

MABAC Threaded Coupling Series

Description

- **A compact solution**
 - The smallest connector available (shell size 3)
 - Miniaturization of MIL-DTL-38999 Series III
 - Threaded coupling (between 1/2 and 3/4 turn to mate) with ratcheting system (size 5 & 7)
 - Integrated backshell:
 - Easy to wire and handle
 - Compatible with heat shrink boot and braid retention band
 - Compliant with overmolding
 - Triple-start thread
- **A versatile solution**
 - 3 shells sizes: 3, 5, 7
 - Plug; In line, Box and Jam nut receptacle
 - 2 materials, 3 platings
 - Crimp & PC tails
 - Removable contacts #22D & #26
 - 6 keyings
- **Harsh environment-resistant solution**
 - 100% Scoop Proof
 - Cavity to cavity sealed with interfacial seal and grommet
 - EMI ring (for size 5 & 7)
 - Fluid resistant



Technical Features:

Materials

- **Shell:**
Aluminum alloy
Passivated stainless steel (for size 5 & 7)
- **Shell plating:**
Aluminum:
. Zinc nickel (RoHS)
. Nickel (RoHS)
. Olive drab cadmium
Passivated stainless steel (RoHS)
- **Insulator:** Thermoplastic
- **Contact body:** Copper alloy
- **Contacts plating:** Gold over nickel plated
- **Shell endurance:**
Aluminum:
500 mating/unmating cycles
Passivated stainless steel:
1000 mating/unmating cycles
- **Vibration:**
44 grms @125°C, 2 axes during 8 hours
- **Shock:**
300g, 3 ms

Electrical

Wire size

Layout	Wire (AWG)
03-05	24-30
03-35	22-28
05-06	24-30
05-35	22-28
07-09	24-30
07-35	22-28

- **Test voltage (at sea level):**
Size 22D: 1000 Vrms
Size 26: 400 Vrms
- **Contact resistance:**
Size 22D: <14.6 mΩ Size 26: <16 mΩ
- **Contact rating:**
Size 22D: 5A Size 26: 3A
- **Contact retention:**
Size 22D: 45N Size 26: 30N
- **Shell to shell continuity (typical value)**

Shell size	Aluminum version	Stainless steel version
5	10 mΩ	60 mΩ
7		

- **EMI:**
Aluminum: -70dB @ 1GHz
Passivated stainless steel: -55 dB @ 1Ghz

Environmental

- **Temperature range:**
-55°C to +175°C
- **Water immersion:**
IP 67 on mated connector
1 meter for 30 min minimum
> IP68 with appropriate cable termination
- **Salt spray:**
Zinc nickel: 500 hours
Nickel: 48 hours
Olive drab cadmium: 500 hours
Passivated stainless steel: 500 hours

Resistance to fluids

- **According to MIL-DTL-38999 standard**
Gasoline: JP5 (OTAN F44)
Mineral hydraulic fluid: MIL-H-5606 (OTAN H515)
Synthetic hydraulic fluid: Skydrol 500 B4
- **Compatible with de-icing fluids containing potassium acetate**

General Note

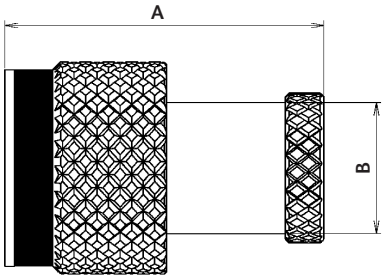
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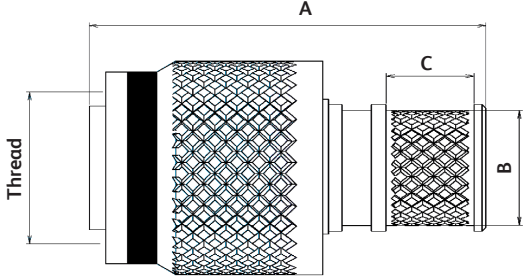
Dimensions

