Amphenol SOCAPEX

SC39

Quick disconnection solution with lanyard possibilities Derived from MIL-DTL-38999 Series III

Description

Quick disconnect range derived from MIL-DTL-38999 Series III. Instant decoupling and damage free separation with a direct pull on the lanyard/harness. Quick breakaway fail-safe unmating. Weight & space savings compare to others quick disconnect solutions on the market.

Main features

QUICK-EASY INSTALLATION & EMERGENCY DISCONNECT CONNECTOR. NO COUPLING NUT, NO THREADING.

CONTACT PROTECTIVE SCOOP-PROOF SHELL
- Interfacial seal ensuring sealing around each contact.
- Durability ≥ 1500 cycles, with suitable contacts.

MATERIAL
- Shell: Aluminum and Stainless steel
- Plating: Olive drab cadmium, Nickel, Passivation (Stainless steel).

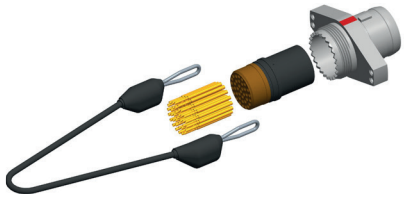
SHELLS
Straight plug and Square flange, Jam nut, or in-line receptacle.
Size 09 to 17. Upper sizes available on request.

38999 SERIES III CONTACTS ARRANGEMENTS.

COUPLING SPRING: Dual action on receptacle for mechanical retention, with different forces options:
- Standard version: from 50 to 100N.
- Low force separation capabilities: less than 50N. **SC39 ****L**

OPTIONS
- Lanyard release: **SC39RL*****
- Integrated backshell: **SC39***F472**
- Stand-off for printed circuit board: **SC39 *** F459**

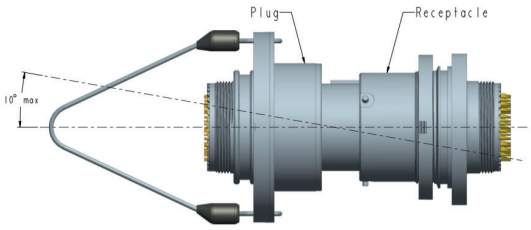
Lanyard release plug
SC39RL*06**



Jam nut receptacle
SC39*07**

Lanyard characteristics

Axial pull of lanyard: 10°max misalignment



Markets

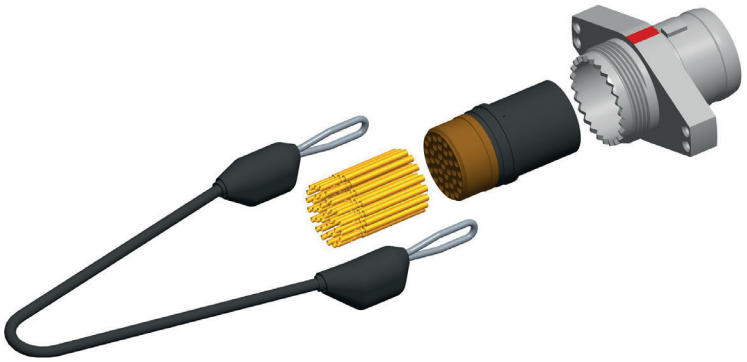
Military Avionics

C6ISR

Missiles

Lanyard release plug

SC39RL*06**

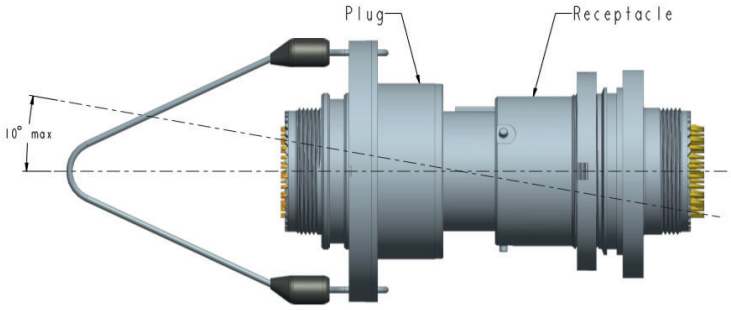


Jam nut receptacle

SC39*07**

Lanyard characteristics

Axial pull of lanyard: 10°max misalignment



Straight plug
SC39*06**

Square flange receptacle
SC39P*00**

In-line receptacle
SC39*01**

Lanyard In-line receptacle
SC39*01**

Integrated backshell
SC39*F472**

Low force separation capabilities

SC39*L**

- Low force coupling spring on receptacle.
- Forces exclude contact insertion/extraction forces.
- Forces can be customized upon request.

