NOVARA TECHNOLOGIES

MIL-DTL-32139 Nano D-Sub Space Connectors
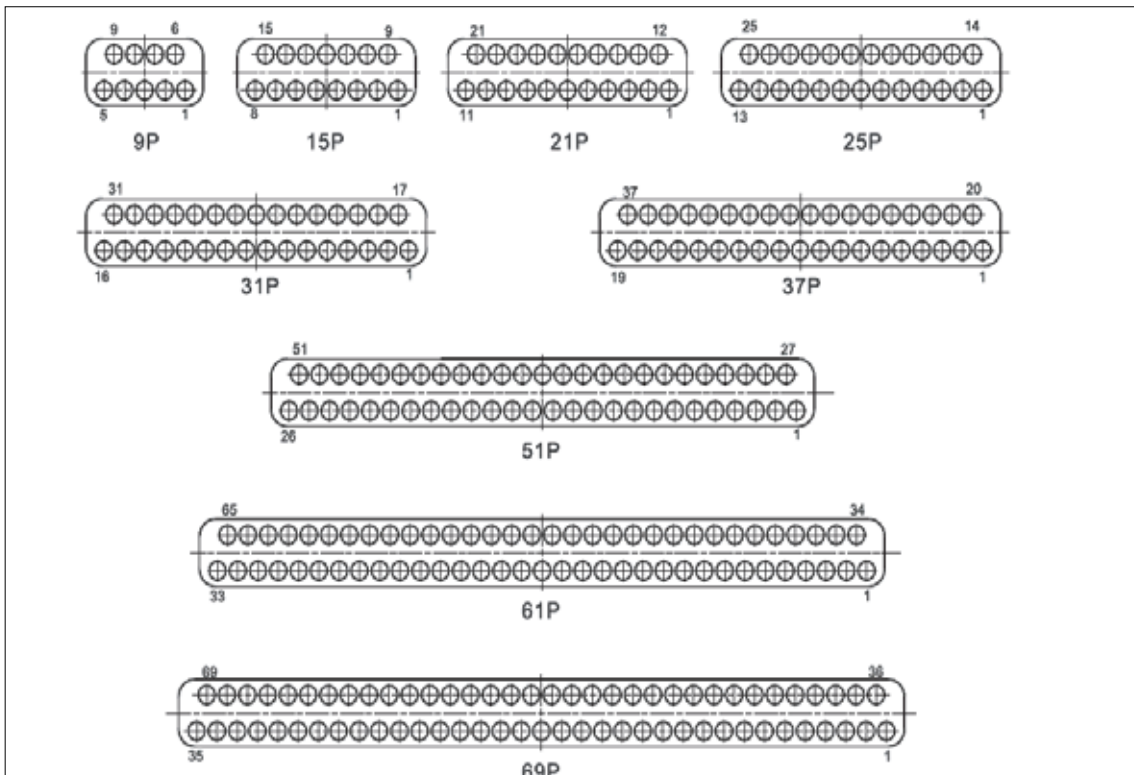## N06S Crimp Contact Series

Brief introduction

- Available with no. of contacts: 9,15,21,25,31,37,51,65,69
- Twist pin contacts for improved shock and vibration performance, 0.635mm (0.025") pitch.
- Screw nut locking, easy to insert and extract
- Commonly used for electrical circuit interconnections with high density, miniaturized, lightweight and high reliability requirements.
- Connector plugs are fitted with twist pin contacts, connector receptacle are fitted with socket contacts
- Standard: MIL-DTL-32139
- Cable conductors cross sectional area is 32AWG (0.035mm^2)
- Undefined tolerance is ±0.13mm

Specification

- Environment: -55℃ ~ +125℃
- Vibration: 10Hz ~ 2000Hz acc. at 196m/s^2
- Shock: 980m/s^2 for 6ms
- Rated current: 1A
- Irradiation Resistant: Total dose:1×10^{5}GY 0.5Gy(Si)/s
- Magnetic Permeability: 200 gamma
- Contact resistance: ≤21mΩ
- Insulation resistance: ≥5000MΩ
- Dielectric strength: 250V
- Mating durability: 200 Cycles
- Thermal Vacuum Outgassing: TML ≤1% CVCM ≤0.1%
- Thermal stability: 125℃±2   1000h
- Overload Test: Under rated current 1.5 times. Time: Duration 30s then stopped 90s. 5 Cycles.
- Random vibration: power spectrum density 0.4G^2/Hz,r.m.s value of total acceleration 23.1G

