



M Series

Underwater Connectors

水深 3000 公尺使用

Esterline
Connection Technologies



Presentation

The M Series connectors meet the highest standards of safety for deep immersion. It is currently used in many applications: from oil and gas industry service to renewable energy generation system and military submarines.

The M Series feature a large range of shell styles, layouts or insulator materials. No matter you need to convey signal information or high power we have the right product or we can make it.

Contents

M Series

Typical applications	4
Features & Benefits	5
Range overview	8

Standard Range

Product description	12
Technical features	13
Ordering information.....	15
Contacts	17
Contact layouts	18
Cable clamp accessories	21
Shell dimensions	22
Tools and wiring instructions	33

8810 Series

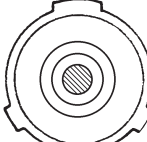
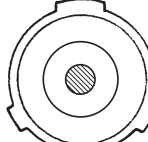



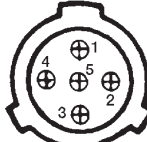
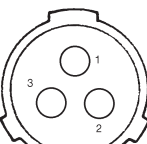


8810 Series - Underwater mateable	
水深 3000 公尺濕式結合	34

Range Extension

Double watertightness connectors	43
Oil filled connectors	43
Specific shells	44
Optical M connectors.....	44
Size 28M.....	45
High current/High voltage.....	45

Contact layouts

Size 9M		Layout caption
<p>0416</p>  <p>4#16 Service 2</p>	<p>0720</p>  <p>7#20 Service 1</p>	<p>Layout ID for part numbering</p>  <p>Number of contacts #Size Voltage Service Rating</p>

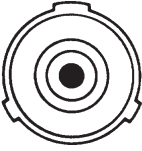
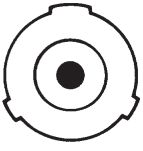
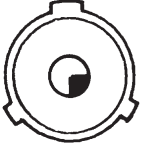
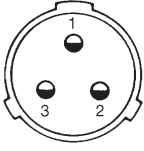

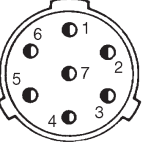
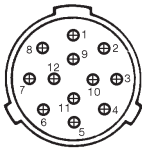
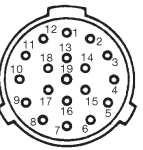
Size 10M					
<p>1TX50*</p>  <p>Triax#50Ω Service 1</p>	<p>1CX50* 1CX75*</p>  <p>1Coax# 50Ω or 75Ω Service 1</p>	<p>0214</p>  <p>2#14 Service 2</p>	<p>0314</p>  <p>3#14 Service 2</p>	<p>0416</p>  <p>4#16 Service 2</p>	<p>0516</p>  <p>5#16 Service 1</p>
<p>0320</p>  <p>3#20 Service 2</p>	<p>0720</p>  <p>7#20 Service 1</p>	<p>0920</p>  <p>9#20 Service 0</p>			

*Please consult us for coax and triax layouts

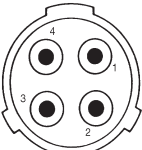
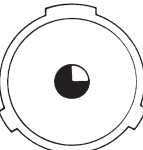

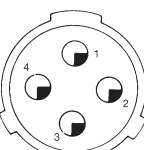
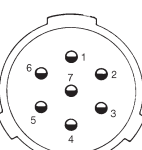
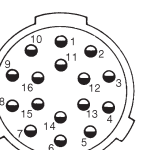
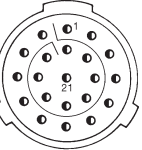
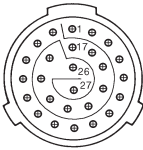
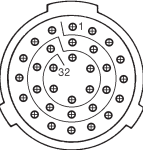
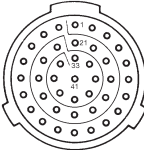
Contact Type							
20	16	14	12	6	2	Coax.	Triax.

