

Amphenol SOCAPEX

387TV

Size 7 connector

Derived from MIL-DTL-38999 Series III



www.amphenol-socapex.com



Video, Ethernet, Data transmission... ...a solution to every need.

387TV connectors derived from MIL-DTL-38999 Series III dedicated to application where miniature size and low weight are critical is the size below Size 9: the size 7. This range can accommodate a size 8 High-Speed contacts (Coax, Twinax, Quadrax, 1Gb & 10 Gb Octomax), any 38999 size 9 contacts arrangement and Fiber Optics.

Main features

DERIVED FROM MIL-DTL-38999 SERIES III CONNECTORS.

MATERIALS AND PLATINGS:

- Aluminum: Olive drab cadmium, Nickel, Black zinc nickel

AVAILABLE SHELLS:

- Plugs with integrated backshells.
- Receptacles :
 - Jam-nut receptacles : Standard, Reduced flange or Stand-off Reduced flange
 - Oval flange receptacles

CRIMP VERSIONS SHELLS ARE ALWAYS DESIGNED WITH AN INTEGRATED BACKSHELL.

MANY POSSIBILITIES :

- 07-05 : Grounded Size 8 Cavity (Coax, Twinax, Quadrax and Octomax)
- All size 9 38999 inserts including High density (Contacts size 23 to 12)
- Fiber optics (387TV with MT ferrule, 387TV OP with double Luxbeam Q8D also available)

CONTACTS - COPPER VERSIONS:

- Crimp or PC tail contacts - several tinning available.
- For Grounded High-Speed version (07-05), plugs are always delivered with sockets contacts and receptacles with pin contacts.

IP68: 48 hours under 2 meters of water for Jam nut receptacle and mated plug when using a heatshrink boot and adhesive between the plug and the cable.

Contacts arrangements

Arrangement (TV-CTV)	07-05	07-09	07-12	07-35	07-98
Total contact	1	9	1	6	3
Contact size	8	23	12	22D	20



C4ISR



Aerospace



Navy



Ground Vehicles



Missile

387TV - SIZE 7 CONNECTOR



How to order : Amphenol Designations - 387TV Crimp Connectors

1.	2.	3.	4.	5.	6.	7.	8.	9.
Series	Shell type	Crimp contacts	Contact type	Material and platings	Contact arrangement	Contact gender	Keying	With or without contact
387TV	07	R	GQ	W	07-05	P	-	-
								F312

1. Shell type

	Shell type	Associated materials and plating	Temperature
06	Plugs with integrated backshell	W, ZN, ZR	+175°C
S06*		F, K, S, B	+200°C*
07	Jam nut receptacle with integrated backshell	W, ZN, ZR	+175°C
S07*		F, K, S, B	+200°C*
03	Oval flange receptacle with integrated backshell	W, ZN, ZR	+175°C
S03*		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. Crimp contacts

R	For W, F, K, S and B platings
Blank	For ZN & TZ platings

3. Contact type

GC	Coax 50Ω - 07-05  only
GM	Coax 75Ω for RG179 cable type - 07-05  only
GV	Coax 75Ω for PIC V75268 cable type - 07-05  only
GT	Twinax - 07-05  only
GQ	QuadraX 100Ω - 07-05  only
GO	Octomax - 07-05  only
G	Ground Plane without contact - Mandatory for 07-05 
M	Coax 75Ω #12 - 07-12 contact arrangement only
Blank	Standard signal Contact (07-09, 07-12, 07-35, 07-98)

4. Material and platings

	Shell material	Shell finish
W	Aluminum	Olive drab cadmium
F		Nickel ✓
ZN		Black zinc nickel ✓
ZR		Black Zinc Nickel CRVI Free ✓

* Copper aluminum alloy
For other materials, please consult us

5. Contact arrangement

Layout	Contact size	Total contacts
	07-05 	8
	07-09 	23
	07-12	12
	07-35	22D
	07-98	20

6. Contact gender

P	Pin (500 cycles) - 07-05  Mandatory for receptacles
S	Socket (500 cycles) - 07-05  Mandatory for plugs

7. Keying

Blank (for normal)	A	B	C	D
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8. With or without contact

Blank	Delivered with contacts
LC	Delivered without contacts

9. Deviation

Deviation	Description	Shell type compatibility
F312	Reduced flange receptacle	07 / S07
F506	Oval flange equipped with clinch nuts	03 / S03*

For other deviations, please consult us

*Oval flange receptacle equipped with clinch nuts are not available in Black Zinc Nickel, Bronze, or Stainless Steel.

387TV - SIZE 7 CONNECTOR



Amphenol Designations - 387TV PCB Receptacles

	1.	2.	3.	4.	5.	6.	7.	8.
Series	Shell type	Contact type	Material and platings	PC Tail contacts	Contact arrangement	Contact gender	Keying	Deviation
387TV	07	M	W	CI	07-12	P	-	F059

1. Shell type (receptacles only)

	Shell type	Associated materials and plating	Temperature
07	Jam nut receptacles	W, ZN, ZR	+175°C
S07*		F, K, S, B	+200°C *
03	Oval flange receptacles	W, ZN, ZR	+175°C
S03*		F, K, S, B	+200°C *

* For connectors with Quadrax and differential Twinax contacts please omit the 'S' corresponding to 200°C compatibility. Quadrax contacts and differential Twinax contacts are +175°C maxi compatible.