Contact layout

Note: The above layout is viewed from connector plug mating face

MIL-DTL-32139 Nano D-Sub Space Connectors

N06S Crimp Connector Series

		How to order								

Series	N06S	-2	2	1	-C	2	-9	PI	0	-TH

Contact row:

  2 — two rows

Shell plating:

  2 — nickel plating

Contact plating:

  1 — gold plating

Tail termination type :

  C— crimp

Mounting style:

  1 —free mounted

  2— vertical mounted

  3 — horizontal mounted

  4 — crimp siamese

  5 — nut mounted

  6 — Flange mounted

  7 — Floating mounted

Contact number:

  9, 15, 21, 25, 31, 37, 51, 65, 69

Contact type

  PI — pin in plug

  RH— socket in receptacle

  PP— plug interconnect plug

  PS— plug interconnect receptacle

  SS— receptacle interconnect receptacle

Tail cover:

  0— without tail cover

  1— with tail cover

Locking component type:

  00 — without locking component

  JC— locking screw (straight slot)

  JC1— locking screw (hex, optional)

  TH— connect nut

  NH— guide hole with nut mounted

Mating Connector Choice

- When choosing a mating connector pair with locking accessories, choose one side with connect nut (TH) and the other side with locking screw (JC).
- When choosing a mating connector pair with guide accessories, the mated connectors should be fixed on a mounting panel to avoid the connectors from becoming disconnected. When choosing a mating connector pair with guide components, choose one side with guide pin (DZ) and the other side with guide hole (NH).

MIL-DTL-32139 Nano D-Sub Space Connectors
N06S Free Mounted Crimp Series

Order Code

Series	N06S	-2	2	1	-C	1	-25	PI	0	-JC

Contact row:
2 — two rows

Shell plating:
2 — nickel plating

Contact plating:
1 — gold plating

Termination type :
C— crimp

Mounting style:
1 — free mounted

Contact number:
9, 15, 21, 25, 31, 37, 51, 65, 69

Contact type
PI — pin in plug   RH— socket in receptacle

Tail cover :
0— without tail cover

Locking type:
JC— locking screw (straight slot, C dimension = 1.5mm)
JC1— locking screw (hex, optional, C dimension = 2.1mm)

plug

receptacle

Notes

- The locking screw is fixed within the outer connector shell
- Connector is free mounted and usually mated with a plug or receptacle connector which has a captive nut
- JC (straight slot screw) screws are tightened by miniature straight screwdriver
- Optional JC1(hex) screws are tightened by 1.27mm hex screwdriver

Outline dimension

plug

receptacle

Pin count	Dimension		Pin count	Dimension		Pin count	Dimension	
	A	**B**		**A**	**B**		**A**	**B**
9 pins	9.63	6.86	15 pins	11.53	8.76	21 pins	13.44	10.67
25 pins	14.71	11.94	31 pins	16.61	13.84	37 pins	18.52	15.75
51 pins	22.96	20.19	65 pins	27.41	24.64	69 pins	28.68	25.91

Note: All dimensions are in mm

MIL-DTL-32139 Nano D-Sub Space Connectors
N06S Vertical Mounted Crimp Series

Order Code

Series	N06S	-2	2	1	-C	2	-25	PI	0	-JC

Contact row:
2 — two rows

Shell plating:
2 — nickel plating

Contact plating:
1 — gold plating

Termination type :
C— crimp

Mounting style:

Contact number:
9, 15, 21, 25, 31, 37, 51, 65, 69

Contact type
PI — pin in plug   RH— socket in receptacle

Tail cover :
0— without tail cover

Locking type:

TH— connect nut

plug

receptacle

Notes

■ Front part of the thread is used for mating with locking screw connector, rear part is for panel mounting

■ Vertical mounted connector should be paired with a mating locking screw plug or receptacle connector

Outline dimension

Screw-in depth on mount screw
3.4max
Sketch of mount panel and screw
2-M1.6
3.48
1.61
1# hole
2-Ø1.8
B
A
C
B±0.05
4-R0.75
2.7min
Mount hole dimension(only for reference)
4-R0.5
2.67
5.9
0.76

plug

Pin count	Dimension			Pin count	Dimension			Pin count	Dimension		
	A	B	C		A	B	C		A	B	C
9 pins	9.63	6.86	4.2	15 pins	11.53	8.76	6.1	21 pins	13.44	10.67	8
25 pins	14.71	11.94	9.3	31 pins	16.61	13.84	11.2	37 pins	18.52	15.75	13.1
51 pins	22.96	20.19	17.55	65 pins	27.41	24.64	22	69 pins	28.68	25.91	23.25

