

MSseries

Miniature MS Connectors
(MIL-C-26482 Series I) Solder Type

ISO 9001/9002



■개 요 (Summary)

Miniature MS Connector는 소형으로서 전기적·기계적 및 환경적 특성이 우수하여 주로 군용통신장비에 널리 쓰이고 있으며, 5개소의 안내 키 (Guide Key)가 있어 확실하고 안정된 결합이 이루어지는 Connector입니다. 또한, Bayonet Coupling 방식으로 着脱이 되므로 결합시간이 매우 짧은 장점이 있습니다.

본 팜프렛은 여러 종류의 소형 Connector 중에서 Cable의 접속을 납땜 (Soldering)으로 하는 MS3110 Series의 E형을 기준하였으며, 기타 다른 Type, 등급, 형상, 접속배열 등에 관하여는 별도로 문의하여 주십시오.

The miniature MS connector is a small and mainly and widely used by military communication equipment as its electrical, mechanical and environmental features are excellent and exact and stabilized assembly is made as there are 5 points of guide key.

And also, it has such advantage the assembling time is very short as it Connection and disconnection by bayonet coupling manner.

This informational pamphlet has contained based on E type of MS3110 series to solder connection of cable among the many kinds of small connectors and, please ask otherwise for other type, grade, configuration and layout by jointing.

■용 도 (Application)

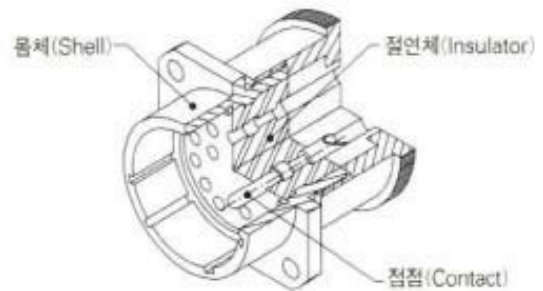
통신장비 수송차량, 의료기기 및 계측기기, 일반 산업기계 및 기기, 기타 각종 전기·전자기기

Communication equipment, transporting vehicle, medical equipment & measurement instrument, general industrial machines & equipment, and numerous, electric & electronic equipment.

* If you want more detailed information, please call up Sales department.

자세한 사항은 당사 영업부로 문의바랍니다.

● Sectioned View Connectors ("E" Class)



• Operating Temperature Range

-55°C to 125°C (-67°F to +257°F)

• Environmental Seal

Wired, mated connectors with the specified accessory attached, shall meet the environmental requirements of MIL-C-26482

• Durability

Minimum of 500 mating cycles.

• Shock and Vibration Requirements

When tested as follows the connector shall sustain no physical damage or electrical discontinuity exceeding one microsecond.

• Shock

Pulse of an approximate half sine wave of 50 g magnitude with duration of 11 milliseconds applied in three axes.

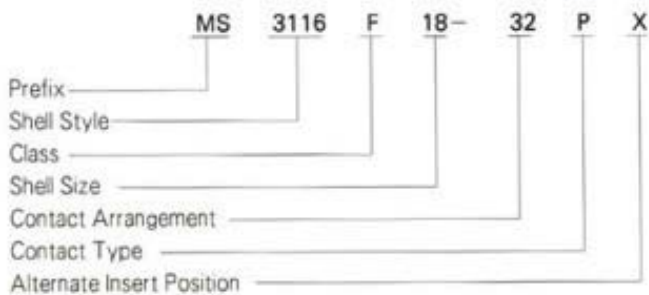
• Vibration

Twelve hours of random vibration having a range of 10 to 2,000Hz with a .06 [1.52]inch double amplitude(10~55Hz) and a 15G peak level (55 to 2,000Hz).

■ Mating Guide



■ 품명구성 (Ordering Information)



● Shell Style

- MS Designation
 3110—Wall mounting receptacle
 3111—cable connecting plug
 3112—box mounting receptacle(Class E only)
 3114—Jam nut receptacle
 3116—straight plugh
 3119—thru-bulkhead receptacle(Class E only)

● Class

- A — general duty(not MS approved)
 B — general duty with strain relief without grommet & ferrules(may be used for potting when strain relief is desired) (not MS approved)
 E — grommet seal except 3112(MS specification)
 F — grommet seal with strain relief(MS specification)
 J — water tight gland seal with strain relief for jacketed cable(MS specification)
 P — potted(MS specification)

● Shell Size

8, 10, 12, 14, 16, 18, 20, 22, and 24

● Contact Arrangement

MIL-C-26482 Series I

● Contact Style

P — pin ; S — socket

● Alternate Insert Position

W, X, Y and Z.(Omit for normal)

■ 일반사양 (Specification)

● Voltage Rating

Altitude		Mated Service Rating	
ft.	m	I	II
Sea Level	—	1500	2,300
50,000	15,240	500	750
70,000	21,336	375	500
100,000	30,480	200	200

* Note : When the voltage as indicated above is applied between shell and closest contact to the shell or between the two closest contacts for a period of 5 seconds, there shall be no evidence of flashover or breakdown.