2. Contact type

GC	Coax 50Ω - 07-05  only
GM	Coax 75Ω - 07-05  only
GT	Twinax - 07-05  only
GQ	Quadrax 100Ω - 07-05  only
GO	Octomax - 07-05  only
M	Coax 75Ω #12 - 07-12 contact arrangement only
Blank	Standard signal Contact (07-09, 07-12, 07-35, 07-98)

3. Material and platings

	Shell material	Shell finish
W	Aluminum	Olive drab cadmium
F		Nickel ✓
ZN		Black zinc nickel ✓
ZR		Black Zinc Nickel CRVI Free ✓

* Copper aluminum alloy
For other materials, please consult us

4. PC Tail contacts

CI	Standard length
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For other length, please consult us

5. Contact arrangement

Layout	Contact size	Total contacts
 07-05 	8	1
 07-09 	23	9
 07-12	12	1
 07-35	22D	6
 07-98	20	3

6. Contact gender

P	Pin (500 cycles) - 07-05  Mandatory for receptacles
S	Socket (500 cycles)

7. Keying

Blank (for normal)	A	B	C	D
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8. 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 Reduced flange	F059	F059LF	F059LFC	F059H	07 / S07
Oval flange with clinch nuts	F506G	F506LF	F506LFC	F506	03 / S03*

For other deviations, please consult us

*Oval flange receptacle equipped with clinch nuts are not available in Black Zinc Nickel, Bronze, or Stainless Steel.

387TV - SIZE 7 CONNECTOR

Material and platings

Same performances as MIL-DTL-38999 Series III connector in terms of Temperature, Salt Spray resistance.

	Shell material	Shell finish	Operating Temperature (C°)		Salt spray exposure per EIA 364.26 (hours)
			min	max	
W	Aluminium	Olive drab cadmium	-65	+175	500
F		Nickel ✓	-65	+200 HD	48
ZN, ZR		Black zinc nickel ✓	-65	+175	500

For other Materials and platings, please consult us.

Differences with standard TV - MIL-DTL-38999 series III

Thread coupling	Double start instead of triple start
Shell style for crimp versions (plug and receptacle)	Always with integrated backshell
Lightning strike	Composite 38999 level (MIL-DTL-38999 class M)
EMI performances	82dB min at 100MHz (vs 90dB min for 38999 standard) 65dB min at 1000MHz (vs 85dB for 38999 standard)
Shocks & vibrations	Shock Half sine wave of 300 G magnitude during 3ms per EIA-364-27 Vibration Sine vibrations: - 60G between 140Hz and 1500Hz - Temperatures (x3 axes) : @ Room temperature for 4H @ -55°C for 4H @ 175°C for 4H Random vibrations: per EIA-364-28: - 37.83 grms at 175°C (Aluminum with Olive drab cadmium and Black zinc nickel), 50 to 1500 Hz - 50.09 grms at ambient air, 10 to 1500 Hz

- Ⓒ 387TV is only available in Grounded version with the 07-05 layout
- HD High density 38999, Quadrax and differential Twinax arrangements not rated over 175°C
- ✓ RoHS compliant



387TV - SIZE 7 CONNECTOR

387TV Multipin version - The smallest shell around a size 9 MIL-DTL-38999 insert

This series accommodates size 9 38999 series III contacts arrangements in a size 7 shell offering a smaller & lighter solution.

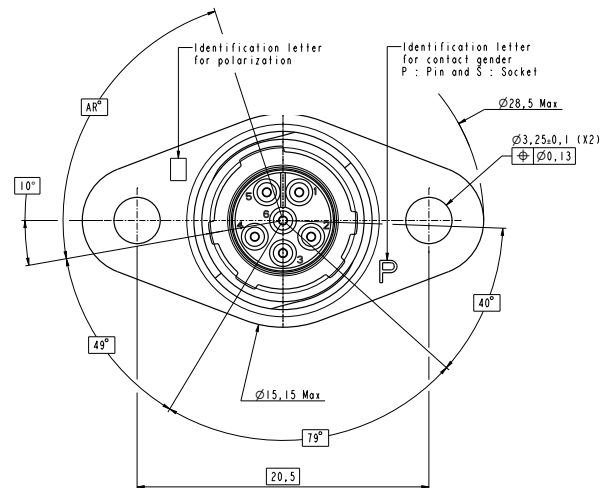
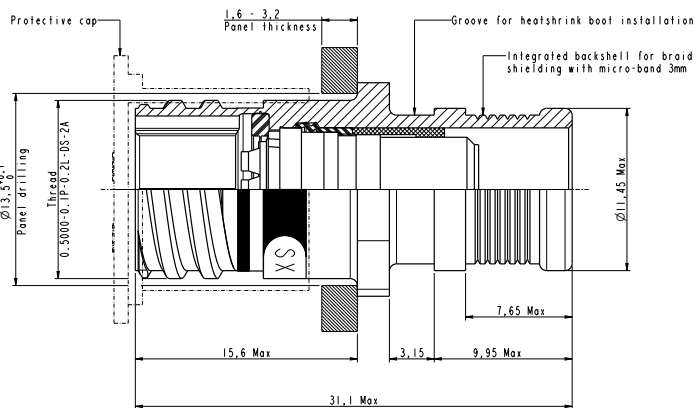
Contacts arrangements

Contact arrangement	07-09 	07-12 	07-35 	07-98 
Total contacts	9	1	6	3
Contact size	23	12	22D	20