Note: All dimensions are in mm

MIL-DTL-32139 Nano D-Sub Space Connectors
N06S Vertical Mounted Crimp Series

Outline dimension

receptacle

Mount hole dimension(only for reference)

Pin count	Dimension			Pin count	Dimension			Pin count	Dimension		
	A	B	C		A	B	C		A	B	C
9 pins	9.63	6.86	4.2	15 pins	11.53	8.76	6.1	21 pins	13.44	10.67	8
25 pins	14.71	11.94	9.3	31 pins	16.61	13.84	11.2	37 pins	18.52	15.75	13.1
51 pins	22.96	20.19	17.55	65 pins	27.41	24.64	22	69 pins	28.68	25.91	23.25

Remark: All dimensions are in mm

MIL-DTL-32139 Nano D-Sub Space Connectors
N06S Horizontal Mounted Crimp Series

Order Code

Series	N06S	-2	2	1	-C	1	-25	PI	0	-JC

Contact row:
2 — two rows

Shell plating:
2 — nickel plating

Contact plating:
1 — gold plating

Termination type :
C— crimp

Mounting style:
3 — horizontal mounted

Contact number:
9, 15, 21, 25, 31, 37, 51, 65, 69

Contact type
PI — pin in plug   RH— socket in receptacle

Tail cover :
0— without tail cover

Locking type:
TH— connect nut

plug

receptacle

Notes

- Horizontal mounted cable plug or receptacle connector
- Connector should be mated with a plug or receptacle connector which has a locking screw

Outline dimension

plug

receptacle

Note: All dimensions are in mm

Pin count	Dimension			Pin count	Dimension			Pin count	Dimension		
	A	B	C		A	B	C		A	B	C
9 pins	9.63	6.86	4.31	15 pins	11.53	8.76	6.22	21 pins	13.44	10.67	8.13
25 pins	14.71	11.94	9.40	31 pins	16.61	13.84	11.30	37 pins	18.52	15.75	13.21
51 pins	22.96	20.19	17.65	65 pins	27.41	24.64	22.10	69 pins	28.68	25.91	23.37

MIL-DTL-32139 Nano D-Sub Space Connectors
N06S Crimp Siamese Connection Series

Order Code

Series	N06S	-2	2	1	-C	4	-25	PP

Contact row:
2 — two rows

Shell plating:
2 — nickel plating

Contact plating:
1 — gold plating

Termination type :
C— crimp

Mounting style:
4— crimp siamese

Contact number:
9, 15, 21, 25, 31, 37, 51, 65, 69

Contact type:

PP— plug interconnect plug

PS— plug interconnect receptacle

SS— receptacle interconnect receptacle

PP

PS

Notes

■ The mating locking connector for this series is: (1) Plug with locking screw

(2) Receptacle with locking nut

Outline dimension

Plug

Receptacle

Pin count	Dimension		Pin count	Dimension		Pin count	Dimension	
	A	B		A	B		A	B
9 pins	9.63	6.86	15 pins	11.53	8.76	21 pins	13.44	10.67
25 pins	14.71	11.94	31 pins	16.61	13.84	37 pins	18.52	15.75
51 pins	22.96	20.19	65 pins	27.41	24.64	69 pins	28.68	25.91

Note: All dimensions are in mm

MIL-DTL-32139 Nano D-Sub Space Connectors
N06S Nut Mounted Crimp Receptacle with Guide Hole Series

Order Code

Series	N06S	-2	2	1	-C	5	-25	RH	0	-TH

Contact row:
2 — two rows

Shell plating:
2 — nickel plating

Contact plating:
1 — gold plating

Termination type :
C— crimp

Mounting style:
5— nut mounted

Contact number:
9, 15, 21, 25, 31, 37, 51, 65, 69

Contact type
RH— socket in receptacle

Tail cover :
0— without tail cover

Locking type:
NH— guide hole with nut mounted

RH

Notes

- Receptacle connector with guide holes, usually mated with plug connector which has guide pins

Outline dimension

sketch of mounting panel

M1.6

B

A

1# hole

6.5

5

3.48

1.61

receptacle

2-∅1.8

$C_{\ 0}^{+0.1}$

B±0.05

2.7min

4-R0.75

Mount hole dimension(only for reference)

Pin count	Dimension			Pin count	Dimension			Pin count	Dimension		
	A	B	C		A	B	C		A	B	C
9 pins	9.63	6.86	4.2	15 pins	11.53	8.76	6.1	21 pins	13.44	10.67	8
25 pins	14.71	11.94	9.3	31 pins	16.61	13.84	11.2	37 pins	18.52	15.75	13.1
51 pins	22.96	20.19	17.55	65 pins	27.41	24.64	22	69 pins	28.68	25.91	23.25

