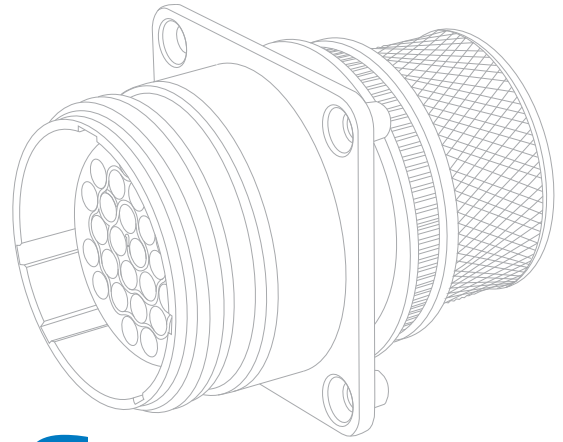


**EN2997 high temperature firewall connectors**  
Souriau 853 series





# 853 series

## Firewall connectors

Typical applications



**Table of contents**

<b>853 series overview .....</b>	<b>4</b>
Product range.....	4
Available configurations .....	5
Contact layouts .....	6
Contact layouts matrix .....	9
<b>853 series product range.....</b>	<b>10</b>
8533 series - standard version.....	10
8534 series - scoop-proof version.....	17
8535/8536 series - integrated backshell version.....	21
8533 series - power & Quadrax version.....	27
8533 series - hermetic version.....	30
<b>853 series common elements.....</b>	<b>36</b>
Signal and power contacts.....	36
Thermocouple contacts .....	38
Contact ordering information .....	39
#8 Quadrax contacts.....	40
Sealing boots .....	40
Filler plugs.....	40
Wiring instructions .....	41
Tools.....	42
Tightening support & tool .....	43
Silicone gaskets .....	43
Protective caps .....	43
Dummy receptacle.....	44

# Souriau 853 series

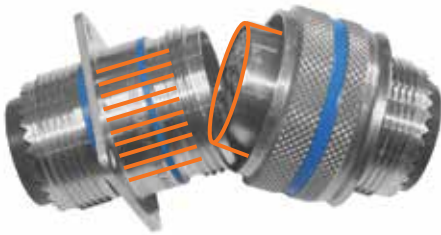
Product range

## Souriau 853 series

**Standard version**  
See **Page 10**

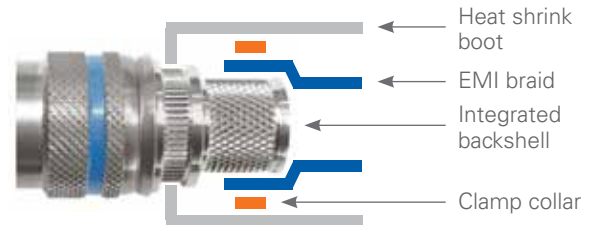


**Scoop-proof**  
See **Page 17**



- For blind mate connection
- ESC11 qualified

**Integrated backshell**  
See **Page 21**



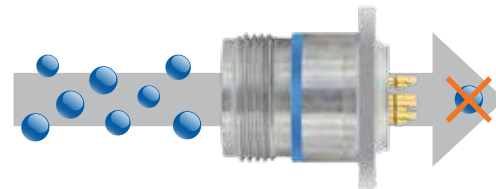
- For weight saving solutions
- ESC15 and ESC16 qualified

**Quadrax & power contacts**  
See **Page 27**



- Quadrax contacts for high speed Ethernet networks
- Power contacts for high power current under temperature and vibration
- ABS qualified solution

**Hermetic version**  
See **Page 30**



- For hermetic interface or space constrained application
- Leak rate <math>< 10^{-7}</math> atm.cm<sup>3</sup>/s
- Solder cup & PC tail contacts

853 series configurations

T° class	Salt spray	Shell material & plating	Integrated backshell	Scoop proof	Clinch nuts	Hermetic	High vibration	Plug with RFI screening ring	Plug without screening ring	Square flange receptacle	Jam nut receptacle	Solder mount receptacle	RoHS	REACH		
175°C	500H	Aluminum olive drab cadmium						85333W EN2997WS6	85334W EN2997W6	85330W EN2997WS0	85337W EN2997WS7	-				
			Yes						EN2997WSC*	-	EN2997WSA*	-	-	Yes	Yes	
200°C	48H	Aluminum nickel						85333R EN2997RS6	85334R EN2997R6	85330R EN2997RS0	85337R EN2997RS7	-	Yes	Yes		
			Yes						EN2997RSC*	-	EN2997RSA*	-	-	Yes	Yes	
	500H	Aluminum black anodized							-	85334A	85330A	85337A	-	Yes	Yes	
									85333K EN2997S6	85334K EN2997K6	85330K EN2997S0	85337K EN2997S7	-	Yes	Yes	
							Yes		-	-	85332Y EN2997Y0	85337Y EN2997Y7	85331Y EN2997Y1	Yes	Yes	
			Yes						85353KS EN2997SC	-	85350KS EN2997SA	-	-	Yes	Yes	
Yes		Yes					-	-	85355KS* EN2997SD*	-	-	Yes	Yes			
260°C	500H	Stainless steel						85333E EN2997SE6 ESC10SE6 BACC63CM**	85334E EN2997KE6 ESC10KE6	85330E EN2997SE0 ESC10KE0 ESC10SE0 BACC63CN**	85337E EN2997SE7	-	Yes	Yes		
							Yes		-	-	85332YE EN2997YE0 ESC10YE2	85337YE EN2997YE7 ESC10YE3	85331YE EN2997YE1 ESC10YE1	Yes	Yes	
			Yes						85346SE ESC11SE6	85346KE ESC11KE6	85340SE 85340KE ESC11SE0 ESC11KE0	-	-	Yes	Yes	
			Yes						8535CES 85353ES EN2997SEC ESC15SE7	8535EES 85354ES EN2997KEC ESC15KE7	8535AES 85350ES EN2997SEA ESC15KE2	-	-	Yes	Yes	
			Yes				Yes		85353KV EN2997SVC*	85354KV EN2997KVC ESC15KV7	85350KV EN2997SVA* ESC15KV2*	-	-	Yes	Yes	
			Yes		Yes			Yes		-	-	85355KV EN2997SVD* ESC15KV4	-	-	Yes	Yes
			Yes		Yes					-	-	8535DES* 85355ES* EN2997SED* ESC15KE4*	-	-	Yes	Yes
			Yes	Yes						85363ES ESC16SE7	85364ES ESC16KE7	85360ES ESC16KE2	-	-	Yes	Yes
			Yes	Yes				Yes		-	85364KV ESC16KV7	ESC16KV2*	-	-	Yes	Yes
			Yes	Yes	Yes			Yes			-	85365KV ESC16KV4	-	-	Yes	Yes

\* Please consult us. \*\*Only delivered without contact.

# Souriau 853 series

## Contact layouts

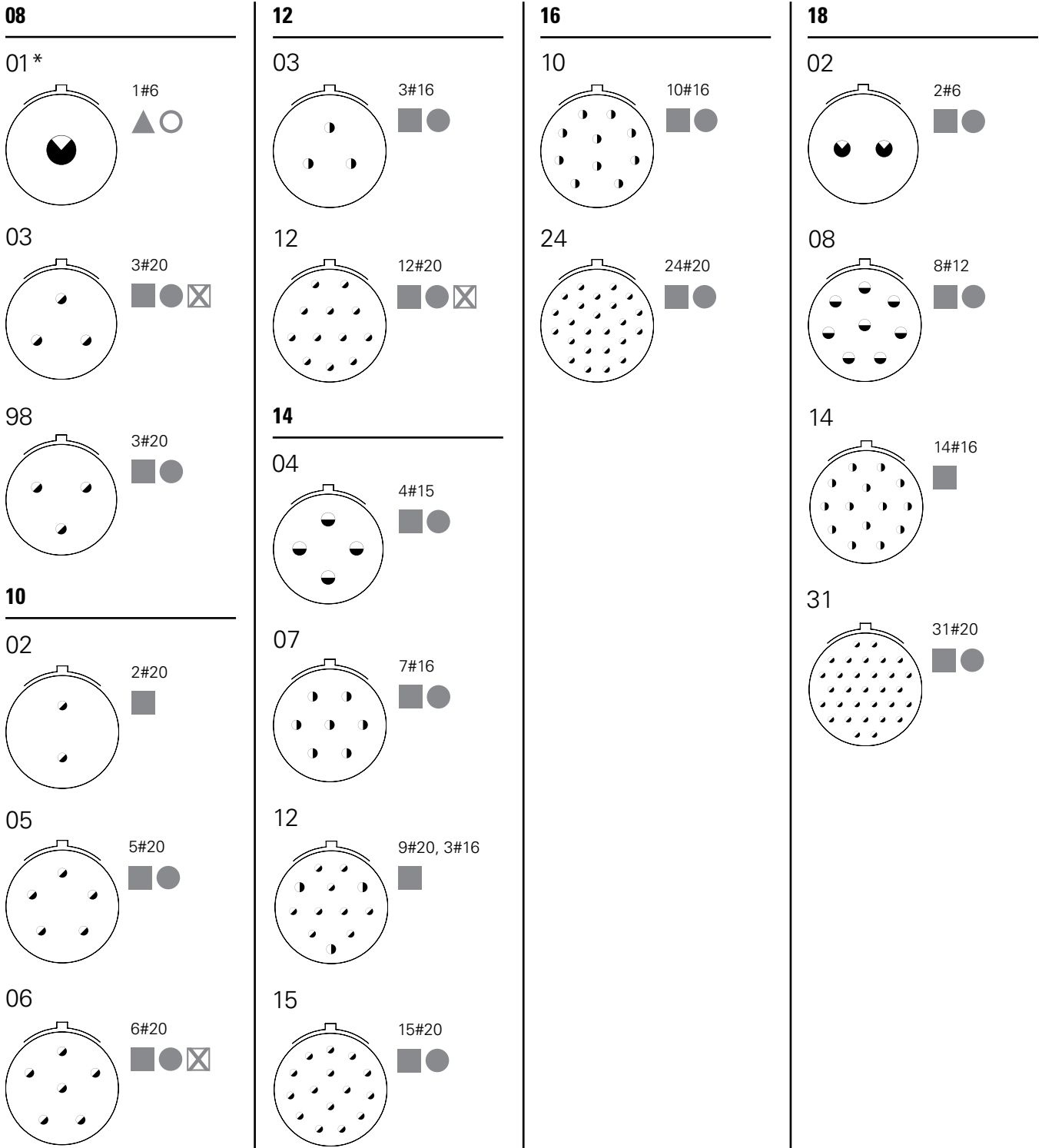
### Contact layouts 8533/8535 series

#### Connector type

Class 200°C  
  Classes 200°C & 260°C  
  Hermetic 200°C & 260°C (8533 only)  
  Fuel tank  
  8533 only (ABS)  
 \* Quadrax layout only, #8 Quadrax contact compatible with #6 cavity.

#### Contact sizes

Contact #20  
  Contact #16  
  Contact #12  
  Contact #8 quadrax & Contact #6 power  
  Contact #4 power



Contact layouts 8533/8535 series

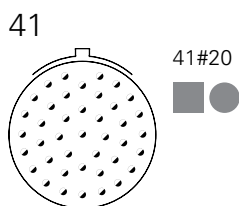
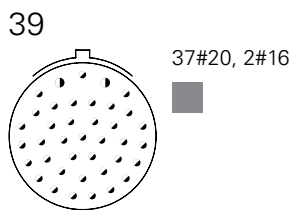
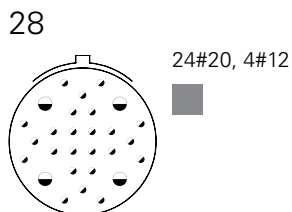
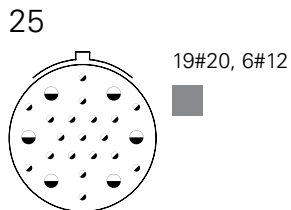
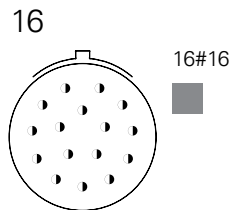
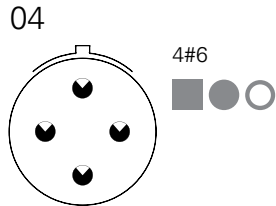
Connector type

▲ Class 200°C   ■ Classes 200°C & 260°C   ● Hermetic 200°C & 260°C (8533 only)   ⊠ Fuel tank   ○ 8533 only (ABS)   \* Please consult us.

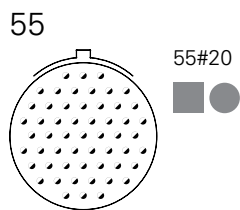
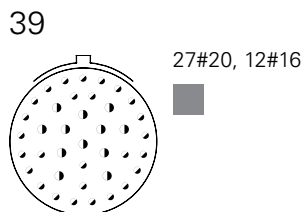
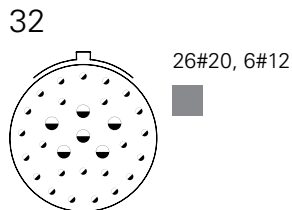
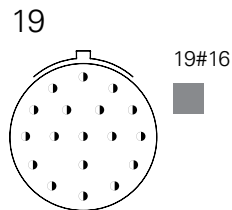
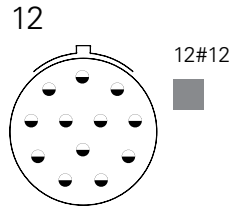
Contact sizes

● Contact #20   ◐ Contact #16   ◑ Contact #12   ◒ Contact #8 quadrax & Contact #6 power   ● Contact #4 power

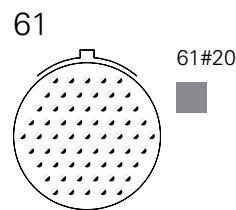
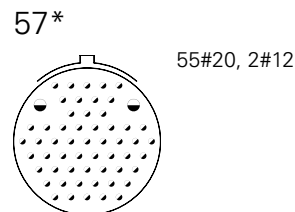
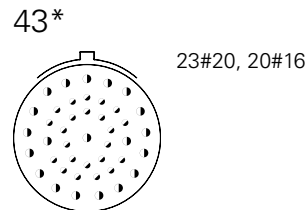
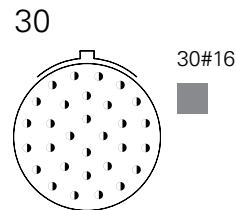
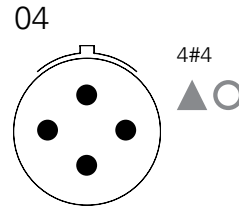
20



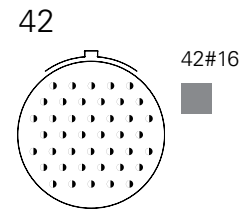
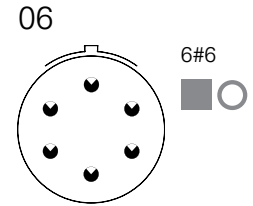
22



24



28



# Souriau 853 series

## Contact layouts

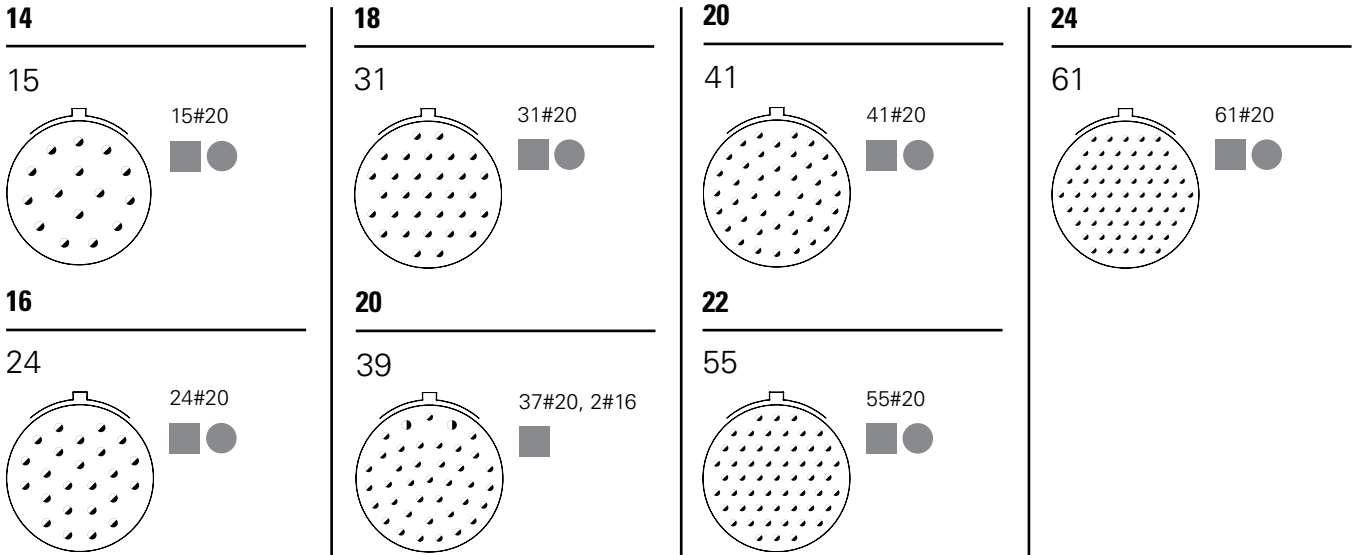
### Contact layouts 8534/8536 series

#### Connector type

▲ Class 200°C   ■ Classes 200°C & 260°C   ● Hermetic 200°C & 260°C (8533 only)   ⊗ Fuel tank   ○ 8533 only (ABS)

