Contact	 8 Contact	 7 Contact	 7 Contact
Contact Size×Contact Qty.	16#×19		12#×8		12#×7	
Service Rating	A		H = D Other = A		D	

View from mating face

Shell/Insulator	Size 24					
P Shell Size- S Arrangement No.	P24-5	S24-5	P24-10	S24-10	P24-11	S24-11
Contact Arrangement	 16 Contact	 16 Contact	 7 Contact	 7 Contact	 9 Contact	 9 Contact
Contact Size×Contact Qty.	16#×16		8#×7		12#×6	8#×3
Service Rating	A		A		A	



TUV SUD



ISO9001

ISO14001

ISO45001



华伦连接器
HuaLun Connector

Shell Size - Arrangement No.

View from mating face

● 16# ⊕ 12# ⊗ 8#

Shell/Insulator	Size 24		Size 28			
P Shell Size- S Arrangement No.	P24-22	S24-22	P28-11	S28-11	P28-12	S28-12
Contact Arrangement	Pin P S Socket 4 Contact		Pin P S Socket 22 Contact		Pin P S Socket 26 Contact	
Contact Size×Contact Qty.	8#×4		16#×18	12#×4	16#×26	
Service Rating	D		A		A	

View from mating face

Shell/Insulator	Size 28			
P Shell Size- S Arrangement No.	P28-16	S28-16	P28-21	S28-21
Contact Arrangement	Pin P S Socket 20 Contact		Pin P S Socket 37 Contact	
Contact Size×Contact Qty.	16#×20		16#×37	
Service Rating	A		A	

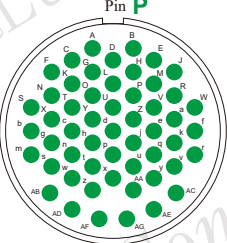
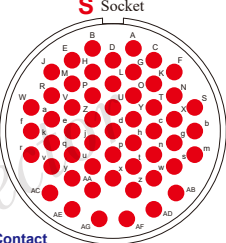
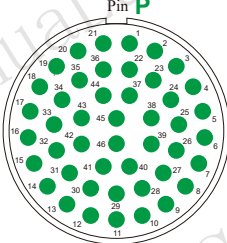
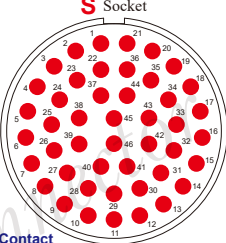
View from mating face

Shell/Insulator	Size 32			
P Shell Size- S Arrangement No.	P32-13	S32-13	P32-A13	S32-A13
Contact Arrangement	Pin P S Socket 23 Contact		Pin P S Socket 13 Contact	
Contact Size×Contact Qty.	16#×18	12#×5	12#×13	
Service Rating	D		D	

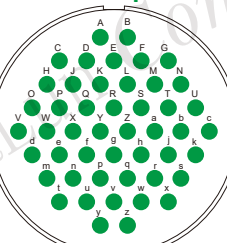
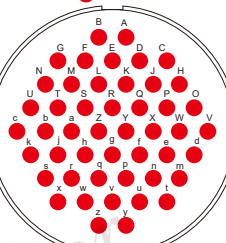
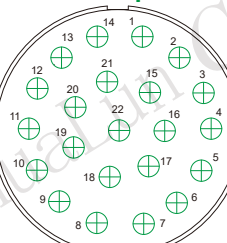
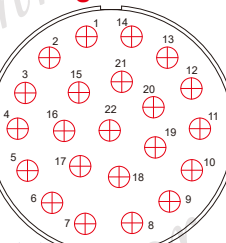
Shell Size - Arrangement No.

View from mating face

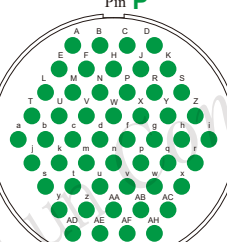
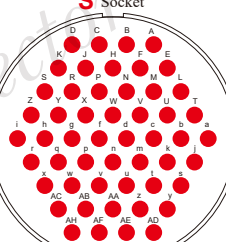
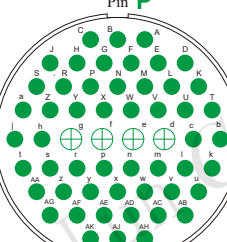
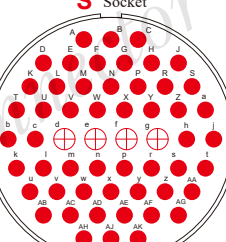
● 16# ⊕ 12#

Shell/Insulator	Size 32			
P Shell Size- S Arrangement No.	P32-22	S32-22	P32-73	S32-73
Contact Arrangement	 Pin P 54 Contact	 Socket S 54 Contact	 Pin P 46 Contact	 Socket S 46 Contact
Contact Size×Contact Qty.	16#×54		16#×46	
Service Rating	A		A	

View from mating face

Shell/Insulator	Size 36			
P Shell Size- S Arrangement No.	P36-10	S36-10	P36-A22	S36-A22
Contact Arrangement	 Pin P 48 Contact	 Socket S 48 Contact	 Pin P 22 Contact	 Socket S 22 Contact
Contact Size×Contact Qty.	16#×48		12#×22	
Service Rating	A		D	

View from mating face

Shell/Insulator	Size 36			
P Shell Size- S Arrangement No.	P36-52	S36-52	P36-66	S36-66
Contact Arrangement	 Pin P 52 Contact	 Socket S 52 Contact	 Pin P 56 Contact	 Socket S 56 Contact
Contact Size×Contact Qty.	16#×52		16#×52	12#×4
Service Rating	A		A	



TUV SUD



ISO9001 ISO14001 ISO45001

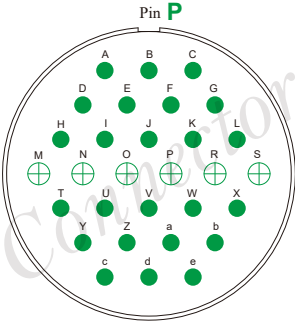
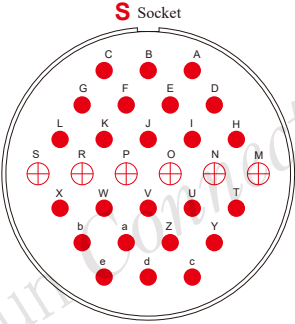


华伦连接器
HuaLun Connector

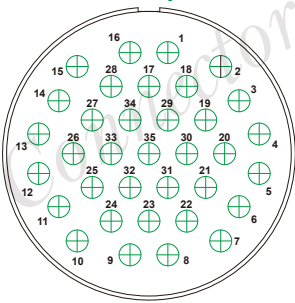
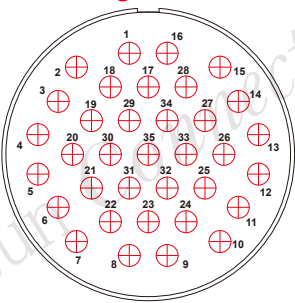
Shell Size - Arrangement No.