Overall dimensions Oval flange receptacle

Crimp version - Consult us for the PCB version

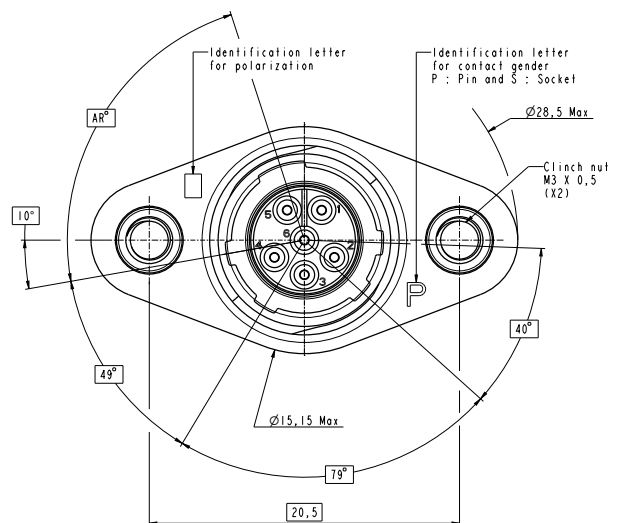
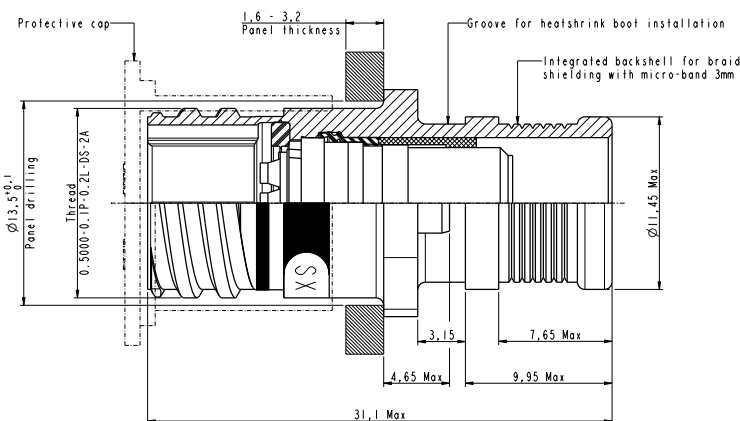
387TV*03**07**



Oval flange receptacle equipped with clinch nuts

Crimp version - Consult us for the PCB version

387TV*03**07**F506

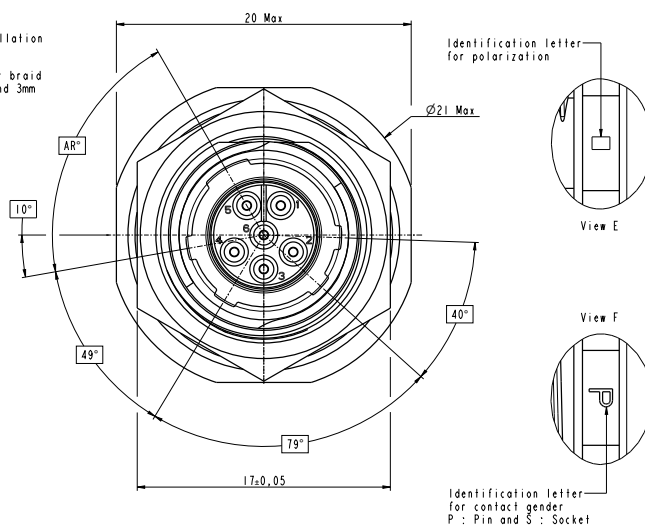
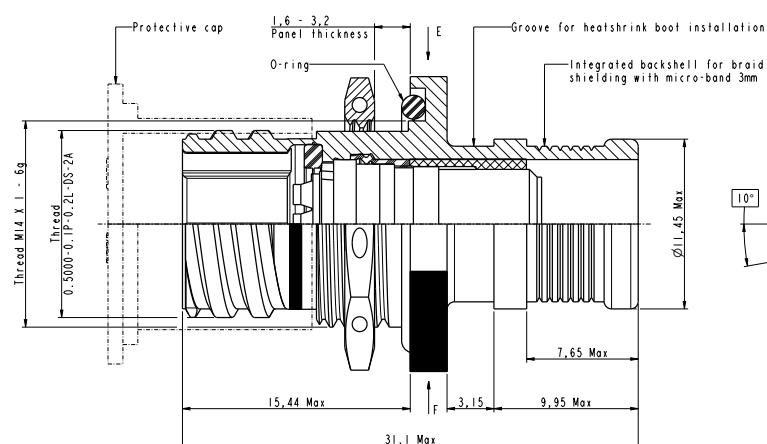


387TV - SIZE 7 CONNECTOR

Jam nut receptacle

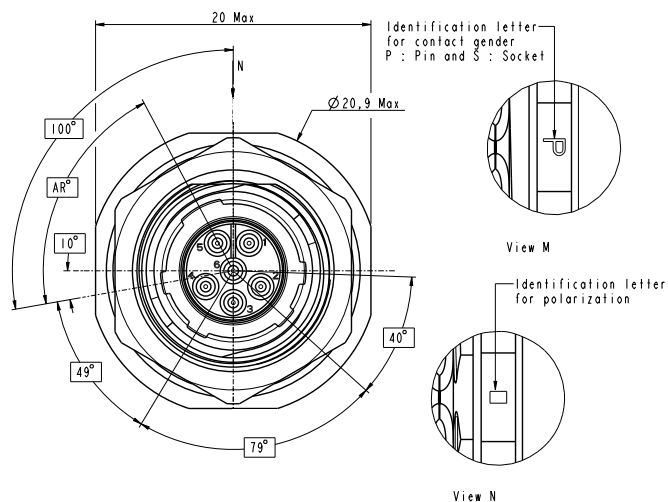
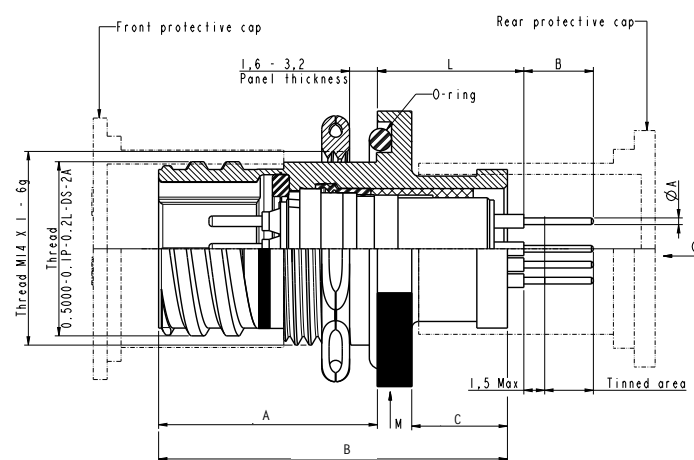
Crimp version