Size	SC39 STANDARD		SC39 LOW FORCE	
	Mating force (kg)	Unmating force (kg)	Mating force (kg)	Unmating force (kg)
9	1.2	5	2.2	4.1
11	2.2	7.6	2.2	4.1
13	2.05	8.8	2.6	4.7
15	2.45	9.1	2.3	4.1

Amphenol Designations - SC39 Crimp connectors

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Series	Shell type	Low force option	Crimp contacts	Ground plane and Quadrax	Material and platings	Insert arrangement	Contact gender	Keying	With or without contacts	Deviation
SC39	06	-	R	-	W	15-35	P	A	-	F472

1. Shell type

	Shell type	Associated materials and platings	Temperature
06	Straight plug	W	+175°C
S06*		F, K,	+200° C*
RL06	Lanyard release plug	W	+175°C
RLS06*		F, K	+200° C*
P00	Square flange receptacle	W	+175°C
PS00*		F, K	+200° C*
07	Jam nut receptacle	W	+175°C
S07*		F, K	+200° C*
01	Inline receptacle	W	+175°C
S01*		F, K	+200° C*
RL01	Lanyard inline receptacle	W	+175°C
RLS01*		F, K	+200° C*

** «S» Stand for 200°C compatibility. Omit for High-density inserts (HD), inserts with Quadrax contacts and differential Twinax contacts (Q) are +175°C maxi compatible.*

2. Low force option (receptacle only)

Blank	Standard versions
L	Low force version - Consult us to confirm availability

For other version, please consult us

3. Crimp contacts

R	Crimp contact

4. Conductive inserts & inserts for Quadrax and differential Twinax contacts (optional)

Conductive inserts are available for Aluminum versions with Olive Drab Cadmium and Nickel. For any others materials and platings please consult us.

Blank	For standard inserts without ground plane and indexation key.
G	(G) Ground Plane version - Conductive insert. Mandatory for 09-05*.
Q	(Q) Inserts designed with an indexation key to avoid contacts rotation in the cavities when using a keyed contact - Size 8 contacts only.
GQ	(G)(Q) Ground plane version with insert designed with an indexation key.

** Please note that 09-05 insert is automatically conductive. Add the 'G' letter in all your references for this arangement.*

5. Material and platings

	Shell material	Shell finish
W	Aluminum	Olive drab cadmium
F		Nickel ✓
K	Stainless steel	Passivated ✓

6. Contacts arrangements

Refer to page 18 for contact arrangements
First number represents the shell size and second number is the contact arrangement

7. Contact gender

P	Pin (500 cycles)
S	Socket (500 cycles)

8. Keying

Blank (for normal)	A	B	C	D	E

9. With or without contacts

Blank	Connector delivered with contacts
LC	Connector delivered without contacts

10. Deviation

Deviation	Description	Shell type compatibility
F472	Integrated backshell	All

For other deviations, please consult us

Amphenol Designations - SC39 PCB Receptacles

	1.	2.	3.	4.	5.	6.	7.	8.	9.
Series	Shell type	Low force option	Ground plane and Quadrax	Material and platings	PC Tail contacts	Insert arrangement	Contact gender	Keying	Deviation
SC39	07	-	-	W	CI	15-35	P	A	F459

1. Shell type

	Shell type	Associated materials and platings	Temperature
P00	Square flange receptacles	W	+175°C
PS00*		F, K, S, B	+200° C*
07	Jam nut receptacles	W	+175°C
S07*		F, K, S, B	+200° C*

** «S» Stand for 200°C compatibility. Omit for High-density inserts, inserts with Quadrax contacts and differential Twinax contacts are +175°C maxi compatible.*

2. Low force option

Blank	For standard versions
L	Low force version - Consult us to confirm availability

3. Conductive inserts & inserts for Quadrax and differential Twinax contacts (optional)

Conductive inserts are available for Aluminum versions with Olive Drab Cadmium and Nickel. For any others materials and platings please consult us.