Note: All dimensions are in mm

MIL-DTL-32139 Nano D-Sub Space Connectors
N06S Flange Mounted Crimp Receptacle with Guide Hole Series

Order Code

Series	N06S	-2	2	1	-C	6	-25	RH	0	-00

Contact row:
2 — two rows

Shell plating:
2 — nickel plating

Contact plating:
1 — gold plating

Termination type :
C— crimp

Mounting style:
6 — flange mounted

Contact number:
9, 15, 21, 25, 31, 37, 51, 65, 69

Contact type
RH— socket in receptacle

Tail cover :
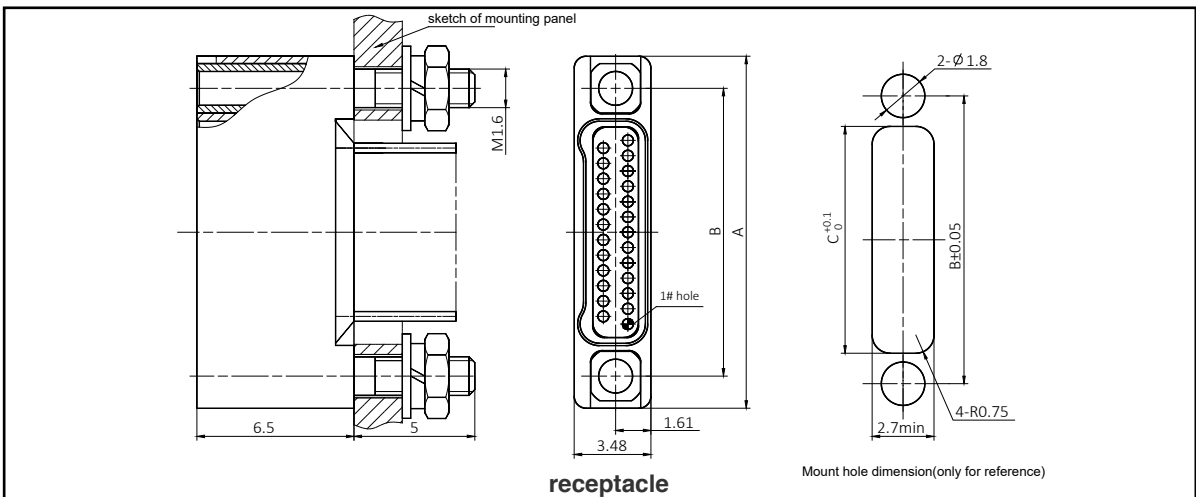0— without tail cover

Locking type:
00 — without locking component

RH

Notes
- Receptacle connector with guide hole is usually mated to plug connector which has a guide pin

Outline dimension

Sketch of mounted panel, screw and nut

receptacle

Mount hole dimension(only for reference)

Pin count	Dimension					Pin count	Dimension				
	A	B	C	D	E		A	B	C	D	E
9 pins	17.6	13.6	6.86	4.2	9.63	15 pins	19.5	15.5	8.76	6.1	11.53
21 pins	21.4	17.4	10.67	8	13.44	25 pins	22.7	18.7	11.94	9.3	14.71
31 pins	24.6	20.6	13.84	11.2	16.61	37 pins	26.5	22.5	15.75	13.1	18.52
51 pins	30.9	26.9	20.19	17.6	22.96	65 pins	35.4	31.4	24.64	22	27.41
69 pins	36.7	32.7	25.91	23.3	28.68						

Note: All dimensions are in mm

MIL-DTL-32139 Nano D-Sub Space Connectors
N06S Floating Mounted Crimp Plug Series