View from mating face

● 16# ⊕ 12#

Shell/Insulator	Size 40	
P Shell Size- S Arrangement No.	P40-1	S40-1
Contact Arrangement	 Pin P 30 Contact	 S Socket
Contact Size×Contact Qty.	16#×24	12#×6
Service Rating	D	

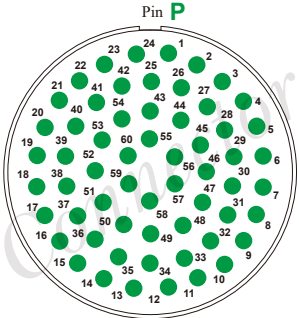
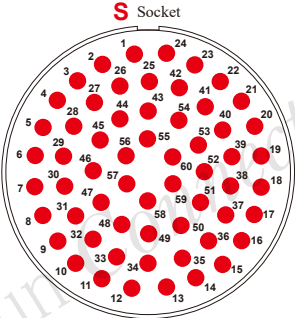
View from mating face

Shell/Insulator	Size 40	
P Shell Size- S Arrangement No.	P40-A35	S40-A35
Contact Arrangement	 Pin P 35 Contact	 S Socket
Contact Size×Contact Qty.	12#×35	
Service Rating	D	

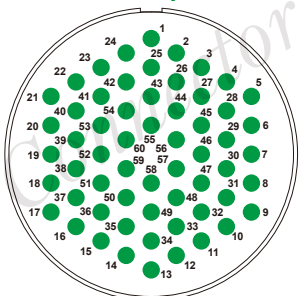
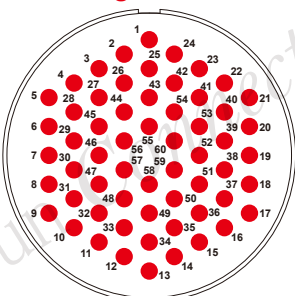
Shell Size - Arrangement No.

View from mating face

● 16#

Shell/Insulator	Size 40	
P Shell Size- S Arrangement No.	P40-A60	S40-A60
Contact Arrangement	 Pin P	 S Socket
Contact Size×Contact Qty.	16#×60	
Service Rating	A	

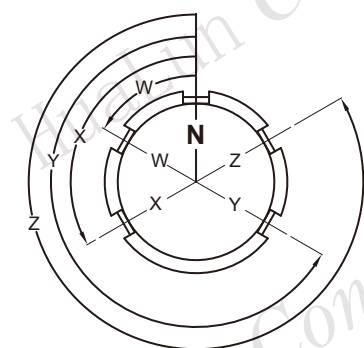
View from mating face

Shell/Insulator	Size 40	
P Shell Size- S Arrangement No.	P40-62	S40-62
Contact Arrangement	 Pin P	 S Socket
Contact Size×Contact Qty.	16#×60	
Service Rating	A	

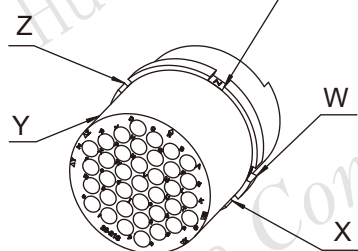
Angular Displacement Of Insert

When more than two connectors with same Insert are applied to a device together, to alternate the inserts to different angulars can prevent mismatching.

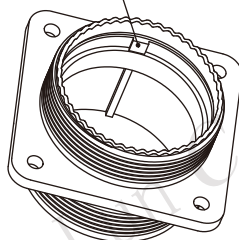
Front face of pin insert



N: Angular Position



Key



Insert Code	Angular Displacement Of Insert				
	N	W	X	Y	Z
14S-2	0	—	120	240	—
14S-5	0	—	110	—	—
14S-6	0	—	—	—	—
14S-7	0	90	180	270	—
14S-9	0	70	145	215	290
16S-1	0	80	—	—	280
16S-4	0	35	110	250	325
16S-5	0	70	145	215	290
16S-8	0	—	170	265	—
16-9	0	35	110	250	325
16-10	0	90	180	270	—
18-11	0	—	170	265	—
18-12	0	80	—	—	280
18-19	0	—	120	240	—
18-22	0	70	145	215	290
20-4	0	45	110	250	—
20-7	0	80	110	250	280
20-15	0	80	—	—	280
20-29	0	80	—	—	280
20-33	0	—	—	—	—
22-2	0	70	145	215	290
22-5	0	35	110	250	325
22-8	0	35	110	250	325
22-14	0	80	110	250	280
22-18	0	80	110	250	280
22-19	0	80	110	250	280
22-20	0	35	110	250	325
22-23	0	35	—	250	—
24-2	0	80	—	—	280
24-5	0	80	110	250	280
24-10	0	80	—	—	280
24-11	0	35	110	250	325
24-22	0	45	110	250	—
28-11	0	80	110	250	280
28-12	0	90	180	270	—
28-16	0	80	110	250	280
28-21	0	80	110	250	280
32-13	0	80	110	250	280
32-A13	0	65	130	230	295
32-22	0	80	110	250	280
32-73	0	36	—	—	—
36-10	0	80	125	235	280
36-A22	0	80	110	250	280
36-52	0	72	144	216	288
36-66	0	110	250	260	280
40-1	0	65	130	235	300
40-A35	0	70	130	230	290
40-A60	0	80	110	250	280
40-62	0	30	130	220	290

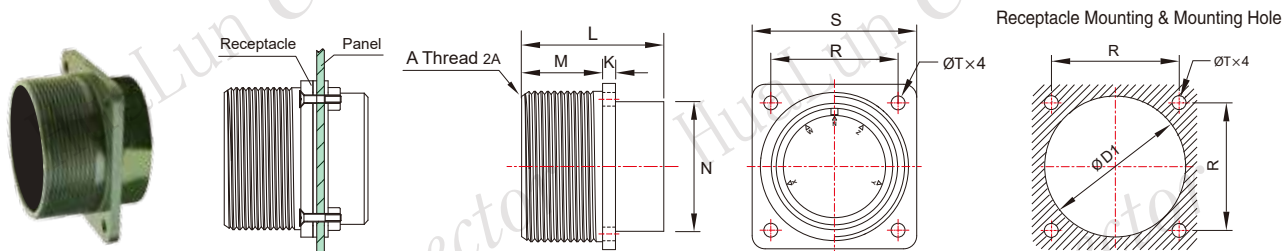
Size of Receptacle

Receptacle ①

(Panel Mounted)
(No Protective Enclosure)

