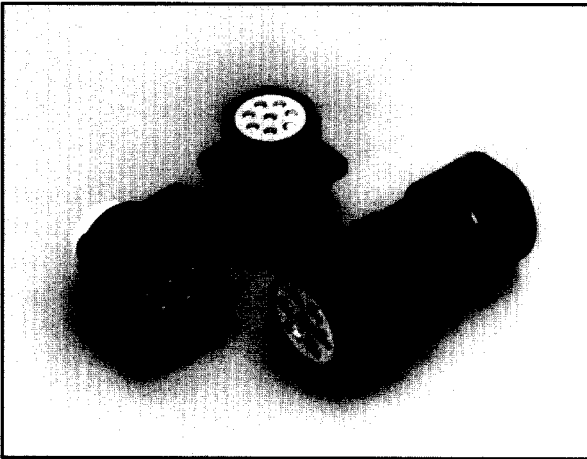


JL05 SERIES CONNECTORS

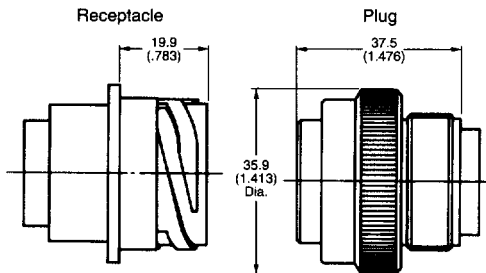
Waterproof, Circular Connectors



FEATURES

- Five insert guide keys for easy mating and unmating
- First-to-make/last-to-break contacts
- IP55F class waterproof structure

Connector Profile (Ref.)



The JL05 Series connectors conforms to JISB6015 specifications. JL05 is a circular, waterproof connector using IP55F structure. There is a one-touch locking mechanism for ease in mating and unmating. With first-to-make/last-to-break contacts, you are ensured a good circuit protection. Their ideal application are machining tools, servomotors, robots, and other industrial machines. The JL05 Series has two types of panel mount connectors. One option is waterproof only in the mated condition (JL05-2A/JL05-6A) and the other option is fully waterproof by itself (JL05-2L/JL05-6A).

GENERAL SPECIFICATIONS

Rated Current	Contact Size	#20 5A	#16 13A	#12 23A	#8 46A
Rated voltage		INST	A		D
	DC.V	250	700	1,250	
	AC.Vr.m.s.	200	500	900	
Dielectric Withstanding Voltage	AC.Vr.m.s.	1,000	2,000	2,800	
Insulation Resistance	5,000 MΩ min. waterproof when mated 1,000 MΩ min. single waterproof structure				
Contact Resistance	Contact Size mΩ max.	#20 15	#16 4	#12 2	#8 0.6
Operating Temperature	-55°C ~ +125°C				
Humidity	Relative Humidity: 85% max.				

	No. of Contacts	1 ~ 28	29 ~ Ground
Dielectric Withstanding Voltage	AC. V r.m.s.	1,500	2,000
Rated Voltage	AC. V r.m.s.	250	500

MATERIALS AND FINISHES

Shell	Aluminum Zinc Plating
Coupling Nut	Aluminum Olive Drab or Black
Insulator	Synthetic Resin (UL94V-0)
Front Insulator (Single Waterproof type)	Synthetic Rubber
Contact	Copper Alloy, Silver Plating
O-Ring	Synthetic Rubber
Retaining Ring	Copper Alloy, Zinc Plating
Stop Ring	Stainless Steel
Wave Spring	Stainless Steel
Earth Lug	Copper Alloy, Silver Plating

Dimensions and specifications subject to change without notice.