#### Contact sizes

● Contact #20   ◐ Contact #16   ◑ Contact #12   ◒ Contact #8 quadrax & Contact #6 power   ● Contact #4 power





## Contact layouts (matrix)

Shell size	Layout	8533	EN2997	ESC10	ABS power & quadrax	8533 hermetic	EN2997 hermetic	8533 spec. 022	ESC10 hermetic	8535	ESC15	8534 8536	ESC11 ESC16	Number of contacts					
														#20	#16	#12	#8	#6	#4
08	08-01	Yes			Yes <sup>(2)</sup>													1	
	08-03	Yes	Q	Q		Yes	Q	Yes	Q	Yes	Q							3	
	08-98	Yes	Q	Q		Yes	Q		Q	Yes	Q							3	
10	10-02	Yes								Yes								2	
	10-05	Yes	Q	Q		Yes	Q		Q	Yes	Q							5	
	10-06	Yes	Q			Yes	Q			Yes	Q							6	
12	12-03	Yes	Q	Q		Yes	Q		Q	Yes	Q							3	
	12-12	Yes	Q	Q		Yes	Q	Yes	Q	Yes	Q							12	
14	14-04	Yes	Q	Q		Yes	Q		Q	Yes	Q							4	
	14-07	Yes	Q	Q		Yes	Q		Q	Yes	Q							7	
	14-12	Yes	Q							Yes								9 3	
	14-15	Yes	Q	Q		Yes	Q		Q	Yes	Q	Yes	Q					15	
16	16-10	Yes	Q	Q		Yes	Q		Q	Yes	Q							10	
	16-24	Yes	Q	Q		Yes	Q		Q	Yes	Q	Yes	Q					24	
18	18-02	Yes			Yes													2	
	18-08	Yes	Q	Q						Yes								8	
	18-14	Yes	Q	Q						Yes	Q							14	
	18-31	Yes	Q	Q		Yes	Q		Q	Yes	Q	Yes	Q					31	
20	20-04	Yes			Yes	Yes												4	
	20-16	Yes	Q							Yes	Q	Yes	Q					16	
	20-25	Yes	Q							Yes								19 6	
	20-28	Yes	Q							Yes								24 4	
	20-39	Yes	Q	Q						Yes	Q	Yes	Q					37 2	
	20-41	Yes	Q	Q		Yes	Q	Yes	Q	Yes	Q	Yes	Q					41	
22	22-12	Yes	Q	Q					Q	Yes								12	
	22-19	Yes	Q	Q					Q	Yes	Q							19	
	22-32	Yes	Q							Yes								26 6	
	22-39	Yes	Q							Yes								27 12	
	22-55	Yes	Q	Q		Yes	Q		Q	Yes	Q	Yes	Q					55	
24	24-04	Yes			Yes													4	
	24-30	Yes	Q	Q						Yes	Q							30	
	24-43	Yes								Yes								23 20	
	24-57	Yes								Yes								55 2	
	24-61	Yes	Q	Q					Q	Yes	Q	Yes	Q					61	
28	28-06	Yes			Yes													6	
	28-42	Yes	Q <sup>(1)</sup>	Q						Yes	Q							42	

**Yes** Souriau layout

**Q** Souriau layout & layout according to corresponding norm

(1) Only developed for square flange receptacle all classes and stainless steel plug (for other configuration, please consult us)

(2) Quadrax contact only

# 8533 series - standard version

## Technical specifications



## Description

- Stainless steel screw coupling connector derived from MIL-C-83723, designed for use in harsh aviation environments
  - High vibration resistance
  - High temperature resistance (up to 260°C)
  - Fireproof (1100°C)
- Qualified to EN2997 and ESC10 standards
- Large array of EN3155 and ESC30 qualified crimp contacts
  - Size 12, 16 & 20 standard contacts
  - Size 12, 16 & 20 thermocouple contacts for temperature measurement
- Fuel immersion version available

## Mechanical

### Shell

Aluminum alloy (class R, W and A)  
Stainless steel (class K, E and S)

### Plating

Nickel (class R and S)  
Olive green cadmium (class W)  
Black anodized (class A)  
Passivated (class K and E)

### Grommet and seal

Silicone elastomer

### Insulator

Thermoplastic

### Contact body

Copper alloy

### Contact plating

Gold over nickel

### Contact retention

Size 20: 90 N  
Size 16: 110 N  
Size 12: 130 N

### Mating cycles

250 mating cycles (class R, W and A)  
500 mating cycles (class K, E and S)

### Shock

300 m/s<sup>2</sup> (30g) during 3 ms

### Vibration

Random 5 Hz to 2000 Hz at 1G<sup>2</sup>/Hz  
(2 x 8 hours)

## Electrical

### Dielectric withstanding

Altitude	Service I
Sea level	1500 Vrms
15 000 m	600 Vrms
21 000 m	400 Vrms
33 000 m	200 Vrms

### Contact resistance

Initial contact resistance at ambient temperature per EN 2997 and EN3155

Contact size	20	16	12
Resistance mΩ	7.3	3.8	3.5

### Insulation resistance

5000 MΩ at 500 Vdc

### Max current rating per contact

Contact size	20	16	12
Rating (A)	7.3	13	23

### Electrical continuity

5 mΩ max with RFI shielding  
60 mΩ without RFI shielding

### Shielding

To 100 MHz at 1 GHz attenuation  
65 dB

### Lightning strike (3K & 3E classes)

15A according D0160, wave 5A

## Environmental

### Operating temperature

- Class W: -65° to +175°C (-149° to +347°F)
- Class R, A and K: -65° to +200°C (-149° to +392°F)
- Class E and S: -65° to +260°C (-149° to +500°F)
- Fuel tank long term immersion version specification 22 limited to +105°C max

### Leakage

Per 2591-312:  
Method B differential pressure: 100kPa  
Maximum leakage flow: 16x10<sup>-6</sup> m<sup>3</sup>/h

### Salt spray

48 hours (class R)  
500 hours (class W, K, E and A)

### Resistance to fluids

MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL-L 7808 - MIL-C 25769 - MIL-A 8243

### Fire resistance

Per EN 2591-318:  
6 min under a 1100°C flame without electrical perturbation, plus 14 min with no flame propagation (ES class)

### Fuel resistance

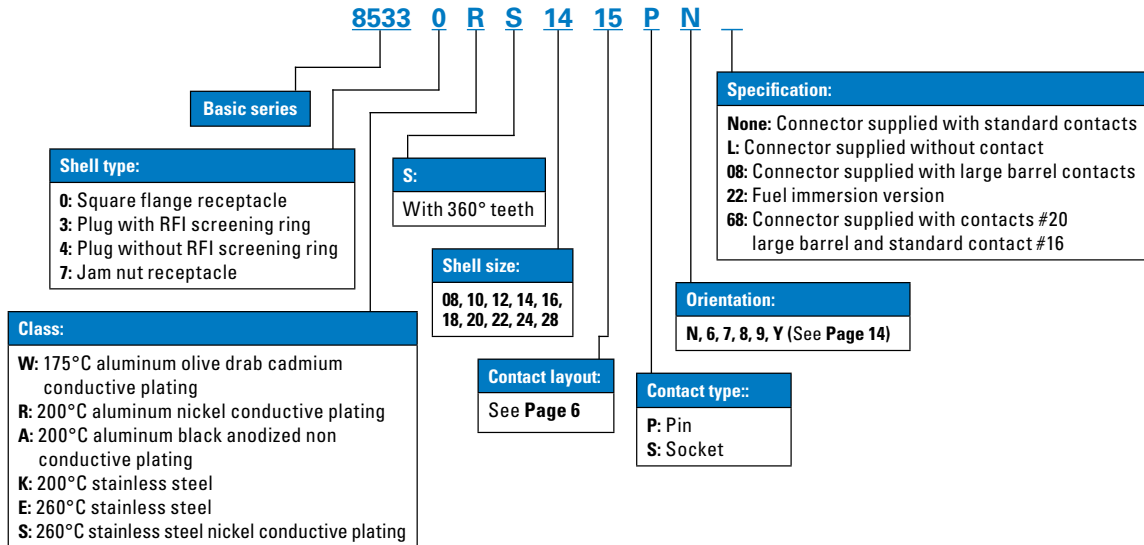
#### Standard version

Per EN2997

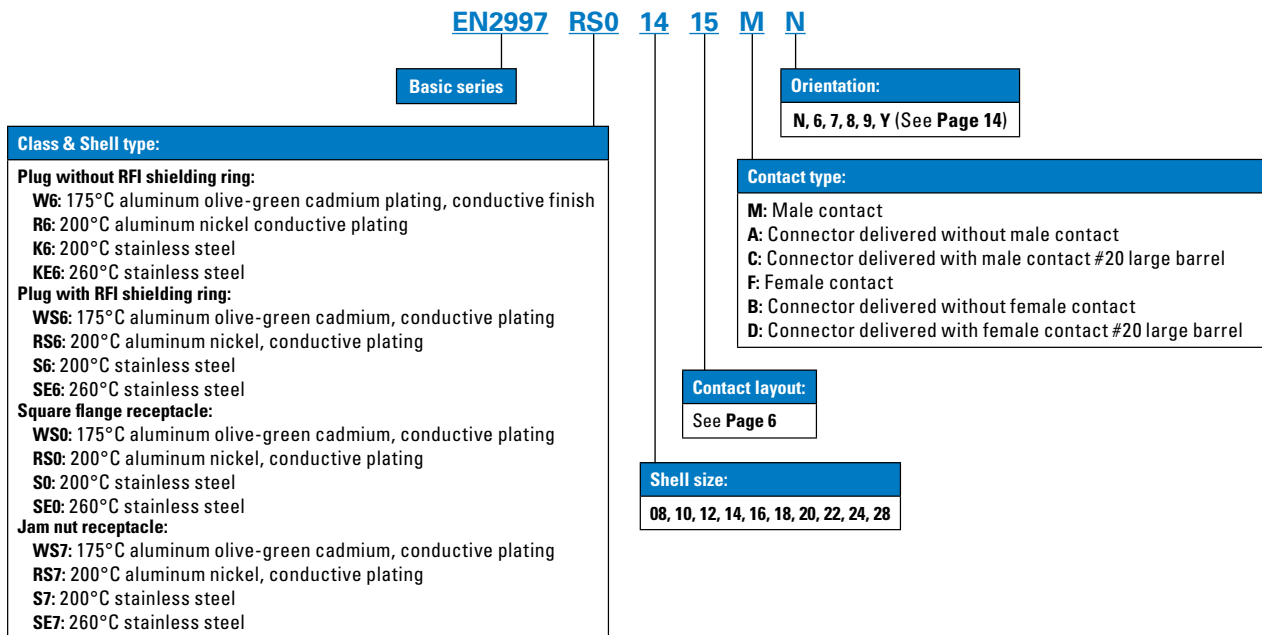
#### Long term immersion (specification 22):

Per PrEN3645: 3 cycles of 96 hours in fuel

Standard connectors - part numbers



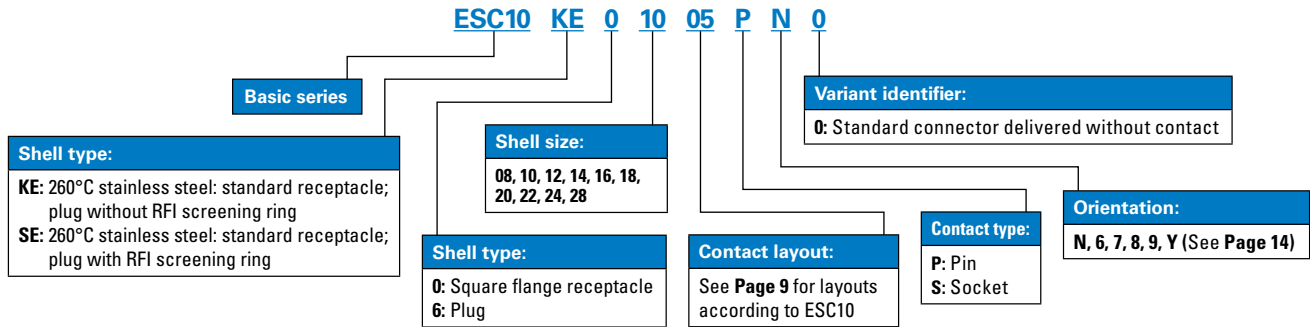
EN2997 qualified products



# 8533 series - standard version

## Technical specifications

### ESC10 qualified products



### Connector weight Mass max. (g) less contact

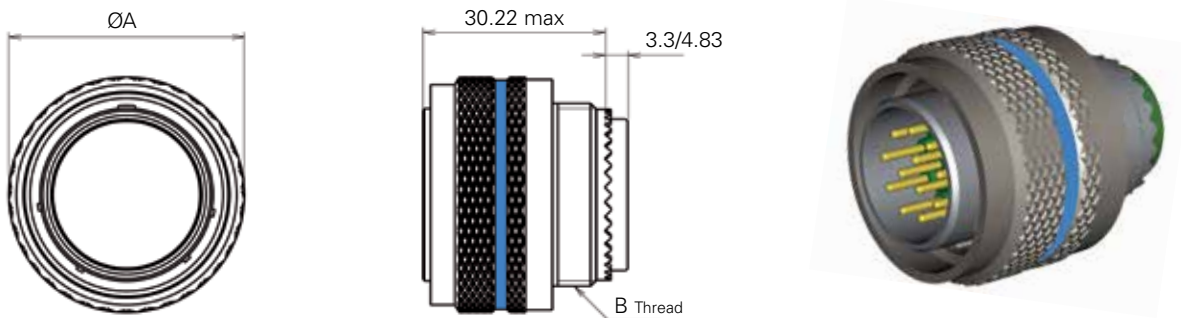
Shell size	Square flange		Jam nut		Plug	
	Stainless steel	Aluminum	Stainless steel	Aluminum	Stainless steel	Aluminum
<b>08</b>	19	11	32	15	31	14
<b>10</b>	28	16	41	21	44	21
<b>12</b>	39	27	58	30	57	26
<b>14</b>	51	30	68	35	72	38
<b>16</b>	62	34	82	46	82	39
<b>18</b>	73	36	88	51	95	43
<b>20</b>	82	40	100	56	108	48
<b>22</b>	90	51	123	69	121	65
<b>24</b>	105	58	137	82	134	67
<b>28</b>	126	88	191	120	160	103

### Mass of crimp contacts

Contact size	Mass (g)	
	Pin	Socket
<b>20</b>	0.24	0.29
<b>16</b>	0.53	0.59
<b>12</b>	1.15	1.28
<b>6</b>	3.6	4.8
<b>4</b>	7.3	8.5

## Dimensions

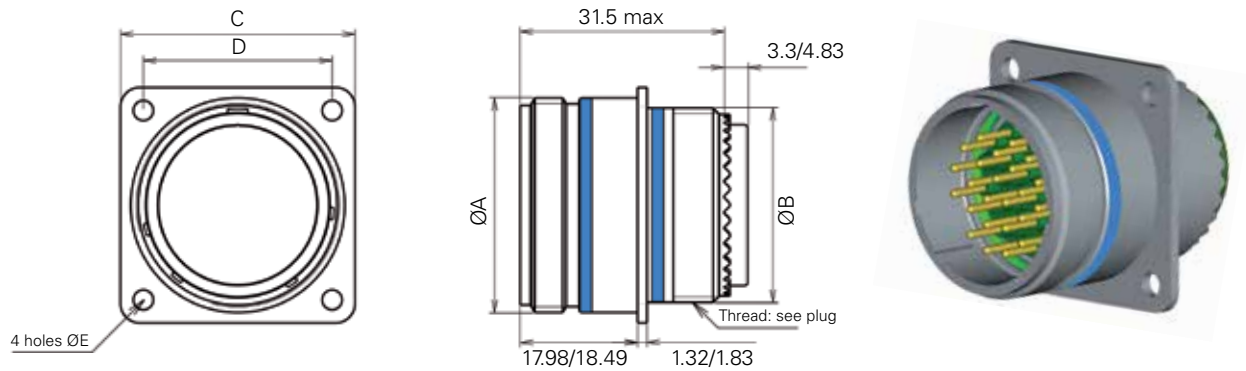
### Plug



Shell size	<b>08</b>	<b>10</b>	<b>12</b>	<b>14</b>	<b>16</b>	<b>18</b>	<b>20</b>	<b>22</b>	<b>24</b>	<b>28</b>
<b>A Max</b>	21.30	24.90	29.60	31.24	34.42	37.34	41.91	44.07	47.24	55.24
<b>B Thread</b>	1/2"-20 UNF 2A	5/8"-24 UNEF 2A	3/4"-20 UNEF 2A	7/8"-20 UNEF 2A	1"-20 UNEF 2A	1-1/16"-18 UNEF 2A	1-3/16"-18 UNEF 2A	1-5/16"-18 UNEF 2A	1-7/16"-18 UNEF 2A	1-3/4"-18 UNEF 2A