Contact layouts

Size 14M

<p>1TX50* 1TX75*</p>  <p>1Triax 50Ω#75 Service 2</p>	<p>1CX50*</p>  <p>1Coax#50 Service 2</p>	<p>0106</p>  <p>1#06 Service 2</p>	<p>0312</p>  <p>3#12 Service 2</p>	<p>0412</p>  <p>4#12 Service 2</p>	<p>0714</p>  <p>7#14 Service 2</p>
<p>1216</p>  <p>12#16 Service 2</p>	<p>1920</p>  <p>19#20 Service 1</p>				

Size 20M

<p>4C50* 4C77*</p>  <p>4Coax#50Ω or 75Ω Service 1</p>	<p>0102</p>  <p>1#02 Service 2</p>	<p>0306</p>  <p>3#06 Service 2</p>	<p>0406</p>  <p>4#06 Service 2</p>	<p>0712</p>  <p>7#12 Service 2</p>	<p>1612</p>  <p>16#12 Service 2</p>
<p>2114</p>  <p>21#14 Service 1</p>	<p>2716</p>  <p>27#16 Service 1</p>	<p>3216</p>  <p>32#16 Service 1</p>	<p>4120</p>  <p>41#20 Service 1</p>		

Contact Type

20	16	14	12	6	2	Coax.	Triax.

*Please consult us for coax and triax layouts

8810 Series 於水深 3000 公尺下濕式接合使用

Applications

All underwater mateable equipments.

Standards



Description

- The 8810 range is designed to be wet or underwater mated and can be used at depths down to 3000 meters. The metal body shells feature rugged, square cut coupling threads to enhance the 8810's suitability for repeated coupling and uncoupling in severe environmental conditions. Connector front faces can withstand either 150 or 300 bars uncoupled wet pressure. Underwater sealing caps are available for use on connectors power on or for long term immersion.

Characteristics

Mechanical

- Pressure resistance : working pressure (Mated or non mated connectors)
 - Shell sizes 1, 2, 3, 4, 7
 - Fitted with cable gland endbell : 300 bar
 - Fitted with longitudinally sealed : 300 bar endbell
 - Shell sizes 5, 6
 - Fitted with all endbell types : 150 bar
- Endurance 500 mating/unmating operations
- Metal shell* : Nickel aluminum bronze
- Insulators : Molded rubber
- Contacts : Gold plated copper alloy
- Band and buckles stainless steel 316L
- Stainless steel 316L, inconel, monel, titanium, aluminum... available on request

Operational

- Working temperature
 - Ambient : -30°C + 70°C
 - Subsea : -3°C + 40°C
- Shocks 75 g - 11 ms (3 axis)
 - Shell size 1, 2, 3, 4, 7
- Vibrations
 - 0.1 Hz to 1 Hz (25 mm amplitude peak to peak 50)
 - 1 Hz to 5 Hz (0.1 g acceleration)
 - 5 Hz to 22 Hz (1 mm amplitude peak to peak 2)
 - 22 Hz to 50 Hz (2 g acceleration)
- Underwater explosion shock tests (heavy weight high impact)
 - Tested in accordance with, Specification MIL-S 901C (NAVY) and HI
 - Test procedure n° HT 0458-TP-1 Original issue
 - Grade : «A»
 - Equipment classification : Hull Mounted external
 - Class : «I»
 - Test classification : Heavy Weight
 - Type : «A»
 - Tested for the US Navy (NCSC)

Electrical

Layouts	Maximum current rating per contact (A)	Maximum bundle current capacity per contact (A)
4 cts # 20	7.5	7.5
7 cts # 20	7.5	6.5
12 cts # 20	7.5	5.5
19 cts # 20	7.5	4.5
38 cts # 20	7.5	3.5
4 cts # 16	15	14
12 cts # 16	15	12
37 cts # 16	15	6.5
66 cts # 16	15	5
1 Ø 7 mm	100	100
4 # 8	45	35
1 Ø 18 mm	400	400
4 Ø 10+2#8	150 + 45	150 + 45