JL05 SERIES CONNECTORS

Waterproof, Circular Connectors

ORDERING INFORMATION

• JL05-A

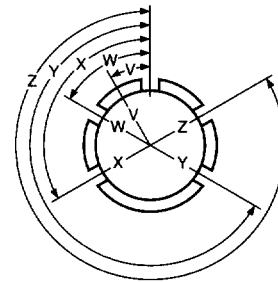
JL05 - 6 A 24 - 10 P C * - * - FO
 Series _____
 Shell Style _____
 ?? _____
 Shell Size _____
 Contact Arrangement _____
 Contact Type _____
 P – Pin Contact
 S – Socket Contact
 Crimp _____
 Alternate Insert Position _____
 V, W, X, Y, Z
 Color _____
 A66 – Olive Drab
 A72 – Black
 Modification Code _____
 FO – Without Contacts

• JL05-L

JL05 - 2 L 24 - 10 P * - *
 Series _____
 Shell Style _____
 Waterproof
 L – Single Waterproof _____
 (Pin contacts only)
 A – Waterproof when mated _____
 Shell Size _____
 Contact Arrangement _____
 Contact Type _____
 P – Pin Contact
 Alternate Insert Position _____
 V, W, X, Y, Z
 Color _____
 A66 – Olive Drab
 A72 – Black

ALTERNATE INSERT POSITIONS (POLARIZATION)

The position of the guide key of the shell changed by a certain angle in relation to the standard insert position is indicated by the symbols V, W, X, Y and Z. Use this table for reference when instructing since the changeable angle will differ depending on the contact arrangement. This diagram shows the contact pin arrangement as viewed from the pin side coupling.



No. of Contacts	Polarization					
	Arrangements	V°	W°	X°	Y°	Z°
4	22-22	45	—	160	—	300
5	18-11	35	—	170	265	—
7	20-15	30	80	—	—	280
	24-10	30	80	—	—	280
8	22-23	25	85	—	—	—
9	24-11	—	35	110	190	325
10	18-1	—	70	145	260	290
17	20-29	—	80	—	—	280
19	18-19A	—	80	110	250	280
	22-14	—	75	150	—	285
24	24-28	—	80	110	250	280
30	20-30A	—	80	110	250	280
36	28-36B	—	80	110	250	280
37	28-21	—	80	110	250	280
58	24-52A	—	80	110	250	280
73	28-73A	—	80	110	250	280

Dimensions and specifications subject to change without notice.

JL05 SERIES CONNECTORS

Waterproof, Circular Connectors

CONTACT ARRANGEMENT (By Number of Contacts) • FACE VIEW • PIN INSERT

No. of Contacts	4	5	7		8
Arrangement	22-22	18-11	20-15	24-10	22-23
Size x No. of Contact	#8 x 4	#12 x 5	#12 x 7	#8 x 7	#12 x 8
*Classification Code	A	A	A	A	D (4), A
No. of Contacts	9	10	17	19	
Arrangement	24-11	18-1	20-29	18-19A	22-14
Size x No. of Contact	#8 x 3, #12 x 6	#16 x 10	#16 x 17	#20 x 19	#16 x 19
*Classification Code	A	A (3, 5, 6, 8), INST	A	INST	A
No. of Contacts	24	30	36	37	52
Arrangement	24-28	20-30A	28-36B	28-21	24-52A
Size x No. of Contact	#16 X 24	#20 x 30	#12 x 4, #16 x 4, #20 x 28	#16 x 37	#20 x 52
*Classification Code	INST	INST	Note 2	A	INST
No. of Contacts	73				
Arrangement	28-73A				
Size x No. of Contact	#20 X 73				
*Classification Code	INST				

* Classification Code: Dielectric withstanding voltage in symbols shown in general specifications.

Dimensions in mm (inches).

JL05 SERIES CONNECTORS

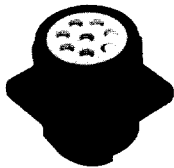
Waterproof, Circular Connectors

JL05-2A (Waterproof when mated)

Pin Insert Socket Insert

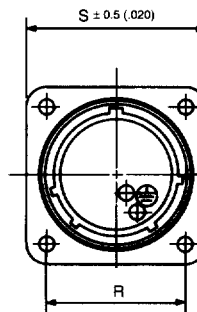
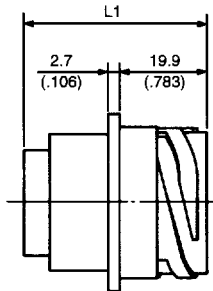


JL05-2L (Waterproof)