Blank	For standard inserts without ground plane and indexation key.
G	Ground Plane version - Conductive insert. Mandatory for 09-05*.
Q	Inserts designed with an indexation key to avoid contacts rotation in the cavities when using a keyed contact - Size 8 contacts only.
GQ	Ground plane version with insert designed with an indexation key.

** Please note that 09-05 insert is automatically conductive. Add the 'G' letter in all your references for this arangement.*

4. Material and platings

	Shell material	Shell finish
W	Aluminum	Olive drab cadmium
F		Nickel ✓
K	Stainless steel	Passivated ✓

5. PC Tail contacts

CI	Standard length
LI	Long length
SI	Short length(onlyfor size 22D contacts)

6. Insert arrangements

Refer to page 18 for contact arrangements
First number represents the shell size and second number is the contact arrangement

7. Contact gender

P	Pin (500 cycles)
S	Socket (500 cycles)

Connectors with PC Tail contacts are always delivered with contacts.

8. Keying

Blank (for normal)	A	B	C	D	E

9. Deviation

Shell style	PC Tail finish / Tinning				Shell type compatibility
	Tin lead	Silver tin ✓	Silver tin copper ✓	Gold ✓	
Standard	F404	F404LF	F404LFC	Blank	All
Stand-off	F459	F459LF	F459LFC	F459H	All

For other deviations, please consult us.

Leakage attenuation

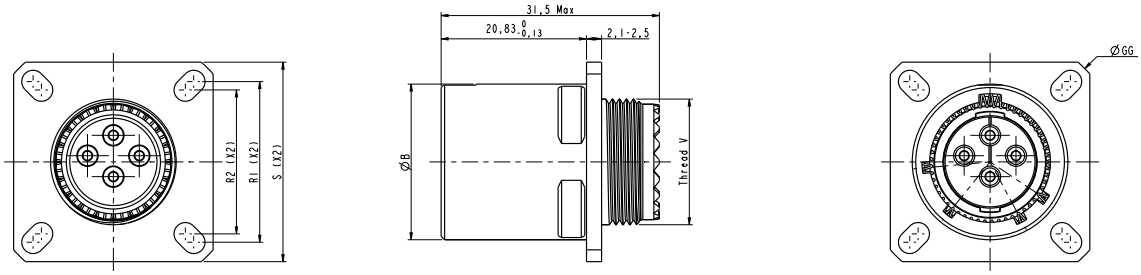
Frequency (MHz)	Leakage attenuation minimum (dB)	
	38999 Requirements	SC39
100	90	100
200	88	95
300	88	94
400	87	94
800	85	84
1000	85	74

Overall dimensions

Available with most common MIL-DTL-38999 Series III inserts.
Available from size 09 to 17, bigger sizes (19 to 25) upon request.