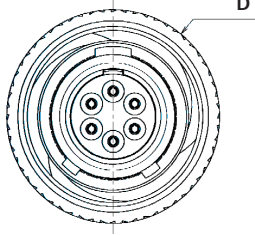
Plug - Shell type 05 & 06

Shell size 3



Shell size 5 & 7

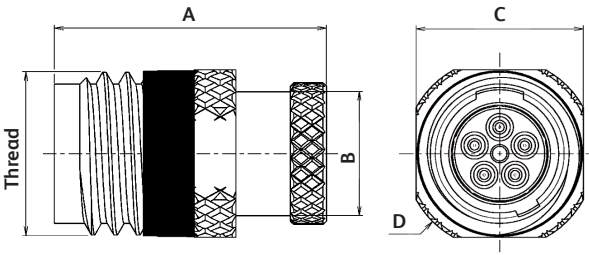




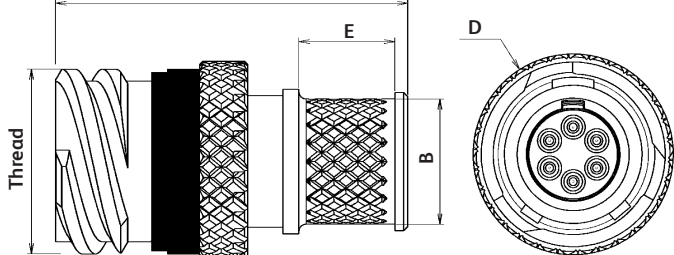
Shell size		Thread	A Max	Ø B Max	C Max	Ø D Max
3	3-05	-	17	7	-	11.5
	3-35	-	17.5	7	-	11.5
5		5/11''-1P	28	8	6.1	15
7		1/2''-1P	28	9.5	6.1	16

In line receptacle - Shell type 01

Shell size 3



Shell size 5 & 7



Shell size	Thread	A Max	B Max	C Max	Ø D Max	E Max
3	M9	15.5	7	9.3	11	-
5	5/11''-1P	23	8	-	13	6.1
7	1/2''-1P	25	9.5	-	13.5	6.1

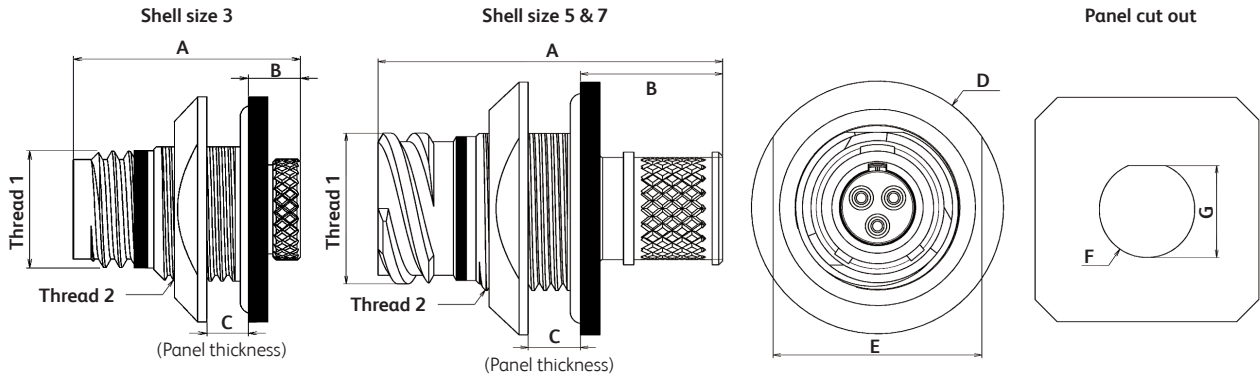
Note: All dimensions are in mm.