Front Mounting

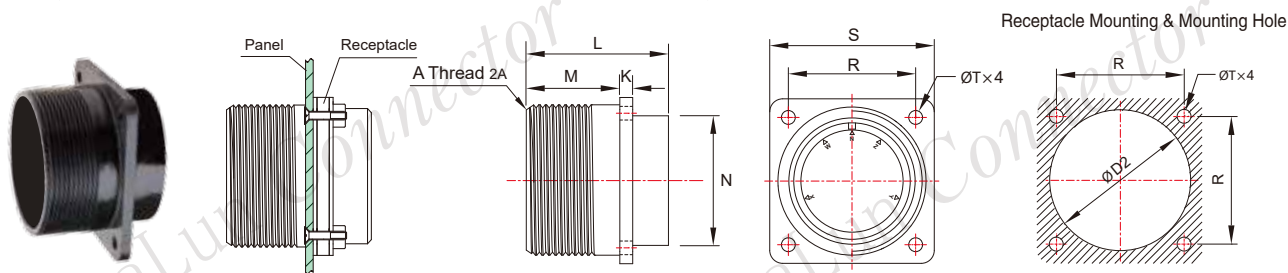
TMS3402



Shell Spec	A Thread 2A	M ^{+0.2} ₀	L $\pm$ 0.3	K $\pm$ 0.2	ØN _{max}	S $\pm$ 0.3	R $\pm$ 0.1	ØT ^{+0.1} ₀	ØD1 $\pm$ 0.2
14S	⁷ / ₈ -20UNEF	14.2	25.7	3.2	19.2	30.0	23.0	3.2	20.0
16S	1-20UNEF		20.2		32.5	22.4	32.5		24.6
16		25.6				35.0	27.0		26.6
18	¹ / ₈ -18UNEF	29.0				38.0	29.4		30.0
20	¹ / ₄ -18UNEF	32.2				41.0	31.8		33.2
22	³ / ₈ -18UNEF	35.3				44.5	34.9	3.7	36.3
24	¹ / ₂ -18UNEF	41.4	50.8		39.7	42.4			
28	³ / ₄ -18UNS	22.2	33.8		47.8	57.0	44.5	4.3	48.8
32	2-18UNS				54.1	63.5	49.2		55.0
36	2 ¹ / ₄ -16UN		37.3		59.0	69.9	55.5		60.0
40	2 ¹ / ₂ -16UN								

Rear Mounting

TMS3422



Shell Spec	A Thread 2A	M $^{+0.2}_0$	L ± 0.3	K ± 0.2	ØN _{max}	S ± 0.3	R ± 0.1	ØT $^{+0.1}_0$	ØD2 ± 0.2
14S	⁷ / ₈ -20UNEF	18.2	24.7	3.2	19.2	30.0	23.0	3.2	26.0
16S	1-20UNEF				22.4	32.5	24.6		28.4
16									
18	1 ¹ / ₈ -18UNEF				23.05	33.8	25.6		35.0
20	1 ¹ / ₄ -18UNEF	29.0	38.0				29.4		35.5
22	1 ³ / ₈ -18UNEF	32.2	41.0				31.8	38.5	
24	1 ¹ / ₂ -18UNEF	35.3	44.5				34.9	42.0	
28	1 ³ / ₄ -18UNS	24.05	37.3		41.4	50.8	39.7	3.7	48.0
32	2-18UNS				47.8	57.0	44.5		55.0
36	2 ¹ / ₄ -16UN				54.1	63.5	49.2		61.5
40	2 ¹ / ₂ -16UN						59.0	69.9	55.5

Size of Receptacle

Receptacle ②

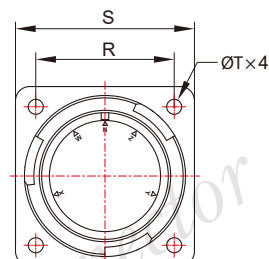
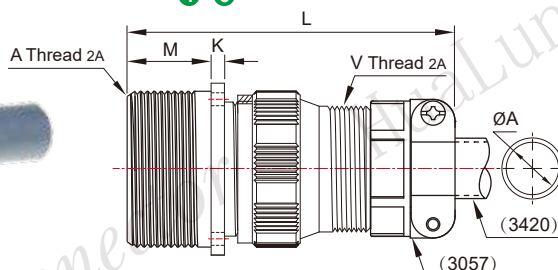
(Protective Enclosure)

(Clamp/Gland)

Front Mounting

TMS3400 Insulator **A

④ ⑤

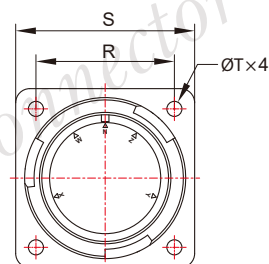
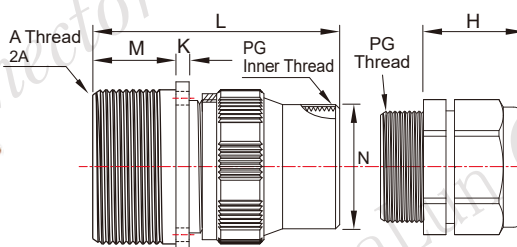


Shell Spec	A Thread 2A	V Thread 2A	Cable Clamp (3057)+(3420)	OD of Cable(mm)	ØA _{max}	L	M ^{+0.2} ₀	K _{±0.2}	S _{±0.3}	R _{±0.1}	ØT ^{+0.1} ₀
14S	7/8-20UNEF	3/4-20UNEF	14A	Ø 5-7	7.92	75~77	14.2	3.2	30.0	23.0	3.2
16S	1-20UNEF	7/8-20UNEF	16A	Ø 8-11	11.1				81~83	32.5	
16						35.0	27.0				
18	1 1/8-18UNEF	1-20UNEF	18A	Ø 11-14	14.3	83~85	38.0		29.4		
20	1 1/4-18UNEF	1 3/16-18UNEF	20A	Ø 14-16	16.2		41.0		31.8		
22	1 3/8-18UNEF					44.5	34.9				
24	1 1/2-18UNEF	1 7/16-18UNEF	24A	Ø 16-19	19.1	86~88	50.8		39.7	3.7	
28	1 3/4-18UNS						28A		57.0		44.5
32	2-18UNS	1 3/4-18UNS	32A	Ø 19-23	23.8	88~91	63.5		49.2	4.3	
36	2 1/4-16UN	2-18UNS	36A	Ø 24-31	31.7	90~92	69.9		55.5		
40	2 1/2-16UN	2 1/4-16UN	40A	Ø 31-34	35.0	103~105					

Front Mounting

TMS3400 Insulator PG**

④ ⑤



Shell Spec	A Thread 2A	PG Inner Thread	OD of Cable(mm)	ØN _{max}	L ±0.3	M ^{+0.2} ₀	K ±0.2	H	S ±0.3	R ±0.1	ØT ^{+0.1} ₀
14S	7/8-20UNEF	PG9	Ø 4-8	19.2	52.7	14.2	3.2	22.0	30.0	23.0	3.2
16S	1-20UNEF	PG13.5	Ø 6-12	24.6				57.5	27.0	32.5	
16					28.0	35.0			27.0		
18	1 1/8-18UNEF	PG16	Ø 8.5-14	27.6	58.0	20.2		31.0	38.0	29.4	
20	1 1/4-18UNEF	PG21	Ø 12.5-18	33.6					41.0	31.8	
22	1 3/8-18UNEF								44.5	34.9	
24	1 1/2-18UNEF	PG25	Ø 14-20	37.6				33.0	50.8	39.7	
28	1 3/4-18UNS								37.0	57.0	44.5
32	2-18UNS	PG29	Ø 18-25	42.0	48.0	63.5		49.2	55.5	4.3	
36	2 1/4-16UN	PG36	Ø 24-32	51.2							
40	2 1/2-16UN										