Square flange receptacle

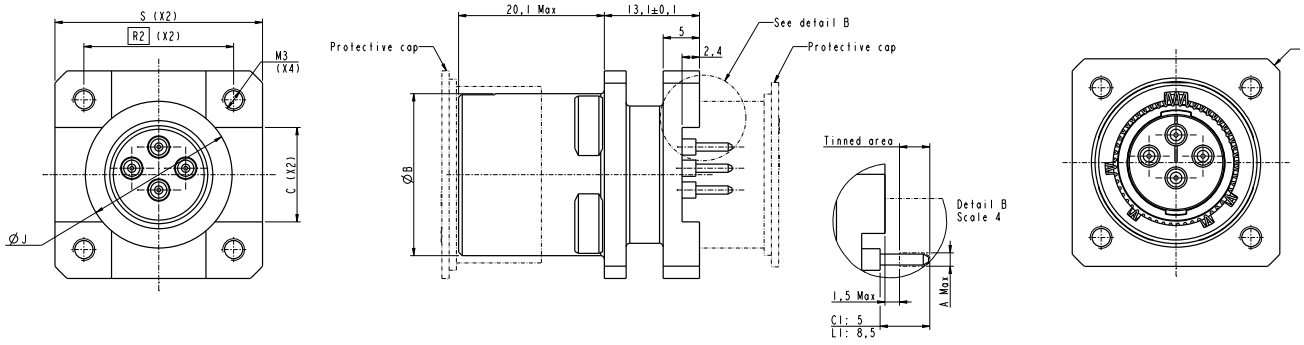
SC39P*00***



Size	Thread V	S±0.3	R1	R2	ØB ± 0.1	ØGG ± 0.2
09	M12x1- 6g.R0.1	23.8	18.26	15.09	13.03	31.78
11	M15x1- 6g.R0.1	26.2	20.62	18.26	18.53	34.96
13	M18x1- 6g.R0.1	28.6	23.01	20.62	22.33	38.13
15	M22x1- 6g.R0.1	31.0	24.61	23.01	25.23	41.31
17	M25x1- 6g.R0.1	33.3	26.97	24.61	30.23	44.48

Stand-off Square flange receptacle

SC39*00*IF459*****

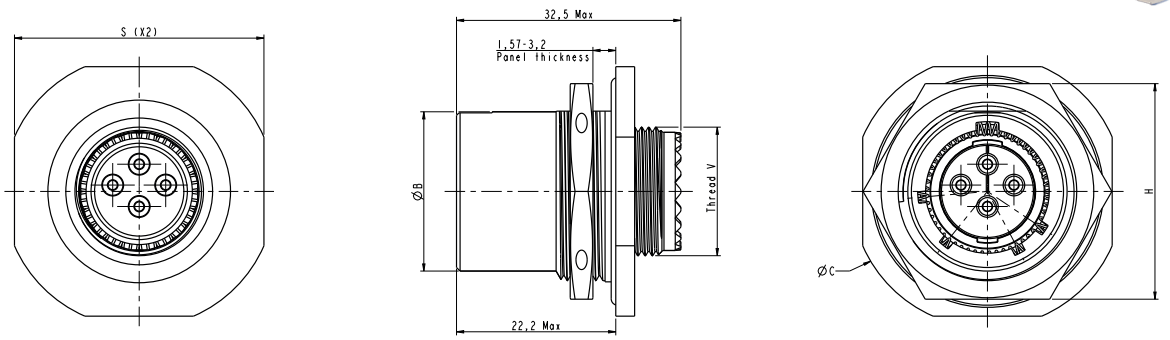


Size	ØB ± 0.15	C +0.2 0	ØJ ± 0.15	S ± 0.25	R2	ØGG ± 0.2
09	13.03	8	13.20	23.83	16.00	31.78
11	18.53	10	16.80	26.19	18.26	34.96
13	22.33	13	20.20	28.58	20.62	38.13
15	25.23	15	23.80	30.96	23.01	41.31
17	30.23	17	26.00	33.32	26.10	44.48

Contacts	CI - ØA		LI - ØE	
	Gold	Tinned	Gold	Tinned
T22D	0.5	0.6	0.7	0.8
T20	0.7	0.8	0.7	0.8
T16	1.15	1.25	1.15	1.25
T12	1.7	1.8	1.7	1.8