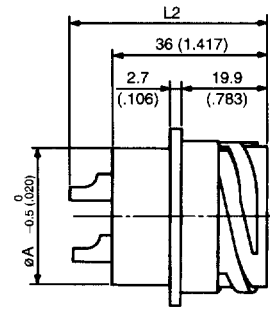


BOX MOUNTING RECEPTACLE

JL05-2A



JL05-2L

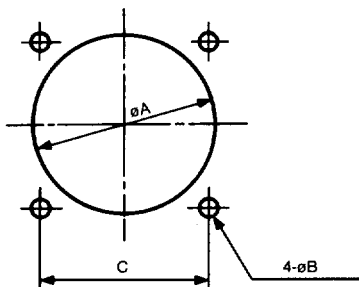


Shell Size	No. of Contacts	Part Number		A	B	S	R	Contact Size	L1		L2
		Waterproof when mated	Waterproof						Pin Insert	Socket Insert	Pin Insert
18	5	JL05-2A18-11*C*-F0	JL05-2L18-11P-*	24.9 (.930)	3.2 (.126)	35 (1.380)	26.97 (1.060)	#12	46 (1.811)	43 (1.693)	42 (1.653)
	10	JL05-2A18-1*C*-F0	—					#16	43 (1.693)	38 (1.496)	—
	19	JL05-2A18-19A*C*-F0	—					#20	40 (1.575)	36.5 (1.430)	—
20	7	JL05-2A20-15*C*-F0	JL05-2L20-15P-*	29.6 (1.166)	3.2 (.126)	38.1 (1.500)	29.36 (1.156)	#12	46 (1.811)	43 (1.693)	42 (1.653)
	17	JL05-2A20-29*C*-F0	—					#16	43 (1.693)	38 (1.496)	—
	30	JL05-2A20-30A*C*-F0	—					#20	40 (1.575)	36.5 (1.430)	—
22	4	JL05-2A22-22*C*-F0	JL05-2L22-22P-*	31.8 (1.250)	3.2 (.126)	41.3 (1.626)	31.75 (1.250)	#8	48 (1.890)	48 (1.890)	46 (1.811)
	8	JL05-2A22-23*C*-F0	JL05-2L22-23P-*					#12	46 (1.811)	43 (1.693)	42 (1.653)
	19	JL05-2A22-14*C*-F0	—					#16	43 (1.693)	38 (1.496)	—
24	7	JL05-2A24-10*C*-F0	JL05-2L24-10P-*	35 (1.378)	4.2 (.166)	44.3 (1.744)	34.92 (1.374)	#8	48 (1.890)	48 (1.890)	46 (1.811)
	9	JL05-2A24-11*C*-F0	—					#8, #12	48 (1.890)	48 (1.890)	—
	24	JL05-2A24-28*C*-F0	—					#16	43 (1.693)	38 (1.496)	—
	52	JL05-2A24-52A*C*-F0	—					#20	40 (1.575)	36.5 (1.430)	—
28	36	JL05-2A28-36B*C*-F0	—	41.3 (1.626)	4.2 (.166)	50.8 (2.000)	39.67 (1.562)	#12, #16, #20	45 (1.772)	43 (1.693)	—
	37	JL05-2A28-21*C*-F0	—					#16	43 (1.693)	38 (1.496)	—
	73	JL05-2A28-73A*C*-F0	—					#20	40 (1.575)	36.5 (1.430)	—

Note 1: When ordering pin contacts, insert P, when ordering socket contacts, insert S.

Note 2: Insert A66 for Olive Drab, or A72 for Black.

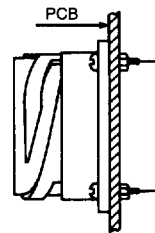
Note 3: For alternate insert positions, see Polarization Chart.



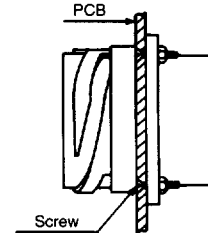
Note 1: øA size is common from front and rear of installation.

Note 2: øB is possible in the hole that fit with installation screw.

Front Mount



Rear Mount



Shell Size	ø A ±0.5	ø B +0.2 -0	C ±0.13	Mounting Screw (Ref.) Unified Screw Metric Screw	
18	30.2 (1.189)	3.3 (.130)	26.97 (1.168)	#4-40	M3
20	34.9 (1.374)	3.3 (.130)	29.36 (1.156)	#4-40	M3
22	36.6 (1.440)	3.3 (.170)	31.75 (1.250)	#4-40	M3
24	39.7 (1.563)	4.3 (.170)	34.93 (1.375)	#6-32	M4
28	46.1 (1.815)	4.3 (.170)	39.67 (1.562)	#6-32	M4

Dimensions in mm (inches).