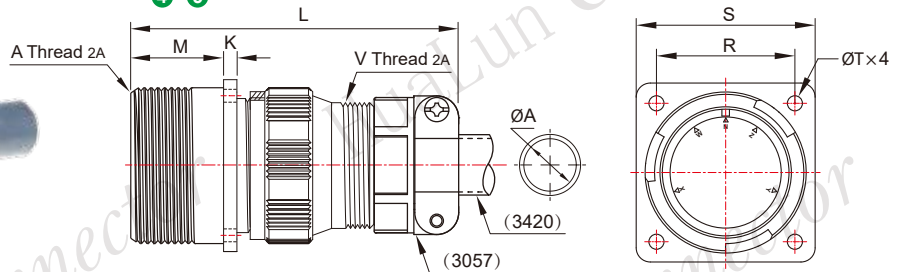
Size of Receptacle

Receptacle ②

(Protective Enclosure)
(Clamp/Gland)

Rear Mounting

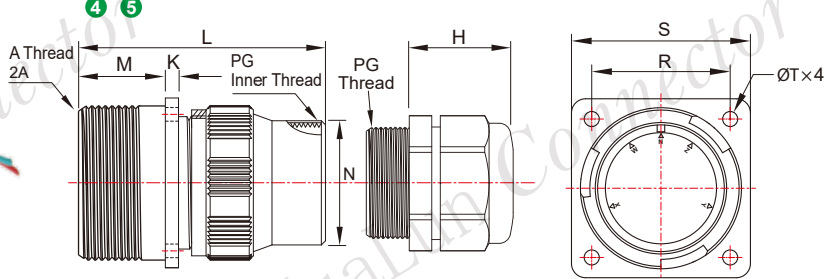
TMS3420 Insulator ****A**



Shell Spec	A Thread 2A	V Thread 2A	Cable Clamp (3057)+(3420)	OD of Cable(mm)	ØA _{max}	L	M ^{+0.2 0}	K _{±0.2}	S _{±0.3}	R _{±0.1}	ØT ^{+0.1 0}
14S	7/8-20UNEF	3/4-20UNEF	14A	Ø 5-7	7.92	75~77	18.2	3.2	30.0	23.0	3.2
16S	1-20UNEF	7/8-20UNEF	16A	Ø 8-11	11.1				81~83	23.05	
16						18	1 ¹ / ₈ -18UNEF				
20	1 ¹ / ₄ -18UNEF	1 ³ / ₁₆ -18UNEF	20A	Ø 14-16	16.2	83~85	38.0		29.4		
22	1 ³ / ₈ -18UNEF		22A				41.0		31.8		
24	1 ¹ / ₂ -18UNEF	1 ⁷ / ₁₆ -18UNEF	24A	Ø 16-19	19.1	86~88	44.5		34.9		3.7
28	1 ³ / ₄ -18UNS		28A				50.8		39.7		
32	2-18UNS	1 ³ / ₄ -18UNS	32A	Ø 19-23	23.8	88~91	24.05		57.0	44.5	4.3
36	2 ¹ / ₄ -16UN	2-18UNS	36A	Ø 24-31	31.7	90~92			63.5	49.2	
40	2 ¹ / ₂ -16UN	2 ¹ / ₄ -16UN	40A	Ø 31-34	35.0	103~105			69.9	55.5	

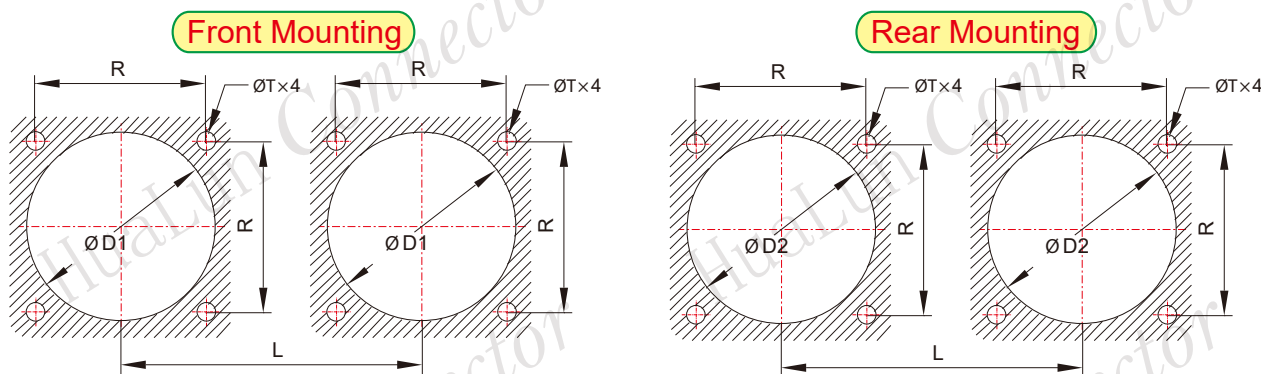
Rear Mounting

TMS3420 Insulator **PG****



Shell Spec	A Thread 2A	PG Inner Thread	OD of Cable(mm)	ØN _{max}	L ±0.3	M ^{+0.2} ₀	K ±0.2	H	S ±0.3	R ±0.1	ØT ^{+0.1} ₀
14S	7/8-20UNEF	PG9	Ø 4-8	19.2	52.7	18.2	3.2	22.0	30.0	23.0	3.2
16S	1-20UNEF	PG13.5	Ø 6-12	24.6				57.5	23.05	27.0	
16					28.0	35.0				27.0	
18	1 1/8-18UNEF	PG16	Ø 8.5-14	27.6	58.0	24.05		31.0	38.0	29.4	
20	1 1/4-18UNEF	PG21	Ø 12.5-18	33.6				41.0	31.8		
22	1 3/8-18UNEF							44.5	34.9		
24	1 1/2-18UNEF	PG25	Ø 14-20	37.6				50.8	39.7		
28	1 3/4-18UNS							57.0	44.5		
32	2-18UNS	PG29	Ø 18-25	42.0	51.2	24.05		37.0	57.0	44.5	4.3
36	2 1/4-16UN	PG36	Ø 24-32	51.2				48.0	63.5	49.2	
40	2 1/2-16UN						69.9	55.5			

Receptacle Mounting & Mounting Hole



Shell Spec	$\varnothing T^{+0.1}_0$	$\varnothing D1 \pm 0.2$	$\varnothing D2 \pm 0.2$	$R \pm 0.1$	L	Screw Spec
14S	3.2	20.0	26.0	23.0	33.0	M3 × 10
16S		23.2	28.4	24.6	34.4	
16		26.6	32.0	27.0	38.3	
18		30.0	35.5	29.4	41.7	
20		33.2	38.5	31.8	45.2	
22	3.7	36.3	42.0	34.9	48.7	M4 × 12
24		42.4	48.0	39.7	55.5	
28	4.3	48.8	55.0	44.5	62.4	
32		55.0	61.5	49.2	69.0	
36		60.0	67.0	55.5	75.0	
40						