Jam nut receptacle

SC39*07***

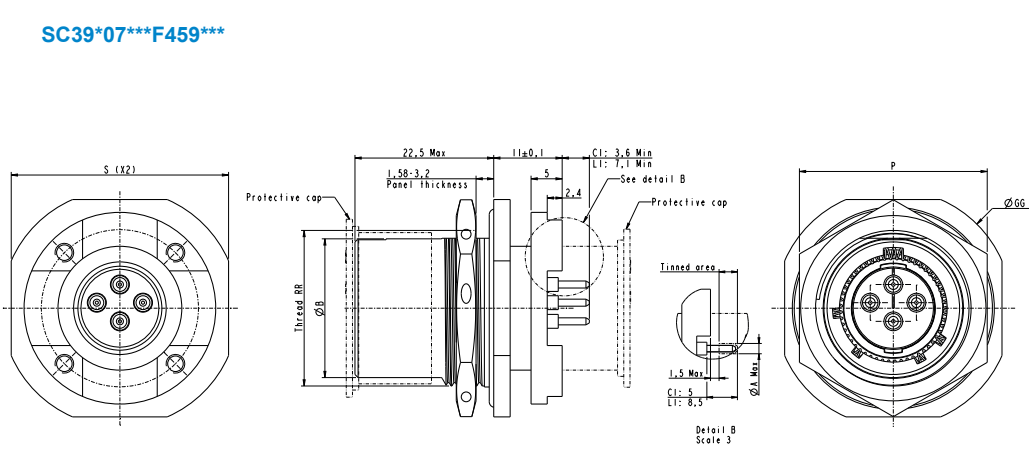


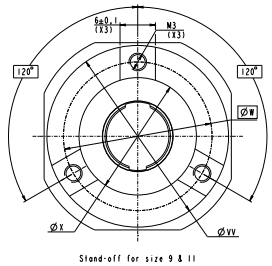
Size	ØB ± 0.1	S ± 0.3	Thread V	ØC ± 0.3	H ± 0.4
09	13.03	27.00	M12x1- 6g.R0.1	30.2	22.26
11	18.53	31.78	M15x1- 6g.R0.1	34.9	25.43
13	22.33	34.96	M18x1- 6g.R0.1	38.10	30.21
15	25.23	38.13	M22x1- 6g.R0.1	41.3	33.35
17	30.23	41.31	M22x1- 6g.R0.1	44.5	36.56

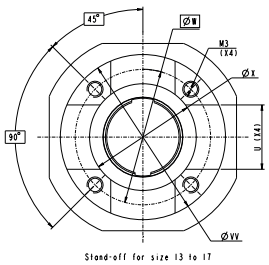
Stand-off Jam nut receptacle

To avoid stress on contacts in PC-tail configurations

SC39*07*F459*****





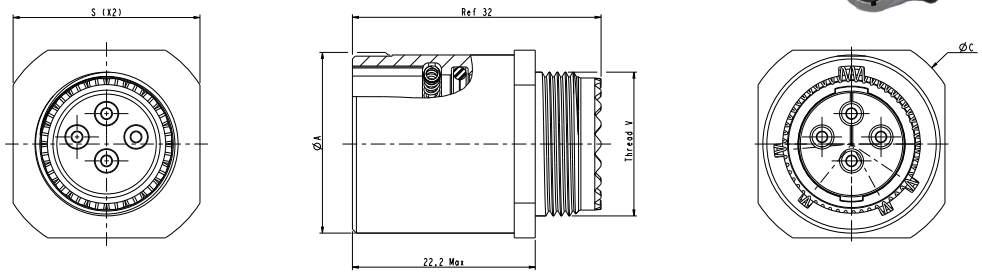


Size	ØB ± 0.15	ØP ± 0.4	S	C +0.2 0	ØW	X ± 0.15	ØGG	Thread RR	ØVV ± 0.15
09	13.03	22.26	27.00	-	20.50	15.10	30.21	M 17x1-6g R0.100	26.00
11	18.53	25.43	31.78		25.20	19.90	34.96	M 20x1-6g R0.100	30.80
13	22.33	30.21	34.96	12	25.25	19.90	38.13	M 25x1-6g R0.100	30.80
15	25.23	33.35	38.13	14	28.42	23.00	41.31	M 28x1-6g R0.100	33.90
17	30.23	36.56	41.31	16	31.42	26.00	44.48	M 32x1-6g R0.100	36.80

Contacts	Cl - ØA		Ll - ØE	
	Gold	Tinned	Gold	Tinned
T22D	0.5	0.6	0.7	0.8
T20	0.7	0.8	0.7	0.8
T16	1.15	1.25	1.15	1.25
T12	1.7	1.8	1.7	1.8