JL05 SERIES CONNECTORS

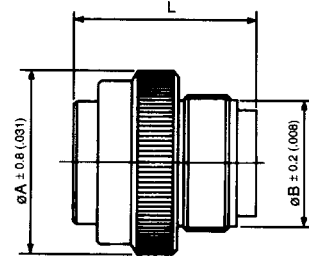
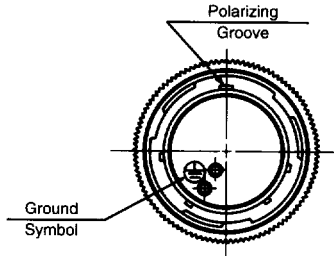
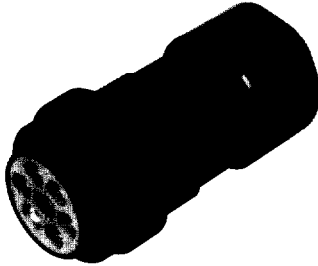
Waterproof, Circular Connectors

JL05-6A

Pin Insert

Socket Insert

STRAIGHT PLUG



Shell Size	No. of Contacts	Part Number	A	ϕB	V Thread	Contact Size	L	
							Pin Insert	Socket Insert
18	5	JL05-6A18-11*C*-F0	35.9 (1.413)	23.5 (.925)	1-20UNEFF-2A	#12	46 (1.811)	43 (1.693)
	10	JL05-6A18-1*C*-F0				#16	43 (1.693)	38 (1.496)
	19	JL05-6A18-19A*C*-F0				#20	40 (1.575)	37.5 (1.476)
20	7	JL05-6A20-15*C*-F0	40.6 (1.600)	26.9 (1.059)	1-1/8-18UNEF-2A	#12	46 (1.811)	43 (1.693)
	17	JL05-6A20-29*C*-F0				#16	43 (1.693)	38 (1.496)
	30	JL05-6A20-30A*C*-F0				#20	40 (1.575)	37.5 (1.476)
22	4	JL05-6A22-22*C*-F0	42.2 (1.660)	29.6 (1.165)	1-1/4-18UNEF-2A	#8	48 (1.890)	48 (1.890)
	8	JL05-6A22-23*C*-F0				#12	46 (1.811)	43 (1.693)
	19	JL05-6A22-14*C*-F0				#16	43 (1.693)	38 (1.496)
24	7	JL05-6A24-10*C*-F0	45.4 (1.787)	32.8 (1.291)	1-3/8-18UNEF-2A	#8	48 (1.890)	48 (1.890)
	9	JL05-6A24-11*C*-F0				#8, #12	48 (1.890)	48 (1.890)
	24	JL05-6A24-28*C*-F0				#16	43 (1.693)	38 (1.496)
	52	JL05-6A24-52A*C*-F0				#20	40 (1.575)	37.5 (1.476)
28	36	JL05-6A28-36B*C*-F0	51.7 (2.035)	39.0 (1.535)	1-5/8-18UNEF-2A	#12, #16, #20	45 (1.772)	43 (1.693)
	37	JL05-6A28-21*C*-F0				#16	43 (1.693)	38 (1.496)
	73	JL05-6A28-73A*C*-F0				#20	40 (1.575)	37.5 (1.476)

Note 1: When ordering pin contacts, insert P, when ordering socket contacts, insert S.

Note 2: Insert A66 for Olive Drab, or A72 for Black.

Note 3: For alternate insert positions, see Polarization Chart.

Dimensions in mm (inches).