● Contact Current Rating and Retention

Contact Size*	DC Test Amperage	Contact Retention	
		Axial Load	
		lb	N
20	7.5	15	66.7
16	13.0	25	111.2
12	23.0	30	133.4

● Wire Range Accommodations

Contact Size	Solder pot diameter	AWG Wire Size	Conductor Cross Section area
20	φ 1.0	24, 22, 20	0.5mm ² max.
16	φ 1.6	20, 18, 16	1.25mm ² max.
12	φ 2.4	14, 12	3.5mm ² max.

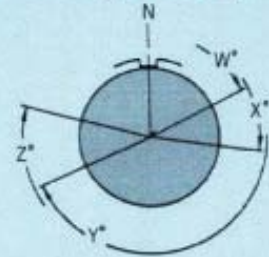
● Standard Materials and Finishes

Shell	aluminum alloy, conductive olive drab chromate over cadmium or Zinc finish
Insulator	polychloroprene rubber
Grommet and Seal	polychloroprene rubber
Contacts	Copper alloy, gold plate per MIL-G-45204 type II

절연체 회전위치 (Alternate Insert Positions)

NO. OF CONTACTS	Contact size	Shell Size ARR. NO.	Service Rating	Alternate Positions 각도			
				W	X	Y	Z
2	#20	8-2	I	58	122	-	-
	#20	8-3		60	210	-	-
3	#16	8-33	I	90	-	-	-
	#16	12-3		-	-	180	-
4	#20	8-4	II	45	-	-	-
5	#16	14-5		40	92	184	273
6	#20	10-6	I	90	-	-	-
	#20	10-96		90	180	240	270
8	#16	12-8	II	90	112	203	292
	#16	16-8		54	152	180	331
10	#20	12-10	I	60	155	270	295
11	#16	18-11	II	62	119	241	340
12	#20	14-12	I	43	90	-	-
	#12			-	-	-	-
	#12			22-12	-	-	-
15	#20	14-15	I	17	110	155	234
	#16			17	110	155	234
16	#16	20-16	II	238	318	333	347
18	#20	14-18	I	15	90	180	270
19	#20	14-19		30	165	315	-
21	#16	22-21	II	16	135	175	349
23	#20	16-23	I	158	270	-	-
	#16			158	270	-	-
	#20			158	270	-	-
	#16	16-99	I	66	156	223	340
24	#20	20-24	I	70	145	215	290
26	#20	16-26		60	-	275	338
27	#20	20-27	I	72	144	216	288
30	#20	18-30		180	193	235	250
	#16		180	193	235	250	
31	#16	24-31	I	90	225	255	-
32	#20	18-32		85	138	222	265
	#20	22-32		72	145	215	288
34	#20	22-34	I	62	142	218	298
39	#20	20-39		63	144	252	333
	#16		20-39	63	144	252	333
41	#20	22-41	I	45	126	225	-
	#20			45	126	225	-
	#16			39	135	264	-
55	#20	22-55	I	30	142	226	314
61	#20	24-61		90	180	270	324

INSERT POSITION (Face view of pin insert)



註 : 본 위치는 Pin insert (+절연체)의
전면 또는 Socket insert (-절연체)의
후면에서 본 것임.

Insert Arrangement and Clocking Positions (Per MIL-STD-1669)

1. In the normal insert clocking position (position N) the insert centerline coincides with the centerline of the master key/keyway of the shell.

2. In the alternate clocking position (W, X, Y, Z) the pin insert is rotated clockwise relative to the centerline of the master key/keyway as indicated in the figure and chart.