In-line receptacle

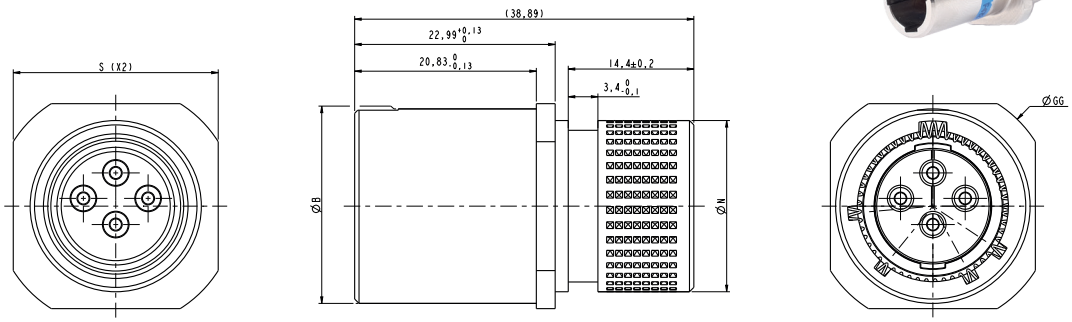
SC39*01*R**



Size	ØA±0.1	ØC±0.25	Thread V	S +0.23 -0.25
09	13.03	20.65	M 12x6g R0.100	17.18
11	18.53	23.02	M 15x6g R0.100	20.35
13	22.33	27.79	M 18x6g R0.100	23.53
15	25.23	30.99	M 22x6g R0.100	26.70
17	30.23	34.96	M 25x6g R0.100	31.48

In-line Receptacle with Integrated Backshell

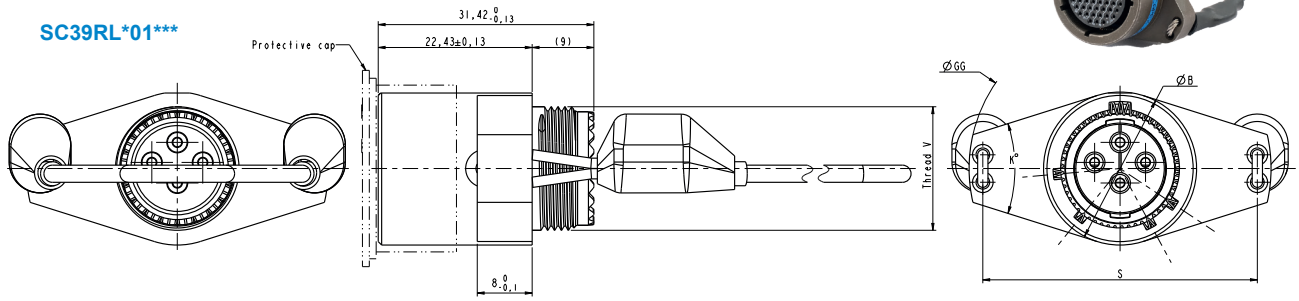
SC39*01*RF472**



Size	ØB±0.1	ØN +0 -0.13	S +0.23 -0.25	ØGG±0.2
09	13.03	13.54	17.18	20.65
11	19.15	15.37	20.35	22.62
13	22.32	19.66	23.53	27.79
15	25.28	21.29	26.70	30.99
17	30.23	24.97	31.48	34.96

Lanyard In-line receptacle

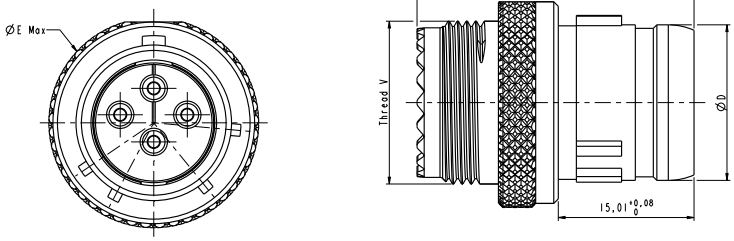
SC39RL*01***



Size	ØB±0.1	K°±1°	S +0.2 -0	ØGG±0.1	Thread V
09	13.03	15	32	36.03	M 12x6g R0.100
11	18.53	33	34	39.03	M 15x6g R0.100
13	22.33	35	40	44.03	M 18x6g R0.100
15	25.23	45	43	47.03	M 22x6g R0.100
17	30.23	45	46	50.03	M 25x6g R0.100

Straight plug

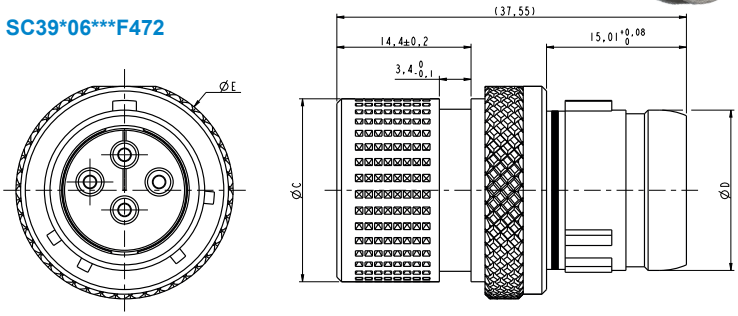
SC39*06***



Size	ØE After Knurling	Thread V	0 ØD -0.13
09	14.13	M12x1-6g.R0.1	9.03
11	19.63	M15x1-6g.R0.1	14.38
13	23.43	M18x1-6g.R0.1	17.23
15	26.33	M22x1-6g.R0.1	20.40
17	31.33	M25x1-6g.R0.1	23.58