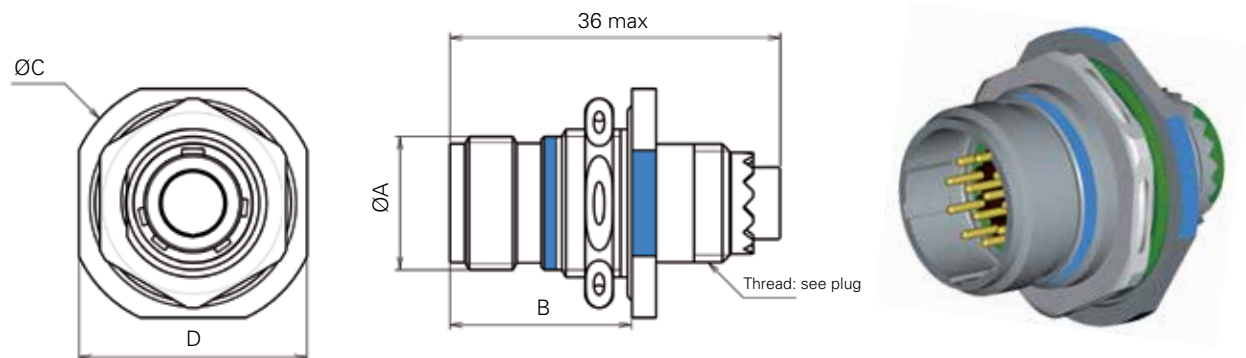
**Note:** All dimensions are in millimeters (mm)

### Square flange receptacle



Shell size	08	10	12	14	16	18	20	22	24	28
<b>A Max</b>	14.27	17.67	22.22	23.77	26.97	30.15	33.32	36.49	39.67	46.02
<b>B Max</b>	12.7	15.88	19.05	22.23	25.40	26.97	30.18	33.32	36.53	44.45
<b>C Max</b>	20.75	23.93	26.32	28.71	31.88	34.24	36.63	39.80	43.39	50.93
<b>D</b>	15.09	18.26	20.62	23.01	24.61	26.97	29.36	31.75	34.92	39.67
<b>E</b>	3.10/3.30	3.10/3.30	3.10/3.30	3.10/3.30	3.10/3.30	3.10/3.30	3.10/3.30	3.10/3.30	3.68/3.91	3.68/3.91

### Jam nut receptacle



Shell size	08	10	12	14	16	18	20	22	24
<b>A Max</b>	14.27	17.67	22.22	23.77	26.97	30.15	33.32	36.49	39.67
<b>B Max</b>	19.84	19.84	19.84	19.84	19.84	19.84	19.84	19.84	19.84
<b>C Max</b>	27.38	30.28	35.05	38.51	41.68	44.86	49.63	52.78	55.42
<b>D Max</b>	24.89	28.04	32.79	35.33	38.51	41.68	44.86	49.63	52.81

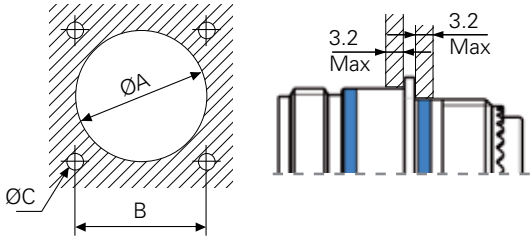
Note: All dimensions are in millimeters (mm)

# 8533 series - standard version

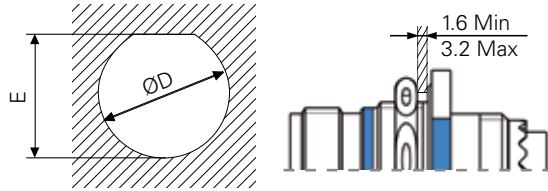
## Dimensions

### Panel cut out

Type 0  
Square flange receptacle

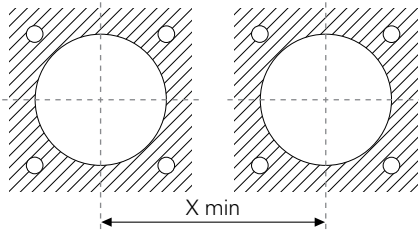


Type 7  
Jam nut receptacle



Shell size	8	10	12	14	16	18	20	22	24	28
<b>A min</b>	15.8	18.7	23.4	24.9	28.3	31.1	34.5	37.5	40.6	48
<b>B</b>	15.09	18.26	20.62	23.01	24.61	26.97	39.36	31.75	34.92	39.67
<b>C</b>	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.8	3.8
<b>D Min</b>	16.00	19.17	23.92	25.52	28.70	31.87	35.05	38.22	41.40	-
<b>E Min</b>	15.24	18.41	23.16	24.76	27.94	30.99	34.16	37.33	40.51	-

### Minimum space between square flange or jam nut receptacles

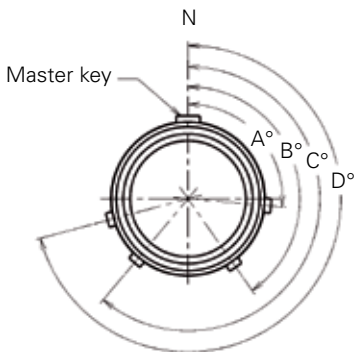


Shell size	8	10	12	14	16	18	20	22	24	28
<b>Y min (norm value)</b>	31.70	34.90	39.60	41.25	44.45	47.35	51.90	54.10	57.25	65.25

$$X \text{ min} = Y/2 \text{ (connector one)} + Y/2 \text{ (connector two)}$$

Example of minimum space between a connector size 8 and a connector size 14:  
 $X \text{ min} = 31.70/2 + 41.25/2 = 36.475 \text{ mm}$

### Orientation



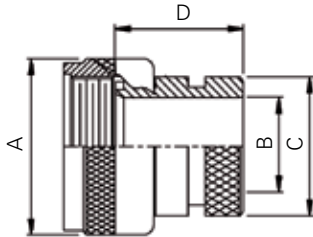
Front face view of plug

Shell size	Angles	N	6	7	8	9	Y
<b>08</b>	A°	105	102	80	35	64	-
	B°	140	132	118	140	155	-
	C°	215	248	230	205	234	-
	D°	265	320	312	275	304	-
<b>10</b>	A°	105	102	80	35	64	25
	B°	140	132	118	140	155	115
	C°	215	248	230	205	234	220
	D°	265	320	312	275	304	270
<b>12 to 28</b>	A°	105	18	92	84	24	98
	B°	140	149	152	152	135	152
	C°	215	192	222	204	199	268
	D°	265	259	342	334	240	338

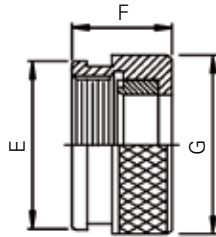
Note: All dimensions are in millimeters (mm)

### Aluminum shrink boot adapters

Shrink boot adapter (removable) Type 60-1



Shrink boot adapter (non removable) Type 60-2G



**M85049/ 60-1 W 10**

**Basic series**

**Backshell type:**

**60-1:** Shrink boot adapter  
**60-2G:** Shrink boot adapter

**Shell size:**

**08, 10, 12, 14, 16, 18, 20, 22, 24, 28**

**Plating:**

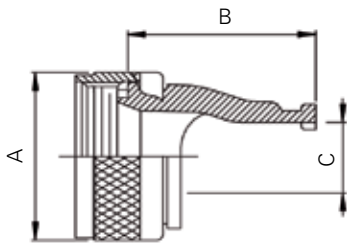
**A:** Black anodized  
**N:** Nickel  
**W:** Olive green cadmium

Shell size	A Max	B Min	C Max	D Max	E Max	F Max	G Max
<b>08</b>	15.67	6.35	13.54	21.13	16.69	13.72	17.48
<b>10</b>	18.64	9.02	15.37	21.13	19.66	13.72	20.4
<b>12</b>	21.79	12.47	19.66	21.13	22.81	13.72	23.83
<b>14</b>	24.99	14.35	21.29	21.13	26.01	13.72	27.0
<b>16</b>	28.24	17.53	24.46	21.13	29.26	13.72	31.45

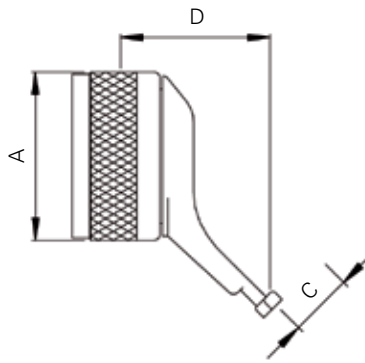
Shell size	A Max	B Min	C Max	D Max	E Max	F Max	G Max
<b>18</b>	30.94	19.53	26.47	21.13	31.57	13.72	33.27
<b>20</b>	34.16	22.71	30.91	21.13	34.8	13.72	36.47
<b>22</b>	37.29	25.88	34.42	21.13	36.65	13.72	39.62
<b>24</b>	40.46	28.80	36.65	21.13	41.10	13.72	42.82
<b>28</b>	50.01	34.77	43.41	25.25	50.01	17.83	52.37

### Aluminum plastic collar

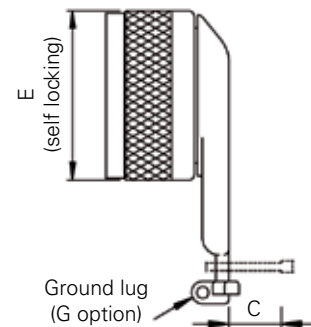
Straight plastic collar Type 53



45° plastic collar Type 54



90° plastic collar Type 55



**M85049/ 55**

**Basic series**

**Backshell type:**

**53:** Straight plastic collar  
**54:** 45° plastic collar  
**55:** 90° plastic collar

**10 A**

**Plating:**

**A:** Black anodized  
**W:** Olive green cadmium

**Shell size:**

**08, 10, 12, 14, 16, 18, 20, 22, 24**

**Configuration (55 type only):**

**-:** Standard without self-locking  
**S:** Self-locking  
**G:** Self locking with grounding lug

Shell size	A Max	B Max	C	D Max	E Max
<b>08</b>	15.67	24.23	6.60	31.29	16.68
<b>10</b>	18.64	24.23	9.27	31.29	19.86
<b>12</b>	21.79	24.23	12.73	31.29	23.79
<b>14</b>	24.99	30.58	14.60	31.29	26.67
<b>16</b>	28.24	30.58	17.78	31.29	31.47
<b>18</b>	30.94	30.58	19.79	31.29	35.00
<b>20</b>	34.16	33.27	22.96	37.64	38.10
<b>22</b>	37.29	36.32	26.14	37.64	41.42
<b>24</b>	40.46	39.62	29.06	37.64	44.50

**Note:** All dimensions are in millimeters (mm)

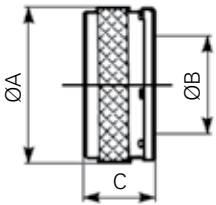
# 8533 series - standard version

## Dimensions

### Backnut and cable clamp

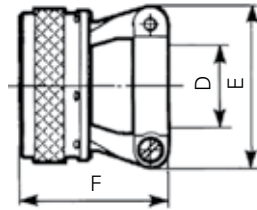
#### Backnut

Type 31 (aluminum)  
Type 01 (stainless steel)



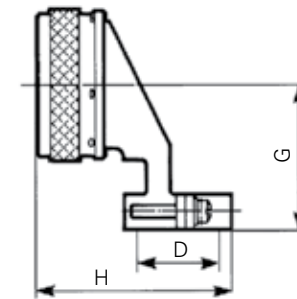
#### Straight cable clamp

Type 52 (aluminum)  
Type 02 (stainless steel)



#### Elbow cable clamp

Type 51 (aluminum)



**852 31 N 14**

**Aluminum backshell**

**Backshell type:**  
31: Backnut  
52: Straight cable clamp  
51: Elbow cable clamp

**Shell size:**  
08, 10, 12, 14, 16, 18, 20, 22, 24

**Plating:**  
A: Black anodized  
N: Nickel  
W: Olive green cadmium

**8527 01 14**

**Stainless steel backshell**

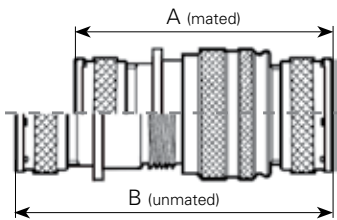
**Backshell type:**  
01: Backnut  
02: Straight cable clamp

**A**  
Mandatory suffix for backshell type 02

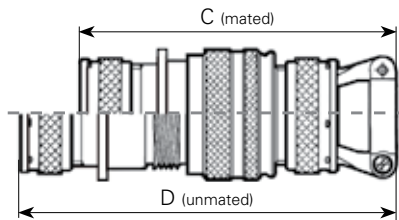
**Shell size:**  
08, 10, 12, 14, 16, 18, 20, 22, 24

Shell size	A Max	B	C <sup>+0.7</sup>	D <sup>+0.15</sup>	E Max	F Max	G Max	H Max	Torque values Nm
08	15.67	6.85	12.85	4	19.25	22.61	20.50	27.96	8.6
10	18.64	9.50	12.85	6.85	20.45	25.40	22.00	30.04	11.5
12	21.79	12.90	12.85	10.15	24.35	28.60	23.60	34.95	16.1
14	24.99	14.85	12.85	11.7	25.85	28.58	25.20	36.47	17.3
16	28.24	18.03	12.85	15.5	32.75	31.75	26.80	40.25	17.3
18	30.94	20.04	12.85	17.5	36.15	38.10	31.30	43.10	17.3
20	34.16	23.21	12.85	20.7	38.75	41.28	32.90	46.27	20.7
22	37.29	26.39	12.85	23.9	41.25	43.55	34.50	49.45	20.7
24	40.46	29.30	12.85	27	44.35	47.62	36.10	52.62	20.7

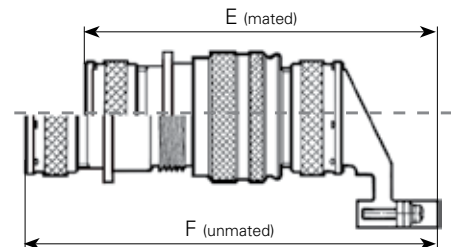
### Length - mated/unmated connectors with backshells



Backnut - Type 31 or Type 01  
+ Square flange receptacle  
+ Plug  
+ Backnut - Type 31 or Type 01



Backnut - Type 31 or Type 01  
+ Square flange receptacle  
+ Plug  
+ Straight cable clamp - Type 52 or Type 02



Backnut - Type 31 or Type 01  
+ Square flange receptacle + Plug  
+ Elbow cable clamp - Type 51

Shell size	A	B	C		D		E	F
			Type 52	Type 02	Type 52	Type 02		
8	62	73	71.8	71.8	82.8	82.8	76.75	87.75
10	62	73	73.6	74.65	84.6	85.65	78.45	89.45
12	62	73	77	77.8	88	88.8	81.05	92.05
14	62	73	77	77.8	88	88.8	82.55	93.55
16	62	73	80	81	91	92	86.45	97.45

Shell size	A	B	C		D		E	F
			Type 52	Type 02	Type 52	Type 02		
18	62	73	87	87.35	98	98.35	87.85	98.85
20	62	73	89.6	90.8	100.6	101.8	89.4	100.4
22	62	73	93.5	93.7	104.5	104.7	91.05	102.05
24	62	73	95.9	96.9	106.9	107.9	92.65	103.65

Note: All dimensions are in millimeters (mm)





### Description

- Stainless steel screw coupling connector designed for use in harsh aviation engine environments
  - High vibration resistance
  - High temperature resistance (260°C)
  - Fireproof (1100° C)
- Scoop-proof design enables blind mating
- Qualified to ESC11 standard
- Fully interchangeable and intermateable with ESC16 / 8536 connectors (integrated backshell version)
- Large array of crimp contacts
  - Size 16 & 20 standard contacts
  - Size 16 & 20 thermocouple contacts
- Fuel immersion version available

### Mechanical

#### Shell

Passivated stainless steel

#### Grommet and seal

Silicone elastomer

#### Insulator

Thermoplastic

#### Contact body

Copper alloy

#### Contact plating

Gold over nickel

#### Contact retention

Size 20: 90 N  
Size 16: 110 N

#### Mating cycles

500 mating / unmating operations

#### Vibration & shock

According to JES290-083: 41 grms  
(2 x 8 hours)