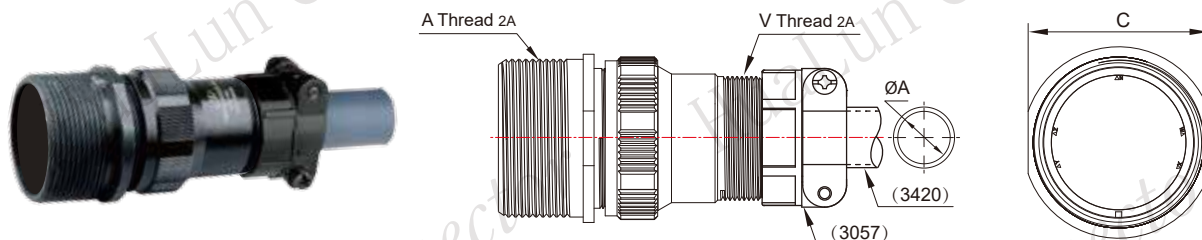
Size of Receptacle

Receptacle ③

(Free)

Free TMS3401 Insulator **A

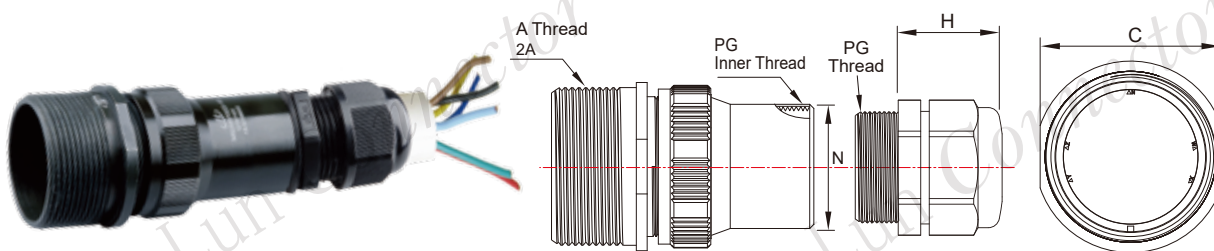
4 5



Shell Spec	A Thread 2A	V Thread 2A	Cable Clamp (3057) + (3420)	OD of Cable(mm)	ØA max	C
14S	7/8-20UNEF	3/4-20UNEF	14A	Ø 5-7	7.92	25.2
16S	1-20UNEF	7/8-20UNEF	16A	Ø 8-11	11.1	28.8
16						
18	1 1/8-18UNEF	1-20UNEF	18A	Ø 11-14	14.3	31.5
20	1 1/4-18UNEF	1 3/16-18UNEF	20A	Ø 14-16	16.2	34.6
22	1 3/8-18UNEF		22A			38.0
24	1 1/2-18UNEF	1 7/16-18UNEF	24A	Ø 16-19	19.1	41.5
28	1 3/4-18UNS		28A			47.0
32	2-18UNS	1 3/4-18UNS	32A	Ø 19-23	23.8	53.7
36	2 1/4-16UN	2-18UNS	36A	Ø 24-31	31.7	60.2
40	2 1/2-16UN	2 1/4-16UN	40A	Ø 31-34	35.0	66.2

Free TMS3401 Insulator PG**

4 5



Shell Spec	A Thread 2A	PG Inner Thread	OD of Cable(mm)	ØN max	H	C
14S	7/8-20UNEF	PG9	Ø 4-8	19.2	22.0	25.2
16S	1-20UNEF	PG13.5	Ø 6-12	24.6	27.0	28.8
16						
18	1 1/8-18UNEF	PG16	Ø 8.5-14	27.6	28.0	31.5
20	1 1/4-18UNEF	PG21	Ø 12.5-18	33.6	31.0	34.6
22	1 3/8-18UNEF					38.0
24	1 1/2-18UNEF	PG25	Ø 14-20	37.6	33.0	41.5
28	1 3/4-18UNS					47.0
32	2-18UNS	PG29	Ø 18-25	42.0	37.0	53.7
36	2 1/4-16UN	PG36	Ø 24-32	51.2	48.0	60.2
40	2 1/2-16UN					66.2

Size of Receptacle

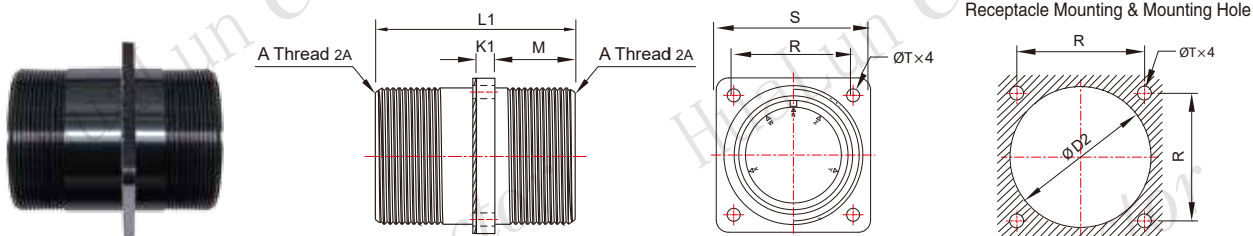
Receptacle ④

(Adapter)

Adapter

TMS34022

(Square flange)

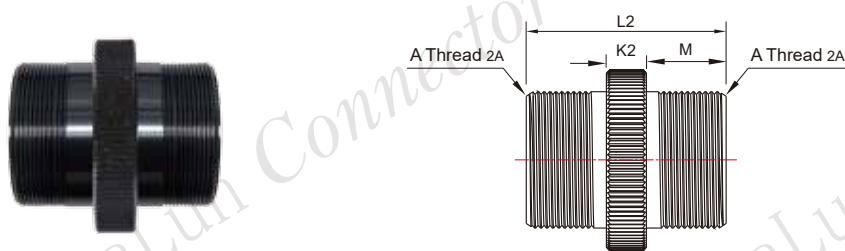


Shell Spec	A Thread 2A	L1 ±0.7	K1 ±0.2	M ^{+0.2} ₀	S ±0.3	R ±0.1	ØT ^{+0.1} ₀	ØD2 ±0.2
14S	7/8-20UNEF	37.5	3.2	14.20	30.0	23.0	3.2	26.0
16S	1-20UNEF				32.5	24.6		28.4
16					19.0	35.0		27.0
18		1 1/8-18UNEF	38.0	29.4		35.5		
20		1 1/4-18UNEF	41.0	31.8		38.5		
22	1 3/8-18UNEF	51.4	4.0	20.6	44.5	34.9	3.7	42.0
24	1 1/2-18UNEF				50.8	39.7		48.0
28	1 3/4-18UNS			22.2	57.0	44.5	4.3	55.0
32	2-18UNS				63.5	49.2		61.5
36	2 1/4-16UN				69.9	55.5		67.0
40	2 1/2-16UN							