Layouts		Contacts sizes	Test voltage (Vrms)	Working voltage in external wet conditions ambient (Vrms)	Working voltage after subsea mating conditions complied (Vrms)
Shell size	Number of contacts				
1	4	# 20	2500	500	220
2	7	# 20	2500	500	220
	4	# 16	2500	500	220
3	1	Ø 7 mm	3750	750	750
	12	# 20	2500	500	220
4	19	# 20	2500	500	220
	12	# 16	2500	500	220
	4	# 8	3750	750	360
5	37	# 16	2500	500	220
	1	Ø 18 mm	7500	1500	1500
6	68	# 16	2500	500	220
	4	Ø 10 mm	3750	750	360
7	38	# 20	2500	500	220

* After 5 mating/demating operations in clear water and suitable lubricate insulator (with silicone grease)

8810 Series



Ordering information

Standard connectors

shell size	Nbr. of contacts	plug (36H)	jam nut receptacle (10H)	cable connecting receptacle (11H)
1	4	8810-36H-1-04SA	8810-10H-1-04PA	8810-11H-1-04PA
2	7	8810-36H-2-07SA	8810-10H-2-07PA	8810-11H-2-07PA
2	4	8810-36H-2-04S	8810-10H-2-04P	8810-11H-2-04P
2	1	8810-36H-2-01SA	8810-10H-2-01PA	8810-11H-2-01PA
3	12	8810-36H-3-12SA	8810-10H-3-12PA	8810-11H-3-12PA
4	19	8810-36H-4-19SA	8810-10H-4-19PA	8810-11H-4-19PA
4	12	8810-36H-4-12SA	8810-10H-4-12PA	8810-11H-4-12PA
4	4	8810-36H-4-04SA	8810-10H-4-04PA	8810-11H-4-04PA
7	38	8810-36H-7-38SA	8810-10H-7-38PA	8810-11H-7-38PA
5	37	8810-36H-5-37SA	8810-10H-5-37PA	8810-11H-5-37PA
5	1	8810-36H-5-01SA	8810-10H-5-01PA	8810-11H-5-01PA
6	68	8810-36H-6-68SA	8810-10H-6-68SA	8810-11H-6-68PA
6	4 + 2	8810-36H-6-04SA	8810-10H-6-04PA	8810-11H-6-04PA

Note : Extra keyways x, y, z... are available on special request





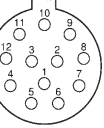
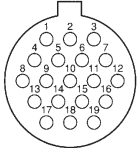
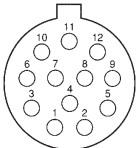
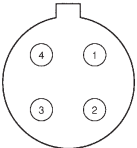
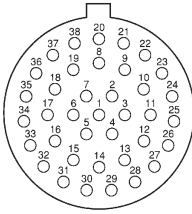
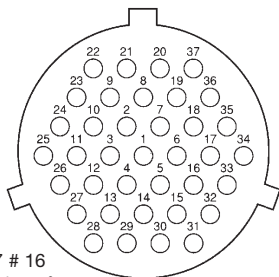
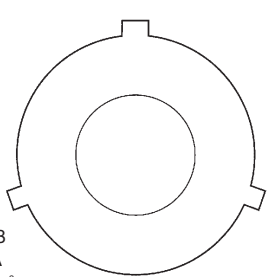
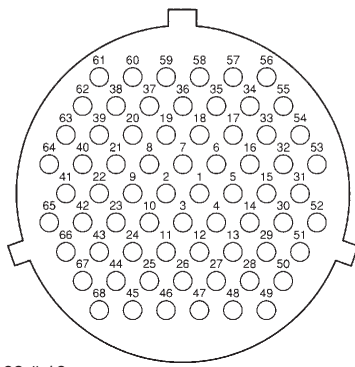
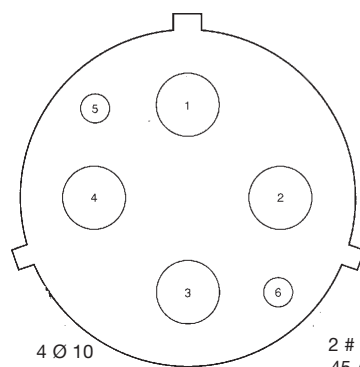
Custom design receptacles