### Electrical

#### Dielectric withstanding

Altitude	Service I
Sea level	1500 Vrms
15 000 m	600 Vrms
21 000 m	400 Vrms
33 000 m	200 Vrms

#### Insulation resistance

5000 MΩ at 500 Vdc

#### Max current rating per contact

Contact size	20	16
Rating (A)	7.3	13

#### Contact resistance

Initial contact resistance at ambient temperature per EN 2997 and EN315

Contact size	20	16	12
Resistance mΩ	7.3	3.8	3.5

#### Electrical continuity

5 mΩ with RFI shielding (6SE class)

#### Shielding

To 100 MHz at 1 GHz attenuation  
65 dB

### Environmental

#### Temperature range

-65°C to +260°C

#### Leakage

Per 2591-312:

Method B differential pressure: 100kPa  
Maximum leakage flow: 16x10<sup>-6</sup> m<sup>3</sup>/h

#### Salt spray

500 hours (class W, K, E and A)

#### Fire resistance

Per EN 2591-318:

6 min under a 1100°C flame without electrical perturbation, plus 14 min with no flame propagation (ES class)

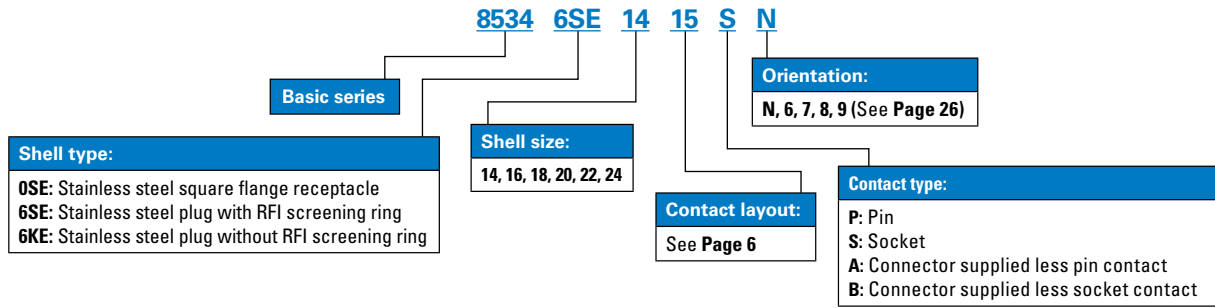
#### Resistance to fluids

MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL- L 7808 - MIL-C 25769 - MIL-A 8243

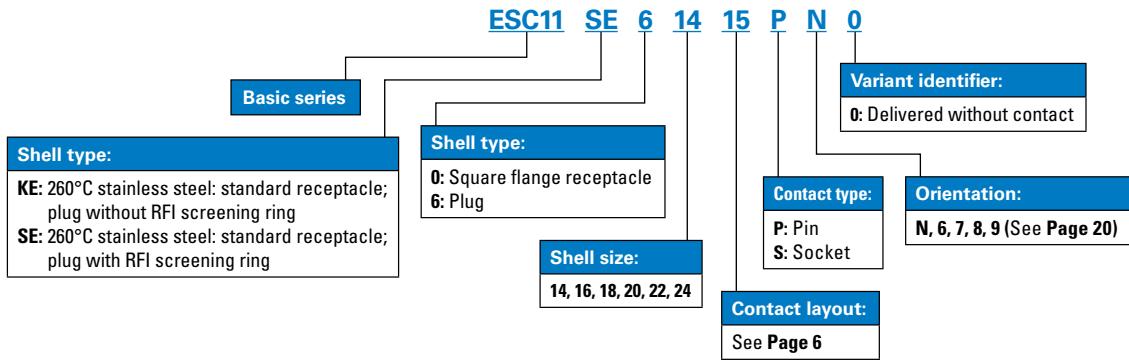
# 8534 series - scoop-proof version

## Ordering information

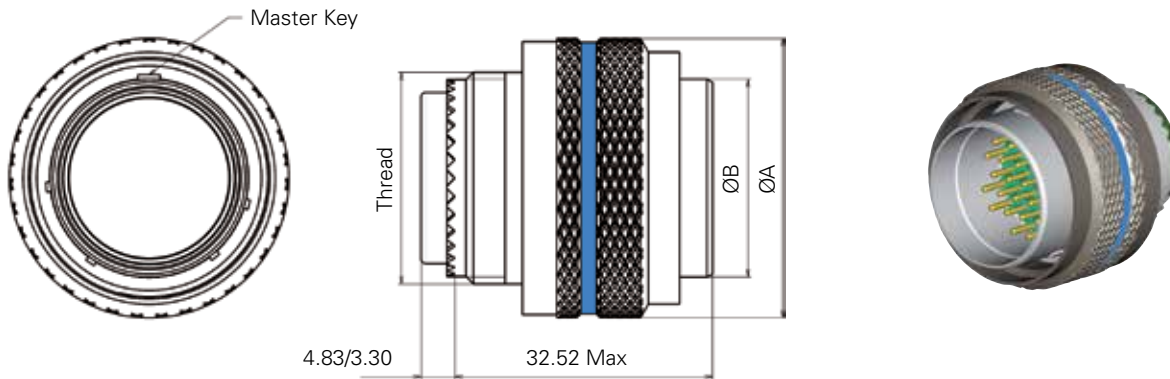
### Souriau part numbers



### ESC11 qualified products

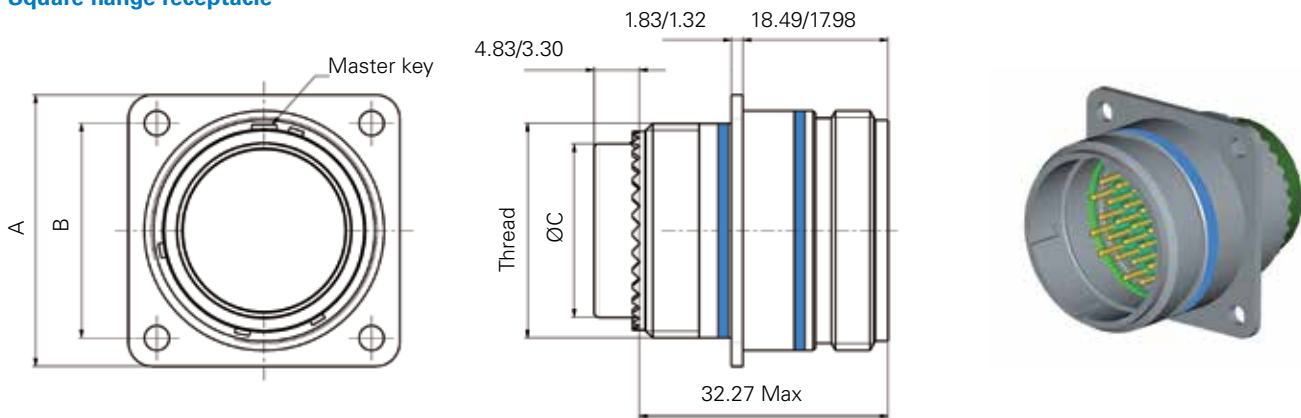


### Plug



Shell size	14	16	18	20	22	24
<b>Thread Class 2A</b>	0.875-20 UNEF 2A	1.000-20 UNEF 2A	1.0625-18 UNEF 2A	1.1875-18 UNEF 2A	1.3125-18 UNEF 2A	1.4375-18 UNEF 2A
<b>ØA Max</b>	31.24	34.42	37.34	41.91	44.07	47.24
<b>ØB Max</b>	19.43	22.66	25.35	28.52	31.70	34.87

### Square flange receptacle



Shell size	14	16	18	20	22	24
<b>A<sup>±0.13</sup></b>	28.56	31.75	34.11	36.50	39.67	43.26
<b>B</b>	23.01	24.61	26.97	29.36	31.75	34.92
<b>Thread Class 2A</b>	0.875-20 UNEF 2A	1.000-20 UNEF 2A	1.0625-18 UNEF 2A	1.1875-18 UNEF 2A	1.3125-18 UNEF 2A	1.4375-18 UNEF 2A
<b>ØC Max</b>	16.89	20.07	22.07	25.25	28.42	31.60

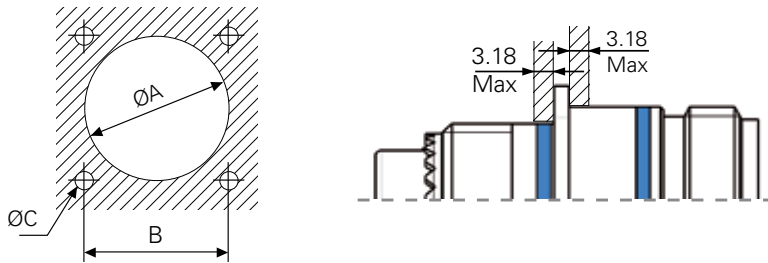
Note: All dimensions are in millimeters (mm)

# 8534 series - scoop-proof version

## Ordering information

### Panel cut out

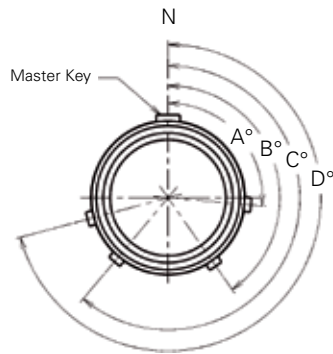
#### Square flange receptacle



Shell size	A min	B	C
14	24.90	23.01	3.20
16	28.30	24.61	3.20
18	31.10	26.97	3.20
20	34.50	39.36	3.20
22	37.50	31.75	3.20
24	40.60	34.92	3.80

Minimum space between square flange receptacles: see **Page 15**.

### Orientation



Front face view of plug

Shell size	Angles	N	6	7	8	9
14	A°	95	101	18	26	120
	B°	145	168	136	156	161
	C°	220	211	208	208	225
	D°	255	342	268	276	336
16	A°	95	101	18		
	B°	145	168	136		
	C°	220	211	208	-	-
	D°	255	342	268		
18	A°	95	101			
	B°	145	168			
	C°	220	211	-	-	-
	D°	255	342			
20, 22 & 24	A°	95	101	18	26	
	B°	145	168	136	156	
	C°	220	211	208	208	-
	D°	255	342	268	276	

### Connector weights

#### Mass max. (g) less contact

Shell size	Plug with grounding spring	Plug without grounding spring	Receptacle square flange
14	62	59	40
16	72	67	51
18	82	78	61
20	104	100	79
22	112	108	88
24	124	120	98

#### Mass of crimp contacts

Contact size	Mass (g)	
	Pin	Socket
20	0.24	0.29
16	0.53	0.59

**Note:** All dimensions are in millimeters (mm)



### Description

- Stainless steel screw coupling connector designed for use in harsh aviation engine environments
  - High vibration resistance
  - High temperature resistance (200°C / 260°C)
  - Fireproof (1100°C)
- Integrated backshell with a full scoop-proof connection (8536 series)
- Qualified to ESC15 (8535 series) and ESC16 (8536 series) standard, and per the new EN2997 issuance
- Fully interchangeable
  - 8535 series with BACC 63 CM-CN, EN2997 and ESC10 connectors
  - 8536 series with ESC11 connectors
- 8535 series intermateable with BACC 63 CM-CN
- Large array of crimp contacts (same as for 8533 series)
  - Size 12, 16 & 20 standard contacts
  - Size 12, 16 & 20 thermocouple contacts

### Mechanical

#### Shell

Passivated stainless steel

#### Grommet and seal

Silicone elastomer

#### Insulator

Thermoplastic

#### Contact body

Copper alloy

#### Contact plating

Gold over nickel

#### Contact retention

Size 20: 90 N  
Size 16: 110 N  
Size 12: 130 N

#### Mating cycles

500 coupling operation

#### Vibration & shock

- According to JES290-083: 41 grms, 2x 8 hours (ES class)
- According to JES290-102: 35 grms, 60 hours (KV class)
- According to EN2591: 5Hz to 2000Hz at 1G<sup>2</sup>/Hz (2x8 hours)

### Electrical

#### Dielectric withstanding

Altitude	Service
Alt ground	1500 Vrms
15 000 m	600 Vrms
21 000 m	400 Vrms
33 000 m	200 Vrms

#### Insulation resistance

5000 MΩ at 500 Vdc

#### Max current rating per contact

Size 20: 7.5 A  
Size 16: 13 A  
Size 12: 23 A

#### Contact resistance

Initial contact resistance at ambient temperature per EN 2997 and EN315

Contact size	20	16	12
Resistance mΩ	7.3	3.8	3.5

#### Electrical continuity

5 mΩ with RFI shielding

#### Shielding

To 100 MHz at 1 GHz attenuation  
65 dB

### Environmental

#### Temperature range

-65°C to +260°C

#### Leakage

Per 2591-312:  
Method B differential pressure: 100kPa  
Maximum leakage flow: 16x10<sup>-6</sup> m<sup>3</sup>/h

#### Salt spray

500 hours

#### Fire resistance

Per EN 2591-318:  
6 min under a 1100°C flame without electrical perturbation, plus 14 min with no flame propagation (ES class)

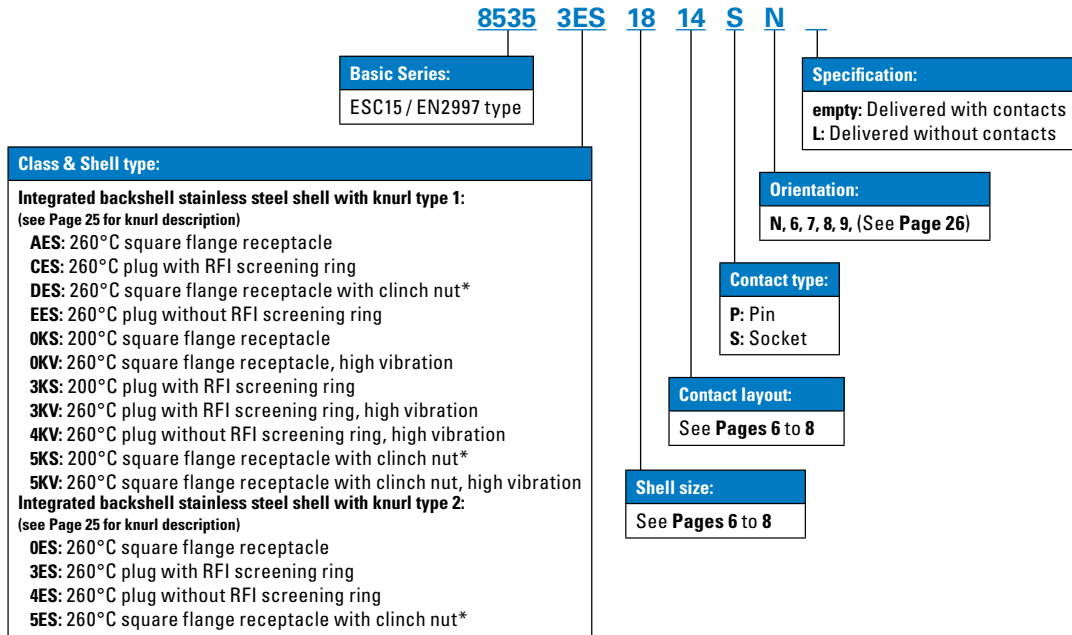
#### Resistance to fluids

MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL-L 7808 - MIL-C 25769 - MIL-A 8243

# 8535/8536 series - integrated backshell version

## Ordering information

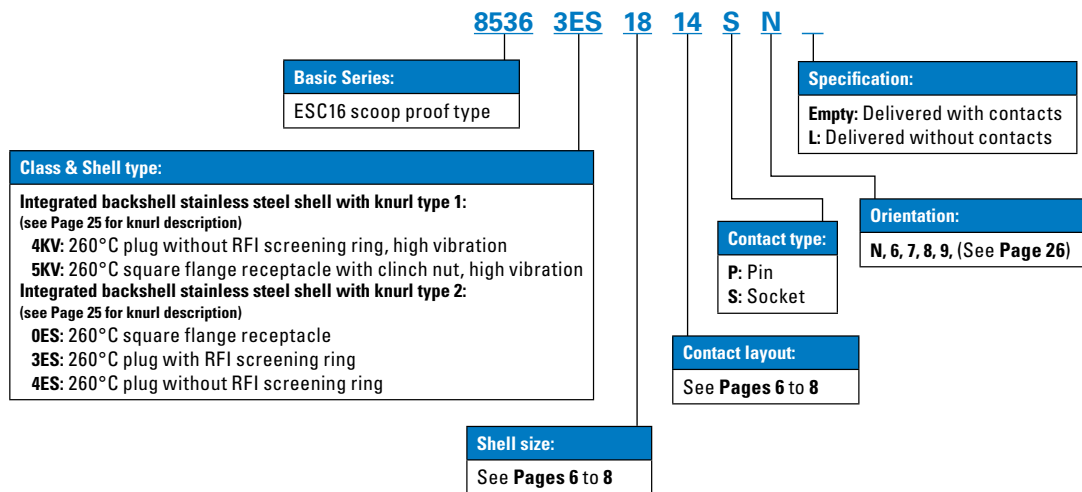
### 8535 part numbers



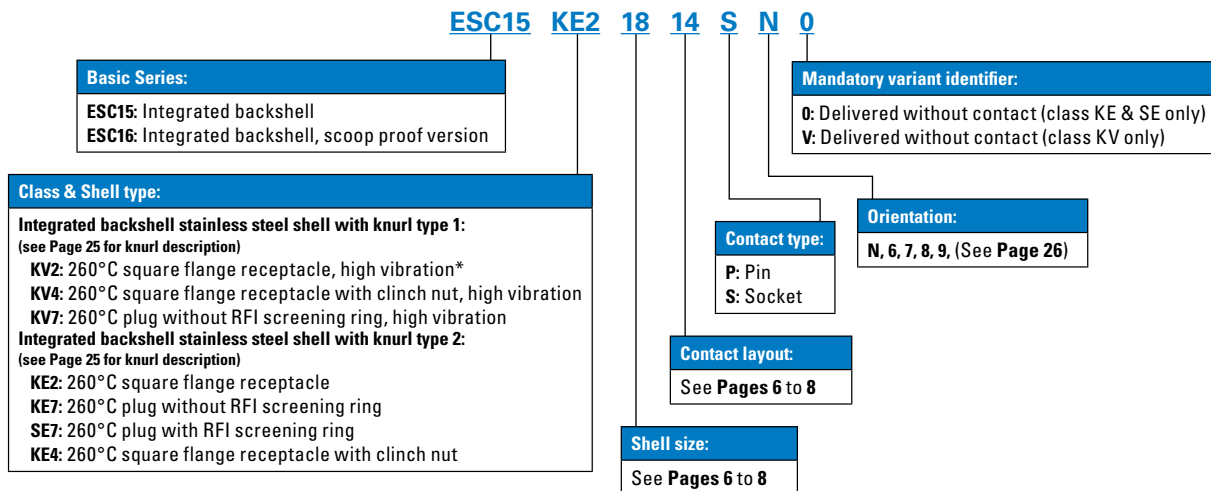
**Note:** aluminum version, please consult us.