Order Code

Series	N06S	-2	2	1	-C	7	-25	PI	0	-00

Contact row:
2 — two rows

Shell plating:
2 — nickel plating

Contact plating:
1 — gold plating

Termination type :
C— crimp

Mounting style:
7 — floating mounted

Contact number:
9, 15, 21, 25, 31, 37, 51, 65, 69

Contact type
PI— pin in plug

Tail cover :
0— without tail cover

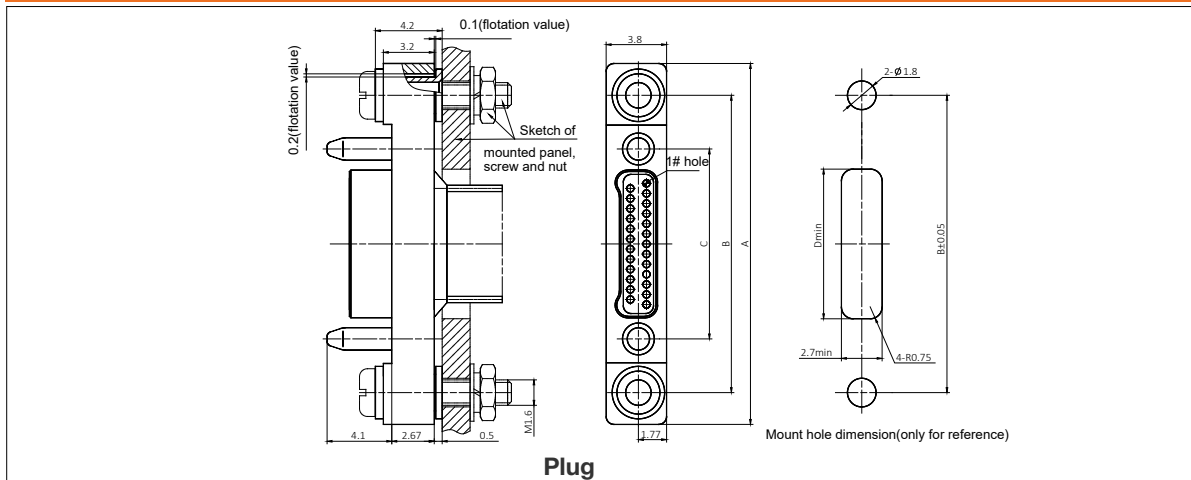**Locking type:**
00 — without locking component

PI

Notes

- Plug connector with guide pin and floating tube, usual application as a blind-mated connector
- Plug connector is usually mated with receptacle connector which has a guide hole

Outline dimension

Plug

Pin count	Dimension				Pin count	Dimension			
	A	B	C	D		A	B	C	D
9 pins	17.6	13.6	6.86	4.2	15 pins	19.5	15.5	8.76	6.1
21 pins	21.4	17.4	10.67	8	25 pins	22.7	18.7	11.94	9.3
31 pins	24.6	20.6	13.84	11.2	37 pins	26.5	22.5	15.75	13.1
51 pins	30.9	26.9	20.19	17.6	65 pins	35.4	31.4	24.64	22
69 pins	36.7	32.7	25.91	23.3					

Note: All dimensions are in mm

MIL-DTL-32139 Nano D-Sub Space Connectors
N06S Free Mounted Crimp Connector with Tail Cover Series

Order Code

| Series | N06S | -2 | 2 | 1 | -C | 1 | -25 | PI | 1 | -JC |

Contact row:
2 — two rows

Shell plating:
2 — nickel plating

Contact plating:
1 — gold plating

Termination type :
C— crimp

Mounting style:
1 - free mounted

Contact number:
9, 15, 21, 25, 31, 37, 51, 65, 69

Contact type
PI— pin in plug   RH— socket in receptacle

Tail cover :
1— with tail cover

Locking type:
JC— locking screw (straight slot, E dimension = 1mm)
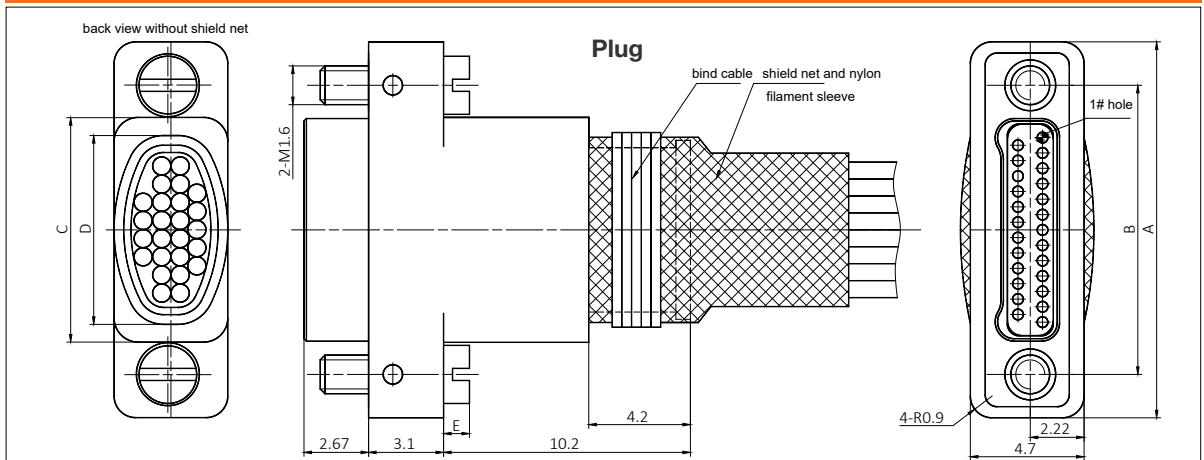JC1— locking screw (hex, optional ,E dimension = 1.6mm)