shell size	Nbr. of contacts	inverse pressure receptacle (12H)	thrubulkhead receptacle (14H)	square flange receptacle (15H)
1	4	8810-12H-1-04PA	8810-14H-1-04PA	8810-15H-1-04P
2	7	8810-12H-2-07PA	8810-14H-2-07PA	8810-15H-2-07P
2	4	8810-12H-2-04P	8810-14H-2-04PA	8810-15H-2-04P
2	1	8810-12H-2-01PA	8810-14H-2-01PA	8810-15H-2-01P
3	12	8810-12H-3-12PA	8810-14H-3-12PA	8810-15H-3-12P
4	19	8810-12H-4-19PA	8810-14H-4-19PA	8810-15H-4-19P
4	12	8810-12H-4-12P	8810-14H-4-12PA	8810-15H-4-12P
4	4	8810-12H-4-04PA	8810-14H-4-04PA	8810-15H-4-04P
7	38	8810-12H-7-38P	8810-14H-7-38P	8810-15H-7-38PA
5	37	8810-12H-5-37P	8810-14H-5-37PA	8810-15H-5-37P
5	1	8810-12H-5-01P	8810-14H-5-01PA	8810-15H-5-01P
6	68	8810-12H-6-68P	8810-14H-6-68PA	8810-15H-6-68P
6	4 + 2	8810-12H-6-04P	8810-14H-6-04PA	8810-15H-6-04P

8810 Series



Contact layouts (Plug back face view)

layouts		size 20 contacts	size 16 contacts	power contacts
shell size	number of contacts	contact diameter : 1.0 mm / 0.039 wire size max : 0.93 mm ² current rating per contact : 7.5A max	contact diameter : 1.57 mm / 0.062 wire size max : 1.34 mm ² current rating per contact : 15A max.	contact diameter : see below wire size max : see below current rating : see below
1	4	4 # 20 0.93 mm ² 		
2	7 4 1	7 # 20 0.93 mm ² 	4 # 16 1.34 mm ² 	1 Ø 7 100 A 16 mm ² 
3	12	12 # 20 0.93 mm ² 		
4	19 12 4	19 # 20 0.93 mm ² 	12 # 16 1.34 mm ² 	4 # 8 45 A per contact 4 mm ² 
7	38	38 # 20 0.93 mm ² 		
5	37 1		37 # 16 1.34 mm ² 	1 Ø 18 400 A 185 mm ² 
6	68 4		68 # 16 1.34 mm ² 	4 Ø 10 150 A per contact 70 mm ²  2 # 8 45 A 45 mm ²



TP Series

Sealed Connectors

水深 300 公尺以下使用

Esterline
Connection Technologies



Presentation

The TP Series connectors meet the highest standards of safety for aquatic environment. It is currently used in many applications: vessels, civil construction, diving, heavy industry...

The TP Series feature a large range of shell styles and layouts. Derived from the widely recognized marine bronze M Series, the TP Series are the perfect trade off between high performances and cost efficiency.

Contents

TP Series

Typical applications	48
Features & Benefits	49
Range overview	52

Product Details

Technical features	54
Ordering information.....	55
Contacts	57
Contact layouts	58
Cable clamp accessories	60
Shell dimensions	61
Spare parts	70
Tools	71

Contact layouts

Size 8TP		Layout caption
0416 4#16 Service 2	0720 7#20 Service 1	Layout ID for part numbering Number of contacts #Size Voltage Service Rating

Size 10TP					
TX75* TX50* 1TX#75 or 1TX#50 Service 1	1C75* 1C50* 1C#75 or 1C#50 Service 1	0214 2#14 Service 2	0314 3#14 Service 2	0416 4#16 Service 2	0516 5#16 Service 1
0320 3#20 Service 2	0720 7#20 Service 1				

Product Details

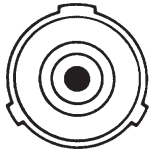
Contact Type							
20	16	14	12	6	2	Coax.	Triax.