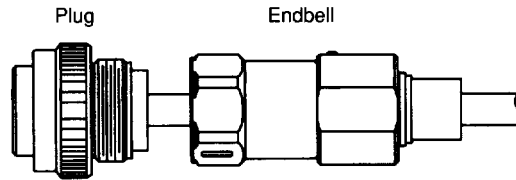
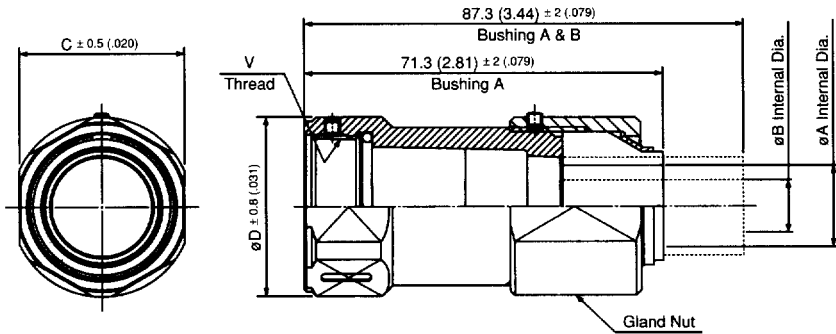
JL05 SERIES CONNECTORS

Waterproof, Circular Connectors

ENDBELL WATERPROOF

MATERIALS AND FINISHES

End Bell	Aluminum, Zinc
Gland Nut	Aluminum, Zinc
Bushing	Rubber, Black
Sleeve	Aluminum, Zinc, Black
O-Ring	Rubber
Screw Hexagon Hole	Copper, Zinc



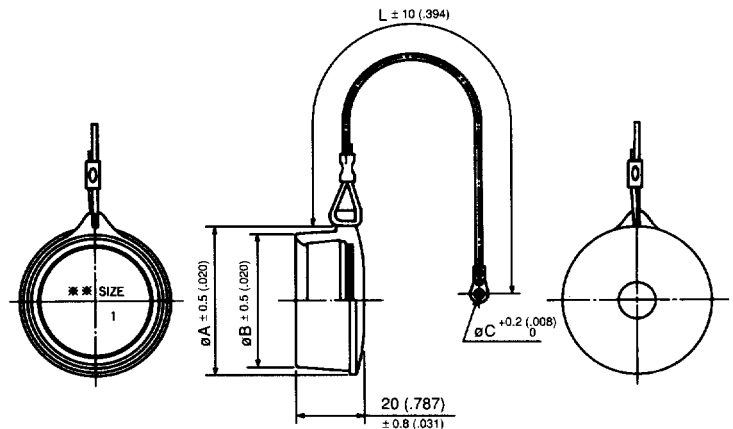
Shell Size	Cable Clamp	øA	øB	øC ± 0.5 (± .020)	øD ± 0.8 (± .031)	V Thread
18	JL05-18EB3B-(11)	11 (.433)	—	29 (1.14)	32 (1.26)	1-20UNEF-2B
	JL05-20EB3B-(11)	20 (.787)	10.6 (.417)	33 (1.30)	36 (1.42)	1-1/8-18UNEF-2B
20	JL05-20EB3B-(13)	20 (.787)	12.7 (.500)			
	JL05-20EB3B-(17)	16.5 (.650)	—			
	JL05-20EB3B-(20)	20 (.787)	—			
22	JL05-22EB3B-(11)	20 (.787)	10.6 (.417)	35 (1.38)	38 (1.50)	1-1/4-18UNEF-2B
	JL05-22EB3B-(13)	20 (.787)	12.7 (.500)			
	JL05-22EB3B-(17)	16.5 (.650)	—			
	JL05-22EB3B-(20)	20 (.787)	—			
24	JL05-24EB3B-(17)	16.5 (.650)	—	38 (1.50)	41 (1.61)	1-3/8-18UNEF-2B
	JL05-24EB3B-(21)	21 (.827)	—			
28	JL05-28EB3B-(17)	16.5 (.650)	—	44 (1.73)	47 (1.85)	1-5/8-18UNEF-2B
	JL05-28EB3B-(21)	21 (.827)	—			

DUST CAP (Used on: JL05-2A, JL05-2L)

MATERIALS AND FINISHES

Dust Cap	Rubber (Black)
Sleeve	Copper Alloy, Tin Plating/Silver
Wire	Nylon (Black)
Ring Terminal	Copper Alloy, Tin Plating/Silver