387TV*07**07**

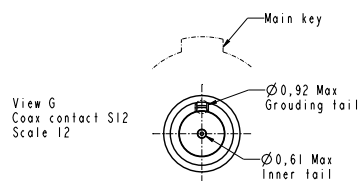


PC-Tail version

387TV*07*CI*07**



Arrangement		L Max	L Min	B Max	B Min	ØA
7-09		11,85	10,14	5,1	4,9	0,6
7-12	Standard	11,68	10,10	5,1	4,9	1,8
	Coax 75Ω	11,18	9,60	5,9	5,1	View G
7-35		11,18	10,14	5,1	4,9	0,6
7-98		11,18	10,14	5,1	4,9	0,8



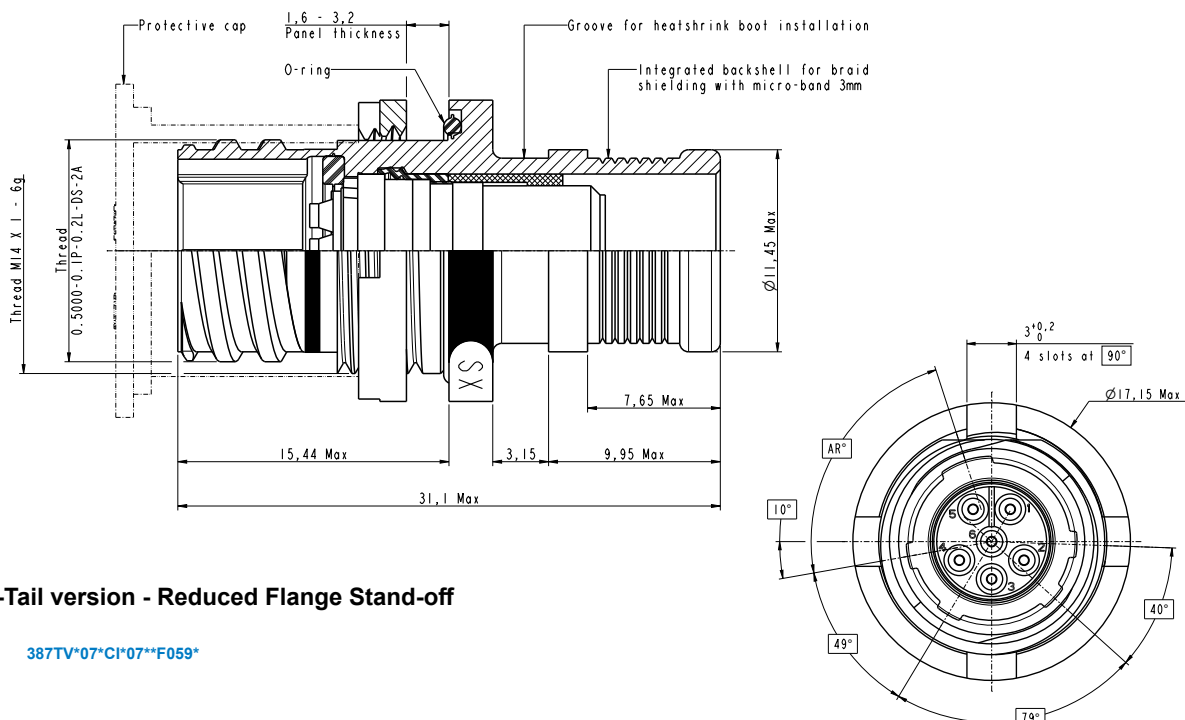
Gender	A MAX	B MAX	C MAX
Pin - 387TV*07**CI**P	15.86	25.31	6.98
Socket - 387TV*07**CI**S	21.25	30.84	7.12

387TV - SIZE 7 CONNECTOR

Jam nut Reduced flange receptacle

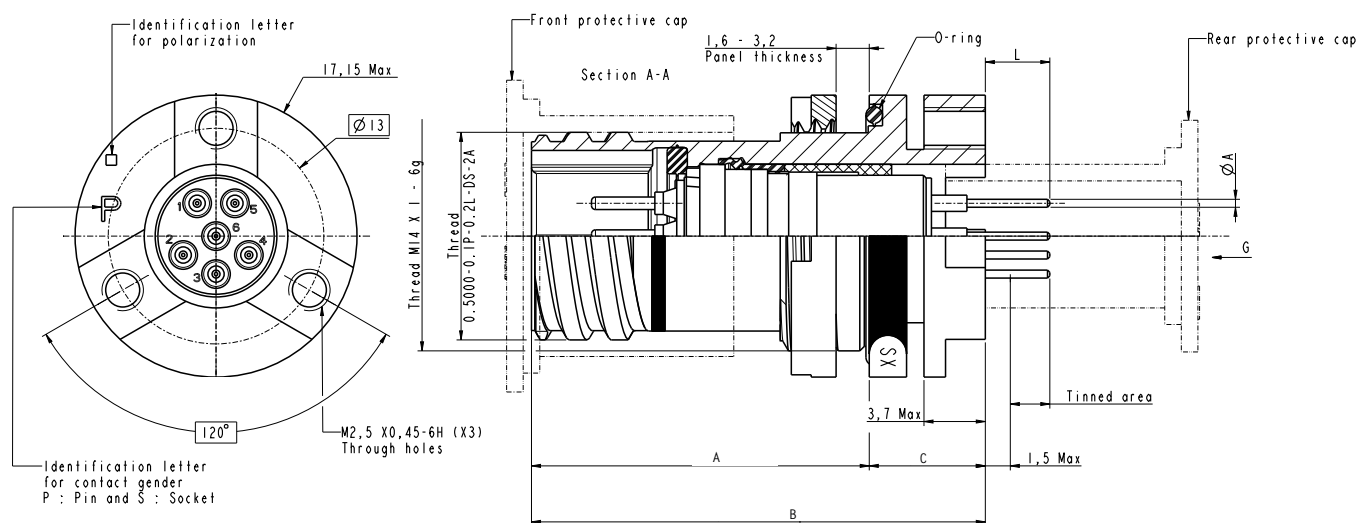
Crimp version - Reduced Flange

387TV*07**07**F312

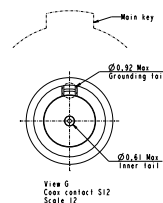


PC-Tail version - Reduced Flange Stand-off

387TV*07*CI*07**F059*



Arrangement	LI Max	LI Min	Ø A
7-09	5,38	3,25	0,6
7-12	Standard	5,21	3,21
	Coax 75Ω	5,31	3,11
7-35	4,71	3,25	0,6
7-98	4,71	3,25	0,8