PI

RH

Notes

- Connector has an integrated non-removable tail cover. Apply shielding material onto tail cover to provide shielding for the whole connector
- Connector is free mounted and usually mated with a plug or receptacle connector which has a captive nut
- JC (straight slot screw) screws are tightened by miniature straight screwdriver
- Optional JC1(hex) screws are tightened by 1.27mm hex screwdriver

Outline dimension

back view without shield net

Plug

bind cable shield net and nylon filament sleeve

2-M1.6

1# hole

4-R0.9

2.67   3.1   E   10.2   4.2   2.22   4.7

Note: All dimensions are in mm

Pin count	Dimension				Pin count	Dimension			
	A	B	C	D		A	B	C	D
9 pins	10.5	6.86	4.2	3.7	15 pins	12.4	8.76	6.1	5.0
21 pins	14.3	10.67	8	6.6	25 pins	15.6	11.94	9.3	7.8
31 pins	17.5	13.84	11.2	9.4	37 pins	19.4	15.75	13.1	11.2
51 pins	23.8	20.19	17.55	15.7	65 pins	28.3	24.64	22.0	20.1
69 pins	29.5	25.91	23.25	21.4					

MIL-DTL-32139 Nano D-Sub Space Connectors
N06S Free Mounted Crimp Connector with Tail Cover Series

Outline dimension

Note: All dimensions are in mm

Pin count	Dimension				Pin count	Dimension			
	A	B	C	D		A	B	C	D
9 pins	10.5	6.86	4.2	3.7	15 pins	12.4	8.76	6.1	5.0
21 pins	14.3	10.67	8.0	6.6	25 pins	15.6	11.94	9.3	7.8
31 pins	17.5	13.84	11.2	9.4	37 pins	19.4	15.75	13.1	11.2
51 pins	23.8	20.19	17.55	15.7	65 pins	28.3	24.64	22.0	20.1
69 pins	29.5	25.91	23.25	21.4					

MIL-DTL-32139 Nano D-Sub Space Connectors
N06S Vertical Mounted Crimp Connector with Tail Cover Series

Order Code

| Series | N06S | -2 | 2 | 1 | -C | 1 | -25 | PI | 1 | -TH |

Contact row:
2 — two rows

Shell plating:
2 — nickel plating

Contact plating:
1 — gold plating

Termination type :
C— crimp

Mounting style:
1 - vertical mounted

Contact number:
9, 15, 21, 25, 31, 37, 51, 65, 69

Contact type
PI— pin in plug   RH— socket in receptacle

Tail cover :
1— with tail cover

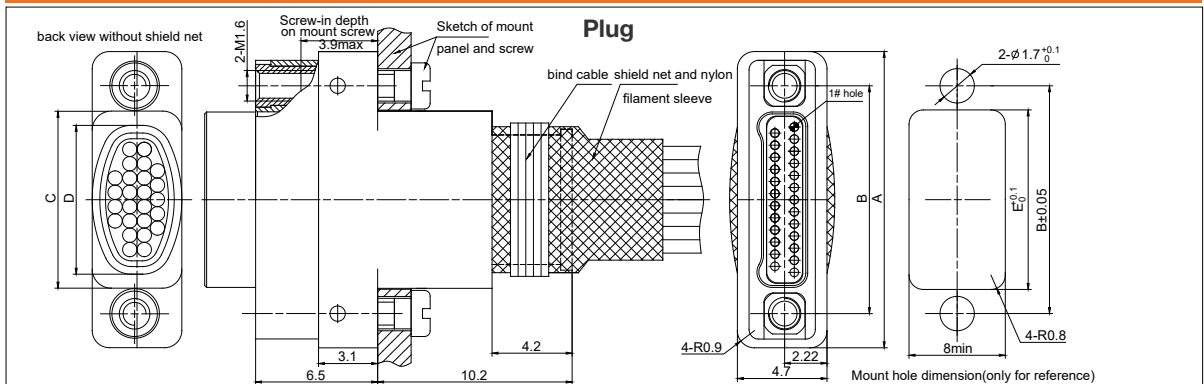**Locking type:**
TH — connect nut

PI

RH

Notes
- Connector has an integrated non-removable tail cover. Apply shielding material onto tail cover to provide shielding for the whole connector
- Connector is usually mated with a plug or receptacle connector which has a locking screw
- Due to dimensional limitations, these connectors cannot be used with a standard M1.6mm screw. These connectors are provided with a bespoke M1.6 x 6 mounted screw.