Straight plug with Integrated backshell

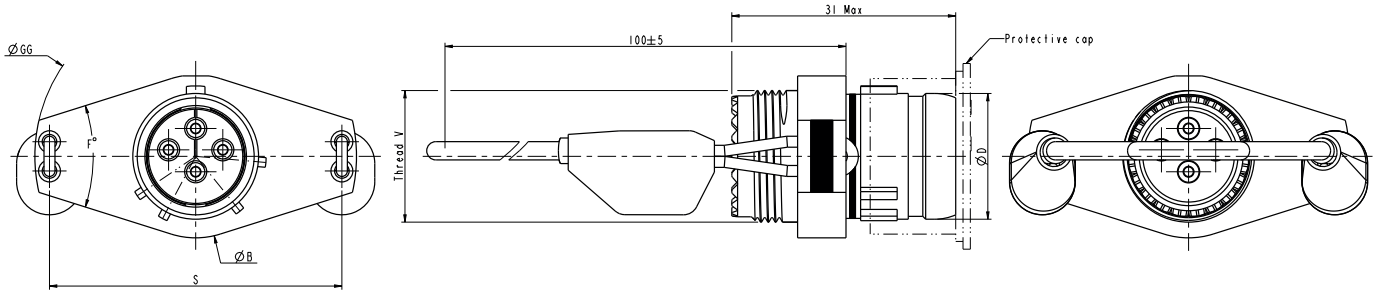
SC39*06***F472



Size	0 ØC -0.13	0 ØD -0.13	ØE ± 0.1
09	12.53	9.03	14.03
11	15.37	14.38	19.53
13	19.66	17.23	23.33
15	21.29	20.40	26.23
17	24.46	23.58	31.23

Lanyard release plug

SC39RL*06***

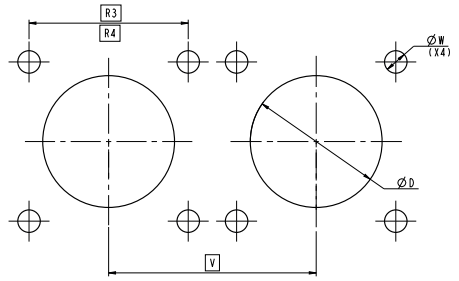


Size	ØB ± 0.1	0 ØD -0.13	F°±1°	ØGG±0.1	S -0 +0.2	Thread V
09	13.03	9.03	15	36.03	32	M12x1-6g.R0.1
11	18.53	14.38	33	39.03	34	M15x1-6g.R0.1
13	22.33	17.23	35	44.03	40	M18x1-6g.R0.1
15	25.23	20.40	45	47.03	43	M22x1-6g.R0.1
17	30.23	23.58	45	50.03	46	M25x1-6g.R0.1

Panel hole dimensions

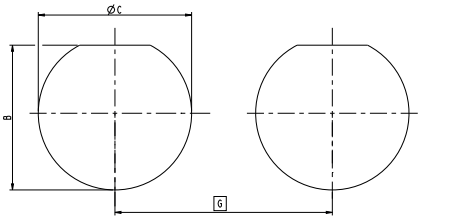
Rear panel mounting. Maximum panel thickness: 5.94mm.

Square flange Receptacle



Size	R3	R4	V	ØW +0 -0.25	ØD min
09	18.26	15.09	24.60	3.25	13.89
11	20.62	18.26	27.00	3.25	19.77
13	23.01	20.62	30.20	3.25	23.60
15	24.61	23.01	33.30	3.25	26.49
17	26.97	24.61	36.50	3.25	31.10

Jam nut Receptacle



Size	G min	ØC +0.25 - 0	B +0 -0.25
09	27.80	17.60	16.70
11	32.60	20.96	19.59
13	36.00	25.65	24.26
15	39.60	28.83	27.56
17	43.30	32.01	30.73

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