\* Please consult us.

### 8536 part numbers

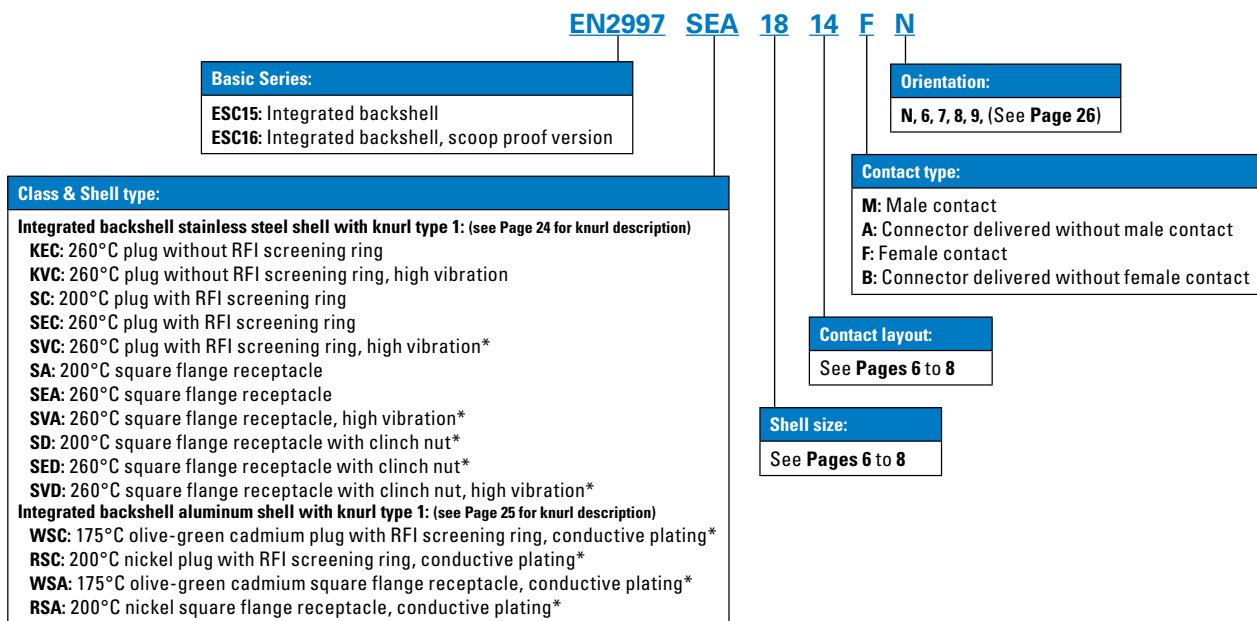


## ESC15/ESC16 qualified product



\* Please consult us.

## EN2997 qualified product



\* Please consult us.

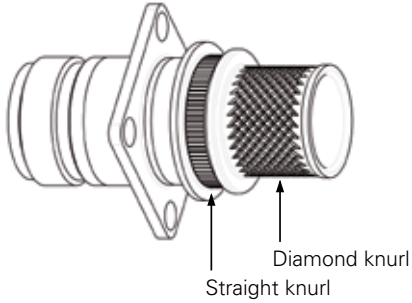
# 8535/8536 series - integrated backshell version

## Dimensions

### Knurl description

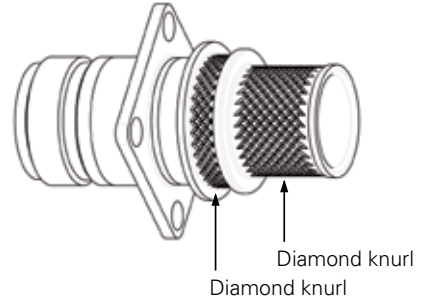
#### Knurl Type 1

- Conform to:
- EN2997
  - ESC15/ESC16
- High vibration



#### Knurl Type 2

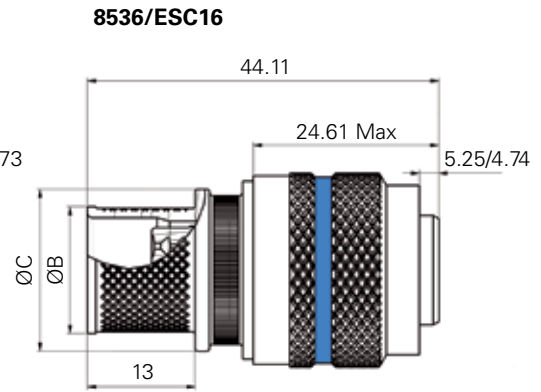
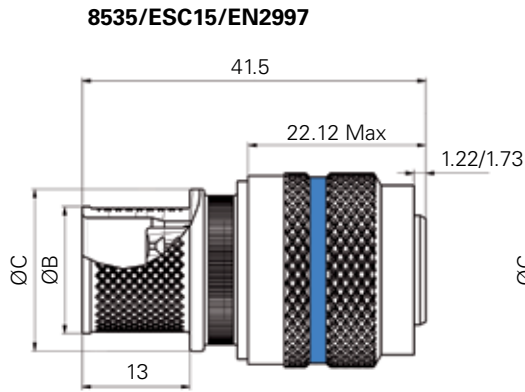
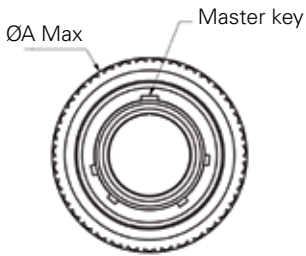
- Conform to:
- ESC15/ESC16



## Dimensions

### Plug - 8535/ESC15/EN2997 and 8536/ESC16

#### Front face view



Shell size	08	10	12	14	16	18	20	22	24	28
ØA Max	21.30	24.89	29.59	31.24	34.42	37.34	41.91	44.07	47.24	55.24
ØB <sup>±0.1</sup>	12.10	15.32	18.27	21.45	24.62	26.04	29.22	32.40	35.47	41.92
ØC <sup>±0.1</sup>	18.70	19.60	22.00	26.10	28.60	29.80	33.60	36.70	42.10	46.60

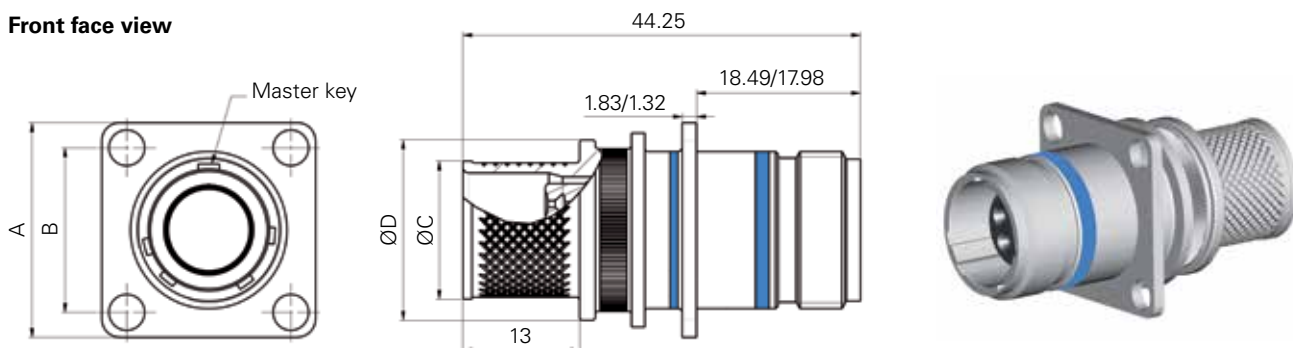
Tolerance on linear dimensions shall be  $\pm 0.25$  unless otherwise specified.

**Note:** All dimensions are in millimeters (mm). Knurl design vary according to norm.



### Square flange receptacle - 8535/ESC15/EN2997 and 8536/ESC16

#### Front face view

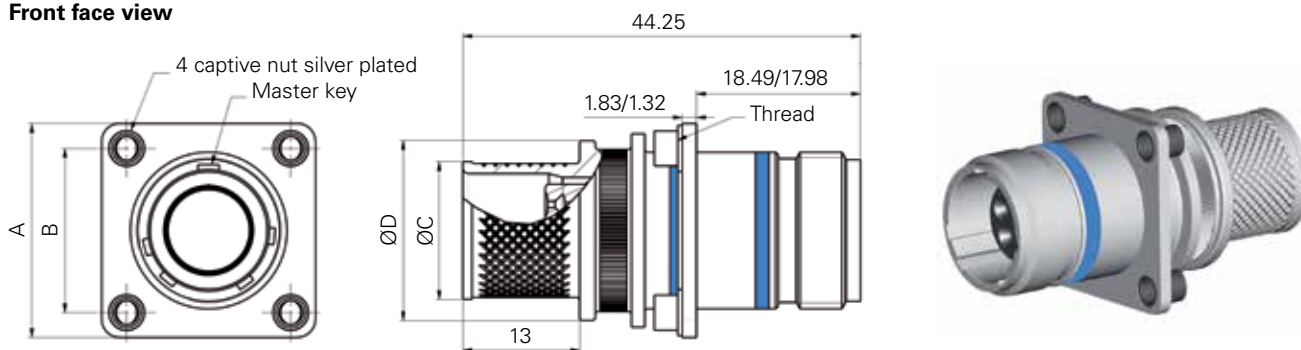


Shell size	08	10	12	14	16	18	20	22	24	28
<b>A</b> <sup>±0.13</sup>	20.62	23.80	26.19	28.57	31.75	34.11	36.50	39.67	43.26	50.80
<b>B</b>	15.09	18.26	20.62	23.01	24.61	26.97	29.36	31.75	34.92	39.67
<b>ØC</b> <sup>±0.1</sup>	12.10	15.32	18.27	21.45	24.62	26.04	29.22	32.40	35.57	41.92
<b>ØD</b> <sup>±0.1</sup>	18.70	19.60	22.00	26.10	28.60	29.80	33.60	36.70	42.10	46.60

Tolerance on linear dimensions shall be ±0.25 unless otherwise specified.

### Square flange receptacle with clinch nut - 8535/ESC15/EN2997 and 8536/ESC16

#### Front face view



Shell size	08	10	12	14	16	18	20	22	24	28
<b>A</b> <sup>±0.13</sup>	20.62	23.80	26.19	28.57	31.75	34.11	36.50	39.67	43.26	50.80
<b>B</b>	15.09	18.26	20.62	23.01	24.61	26.97	29.36	31.75	34.92	39.67
<b>ØC</b> <sup>±0.1</sup>	12.10	15.32	18.27	21.45	24.62	26.04	29.22	32.40	35.57	41.92
<b>ØD</b> <sup>±0.1</sup>	18.70	19.60	22.00	26.10	28.60	29.80	33.60	36.70	42.10	46.60
<b>Thread</b> BS1580 Class 3B	0.1120-40UNC	0.1120-40UNC	0.1120-40UNC	0.1120-40UNC	0.1120-40UNC	0.1120-40UNC	0.1120-40UNC	0.1120-40UNC	0.1380-32UNC	0.1380-32UNC

Tolerance on linear dimensions shall be ±0.25 unless otherwise specified.

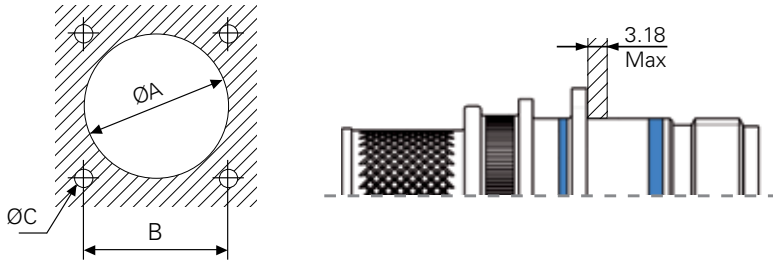
**Note:** All dimensions are in millimeters (mm). Knurl design vary according to norm.

# 8535/8536 series - integrated backshell version

## Dimensions

### Panel cut out (receptacle shell type 0 and 5)

#### Square flange receptacle

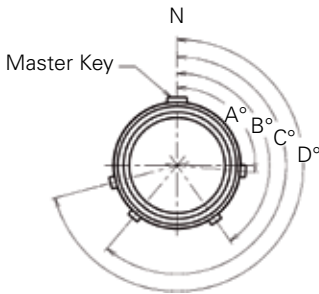


Minimum space between square flange receptacles: see **Page 20**.