Outline dimension

back view without shield net

2-M1.6

Screw-in depth on mount screw
3.9max

Sketch of mount panel and screw

Plug

bind cable shield net and nylon filament sleeve

1# hole

2-Ø 1.7 $^{+0.1}_{0}$

$E^{+0.1}_{0}$
B±0.05

4-R0.9
2.22
4.7

4-R0.8

8min

3.1
6.5
4.2
10.2

Mount hole dimension(only for reference)

Pin count	Dimension					Pin count	Dimension				
	A	B	C	D	E		A	B	C	D	E
9 pins	10.5	6.86	4.2	3.7	4.3	15 pins	12.4	8.76	6.1	5.0	6.2
21 pins	14.3	10.67	8.0	6.6	8.1	25 pins	15.6	11.94	9.3	7.8	9.4
31 pins	17.5	13.84	11.2	9.4	11.3	37 pins	19.4	15.75	13.1	11.2	13.2
51 pins	23.8	20.19	17.55	15.7	17.65	65 pins	28.3	24.64	22.0	20.1	22.1
69 pins	29.5	25.91	23.25	21.4	23.35						

Note: All dimensions are in mm

MIL-DTL-32139 Nano D-Sub Space Connectors
N06S Free Mounted Crimp Connector with Tail Cover Series

Outline dimension

back view without shield net

Screw-in depth on mount screw
4.5max

Sketch of mount panel and screw

2-M1.6

Receptacle

bind cable

shield net and nylon filament sleeve

1# hole

4-R0.9

2.22

4.7

2-Ø 1.7 $^{+0.1}_{0}$

E $^{+0.1}_{0}$

B±0.05

4-R0.8

8min

Mount hole dimension(only for reference)

3.1

7.1

4.2

10.2

Pin count	Dimension					Pin count	Dimension				
	A	B	C	D	E		A	B	C	D	E
9 pins	10.5	6.86	4.2	3.7	4.3	15 pins	12.4	8.76	6.1	5.0	6.2
21 pins	14.3	10.67	8.0	6.6	8.1	25 pins	15.6	11.94	9.3	7.8	9.4
31 pins	17.5	13.84	11.2	9.4	11.3	37 pins	19.4	15.75	13.1	11.2	13.2
51 pins	23.8	20.19	17.55	15.7	17.65	65 pins	28.3	24.64	22.0	20.1	22.1
69 pins	29.5	25.91	23.25	21.4	23.35						

Note: All dimensions are in mm

MIL-DTL-32139 Nano D-Sub Space Connectors
N06S Horizontal Mounted Crimp Connector with Tail Cover Series