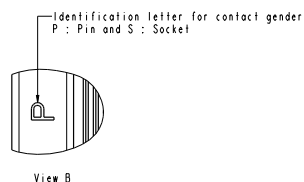
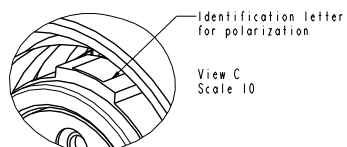
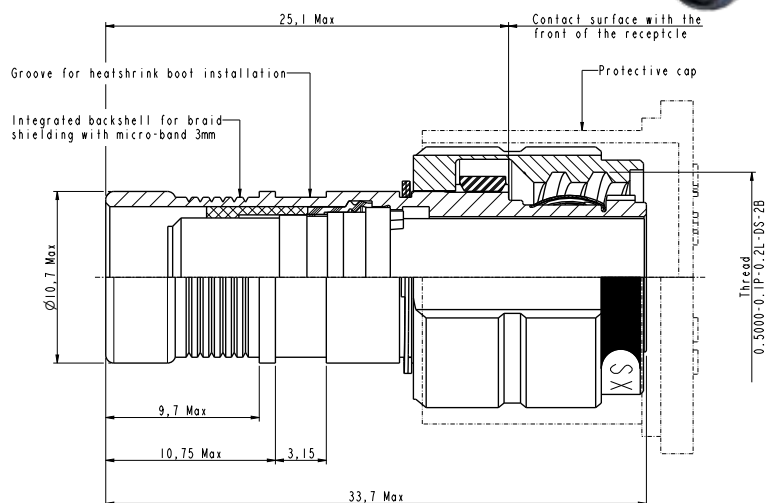
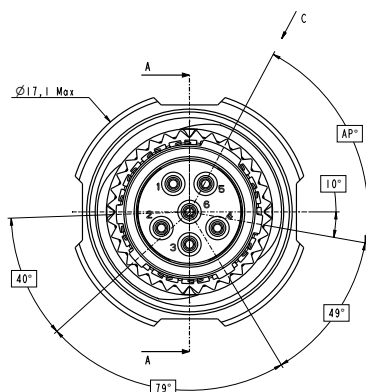


Gender	A MAX	B MAX	C MAX
Pin - 387TV*07**CI**PF059*	20.50	27.37	7.1
Socket - 387TV*07**CI**SF059*	26.13	33.00	

387TV - SIZE 7 CONNECTOR

Plug with Integrated Backshell

387TV*06**07**



387TV - SIZE 7 CONNECTOR

387TV 07-05 - The smallest shell around a Size 8 contact

Contacts possibilities

As a reminder, in 07-05 layout version, receptacles are only compatible with pin contact and plugs with socket contact.

	Pin contacts		Socket contacts	Piggy back grommet for crimp contacts
	Crimp	PC-Tail	Crimp only	
Coax 50Ω	900130	612570	900140	
Coax 75Ω (PIC V75268 cable type)*	603578	-	603748	
Coax 75Ω (RG 179 cable type)	603838	-	603828	900472
Coax 75Ω (PC Tail)	-	612008	-	
Twinax	077517	600797	077516	
Quadrax 100Ω**	603330	900210	603338	
Octomax	603072	603471	603069	900471

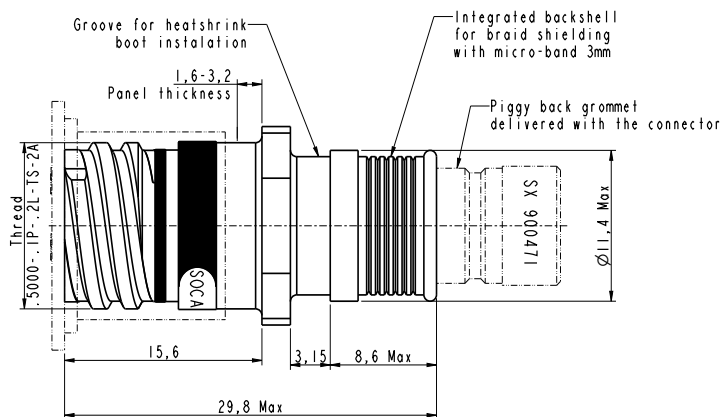
* Also compatible with PIC V76261, PIC73263 and EMTQ TFLX 125-075-01 cable types.
 ** Also compatible with Raychem 10612, EPD44690 and EPD44691 cable types.