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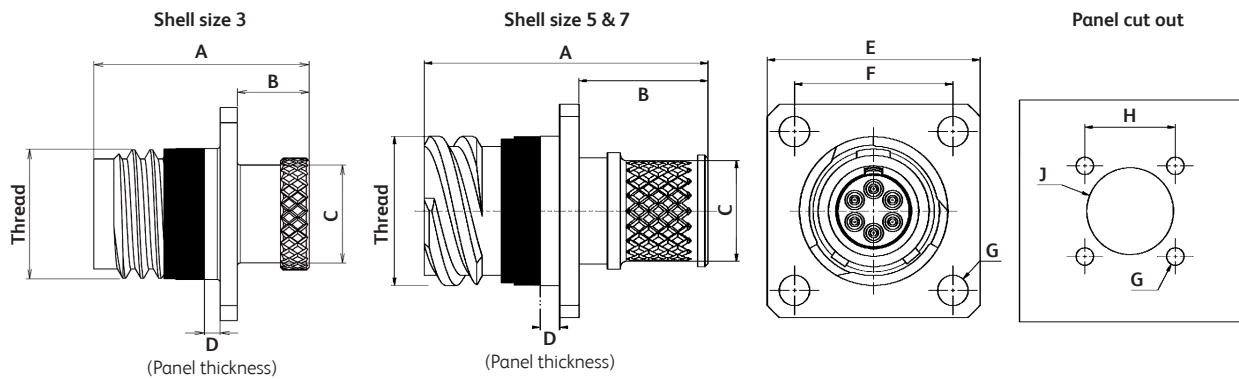
Jam nut receptacle - Shell type 07



Shell size	Thread 1	Thread 2	A Max	B Max	C Max	Ø D Max	E Max	Ø F Max	G Max	
3	3-05	M9	7/16''28 UNEF 2A	18	4.5	3.2	18	14	11.3	10.6
	3-35	M9	7/16''28 UNEF 2A	20	4.5	3.2	17.5	14	11.3	10.6
5	5/11''-1P	1/2''28 UNEF 2A	27	11	3.2	19.5	16	12.8	12.3	
7	1/2''-1P	9/16''24 UNEF 2A	27	11.5	3.2	20.8	17	14.5	13.8	

Note: All dimensions are in mm.

Box receptacle - Shell type 00



Shell size	Thread	A Max	B Max	Ø C Max	D Max	E Max	F Max	Ø G Max	H Max	Ø J Max	
3	3-05	M9	15	5	6.8	2.5	15	10.5	2.35 ^{+0.08}	10.5	9.5
	3-35	M9	18	8	6.8	2.5	15	10.5	2.35 ^{+0.08}	10.5	9.5
5	5/11''-1P	23	10.5	8	2.5	16.6	12.27	2.35 ^{+0.08}	12.27	11.75	
7	1/2''-1P	25	13	10	2.5	18	13.84	2.35 ^{+0.08}	13.8	12.95	

Note: All dimensions are in mm.

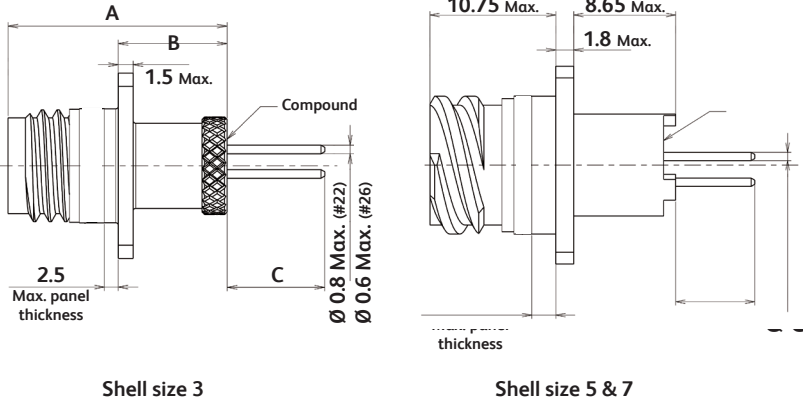
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Orientations