Shell size	A min	B	C
08	15.80	15.09	3.20
10	18.70	18.26	3.20
12	23.40	20.62	3.20
14	24.90	23.01	3.20
16	28.30	24.61	3.20
18	31.10	26.97	3.20
20	34.50	39.36	3.20
22	37.50	31.75	3.20
24	40.60	34.92	3.80
28	48.00	39.67	3.80

### Orientation

#### Front face view of plug



#### 8535/ESC15 / EN2997

Shell size	Angles	N	6	7	8	9
08 & 10	A°	105	102	80	35	64
	B°	140	132	118	140	155
	C°	215	248	230	205	234
	D°	265	320	312	275	304
12 to 28	A°	105	18	92	84	24
	B°	140	149	152	152	135
	C°	215	192	222	204	199
	D°	265	259	342	334	240

#### 8536/ESC16

Shell size	Angles	N	6	7	8	9
08 & 10	A°	95	40	48	85	56
	B°	145	112	130	155	126
	C°	220	228	242	220	205
	D°	255	258	280	325	296
12 to 28	A°	95	101	18	26	120
	B°	145	168	138	156	161
	C°	220	211	208	208	225
	D°	255	342	268	276	336

**Note:** All dimensions are in millimeters (mm)

### Connector weights

#### Mass max. (g) less contact

Shell size	Mass max. (g) less contact	
	Square flange Stainless steel	Plug Stainless steel
8	25	45
10	40	62
12	48	71
14	60	85
16	70	100
18	81	113
20	89	125
22	101	141
24	110	157
28	135	192

### Mass of crimp contacts

Contact size	Mass (g)	
	Pin	Socket
20	0.24	0.29
16	0.53	0.59
12	1.15	1.28



### Description

- Innovative connector that combines resistance to high vibrations and high temperatures with high power
  - Up to 80 amps continuous rating at 260°C ambient temperature
  - 20% space-savings compared with other solutions
- Contact size 6 & 4, as well as the ability to use Quadrax contacts in size 6 cavity layouts
- Standard strain relief backshell or spacer accessory to adapt to specific backshells
- Airbus ABS 1340-1343, 426-1427 and 1452 qualified
- Grounded insert option for optimized Quadrax performance
- Ideal for electro-mechanical actuator power supply, alternator and starter applications

### Mechanical

#### Shell

Nickel plated aluminum (R class), passivated stainless steel (E & K classes)

#### Grommet and seal

Silicone elastomer

#### Insulator

Thermoplastic

#### Contact body

Copper alloy

#### Contact plating

Gold over nickel

#### Contact retention

Size 4: 200N  
Size 8: 130N  
Size 6: 156N

#### Endurance

500 mating cycles (E & K classes),  
250 mating cycles (R class)

#### Vibration & shock

According to EN 2997

### Electrical

#### Dielectric withstanding

Altitude	Service I
Sea level	1500 Vrms
15 000 m	600 Vrms
21 000 m	400 Vrms
33 000 m	200 Vrms

#### Insulation resistance

5000 MΩ at 500 Vdc

#### Max current rating per contact

Quadrax: 4 size 24 inner contacts in a size 8 outer contact

Contact size	6	4
Rating (A)	60	80

#### Contact resistance

Initial < 0.4 mΩ

#### Electrical continuity

5 mΩ with RFI shielding

#### Shielding

To 100 MHz at 1 GHz attenuation  
65 dB

### Environmental

#### Temperature range

- Class R and K: -60°C to +200°C
- Class E and #6 contact: -60°C to +260°C

#### Leakage

Per 2591-312:  
Method B differential pressure: 100kPa  
Maximum leakage flow: 16x10<sup>-6</sup> m<sup>3</sup>/h

#### Salt spray

48 hours (R class)  
500 hours (E & K classes)

#### Fire resistance

Per EN 2591-318:  
6 min under a 1100°C flame without electrical perturbation, plus 14 min with no flame propagation (ES class)

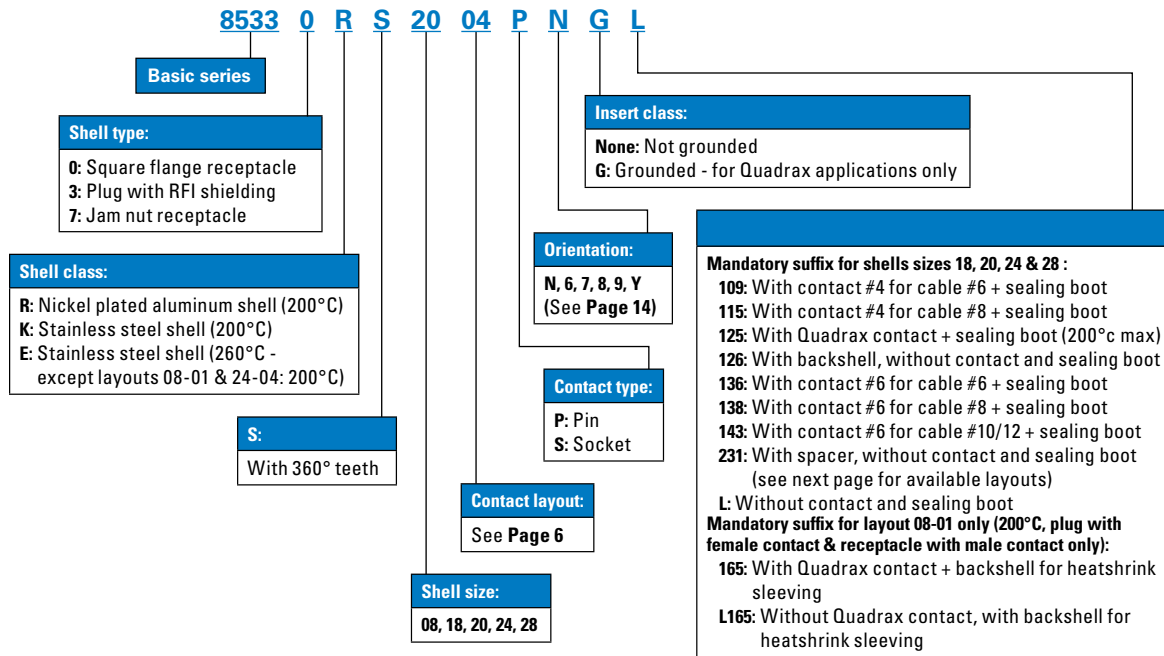
#### Resistance to fluids

MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL-L 7808 - MIL-C 25769 - MIL-A 8243

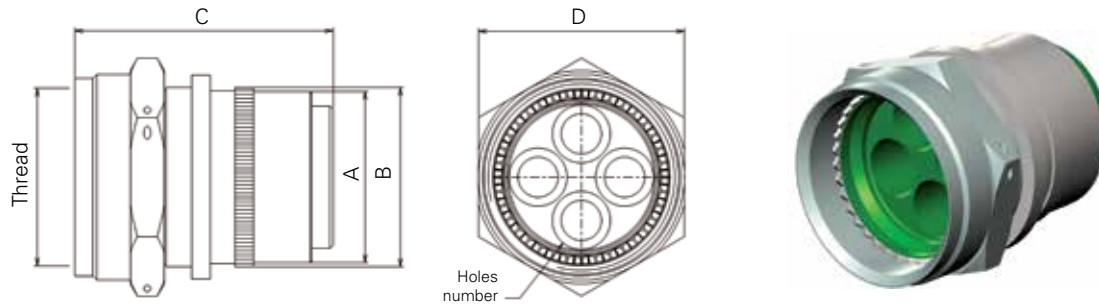
# 8533 series - power & Quadrax version

## Ordering information

### Souriau part numbers

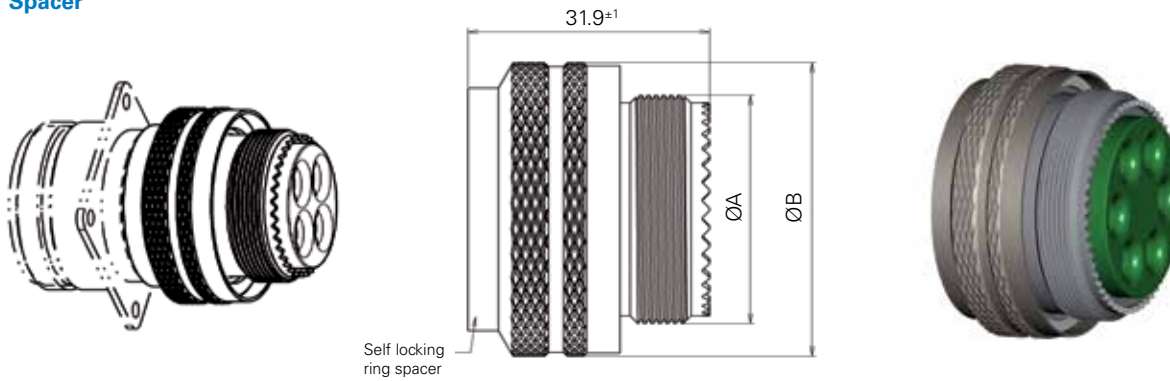


### Strain relief backshell



Layout	Material	Part number	Mass max (g)	A <sup>±0.1</sup>	B Max	C <sup>±0.12</sup>	D	Holes number	Thread Class 2B	Coupling torque N.m <sup>±0.5</sup>
<b>18-02</b>	Aluminum	85338342	40	24.90	29.45	41.78 <sup>+1.2</sup>	31.62	2	1.0625-18 UNEF	4.5
	Stainless steel	85338343	75	24.90	29.45	41.78 <sup>+1.2</sup>	31.62	2	1.0625-18 UNEF	4.5
<b>20-04</b>	Aluminum	85338250	40	27.72	30.12	41.78 <sup>+1.2</sup>	33.21	4	1.1875-18 UNEF	9
	Stainless steel	85338281	73	27.72	30.12	41.78 <sup>+1.2</sup>	33.21	4	1.1875-18 UNEF	9
<b>24-04</b>	Aluminum	85338223	53	33.71	37.26	48.95 Max	45	4	1.4375-18 UNEF	9
	Stainless steel	Consult us	-	33.71	37.26	48.95 Max	45	4	1.4375-18 UNEF	9
<b>28-06</b>	Aluminum	85338245	82	39.7	44.4	41.78	47.49	6	1.7500-18 UNS	10
	Stainless steel	85338288	146	39.7	44.4	41.78	47.49	6	1.7500-18 UNS	10

### Spacer



Layout	Stainless steel		Aluminum		ØA	ØB Max
	Part number	Mass max (g)	Part number	Mass max (g)		
<b>20-04</b>	8533-8388	88	8533-8387	Consult us	1"3/16-18 UNEF 2A	40
<b>24-04</b>	8533-8390	115	8533-8389	Consult us	1"7/16-18 UNEF 2A	45
<b>28-06</b>	8533-8392	140	8533-8391	Consult us	1"3/4-18 UNS	53

**Note:** All dimensions are in millimeters (mm)

# 8533 series - hermetic version

## Technical specifications



### Description

- EN2997 and ESC10 qualified screw coupling connector
  - High vibration resistance
  - High temperature resistance
- Glass sealed hermetic
  - High hermeticity performance
  - Compact low profile
- Several mounting styles
  - Compact solder mount receptacle
  - Easy to install square flange
  - Easy to replace jam nut receptacle
- Fully interchangeable with MIL 83723 hermetic connectors
- Special fuel tank versions available
- 230V qualified versions used to reduce cable weight with higher voltage

### Mechanical

#### Shell

Passivated stainless steel

#### Seals

Silicone elastomer

#### Contact

Ferrous alloy

#### Contact plating

Gold

#### Shock

300 m/s<sup>2</sup> (30g) during 3 ms

#### Endurance

500 mating/unmating operations

#### Vibration & shock

Random 5 Hz to 2000 Hz at 1G<sup>2</sup>/Hz (2 x 8 hours)

### Electrical

#### Max current rating per contact

Contact size	20	16	12	6	4
Rating (A)	5	10	17	46	60

#### Dielectric withstanding voltage

Altitude	Service I
Sea level	1500 Vrms
15 000 m	600 Vrms
21 000 m	400 Vrms
33 000 m	200 Vrms

#### Contact resistance at rated current

Maximum initial contact resistance at ambient temperature

Contact size	20	16	12	6	4
Resistance mΩ	12	8.5	5	2	2

### Environmental

#### Operating temperature

Class Y: -65°C to 200°C

Class YE: -65°C to 260°C cyclic

#### Hermeticity

Leak rate < 10<sup>-7</sup> atm.cm<sup>3</sup>/s (helium gas test)

#### Damp heat

Per EN 2997 and NFL 54143:  
10 cycles of 24h

#### Salt spray

500 hours

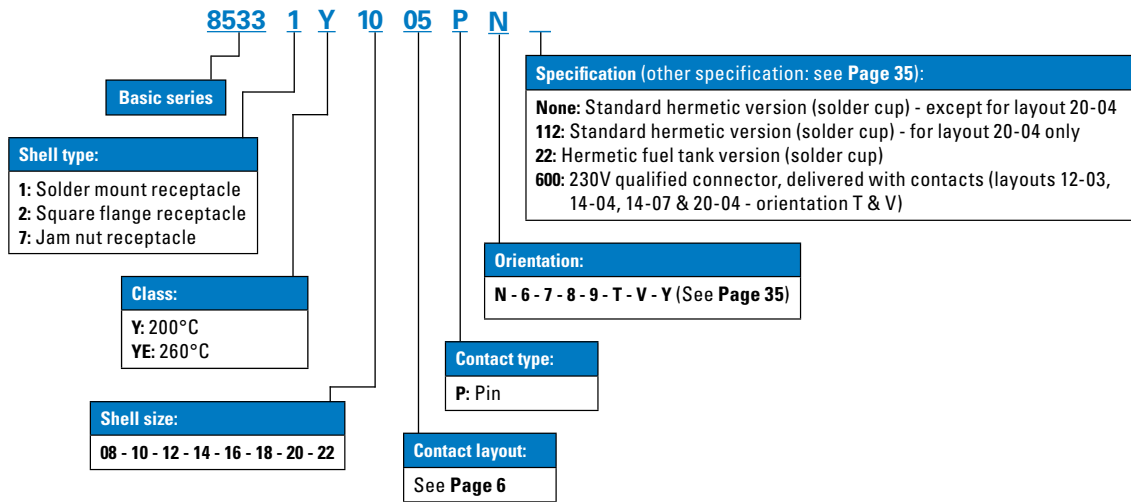
#### Resistance to fluids

MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL-L 7808 - MIL-C 25769 - MIL-A 8243

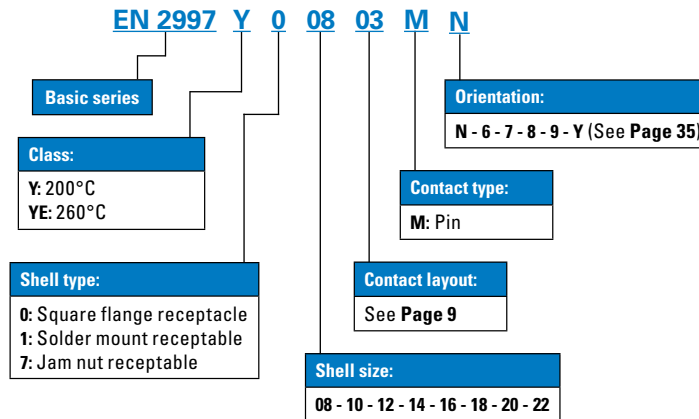
#### Fuel immersion version

105°C max per EN3645

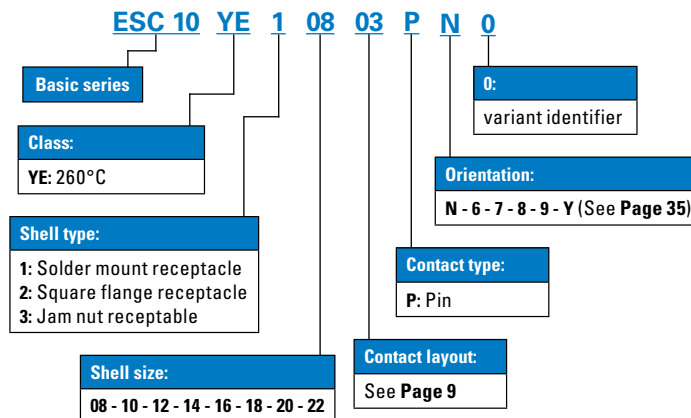
## Souriau part numbers



## EN2997 qualified products



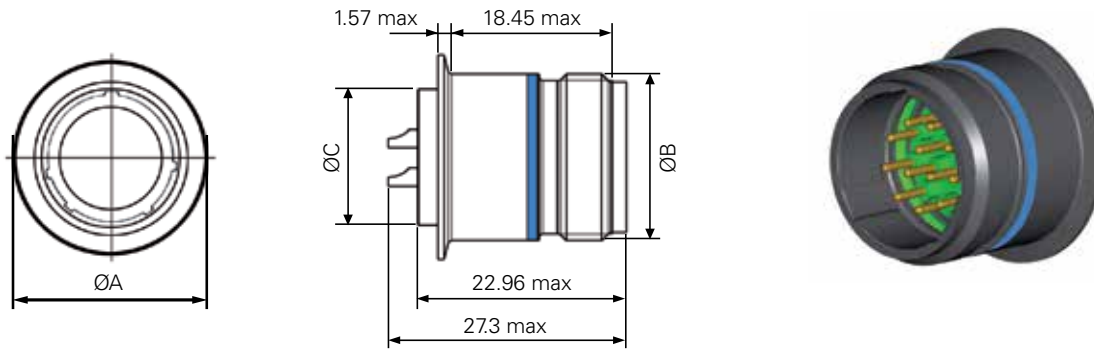
## ESC10 qualified products



# 8533 series - hermetic version

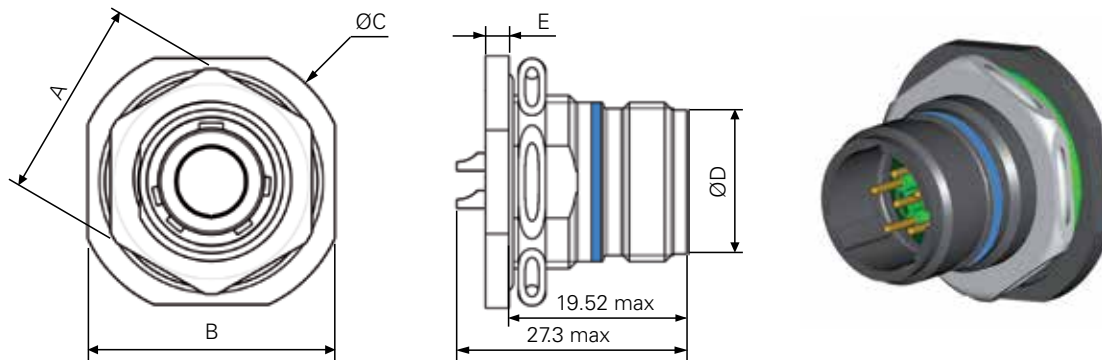
## Dimensions

### Solder mount hermetic receptacle (Class Y & YE)



Shell size	8	10	12	14	16	18	20	22	24
<b>ØA Max</b>	18.36	21.59	26.80	27.94	30.99	34.39	37.34	40.64	43.68
<b>ØB Max</b>	14.29	17.46	22.22	23.81	26.99	30.16	33.34	36.51	39.69
<b>ØC Max</b>	12.70	14.27	19.05	20.62	23.80	26.97	30.15	33.32	36.50