Overall dimensions - 387TV 07-05 layout Oval flange receptacle (Pin contact only)



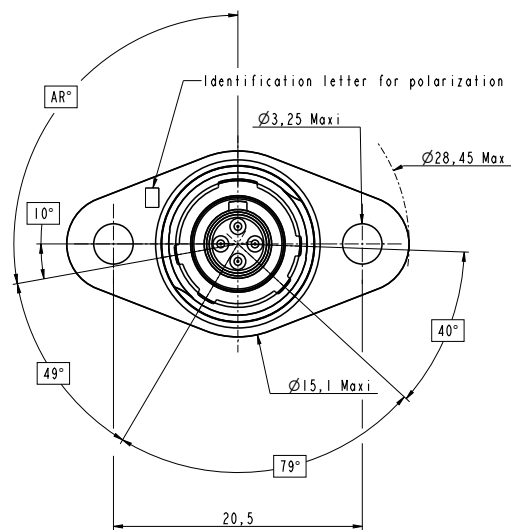
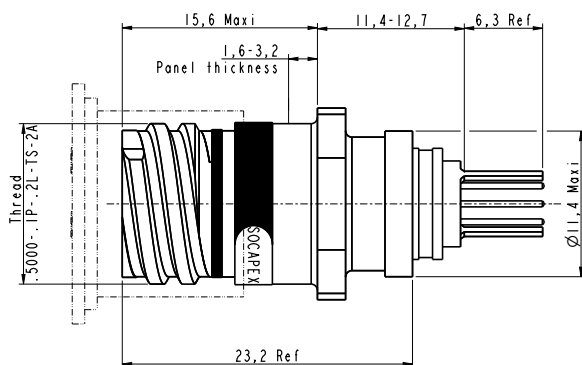
Crimp version

387TV*03**07-05P**



PC-Tail version

387TV*03**CI07-05P

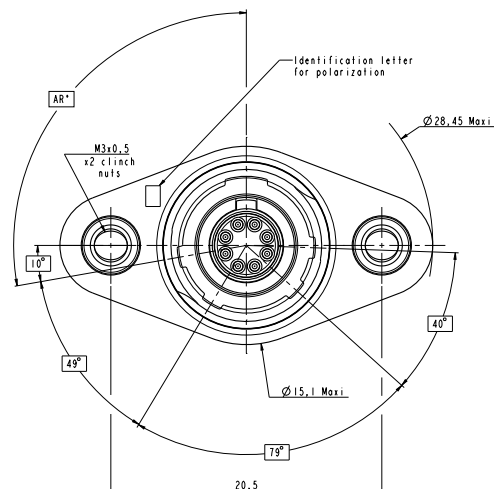
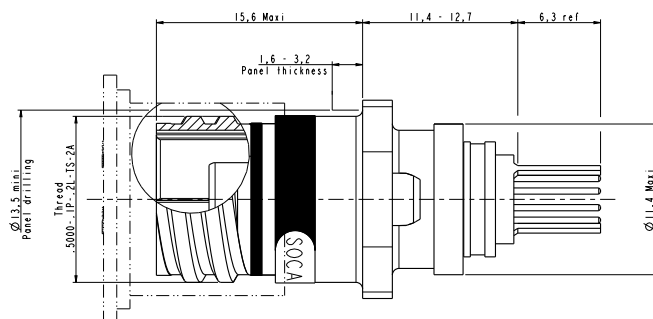


387TV - SIZE 7 CONNECTOR

Oval flange receptacle equipped with clinch nuts (Pin contact only)

PC tail version

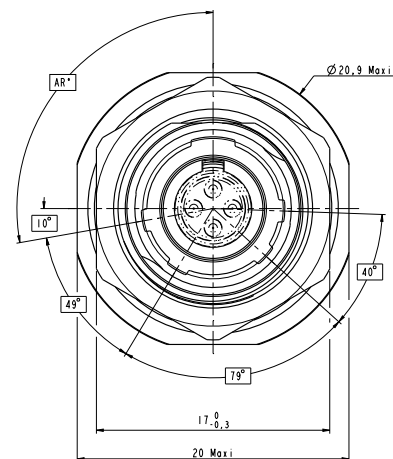
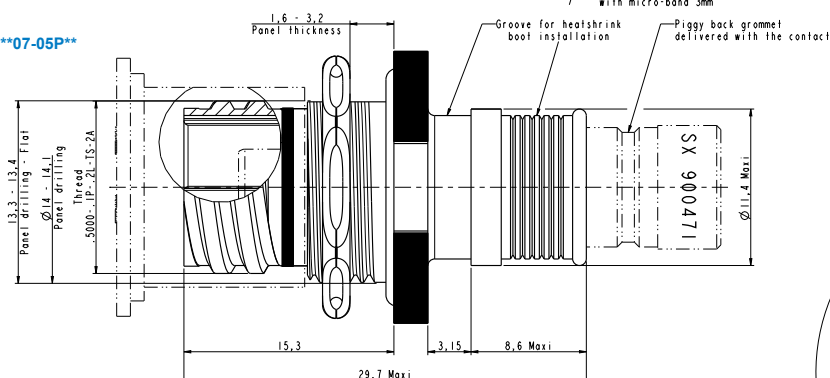
387TV*03**CI07-05P*F506



Jam nut receptacle (Pin contact only)

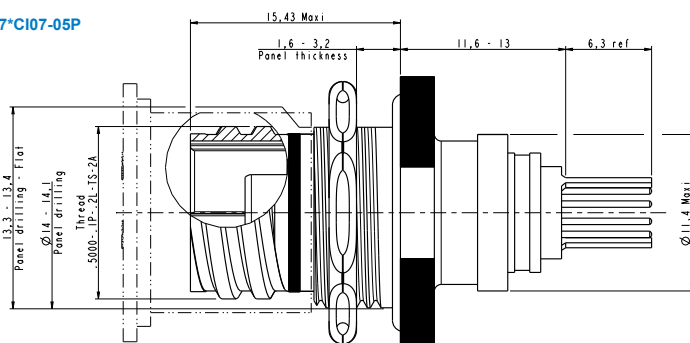
Crimp version

387TV*07**07-05P**



PC tail version

387TV*07**CI07-05P



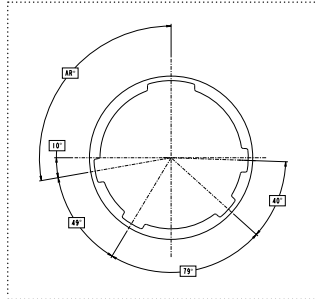
387TV - SIZE 7 CONNECTOR

Keyway positions - Connectors polarization

The angles for a given connector are the same whether it contains pins or sockets. Master key rotates, minors keys stay fixed. Inserts are not rotated in conjunction with the master key/keyway.