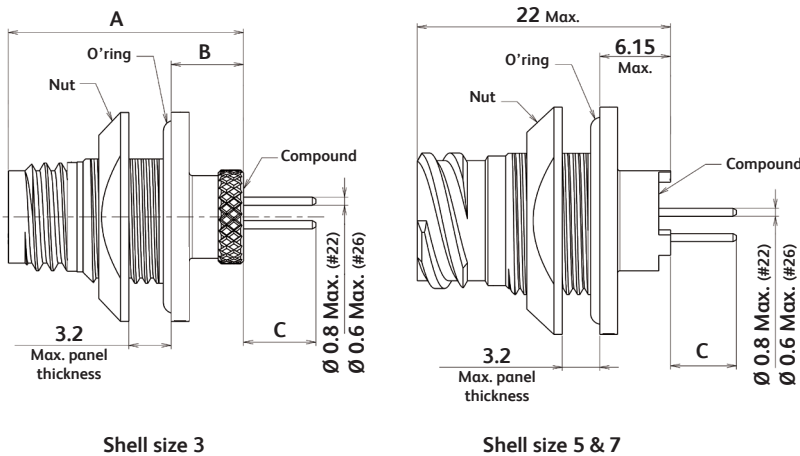
Box receptacle with PC tail contacts - Shell type 90



Layout	A Max.	B Max.	C Min.	C Max.
03-05	15	6.5	8.47	9.47
03-35	18	9	7.39	8.12
05-06	-	-	5.89	7
05-35	-	-	5.87	6.9
07-09	-	-	6.04	7
07-35	-	-	5.82	6.9

Shell design vary according to shell size.
For L contact (long PC tail) please consult us.

Jam nut receptacle with PC tail contacts - Shell type 97



Layout	A Max.	B Max.	C Min.	C Max.
03-05	18.5	4.2	5.87	6.97
03-35	20.5	6.2	5.19	6.02
05-06	-	-	4.86	5.95
05-35	-	-	4.82	5.85
07-09	-	-	4.99	5.95
07-35	-	-	4.77	5.85

Shell design vary according to shell size.
For L contact (long PC tail) please consult us.

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Connector weights

Weight

Aluminum version (in gram $\pm 10\%$)

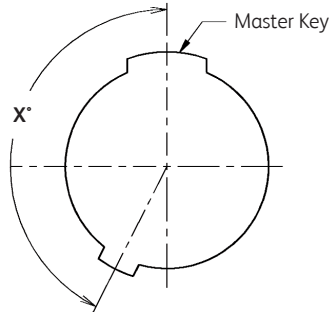
Shell size & layout	Plug		Square flange receptacle	
	Without contacts	With crimp contacts	Without contacts	With crimp contacts
03-05	1.7	1.8	1.9	2.1
05-06	2.8	3	5.4	5.8
07-09	3.6	3.9	6	6.5

Orientations

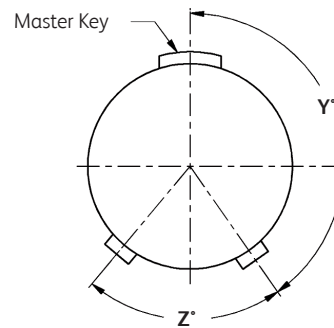
Orientation - All shell types

Plug front face view

Shell size 3



Shell size 5 & 7



Shell size	Angles	N	A	B	C	D	E
3	X°	153	51	102	204	255	306
5 & 7	Y°	145	130	110	155	90	90
	Z°	75	120	120	115	115	180

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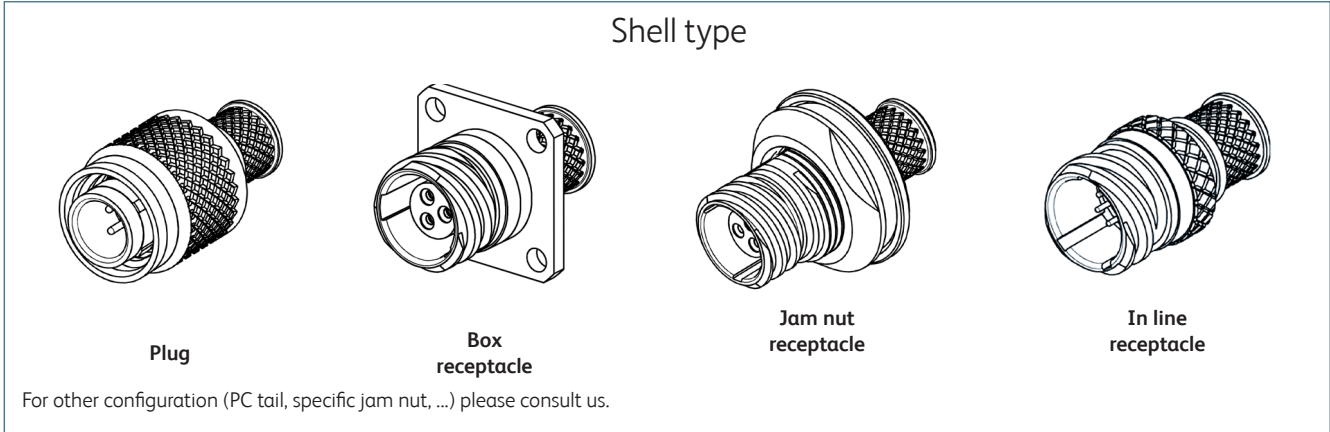
Ordering information