Order Code

| Series | N06S | -2 | 2 | 1 | -C | 3 | -25 | PI | 1 | -TH |

Contact row:
2 — two rows

Shell plating:
2 — nickel plating

Contact plating:
1 — gold plating

Termination type :
C— crimp

Mounting style:
3 - horizontal mounted

Contact number:
9, 15, 21, 25, 31, 37, 51, 65, 69

Contact type
PI— pin in plug   RH— socket in receptacle

Tail cover :
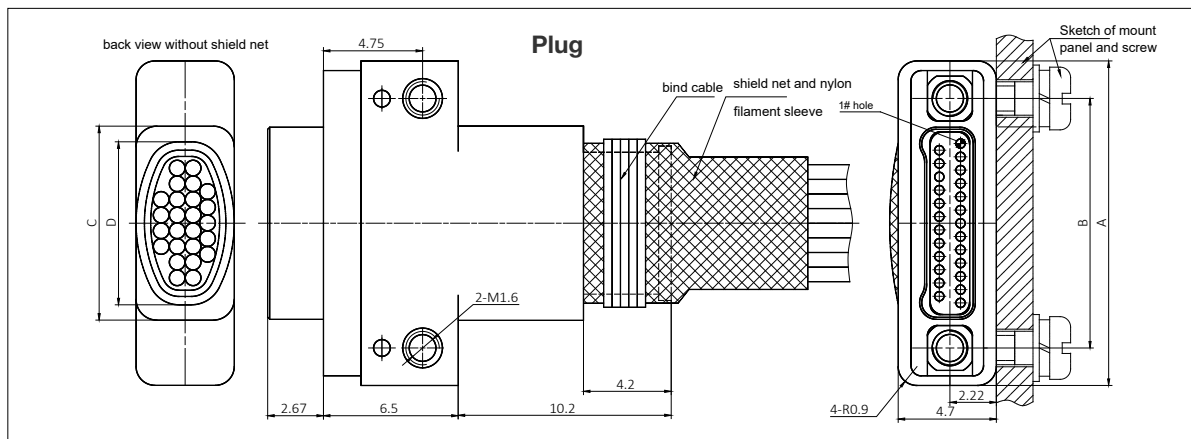1— with tail cover

Locking type:
TH — connect nut

PI

RH

Notes
- Connector has an integrated non-removable tail cover. Apply shielding material onto tail cover to provide shielding for the whole connector
- Connector is usually mated with a plug or receptacle connector which has a locking screw
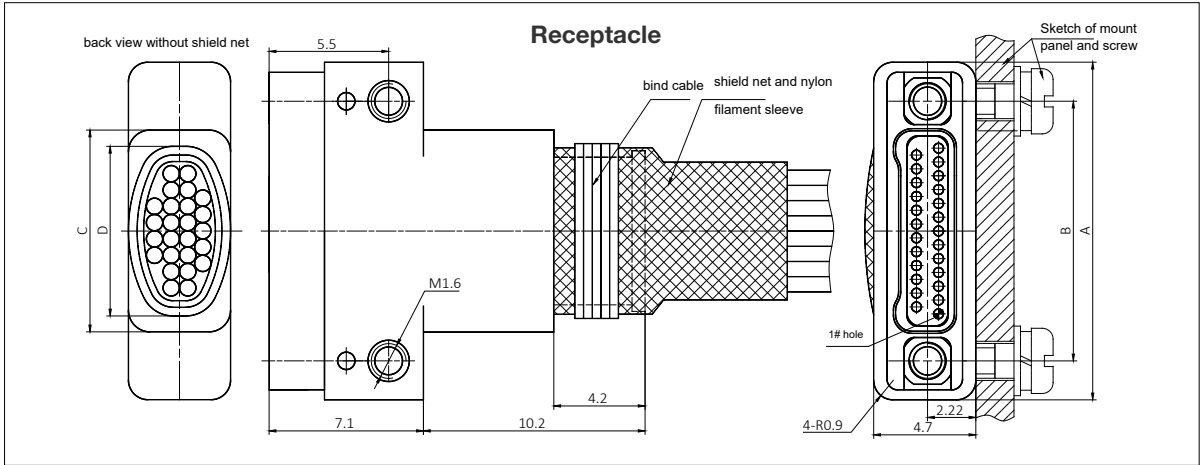
Outline dimension

back view without shield net   4.75   **Plug**   bind cable   shield net and nylon filament sleeve   1# hole   Sketch of mount panel and screw

2-M1.6   2.67   6.5   10.2   4.2   4-R0.9   2.22   4.7

Pin count	Dimension				Pin count	Dimension			
	A	B	C	D		A	B	C	D
9 pins	10.5	6.86	4.2	3.7	15 pins	12.4	8.76	6.1	5.0
21 pins	14.3	10.67	8.0	6.6	25 pins	15.6	11.94	9.3	7.8
31 pins	17.5	13.84	11.2	9.4	37 pins	19.4	15.75	13.1	11.2
51 pins	23.8	20.19	17.55	15.7	65 pins	28.3	24.64	22.0	20.1
69 pins	29.5	25.91	23.25	21.4					

Note: All dimensions are in mm

MIL-DTL-32139 Nano D-Sub Space Connectors
N06S Horizontal Mounted Crimp Connector with Tail Cover Series

Outline dimension

back view without shield net

Receptacle

5.5

bind cable   shield net and nylon filament sleeve

Sketch of mount panel and screw

M1.6

1# hole

4-R0.9

7.1   10.2   4.2   2.22   4.7

Pin count	Dimension				Pin count	Dimension			
	A	B	C	D		A	B	C	D
9 pins	10.5	6.86	4.2	3.7	15 pins	12.4	8.76	6.1	5.0
21 pins	14.3	10.67	8.0	6.6	25 pins	15.6	11.94	9.3	7.8
31 pins	17.5	13.84	11.2	9.4	37 pins	19.4	15.75	13.1	11.2
51 pins	23.8	20.19	17.55	15.7	65 pins	28.3	24.64	22.0	20.1
69 pins	29.5	25.91	23.25	21.4					

Note: All dimensions are in mm