The socket insert is rotated counter-clockwise

3. Plugs have keys. Receptacles have keyways

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■ 접속배열표(Contact Arrangements)

SHELL SIZE 8



8-1
2-#20



8-3
3-#20



8-4
4-#20



8-33
3-#20

SHELL SIZE 10



10-6
6-#20



10-96
5-#20

SHELL SIZE
NO. OF CONTACTS
SERVICE RATING

SHELL SIZE 12



12-3
3-#16



12-8
8-#20



12-10
10-#20

SHELL SIZE 14



14-5
5-#16



14-12
8-#20, 4-#16

SHELL SIZE
NO. OF CONTACTS
SERVICE RATING



14-15
1-#16, 14-#20



14-18
18-#20



14-19
19-#20

SHELL SIZE 16



16-8
8-#16



16-23
22-#20, 1-#16

SHELL SIZE
NO. OF CONTACTS
SERVICE RATING

SHELL SIZE 18



18-26
25-#20



18-11
11-#16



18-30
29-#20, 1-#16

SHELL SIZE 20



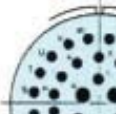
18-32
32-#20



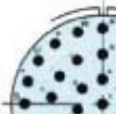
20-16
16-#16

SHELL SIZE
NO. OF CONTACTS
SERVICE RATING

SHELL SIZE 22



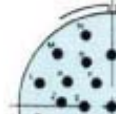
20-39
37-#20, 2-#16



20-41
41-#20



22-21
21-#16



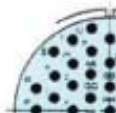
22-32
32-#20

SHELL SIZE
NO. OF CONTACTS
SERVICE RATING

SHELL SIZE 24



22-41
27-#20, 14-#16



22-55
55-#20



24-31
31-#16



24-61
61-#20

SHELL SIZE
NO. OF CONTACTS
SERVICE RATING

註) 1. Pin insert(+절연체)의 전면에서 본 것임.

2. 본 표에 수록되지 않은 많은 내용은 별도로 문의하여 주십시오.

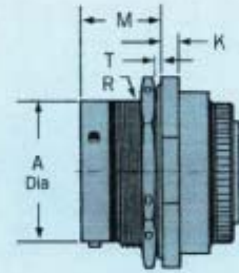
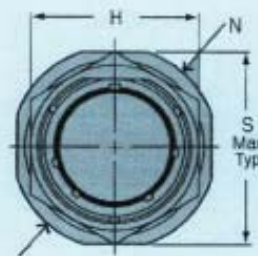
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■ JAM NUT RECEPTACLES

MS 3114

MS service class E, F, P



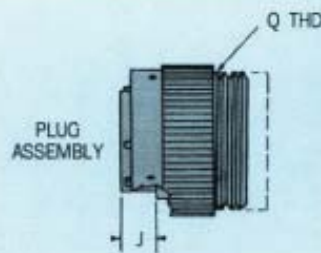
Shell Size	A ±0.08	H ±0.43	K ±.05	M ±.08 -.00	N Max.	S Max.	T Panel Thickness		R Thread Class 2A
							Min	Max.	
8	11.96	19.05	2.97	17.55	27.38	24.23	1.57	3.17	9/16-24UNEF
10	14.93	22.22	2.97	17.55	30.56	27.38	1.57	3.17	11/16-24UNEF
12	19.00	26.97	2.97	17.55	35.33	32.16	1.57	3.17	7/8-20UNEF
14	22.17	30.17	2.97	17.55	38.51	35.33	1.57	3.17	1-20UNEF
16	25.35	33.32	2.97	17.55	41.68	38.51	1.57	3.17	1 1/8-18UNEF
18	28.52	36.25	2.97	17.55	44.86	41.68	1.57	3.17	1 1/4-18UNEF
20	31.70	39.67	3.76	22.33	49.63	46.43	1.57	6.35	1 3/8-18UNEF
22	34.87	42.87	3.76	22.33	52.78	49.63	1.57	6.35	1 1/2-18UNEF
24	38.05	46.02	3.76	23.16	55.96	52.73	1.57	6.35	1 5/8-18UNEF

(mm)

■ STRAIGHT PLUGS

MS 3116

MS service class E, F, J, P



● GENERAL PLUG DIMENSIONS

Shell Size	G Max	J (±0.25)	R Thread Class 2A
8	19.86	8.99	7/16-28UNEF
10	23.52	8.99	9/16-24UNEF
12	26.49	8.99	11/16-24UNEF
14	30.05	8.99	13/16-20UNEF
16	33.15	8.99	15/16-20UNEF
18	35.33	8.99	1 1/16-18UNEF
20	38.89	10.54	1 3/16-18UNEF
22	42.06	10.54	1 5/16-18UNEF
24	45.14	10.54	1 7/16-18UNEF

(mm)