*Please consult us for coax and triax layouts

Contact layouts

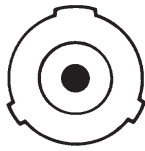
Size 14TP

**TX75*
TX50***



1TX#75 or 1TX#50
Service 2

1C50*



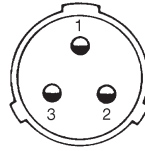
1C#50
Service 2

0106



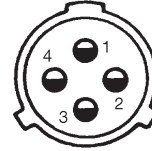
1#06
Service 2

0312



3#12
Service 2

0412



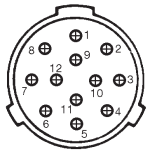
4#12
Service 2

0714



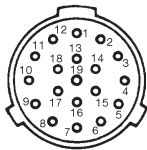
7#14
Service 2

1216



12#16
Service 2

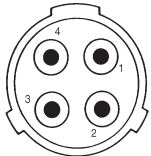
1920



19#20
Service 1

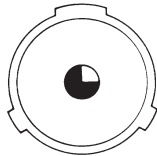
Size 20TP

**4C75*
4C50***



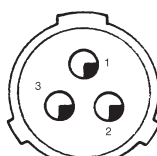
4C#50 or 4C75Ω
Service 1

0102



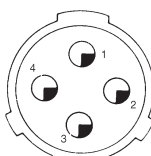
1#02
Service 2

0306



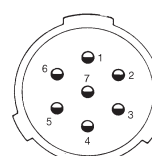
3#06
Service 2

0406



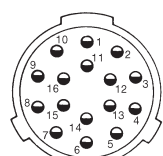
4#06
Service 2

0712



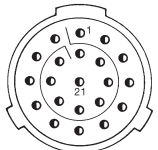
7#12
Service 2

1612



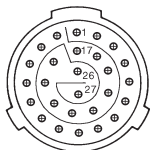
16#12
Service 2

2114



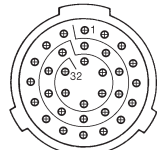
21#14
Service 1

2716



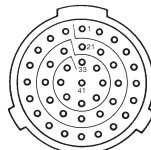
27#16
Service 1

3216



32#16
Service 1

4120

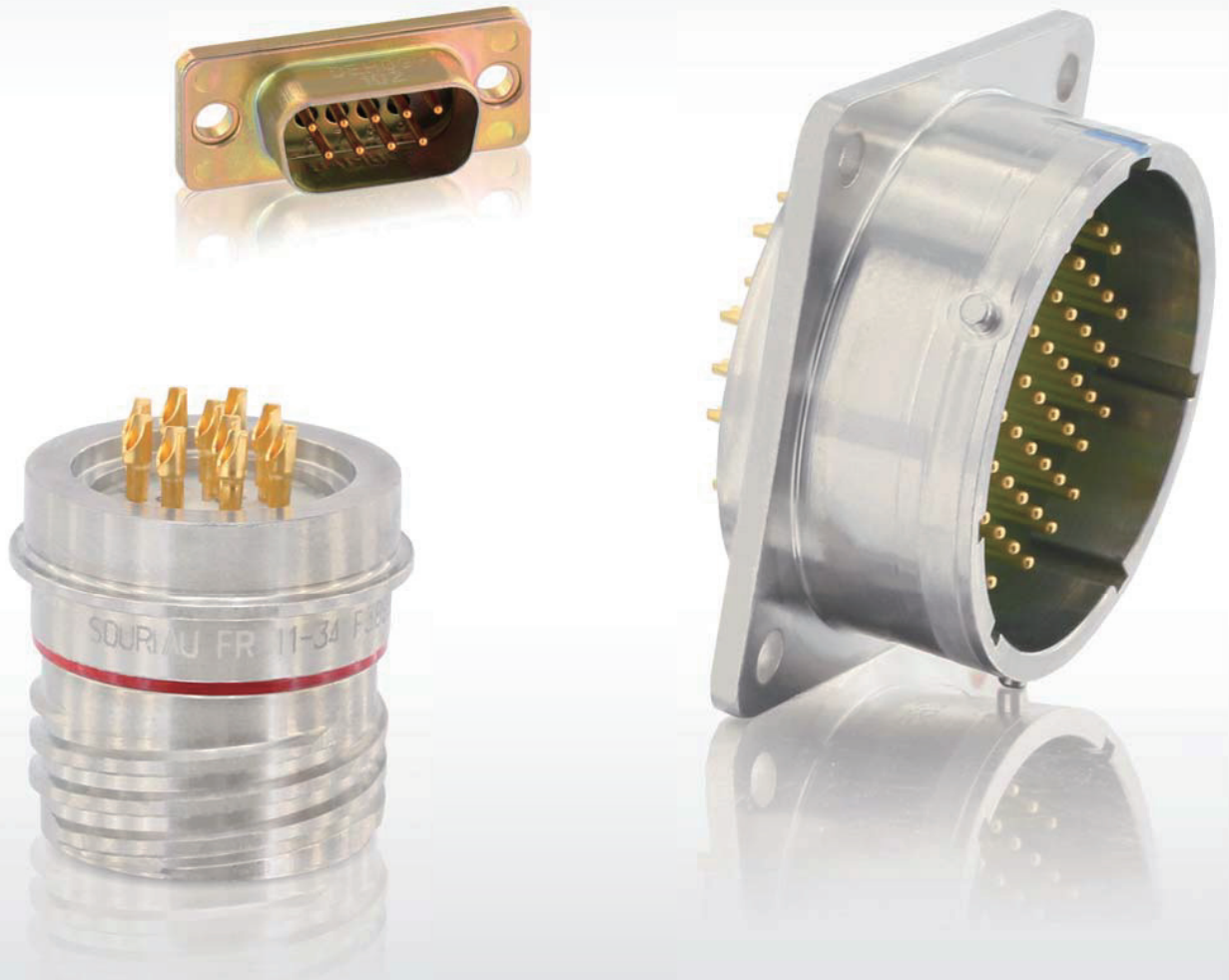


41#20
Service 1

Contact Type



*Please consult us for coax and triax layouts



Hermetic Connectors
High Performance Sealing Solutions

軍規防水氣密連接器



Hermetic Connectors



Presentation