### Jam nut hermetic receptacle (Class Y & YE)



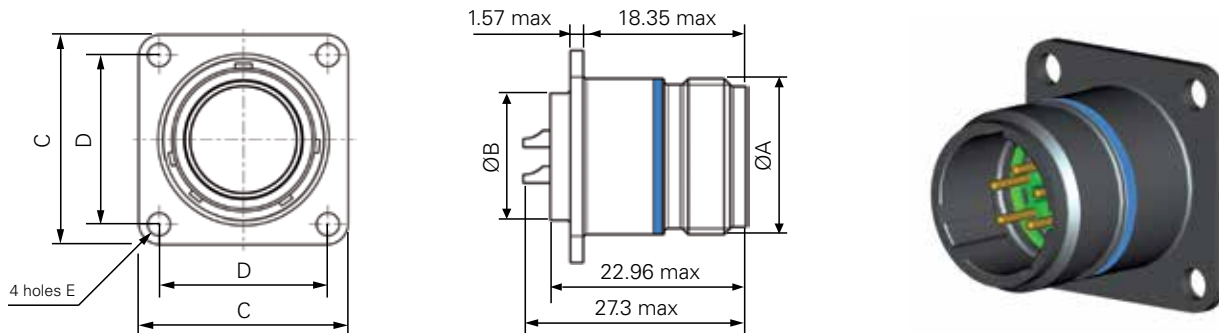
Shell size	8	10	12	14	16	18	20	22	24
<b>A Max</b>	21.06	24.23	29.01	30.61	33.76	36.96	40.11	43.31	46.46
<b>B Max</b>	24.89	28.04	32.79	35.33	38.51	41.68	44.86	49.63	52.81
<b>ØC Max</b>	27.38	30.28	35.05	38.51	41.68	44.86	49.63	52.78	55.42
<b>ØD Max</b>	14.29	17.46	22.22	23.81	26.99	30.16	33.34	36.51	39.69
<b>E Max</b>	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.76	3.76
<b>Tightening torque of attachment nut</b>									
<b>Torque in N.m<sup>±10%</sup></b>	7	10	12	15	18	22	25	27	29

Note: All dimensions are in millimeters (mm)



**Dimensions**

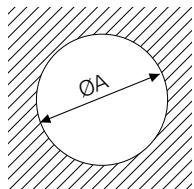
**Square flange hermetic receptacle (Class Y & YE)**



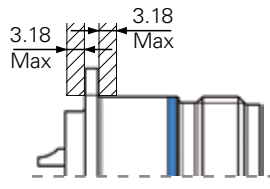
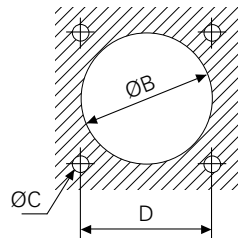
Shell size	8	10	12	14	16	18	20	22	24
<b>Ø A Max</b>	14.27	17.67	22.22	23.77	26.97	30.15	33.32	36.49	39.67
<b>Ø B Max</b>	12.70	14.27	19.05	20.62	23.80	26.97	30.15	33.82	36.50
<b>C Max</b>	20.75	23.93	26.32	28.71	31.88	34.24	36.63	39.80	43.36
<b>D</b>	15.09	18.26	20.62	23.01	24.61	26.97	29.36	31.75	34.92
<b>E Max</b>	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.91

**Panel cut out**

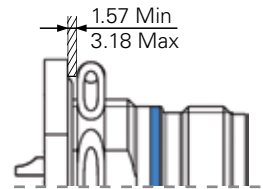
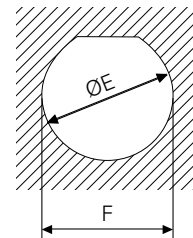
**Type 1  
Solder mount receptacle**



**Type 2  
Square flange receptacle**



**Type 7  
Jam nut receptacle**



Shell size	8	10	12	14	16	18	20	22	24	28
<b>ØA Min</b>	12.96	14.53	19.30	20.88	24.05	27.23	30.40	33.58	36.75	-
<b>ØB Min</b>	15.8	18.7	23.4	24.9	28.3	31.1	34.5	37.5	40.6	48
<b>ØC</b>	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.8	3.8
<b>D</b>	15.09	18.26	20.62	23.01	24.61	26.97	39.36	31.75	34.92	39.67
<b>ØE</b>	16.00	19.17	23.92	25.52	28.70	31.87	35.05	38.22	41.40	-
<b>F</b>	15.24	18.41	23.16	24.76	27.94	30.99	34.16	37.33	40.51	-

Note: All dimensions are in millimeters (mm)

# 8533 series - hermetic version

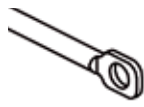
## Contacts

### Contact variations

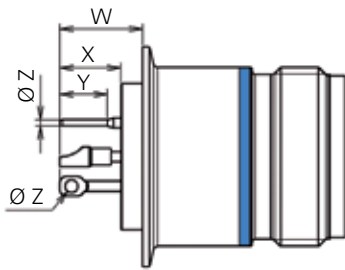
Solder



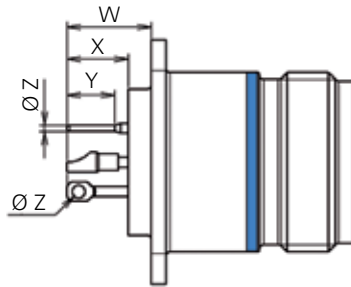
Eyelet



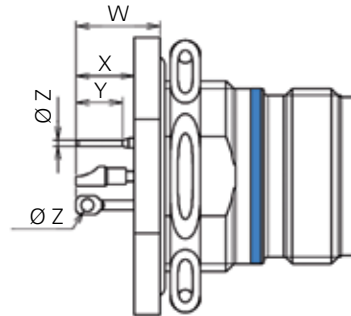
PCB



**Type 1:** Solder mount receptacle



**Type 2:** Square flange receptacle



**Type 7:** Jam nut receptacle

Type of contact	Specification	Contact size	W Max	X Min	Y Min	Ø Z Max	Designation
<b>PCB contacts</b>	05	20	8.78	4.78	4.50	0.65	PCB contact
	118	20	10.88	6.88	6.25	0.65	Long PCB contact
<b>Eyelet contacts</b>	105	20	6.98	2.98	4.05 <sup>+0.2</sup>	1.25 <sup>0</sup> <sub>0.15</sub>	Eyelet contact
<b>Solder cup contacts</b>	Without specification or specification 22	20-16-12	7.78	2.98	-	-	Standard solder cup contact
	112	6	9.03	5.13	-	-	Standard solder cup contact
	62	20-16-12	7.78	2.98	-	-	Solder cup contact tin plated on rear part

**Note:** for other contact length, please consult us.

### Connector weights (in grams)

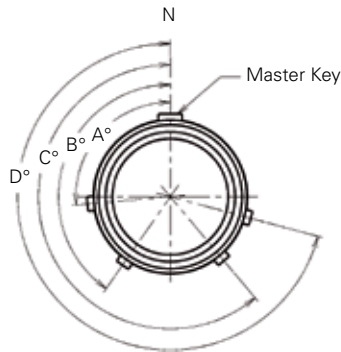
Shell size	Square flange receptacle	Jam nut receptacle	Solder mount receptacle
<b>08</b>	18	29	15
<b>10</b>	24	37	21
<b>12</b>	31	50	31
<b>14</b>	40	58	35
<b>16</b>	49	72	46
<b>18</b>	54	79	51
<b>20</b>	62	87	59
<b>22</b>	77	108	73
<b>24</b>	88	122	86

**Note:** All dimensions are in millimeters (mm)

### Cross reference list

SOURIAU	MIL 83723
<b>85332Y</b> ●●●● P □	M83723/88Y ●●●● □
<b>85337Y</b> ●●●● P □	M83723/89Y ●●●● □
<b>85331Y</b> ●●●● P □	M83723/90Y ●●●● □

●●●● Shell size & layout □ Orientation

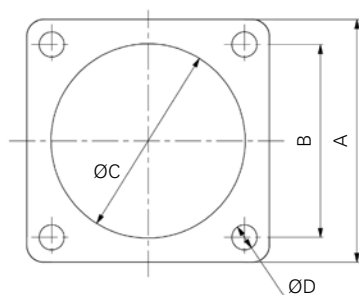


Front face view of receptacle

Shell size	Angles	N	6	7	8	9	T	V	Y
08	A°	105	102	80	35	64			
	B°	140	132	118	140	155			
	C°	215	248	230	205	234			
	D°	265	320	312	275	304			
10	A°	105	102	80	35	64			25
	B°	140	132	118	140	155			115
	C°	215	248	230	205	234			220
	D°	265	320	312	275	304			270
12 & 14	A°	105	18	92	84	24	55	50	98
	B°	140	149	152	152	135	145	156	152
	C°	215	192	222	204	199	228	218	268
	D°	265	259	342	334	240	280	290	338
20	A°	105	18	92	84	24	45	60	98
	B°	140	149	152	152	135	160	165	152
	C°	215	192	222	204	199	210	235	268
	D°	265	259	342	334	240	300	285	338
16, 18, 22 & 24	A°	105	18	92	84	24			98
	B°	140	149	152	152	135			152
	C°	215	192	222	204	199			268
	D°	265	259	342	334	240			338

Gaskets & O-rings

Shell size	Gasket for square flange receptacle (not delivered with connector)		O-ring for jam nut receptacle 200°C class (delivered with connector)		O-ring for jam nut receptacle 260°C class (delivered with connector)	
	Part number	Material	Part number	Material	Part number	Material
08	85251431	Fluorosilicone	8530455	Silicone	85227654	Silicone THT
10	85251432	Fluorosilicone	85300795	Silicone	85227655	Silicone THT
12	85251433	Fluorosilicone	8530458	Silicone	85227656	Silicone THT
14	85251434	Fluorosilicone	8530796	Silicone	85227632	Silicone THT
16	85251435	Fluorosilicone	8530797	Silicone	85227657	Silicone THT
18	85251436	Fluorosilicone	8530798	Silicone	85227658	Silicone THT
20	85251437	Fluorosilicone	85301548	Silicone	85227927	Silicone THT
22	85251438	Fluorosilicone	8530800	Silicone	85227659	Silicone THT
24	85251439	Fluorosilicone	-	-	-	-



Gasket for square flange receptacle

Shell size	08	10	12	14	16	18	20	22	24
A <sup>+0.4</sup>	20.62	24.00	26.18	28.56	30.93	33.32	36.50	39.67	42.86
B <sup>+0.12</sup>	15.09	18.00	20.62	23.01	24.61	26.97	29.37	31.75	34.92
ØC <sup>+0.4</sup> <sub>+0</sub>	12.70	17.20	19.05	22.23	25.40	28.58	31.75	34.93	38.10
ØD <sup>+0.12</sup> <sub>+0</sub>	3.30	3.20	3.30	3.30	3.30	3.30	3.30	3.30	4.00

Note: All dimensions are in millimeters (mm)

# Souriau 853 series

## Signal and power contacts



### Introduction

- Firewall contacts designed for high vibration and high temperature
- Each contact type is qualified and validated by qualification organizations or aerospace manufacturers
  - Size 12, 16 & 20 signal contacts: EN3155 and ESC30 qualified
  - Size 12, 16 & 20 thermocouple contacts: EN3155 and ESC30 qualified
- Crimping, insertion and extraction tools are available

## Signal and power contacts

### Crimp contacts 175°C and 200°C

Contact size	Type	Part numbers		Code	Admissible wire section		External Ø over insulator		Mass g (±15%)	
		Pin	Socket		Color bands	AWG	mm <sup>2</sup>	Min.	Max.	Pin
20	Standard	8526-1348	8526-1344 900	Red/red	24-20	0.25-0.60	0.85	2.10	0.24	0.29
	Small barrel	8525-7256 900	8525-7750 900	Red/green	22-26	0.15-0.40	0.85	2.10	0.24	0.29
	Large barrel	8522-2349 A	8520-292	Red/brown	24-18	0.25-1	0.85	2.10	0.24	0.29
16	Standard	8526-1349	8526-1346A 900	Blue/blue	20-16	0.60-1.20	1.20	2.70	0.53	0.59
	Small barrel	8526-4175	8526-4176	Blue/brown	24-18	0.25-1	1.20	2.70	0.53	0.59
	Large barrel	8522-6179 A	8522-6180B 900	Blue/white	18-14	1-2	1.20	2.70	0.53	0.59
12	Standard	8526-1350	8526-1347A 900	Yellow/yellow	16-12	1.20-3	1.90	4.01	1.15	1.28
	Small barrel	8526-5041	8526-5591A 900	Yellow/brown	24-18	0.25-1	1.90	4.01	1.15	1.28
	Large barrel	8526-4136 900	8526-4138A 900	Yellow/brown		3-4	1.90	4.01	1.15	1.28
4	Small barrel	8533-8202	8533-8171	Blue/green	8-6	9-14	6.71	7.41	7.3	8.5
	Standard	8533-8201	8533-8120	Blue/blue	4	22	6.71	7.41	7.3	8.5

## Crimp contacts 260°C

Contact size	Type	Part numbers		Code		Admissible wire section		External Ø over insulator		Mass g (±15%)	
		Pin	Socket	Color bands	Dot	AWG	mm <sup>2</sup>	Min.	Max.	Pin	Socket
20	Standard	8533-1000 900	8533-1011 900	Red/red	White	24-20	0.25-0.60	0.85	2.10	0.24	0.29
	Large barrel	8533-1002 900	8533-1012 900	Red/brown	White	24-18	0.25-1	0.85	2.10	0.24	0.29
	x2 crimping	8533-1019 900	8533-1018 900	Red/green	White	22	0.40	-	1.25	0.24	0.29
16	Standard	8533-1004 900	8533-1005 900	Blue/blue	White	20-16	0.60-1.20	1.20	2.70	0.53	0.59
	Small barrel	8533-1008 900	8533-1009 900	Blue/brown	White	24-18	0.25-1	1.20	2.70	0.53	0.59
	Large barrel	8533-1006 900	8533-1007 900	Blue/white	White	18-14	1-2	1.20	2.70	0.53	0.59
12	Standard	8533-1035 900	8533-1036 900	Yellow/yellow	White	14-12	2-3	1.90	4.01	1.15	1.28
	Large barrel	8533-1014 900	8533-1015 900	Yellow/brown	White		3-4	1.90	4.01	1.15	1.28

## Crimp contacts 200°C and 260°C

Contact size	Type	Part numbers		Code		Admissible wire section		External Ø over insulator		Mass g (±15%)	
		Pin	Socket	Color bands		AWG	mm <sup>2</sup>	Min.	Max.	Pin	Socket
6	Standard	8533-8246	8533-8247	Green/green		6	14	5.30	5.70	3.6	4.8
	Small barrel	8533-8272	8533-8273	Green/red		8	9	5.30	5.70	3.6	4.8
	Small barrel	8533-8248	8533-8249	Green/brown		10-12	5-3	5.30	5.70	3.6	4.8

# Souriau 853 series

Thermocouple contacts

## Thermocouple contacts (-65°C to +260°C)

### Chromel - pin contacts (non magnetic)

Contact size	Type	Part numbers	Code		Admissible wire section		External Ø over insulator	
			Color bands	Dot	AWG	mm <sup>2</sup>	Min.	Max.
20	Standard	8522-875	Red/red	Yellow/white	22-20	0.40-0.60	0.85	2.10
		8522-875 A	Brown/orange/green		22-20	0.40-0.60	0.85	2.10
	Large barrel	8522-3761		Yellow/yellow	22-18	0.38-0.93	0.85	2.10
16	Standard	8522-881	Green/brown/violet	Yellow	20-16	0.60-1.34	1.20	2.70
		8522-402	Blue/blue	Yellow	20-16	0.60-1.34	1.20	2.70

### Chromel - socket contacts (non magnetic)

Contact size	Type	Part numbers	Code		Admissible wire section		External Ø over insulator	
			Color bands	Dot	AWG	mm <sup>2</sup>	Min.	Max.
20	Standard	8522-877 900	Red/red	Yellow/white	22-20	0.40-0.60	0.85	2.10
		8522-877 A900	Brown/yellow/brown	Yellow	22-20	0.40-0.60	0.85	2.10
	Large barrel	8522-3770		Yellow/yellow	22-18	0.38-0.93	0.85	2.10
16	Standard	8522-883 900	Green/red/red	Yellow	20-16	0.60-1.34	1.20	2.70
		8522-403 900	Blue/blue	Yellow	20-16	0.60-1.34	1.20	2.70
	Small barrel	8526-5571 A900	Blue/red	Yellow	24-18	0.25-1	1.20	2.70