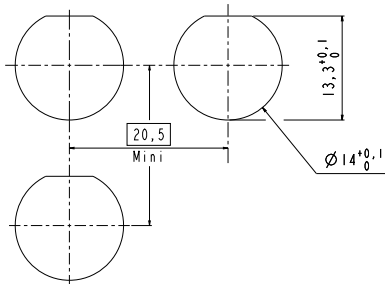
Polarization	AR°
N (Blank)	100°
A	82°
B	72°
C	128°
D	118°

RECEPTACLE (front face shown)
Main keyway

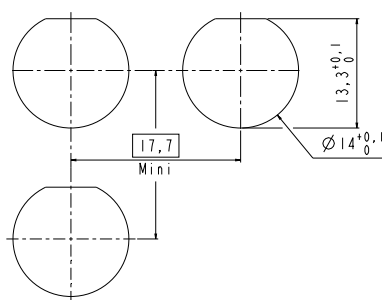


Panel hole dimensions

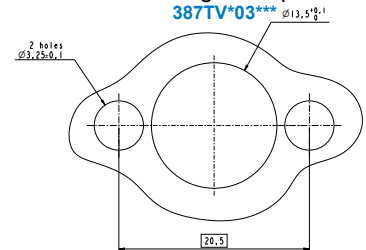
Jam nut receptacle
387TV*07***



Jam nut Reduced flange receptacle
387TV*07*F312 / 387TV*07***F059**

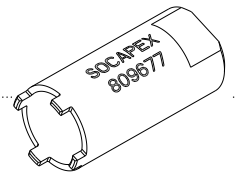
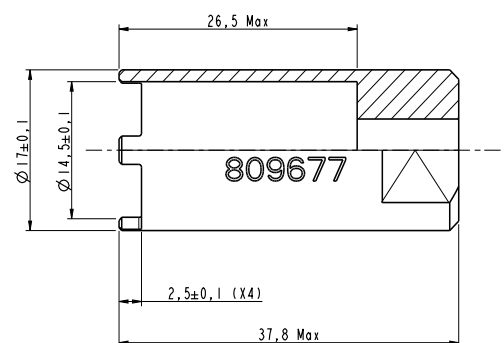
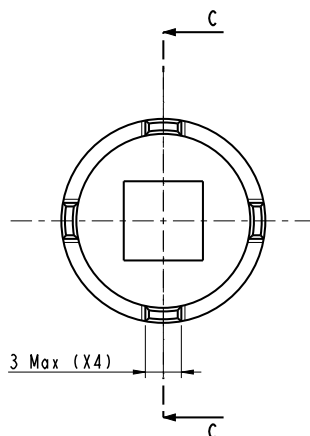
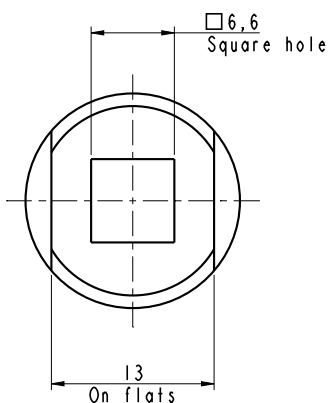


Oval flange receptacle
387TV*03***



Tool for 387TV Jam nut Reduced flange Castle nut

809677



387TV - SIZE 7 CONNECTOR - How to order 387TV accessories

Amphenol Designations - 387TV Metal Caps

1.		2.		3.		4.		5.			
Cap type - Metal		Cap Style		Wire type		Series		Material and plating		Deviation	
B		EC		N		387TV		W		-	

1. Cap style

EC	For Oval flange receptacle - Cord with eyelet
ER	For Jam nut receptacle - Cord with ring
P	For receptacle - Cord with cable tie
F	For plug - Cord with cable tie

2. Wire type

N	Nylon Cord
---	------------

3. Series

387TV	Size 7 connector
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4. Material and platings

Shell material	Shell finish
W	Olive drab cadmium
F	Nickel ✓
ZN	Black zinc nickel ✓

5. Deviation

Deviation	Description	Shell type compatibility
F057	For Reduced flange receptacle	F312 / F059
F419	Cap without cord	All

For other deviations, please consult us

Amphenol Designations - 387TV Rubber Cap

1.		2.		3.		4.			
Cap type - Rubber Cap		Cap Style		Wire type		Series		Deviation	
RC		EC		N		387TV		-	

1. Cap style

03	For Oval flange receptacle - Cord with eyelet
07	For Jam nut receptacle - Cord with ring
06	For plug - Cord with cable tie

2. Wire type

N	Nylon Cord
---	------------

3. Series

387TV	Size 7 connector
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4. Deviation

Deviation	Description	Shell type compatibility
F057	For Reduced flange receptacle	F312 / F059
F419	Cap without cord	All

For other deviations, please consult us

Amphenol Designations - Panel Stopper for 387TV Jam nut receptacle

1.		2.		3.			
Panel Stopper		Series		Style		Material and Plating	
S		387TV		N		-	

1. Series

387TV	Size 7 connector
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2. Style

07	For Jam nut receptacle
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3. Material and platings

Shell material	Shell finish
W	Olive drab cadmium
F	Nickel ✓
ZN	Black zinc nickel ✓