Based on glass to metal seal technology, **SOURIAU** offers hermetic connectors to cover applications which require performances that supersede standard watertight connectors capability, such as high pressure, high temperature variations resistance, secured hermetic protection, ...

In addition to the various connector standards on which this technology has been developed, **SOURIAU** supports customers specific needs, from a shell or contact change to more complex and innovative solutions.

This hermetic connectors catalog aims to give an extensive outlook of **SOURIAU**'s offering. After an overall view of the hermetic technology, you will find a detailed description of each connector range specifics features, as well as dimensions and ordering details. The end of the catalog will give you a flavor of some of the various specific extensions. Enjoy the reading!

Contents

Mil-Grade Hermetic

Typical applications	74
Features & Benefits	75
Standard glass to metal sealing technologies..	76
Hermetic range selector guide	78
Alternative sealing technologies	79

Product Series

851 Series M26482 I / VG95328	80
8525 Series EN3646	86
8526 Series M26482 II	95
8533 Series EN2997 / ESC10 / M83723	102
8D Series M38999	110

8STA Series M38999 microminiature	119
D-Sub Series M24308	122

Range Extension

Resin sealed connector	125
Removable crimp contacts	126
Hermetic receptacles with stand-offs	126
8LT27 rack & panel connector	127
Hermetic feedthrough.....	127
Hermetic compact connector metallized	128
Solder contacts on both sides of bulkhead.....	128
Contacts grounded on the shell.....	129
Thermocouple	129