Threaded Series	MABAC T	90	W	05	35	P	N	XXX
Shell type:								
06 = Cable Plug								
01 = In-line Receptacle								
00 = Box Receptacle 4 hole								
07 = Jam Nut Receptacle								
90 = Square flange receptacle PCB contacts								
97 = Jam nut Receptacle PCB contacts								
Material and Finish:								
W = Cad								
F = Electroless Nickel								
Z = Zinc Nickel								
K = Stainless Steel								
Shell size: 03, 05, 07								
Insert Arrangement: See contact layouts								
Contact type:								
P = Pin								
S = Socket								
T1 = PCB Tail Short Pin								
T2 = PCB Tail Long Pin								
Orientation :								
N = Normal								
Alternative A,B,C,D,E								
Modification code								

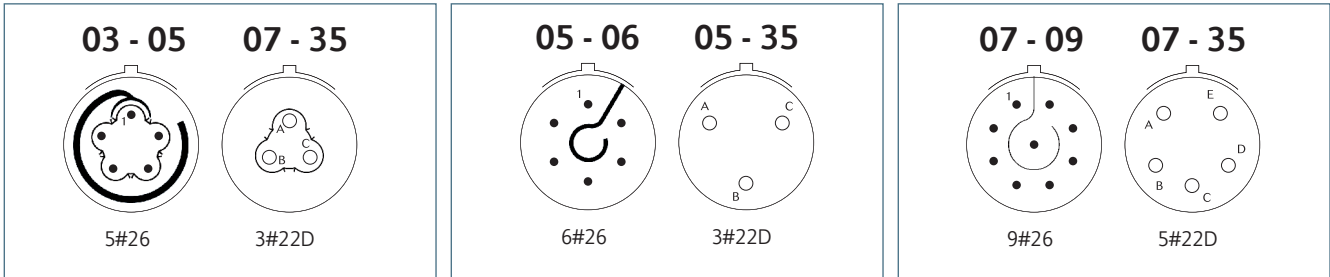
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Contact layouts



Note: For information only.

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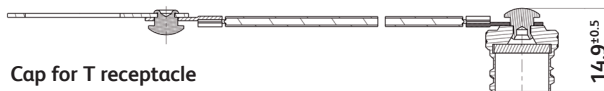


Caps

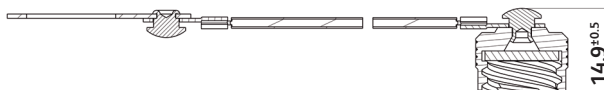
Basic Series: Cap for T Series	MABACT	32	Z	03	N
Cap type: 32: Cap for plug 33: Cap for receptacle					
Plating: Z: Black zinc nickel F: Nickel W: Olive drab cadmium					
Shell size: 03 - 05 - 07					
Style: N: Ring R: Eyelet					

Dimensions

Cap for T plug



Cap for T receptacle



Technical drawing of a Ring and Eyelet showing dimensions: $\text{Ø}A^{+0}_{-0.2}$, $80^{±4}$, and $B^{+0.3}$.

Size	A	B	
		Plug	Receptacle
03	11.5	11	12.5
05	13.5	13	15
07	14.5	14	17

Note: for other lanyard length please consult us.

Gaskets

Shell size	Threaded 'T' Box receptacle
3	T0G03
5	T0G05
7	T0G07

Note: All dimensions are in millimeters (mm).

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