Adapter

TMS34011

(Round flange)

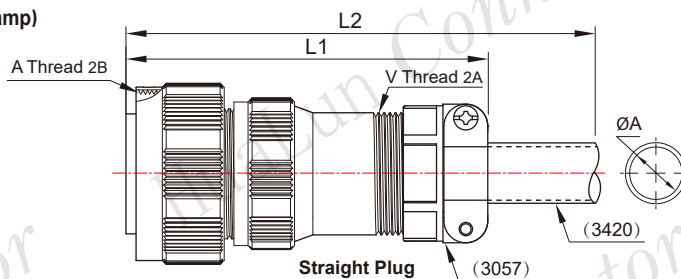


Shell Spec	A Thread 2A	L2 ±0.7	K2 ±0.2	M ^{+0.2} ₀
14S	⁷ / ₈ -20UNEF	39.4	11.0	14.20
16S	1-20UNEF			
16		49.0		19.0
18	1 ¹ / ₈ -18UNEF			
20	1 ¹ / ₄ -18UNEF			
22	1 ³ / ₈ -18UNEF			
24	1 ¹ / ₂ -18UNEF	52.2		20.6
28	1 ³ / ₄ -18UNS			
32	2-18UNS	55.4		22.2
36	2 ¹ / ₄ -16UN			
40	2 ¹ / ₂ -16UN			

Size of Plug

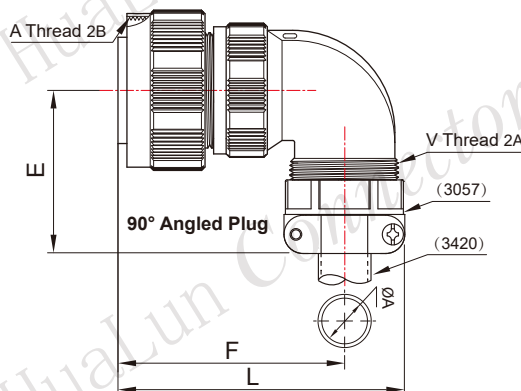
Plug

TMS3406 Insulator **A (Cable Clamp)



Shell Spec	A Thread 2B	V Thread 2A	Cable Clamp (3057) + (3420)	OD of Cable(mm)	ØA max	L1 max	L2 max
14S	7/8-20UNEF	3/4-20UNEF	14A	Ø 5-7	7.92	82	115
16S	1-20UNEF	7/8-20UNEF	16A	Ø 8-11	11.1	87	118
16							
18	1 1/8-18UNEF	1-20UNEF	18A	Ø 11-14	14.3		
20	1 1/4-18UNEF	1 3/16-18UNEF	20A	Ø 14-16	16.2	89	
22	1 3/8-18UNEF		22A			92	121
24	1 1/2-18UNEF	1 7/16-18UNEF	24A	Ø 16-19	19.1	95	124
28	1 3/4-18UNS		28A				
32	2-18UNS	1 3/4-18UNS	32A	Ø 19-23	23.8	96	127
36	2 1/4-16UN	2-18UNS	36A	Ø 24-31	31.7	100	
40	2 1/2-16UN	2 1/4-16UN	40A	Ø 31-34	35.0	112	

TMS3408 Insulator **A (Cable Clamp)



Shell Spec	A Thread 2B	V Thread 2A	Cable Clamp (3057) + (3420)	OD of Cable(mm)	ØA max	E max	F max	L max
14S	7/8-20UNEF	3/4-20UNEF	14A	Ø 5-7	7.92	40.0	47.0	70.0
16S	1-20UNEF	7/8-20UNEF	16A	Ø 8-11	11.1	40.8	59.5	72.5
16								
18	1 1/8-18UNEF	1-20UNEF	18A	Ø 11-14	14.3	41.7	60.4	75.5
20	1 1/4-18UNEF	1 3/16-18UNEF	20A	Ø 14-16	16.2	42.6	61.8	79.0
22	1 3/8-18UNEF		22A			44.0		
24	1 1/2-18UNEF	1 7/16-18UNEF	24A	Ø 16-19	19.1	54.6	68.4	89.5
28	1 3/4-18UNS		28A					
32	2-18UNS	1 3/4-18UNS	32A	Ø 19-23	23.8	58.5	72.9	98.6
36	2 1/4-16UN	2-18UNS	36A	Ø 24-31	31.7	62.0	73.9	102.0
40	2 1/2-16UN	2 1/4-16UN	40A	Ø 31-34	35.0	79.0	76.9	108.7

Size of Plug

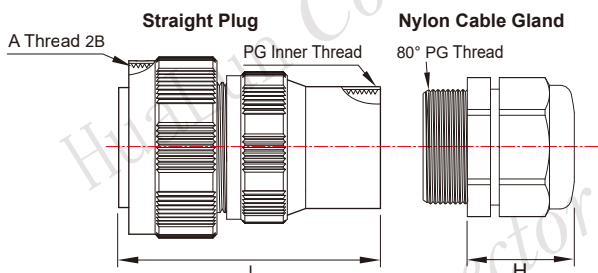
Plug

TMS3406 Insulator PG** (Nylon Cable Gland)

4 5



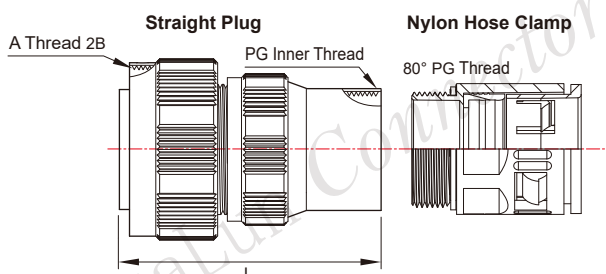
IP67



Shell Spec	A Thread 2B	PG Inner Thread	OD of Cable(mm)	L	H
14S	7/8-20UNEF	PG9	Ø 4-8	50	22.0
16S	1-20UNEF	PG13.5	Ø 6-12	60	27.0
16					28.0
18	1 1/8-18UNEF	PG16	Ø 8.5-14	60	31.0
20	1 1/4-18UNEF	PG21	Ø 12.5-18		33.0
22	1 3/8-18UNEF	PG25	Ø 14-20	65	37.0
24	1 1/2-18UNEF				48.0
28	1 3/4-18UNS	PG29	Ø 18-25	80	33.0
32	2-18UNS				37.0
36	2 1/4-16UN	PG36	Ø 24-32	80	48.0
40	2 1/2-16UN				

TMS3406 Insulator G** (Nylon Hose Clamp)