Size	Part Number	øA ± 0.5 (± .020)	øB ± 0.5 (± .020)	øC $\begin{matrix} +0.2 \\ -0 \end{matrix} (+0.008)$	L ± 10 (0.393)
18	JL05-18DC	37.5 (1.5)	33.1 (1.30)	3.2 (.126)	80 (3.15)
20	JL05-20DC	42.6 (1.68)	38.2 (1.50)	3.2 (.126)	100 (3.94)
22	JL05-22DC	43.8 (1.72)	39.4 (1.55)	3.2 (.126)	110 (4.33)
24	JL05-24DC	47.0 (1.85)	42.6 (1.68)	4.3 (.169)	130 (5.12)
28	JL05-28DC	53.3 (2.10)	49.0 (1.93)	4.3 (.169)	150 (5.91)

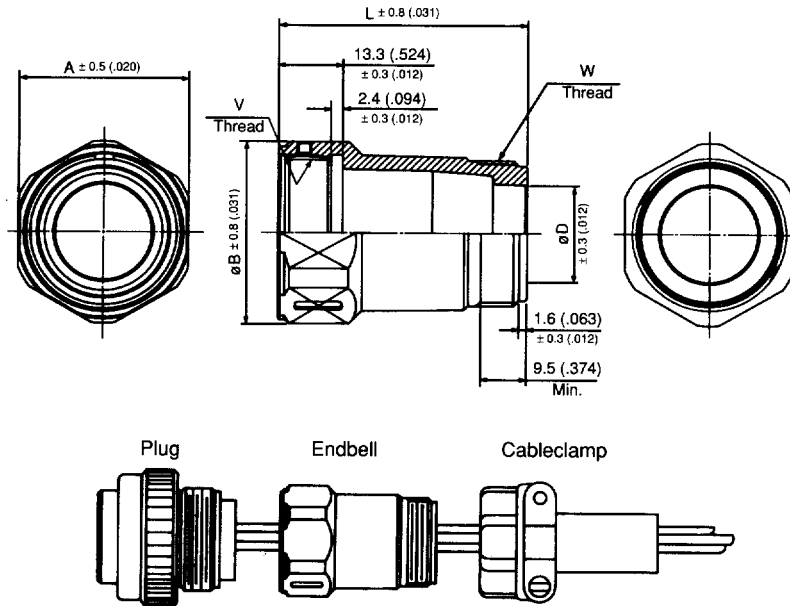


Dimensions in mm (inches).

JL05 SERIES CONNECTORS

Waterproof, Circular Connectors

ENDBELL



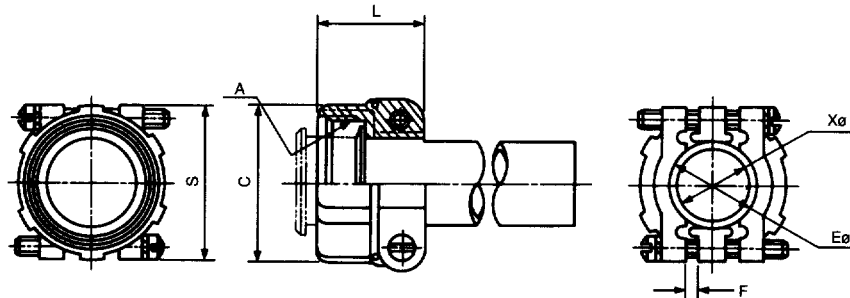
Shell Size	Part Number		A ± 0.5 (± .02)	øB ± 0.8 (± .03)	øD ± 0.3 (.01)	V Thread	Thread
	L 51.3 (2.02)	L 71.3 (2.81)					
18	JL05-18EB1A	—	29 (1.14)	32 (.126)	16 (.630)	1-20UNEF-2B	1-20UNEF-2A
20	JL05-20EB1A	—	33 (1.30)	36 (1.42)	20 (.787)	1-1/8-18UNEF-2B	1-3/16-18UNEF-2A
22	JL05-22EB1A	JL05-22EB2A	35 (1.38)	38 (1.50)	20 (.787)	1-1/4-18UNEF-2B	1-3/16-18UNEF-2A
24	JL05-24EB1A	JL05-24EB2A	38 (1.50)	41 (1.61)	25 (.984)	1-3/8-18UNEF-2B	1-7/16-18UNEF-2A
28	JL05-28EB1A	JL05-28EB2A	44 (1.73)	47 (1.85)	25 (.984)	1-5/8-18UNEF-2B	1-7/16-18UNEF-2A