### Alumel - pin contacts (magnetic)

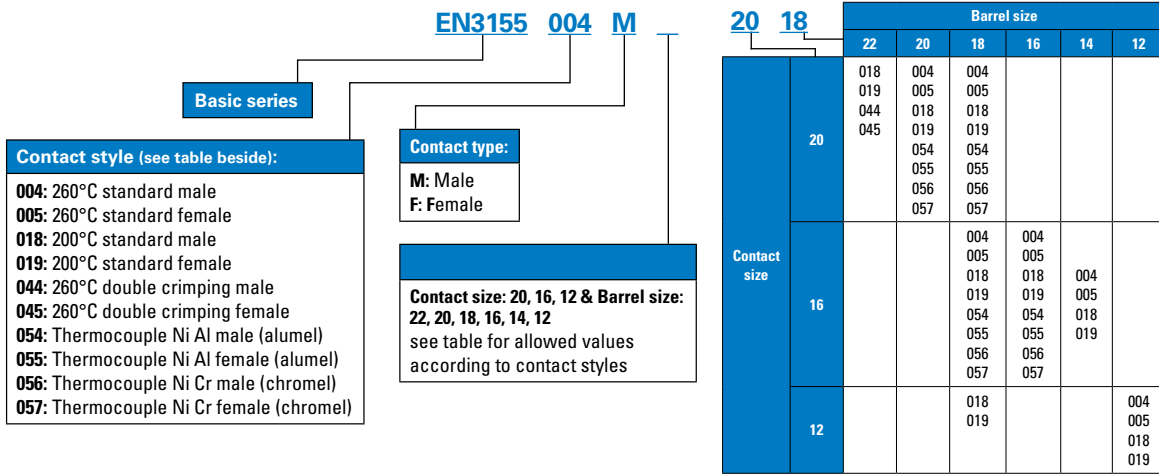
Contact size	Type	Part numbers	Code		Admissible wire section		External Ø over insulator	
			Color bands	Dot	AWG	mm <sup>2</sup>	Min.	Max.
20	Standard	8522-876	Red/red	Black/white	22-20	0.40-0.60	0.85	2.10
		8522-876 A	Brown/orange/yellow	Black	22-20	0.40-0.60	0.85	2.10
	Large barrel	8522-3760		Black/black	22-18	0.38-0.93	0.85	2.10
16	Standard	8522-882	Green/brown/blue	Black	20-16	0.60-1.34	1.20	2.70
		8522-401	Blue/blue	Black	20-16	0.60-1.34	1.20	2.70

### Alumel - socket contacts (magnetic)

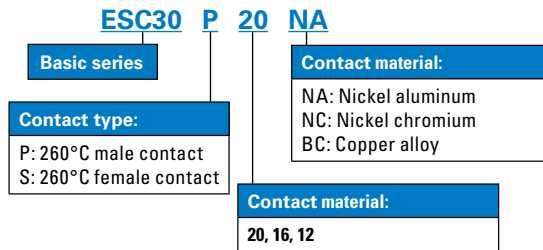
Contact size	Type	Part numbers	Code		Admissible wire section		External Ø over insulator	
			Color bands	Dot	AWG	mm <sup>2</sup>	Min.	Max.
20	Standard	8522-878 900	Red/red	Black/white	22-20	0.40-0.60	0.85	2.10
		8522-878A 900	Brown/yellow/black		22-20	0.40-0.60	0.85	2.10
	Large barrel	8522-3771		Black/black	22-18	0.38-0.93	0.85	2.10
16	Standard	8522-884 900	Green/red/brown	Black	20-16	0.60-1.34	1.20	2.70
		8522-404 900	Blue/blue	Black	20-16	0.60-1.34	1.20	2.70
	Small barrel	8526-5576A 900	Blue/red	Black	24-18	0.25-1	1.20	2.70

Contact ordering information

EN3155



ESC30



# Souriau 853 series

## Thermocouple contacts

### #8 Quadrax contacts

Contact type		Part numbers	Impedance	Release	T° Max
PC tail L= 4.45 mm	Pin	ETH1-1137A	100Ω	Rear	200°C
PC tail L= 6.35 mm	Pin	ETH1-1123A	100Ω	Front	200°C
Crimp	Pin	ETH1-1126A	100Ω	Rear	200°C
	Socket	ETH1-1127A	100Ω	Rear	200°C

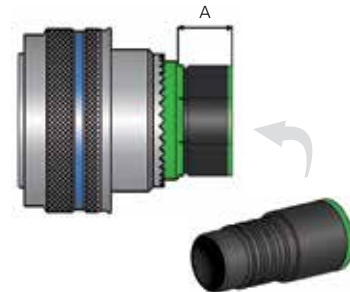


Crimp contacts are unsealed. Sealing boots are available. All contacts delivered without boot.

### Sealing boots

ABS 0992 for power & Quadrax contacts - Class 260°C

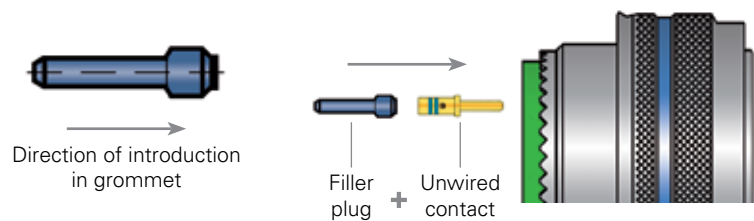
Contact size	Cable AWG	Cable material	Part Numbers	A Max
4	4	Aluminum	8533-8164	17
	6 to 8	Aluminum	8533-8191	17
	4	Copper	8599-4591	9
	6 to 8	Copper	8533-8163	9
6	6	Aluminum & copper	8533-8296	24
	8	Aluminum & copper	8533-8236	24
	10 to 12	Aluminum & copper	8533-8287	24
	Quad ABS0973 / 0974	Copper	8533-8236	24



### Filler plugs

These filler plugs are installed at the rear of unwired contacts to maintain connector sealing.

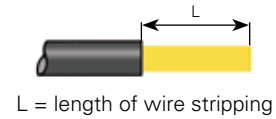
Contact size	Part numbers	Colors
20	8522-389A	Red
16	8522-390A	Blue
12	8522-391A	Yellow
6	8530-2253	White
4	8533-8253	Blue



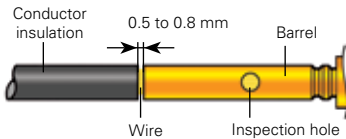


### Cable preparation and wire stripping

	Contact	20		16		12	
Size	Barrel	20	18	16	14	28	12
Stripped length of cable mm <sup>±0.5</sup>		4.5	4.5	6.8	6.8	6.8	6.8



### Insertion of wire in contact barrel



When inserting the stripped wire into the contact barrel check that no strands are left outside and that the wire is visible through the wire inspection hole in the barrel.

**Important:**

- Slide any accessories over wire strands before carrying out the following operations.
- Contacts are inserted and extracted from the rear of the connector.

### Insertion of the contacts



1 - Engage the crimp cable / contact assembly into the longitudinal slot of the plastic tool (colored tip). Slide the tool down the cable until the tip of the tool abuts the contact retention shoulder



2 - Introduce the contact into the required contact cavity in the insulator, pushing tool axially, until the contact snaps into position in clip.



3 - Withdraw the tool from rear. Check that contact is firmly locked by pulling wire gently. When connector is fully loaded, check the position of contact tips. They should all be in the same plane. Note: For larger sizes of cable which are stiff enough, manual insertion without tool is preferable.

### Extraction of the contacts



1 - Engage the appropriate cable into the longitudinal slot of the tool with the white tip towards connector.



2 - Slide the tool down towards the contact. Insert the tool in the insulator until it abuts the contact shoulder.



3 - Holding the tool-contact and cable assembly together, remove them simultaneously.

# Souriau 853 series

## Tools

### Insertion and extraction tools

#### Insertion and extraction of wired contacts

Contact size	Part numbers	Material	Color
20	M81969/14-11	Plastic	White / red
16	M81969/14-03	Plastic	White / blue
12	M81969/14-04	Plastic	White / yellow
6	M81969/14-06	Plastic	Red
	8660-197	Metallic	-
4	M81969/14-07	Plastic	Blue
	8533-8175	Metallic	-

Plastic extraction tool for #6 and 4



Plastic insertion and extraction tool for #20, 16 and 12



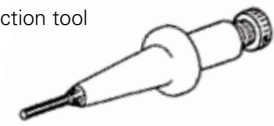
Metallic extraction tool



#### Extraction of unwired contacts

Contact size	Part numbers
20	8522-56
16	8522-57
12	8522-58

Extraction tool

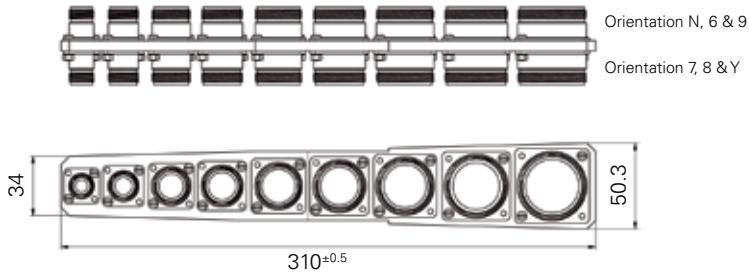


### Crimping tools

Contact size	Wires		Part numbers		
	mm <sup>2</sup>	AWG	Crimping pliers	Locator	Die set
20	0.93	18	8365 (M22520/1-01) or 8476-01 (M22520/1-01)	8365-02 (M22520/1-02) or 8476-02 (M22520/1-02)	-
	0.60	20	8365 (M22520/1-01) or 8476-01 (M22520/1-01)	8365-02 (M22520/1-02) or 8476-02 (M22520/1-02)	-
	0.38	22	8365 (M22520/1-01) or 8476-01 (M22520/1-01)	8365-02 (M22520/1-02) or 8476-02 (M22520/1-02)	-
	0.21	24	8365 (M22520/1-01) or 8476-01 (M22520/1-01)	8365-02 (M22520/1-02) or 8476-02 (M22520/1-02)	-
16	1.91	14	8365 (M22520/1-01)	8365-02 (M22520/1-02)	-
	1.34	16	8365 (M22520/1-01)	8365-02 (M22520/1-02)	-
	0.93	18	8365 (M22520/1-01)	8365-02 (M22520/1-02)	-
	0.60	20	8365 (M22520/1-01)	8365-02 (M22520/1-02)	-
	0.38	22	8365 (M22520/1-01)	8365-02 (M22520/1-02)	-
12	3.18	12	8365 (M22520/1-01)	8365-02 (M22520/1-02)	-
	1.91	14	8365 (M22520/1-01)	8365-02 (M22520/1-02)	-
6	14	6	M22520/23-01	8530-2036 (for male contact), 8530-2037 (for female contact)	M22520/23-02
	9	8	M22520/23-01	8530-2036 (for male contact), 8530-2037 (for female contact)	M22520/23-02
	5-3	10-12	M22520/23-01	8530-2036 (for male contact), 8530-2037 (for female contact)	WA23-112DA (23-02)
4	9-14	8-6	M22520/23-01	8533-8141 (23-11)	M22520/23-02
	22	4	M22520/23-01	8533-8141 (23-11)	M22520/23-04

Contact size		Part numbers	
		Crimping pliers	Locator
Quadrax	Inner contact	M22520/2-01	K709
	Outer contact	M22520/5-01	M22520/5-45

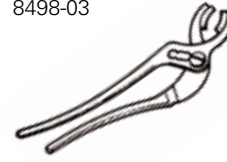
**Tightening support**



Aluminum version, part number: 8533-1150 (consult us)  
 Stainless steel version, part number: 8533-1151

**Backshell tightening tool**

8498-03



Backshell tightening plier,  
 part number: 8498-03  
 Square jaws (order 2 jaws),  
 part number: 8500-1015

**Silicone gaskets**

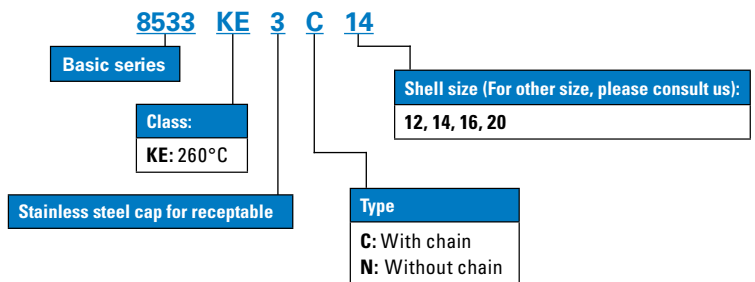
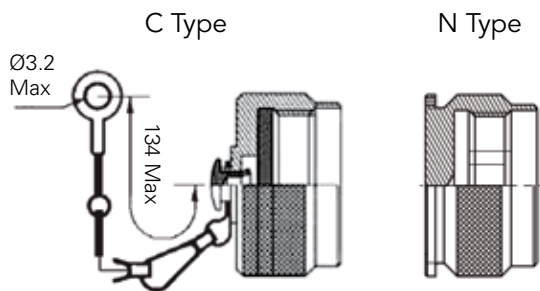
Shell size	Gasket for square flange receptacle		O-Ring for jam nut recep. 200°C Class		O-Ring for jam nut recep. 260°C Class	
	Part number	Material	Part number	Material	Part number	Material
08	85251431	Fluoro silicone	8530455	Silicone	85227654	Silicone THT
10	85251432	Fluoro silicone	85300795	Silicone	85227655	Silicone THT
12	85251433	Fluoro silicone	8530458	Silicone	85227656	Silicone THT
14	85251434	Fluoro silicone	8530796	Silicone	85227632	Silicone THT
16	85251435	Fluoro silicone	8530797	Silicone	85227657	Silicone THT
18	85251436	Fluoro silicone	8530798	Silicone	85227658	Silicone THT
20	85251437	Fluoro silicone	85301548	Silicone	85227927	Silicone THT
22	85251438	Fluoro silicone	8530800	Silicone	85227659	Silicone THT

**Grounding ring replacement kit**

Please contact us.

**Protective caps**

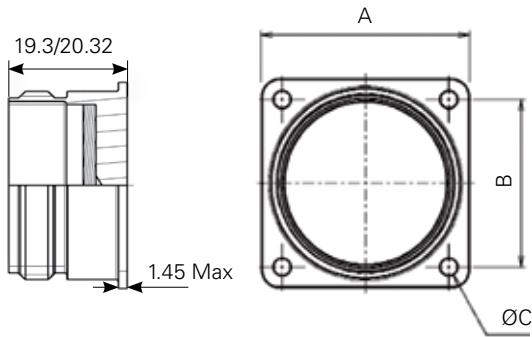
**Receptacle stainless steel cap**



# Souriau 853 series

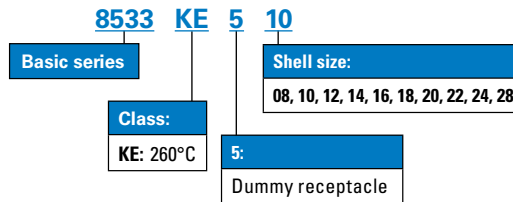
## Dummy receptacle

### Dummy receptacle stainless steel version

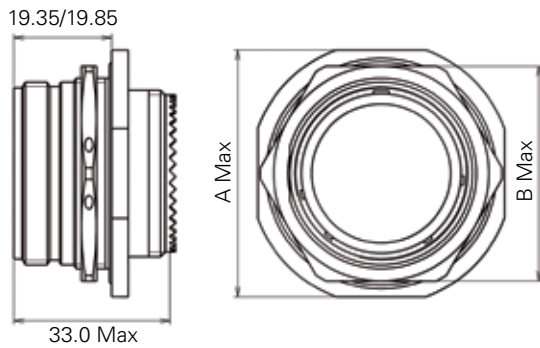


**Note:** Dummy receptacle without keying.

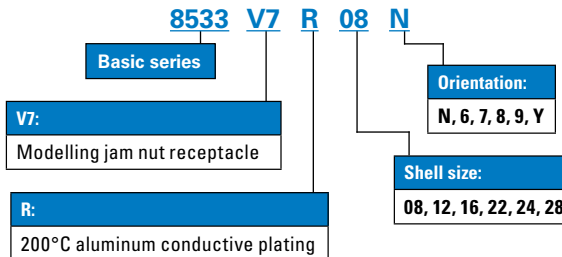
Shell size	08	10	12	14	16	18	20	22	24	28
<b>A Max</b>	20.75	23.93	26.32	28.71	31.88	34.24	36.63	39.80	43.39	50.93
<b>B</b>	15.09	18.26	20.62	23.01	24.61	26.97	29.36	31.75	34.92	39.67
<b>Ø C Max</b>	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.91	3.91



### Modelling receptacle aluminum version



Shell size	08	12	16	22	24	28
<b>A Max</b>	24.90	32.79	38.51	49.63	52.81	59.18
<b>B Max</b>	21.03	28.96	33.76	43.31	48.06	54.48



**Note:** All dimensions are in millimeters (mm)

For more information, contact us:  
[eaton.com/interconnect-support](https://eaton.com/interconnect-support)



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