4 5

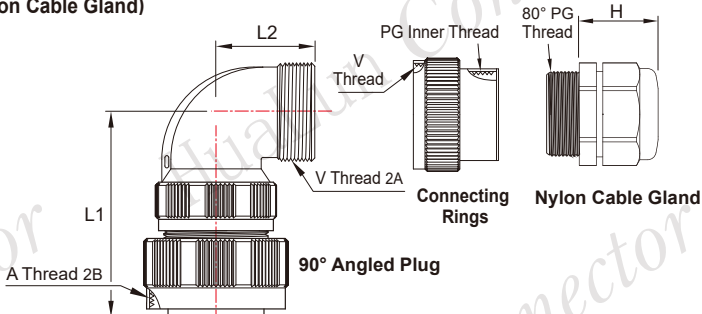


Shell Spec	A Thread 2B	PG Inner Thread	OD of Cable(mm)	L	Nylon Hose Clamp Code
14S	7/8-20UNEF	PG9	Ø 4-8	50	G9
16S	1-20UNEF	PG13.5	Ø 6-12	60	G13.5
16					G16
18	1 1/8-18UNEF	PG16	Ø 8.5-14	60	G21
20	1 1/4-18UNEF	PG21	Ø 12.5-18		G25
22	1 3/8-18UNEF	PG25	Ø 14-20	65	G29
24	1 1/2-18UNEF				G36
28	1 3/4-18UNS	PG29	Ø 18-25	80	
32	2-18UNS				
36	2 1/4-16UN	PG36	Ø 24-32	80	
40	2 1/2-16UN				

Size of Plug

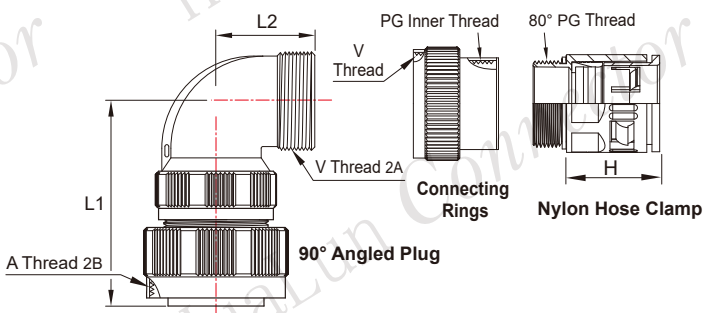
Plug

TMS3408 Insulator **PG**** (Nylon Cable Gland)



Shell Spec	A Thread 2B	L1±0.2	L2±0.2	V Thread 2A	PG Inner Thread	OD of Cable(mm)	H
14S	7/8-20UNEF	47	30	3/4-20UNEF	PG9	Ø 4-8	22.0
16S	1-20UNEF	48		7/8-20UNEF	PG13.5	Ø 6-12	27.0
16		57					
18	1 1/8-18UNEF	58	35	1-20UNEF	PG16	Ø 8.5-14	28.0
20	1 1/4-18UNEF	61		1 3/16-18UNEF	PG21	Ø 12.5-18	31.0
22	1 3/8-18UNEF						
24	1 1/2-18UNEF	66	40	1 7/16-18UNEF	PG25	Ø 14-20	33.0
28	1 3/4-18UNS						
32	2-18UNS	72	45	1 3/4-18UNS	PG29	Ø 18-25	37.0
36	2 1/4-16UN	75	50	2-18UNS	PG36	Ø 24-32	48.0
40	2 1/2-16UN	78	55	2 1/4-16UN			

TMS3408 Insulator **G**** (Nylon Hose Clamp)



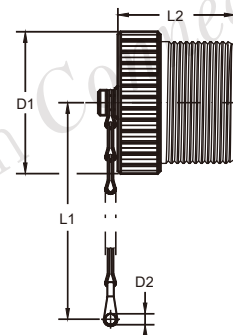
Shell Spec	A Thread 2B	L1±0.2	L2±0.2	V Thread 2A	PG Inner Thread	OD of Cable(mm)	Nylon Hose Clamp Code
14S	7/8-20UNEF	47	30	3/4-20UNEF	PG9	Ø 4-8	G9
16S	1-20UNEF	48		7/8-20UNEF	PG13.5	Ø 6-12	G13.5
16		57					
18	1 1/8-18UNEF	58	35	1-20UNEF	PG16	Ø 8.5-14	G16
20	1 1/4-18UNEF	61		1 3/16-18UNEF	PG21	Ø 12.5-18	G21
22	1 3/8-18UNEF						
24	1 1/2-18UNEF	66	40	1 7/16-18UNEF	PG25	Ø 14-20	G25
28	1 3/4-18UNS						
32	2-18UNS	72	45	1 3/4-18UNS	PG29	Ø 18-25	G29
36	2 1/4-16UN	75	50	2-18UNS	PG36	Ø 24-32	G36
40	2 1/2-16UN	78	55	2 1/4-16UN			

Protection Cap-Parts To Be Ordered Separately

Plug
Protection Cap



Size of Cap



Unit: mm

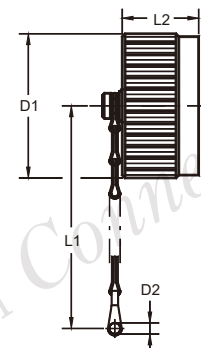
Dust Cap Code	Application
TMS25042-14	Shell 14 Plug
TMS25042-16	Shell 16 Plug
TMS25042-18	Shell 18 Plug
TMS25042-20	Shell 20 Plug
TMS25042-22	Shell 22 Plug
TMS25042-24	Shell 24 Plug
TMS25042-28	Shell 28 Plug
TMS25042-32	Shell 32 Plug
TMS25042-36	Shell 36 Plug
TMS25042-40	Shell 40 Plug

Shell Spec	D1 Max	D2 ^{+0.6} -0	L1 Max	L2 Max
14S	27.5	4.3	100	29
16S	30.0		115	37
16				
18	33.5			
20	37.0			
22	40.0	4.7	130	
24	43.5			
28	49.5			
32	56.0			
36	62.5	5.5	190	
40	73.5			

Receptacle
Protection Cap



Size of Cap



Unit: mm

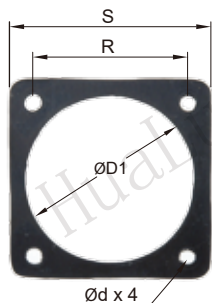
Dust Cap Code	Application
TMS25043-14	Shell 14 Receptacle
TMS25043-16	Shell 16 Receptacle
TMS25043-18	Shell 18 Receptacle
TMS25043-20	Shell 20 Receptacle
TMS25043-22	Shell 22 Receptacle
TMS25043-24	Shell 24 Receptacle
TMS25043-28	Shell 28 Receptacle
TMS25043-32	Shell 32 Receptacle
TMS25043-36	Shell 36 Receptacle
TMS25043-40	Shell 40 Receptacle

Shell Spec	D1 Max	D2 ^{+0.6} ₋₀	L1 Max	L2 Max
14S	30.5	4.3	90	20
16S	33.0		100	25
16				
18	37.5			
20	41.0			
22	44.0			
24	47.5			
28	54.5			
32	61.0	5.5	160	
36	67.5			
40	73.5			