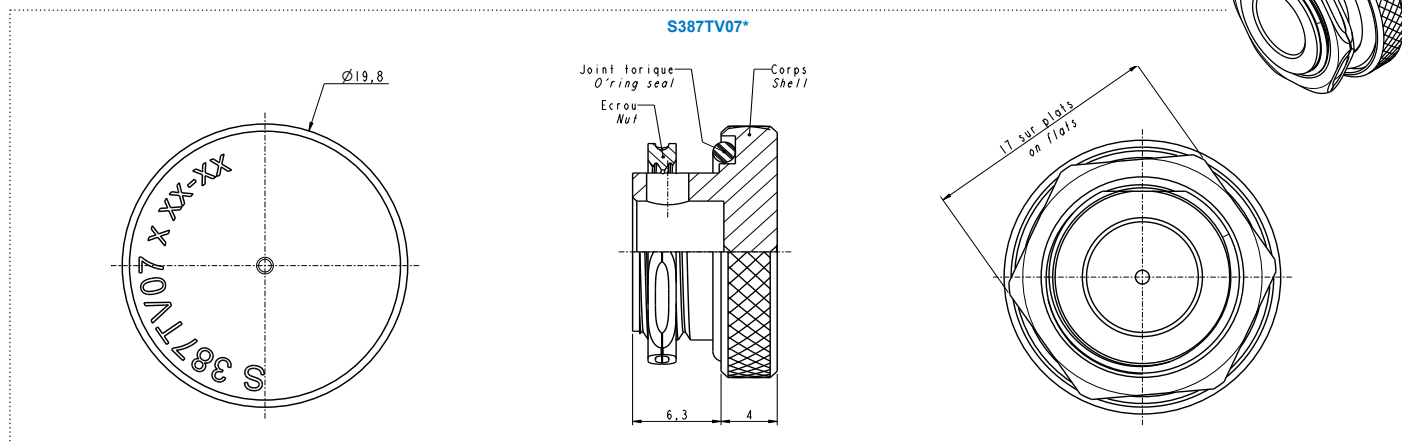
For Plug	For Oval flange receptacle	For Jam nut receptacle	For receptacles
BFN387TV* After knurling 5000-IP-2L-05-2A Thread Ø 16.7±0.1 Ø 10.46^{+0.13}₀ Marking area Crimp ferrule (X2) Nylon cord Heat shrink sleeve (X2) Cable tie 167±5 67±5 107±5	BECN387TV* 15.7±0.1 5000-IP-2L-05-2B Thread Marking area Crimp ferrule (X2) Nylon cord Heat shrink sleeve (X2) View U Ø 3.55±0.1 167±5 67±5 107±5	BERN387TV* 15.7±0.1 5000-IP-2L-05-2B Thread Marking area Crimp ferrule (X2) Nylon cord Heat shrink sleeve (X2) View V Ø 17±0.1 Ø 14.1±0.1 167±5 67±5 107±5	BPN387TV* Cap with cable tie for receptacles 15.7±0.1 5000-IP-2L-05-2B Thread Marking area Crimp ferrule (X2) Nylon cord Heat shrink sleeve (X2) View U Ø 3.55±0.1 167±5 67±5 107±5

The diagram illustrates three different cable assembly configurations for a 387TV* connector, each with a maximum length of 107.5.

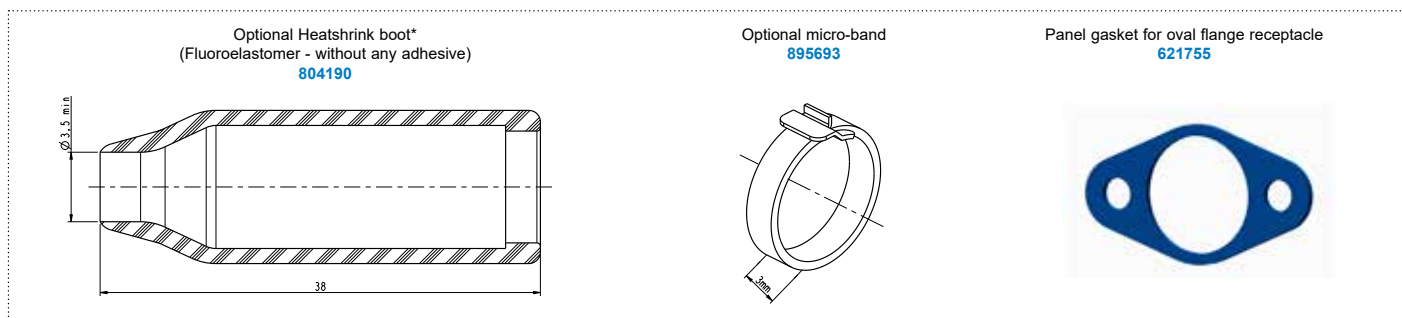
- For Plug (RC06N387TV*):** This assembly features a black silicone cap with dimensions $\varnothing 21.0 \pm 0.25$ and $\varnothing 14.6 \pm 0.15$, and a maximum width of 17.55. It includes two crimp ferrules (X2), a green nylon cord, and heat shrink (X2). The total length is 107.5, with a segment of 67.5 from the cap to the heat shrink.
- For Oval flange receptacle (RC03N387TV*):** This assembly has a black silicone cap with dimensions $\varnothing 16.0 \pm 0.25$ and $\varnothing 10.2 \pm 0.15$, and a maximum width of 16.8. It includes two crimp ferrules (X2), a green nylon cord, heat shrink (X2), and an end link. The total length is 107.5, with a segment of 67.5 from the cap to the end link. The end link has a diameter of $\varnothing 3.55 \pm 0.1$.
- For Jam nut receptacle (RC07N387TV*):** This assembly has a black silicone cap with dimensions $\varnothing 16.0 \pm 0.25$ and $\varnothing 10.2 \pm 0.15$, and a maximum width of 16.8. It includes two crimp ferrules (X2), a green nylon cord, heat shrink (X2), a rivet, and a solid ring. The total length is 107.5, with a segment of 65.5 from the cap to the rivet. The rivet has a diameter of $\varnothing 17 \pm 0.1$, and the solid ring has a diameter of $\varnothing 14.1 \pm 0.1$.

387TV - SIZE 7 CONNECTOR

Panel stopper (Jam nut receptacle) for 387TV Series



Others accessories



* Shorter piggy back grommet and realignment ring available for the use of heatshrink boot