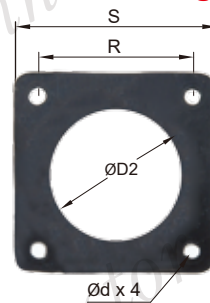
Mounting Plate & Gasket

Rubber Sealing Gasket Size

● Rear Mounting

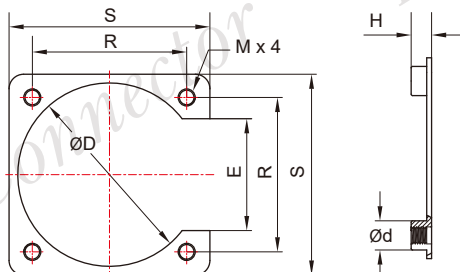
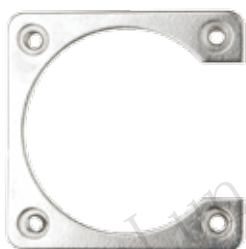


● Front Mounting



Shell Size	Rear Mounting ØD1	$R_{\pm 0.1}$	$S_{\pm 0.3}$	$\phi d_{+0.1}^0$	Front Mounting ØD2
14S	24.9	23.0	28.6	3.5	22.1
16S、16	28.2	24.6	32.5		25.3
18	30.9	27.0	35.0		28.4
20	34.3	29.4	38.0		31.6
22	37.7	31.8	41.3		34.8
24	41.2	34.9	44.5	3.7	38
28	46.8	39.7	50.8		44.3
32	53.4	44.5	57.2	4.5	50.7
36	59.6	49.2	63.5		57
40	65.5	55.5	69.9	5.0	61.9

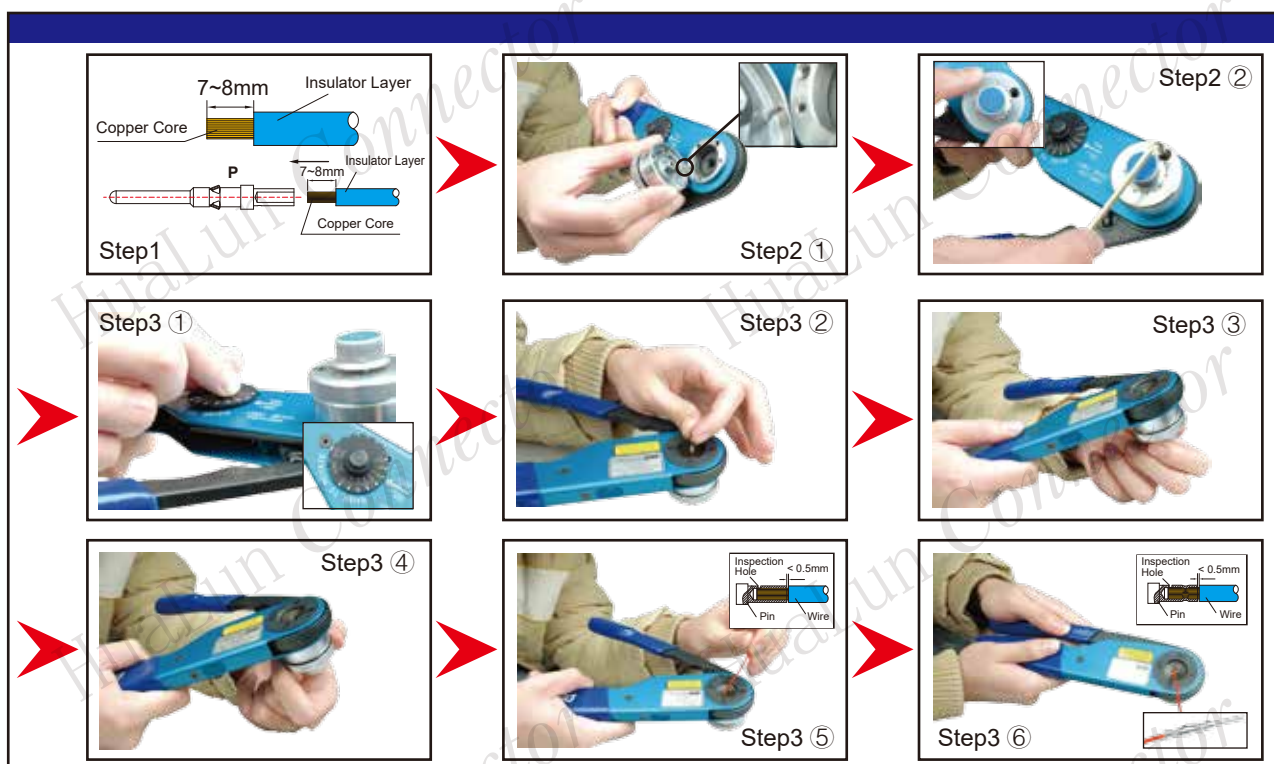
Mounting Plate(Metal) Order Code, Size



Mounting Plate & Gasket

Code	Shell Size	$R_{\pm 0.1}$	$S_{\pm 0.3}$	ϕD	E	H	$\phi d_{+0.1}^0$	Thread M	Screw Spec
SG14	14S	23.0	30.0	24.9	15.8	2.6	6.3	M3	M3 x 10
SG16	16S、16	24.6	32.3	28.2	17.9				
SG18	18	27.0	34.6	30.9	20.2				
SG20	20	29.4	38.5	34.3	22.5				
SG22	22	31.8	40.8	37.7	23.5				
SG24	24	34.9	44.8	41.2	25.9				
SG28	28	39.7	51.2	46.8	29.1	3.0	8.0	M4	M4 x 12
SG32	32	44.5	59.1	53.4	30.7				
SG36	36	49.2	63.9	59.6	35.5				
SG40	40	55.5	74.7	65.5	38.6				

Assemble Parts



Live parts should not be disassembled without authorization

Be sure to apply thread glue to the threads when assembling

Be sure to apply thread glue to the threads when assembling



Should not be disassembled



Be sure to apply thread glue



The cable clamp is tightened lastly



Instructions for connector use and storage

- ◆ It is wrong to insert into or take out an electric connector which has been electrified.
- ◆ Dust cap must be applied after a plug and receptacle are separated.
- ◆ The warehouse environment where the connectors are stored, the temperature is 5-35°C, relative humidity <80%, should be clean, ventilated, dry and free of corrosive media.

Crimp, Insertion & Extraction

Insertion



Extraction



Tools

Hand Crimp Tool

Tool Order No.	M22520/1-01		M22520/23-01
Applicable Contact	● 16#	⊕ 12#	⊗ 8#
Applicable Locator	D1612		D8



Hand Crimp Tool
M22520/1-01
M22520/23-01



Locator
D1612
D8

Figure (1)

Pneumatic Crimp Tool

Pneumatic crimp tool would be update efficiency and fit for mass crimping.

Please contact us for an order



Figure (2)

Extraction Tool

Tool Order No.	ET16	ET12	ET8
Applicable Contact	● 16#	⊕ 12#	⊗ 8#



Figure (3)



Figure (4)

Special Tool for Plug

Order No.	TS14	TS16	TS18	TS20	TS22	TS24	TS28	TS32	TS36	TS40
Shell Size	14S	16S、16	18	20	22	24	28	32	36	40



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