Note: When ordering olive drab, insert (A66); for black, insert (A72) : Example: JL05-18EB1A-A66

CABLE CLAMP

MATERIALS AND FINISHES

Clamp	Aluminum, Olive Drab, or Black
Saddle	Aluminum, Olive Drab, or Black
Bushing	Rubber



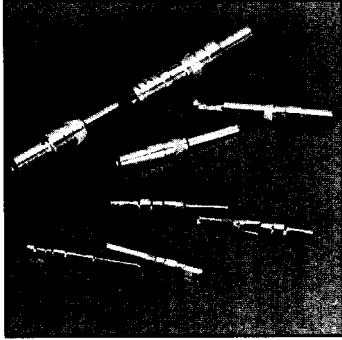
Shell Size	Part Number		A	C ± 0.8 (± .031)	øE	F	L ± 0.8 (± .031)	S ± 0.8 (± .031)	øX Bushing Internal Dim.
	Black	Olive Drab							
18	JA3057-10A (A72)	JA3057-10A	1-20UNEF-2B	30.2 (1.189)	15.9 (.626)	3.2 (.126)	23.8 (.937)	31.8 (1.252)	14 (.551)
20,22	JA3057-12A (A72)	JA3057-12A	1-3/16-18UNEF-2B	34.9 (1.374)	19.0 (.748)	4.0 (.157)	23.8 (.937)	37.3 (1.469)	16 (.630)
24, 28	JA3057-16A (A72)	JA3057-16A	1-7/16-18UNEF-2B	42.1 (1.657)	23.8 (.937)	4.8 (.189)	26.2 (1.030)	42.9 (1.689)	16 (.630)

Dimensions in mm (inches).



JL05 SERIES CONNECTORS

Waterproof, Circular Connectors

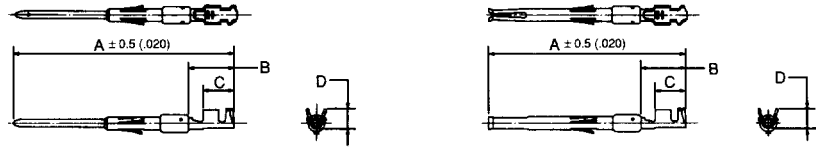


CONTACTS

Pin

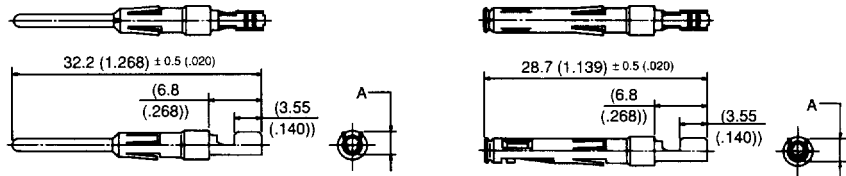
Socket

#20 Stamped



Version	A	B (Ref.)	C (Ref.)	D (Ref.)	Version	A	B (Ref.)	C (Ref.)	D (Ref.)
C1	28.43 (1.12)	5.81 (.229)	3.92 (.154)	2.49 (.098)	C1	25.43 (1.001)	5.81 (.229)	3.92 (.154)	2.49 (.098)
C2	29.04 (1.14)	6.42 (.253)	4.53 (.178)	2.7 (.106)	C2	26.04 (1.025)	6.42 (.253)	4.53 (.178)	2.7 (.106)

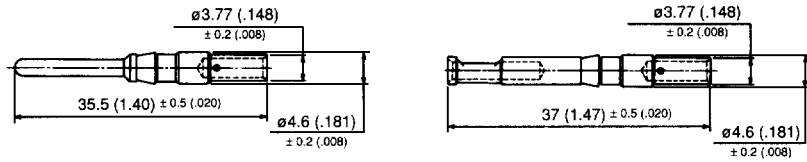
#16 Stamped



Version	A (Ref.)
C1	3.7 (.146)
C2	3 (.118)
C3	2.2 (.087)

Version	A (Ref.)
C1	3.7 (.146)
C2	3 (.118)
C3	2.2 (.087)

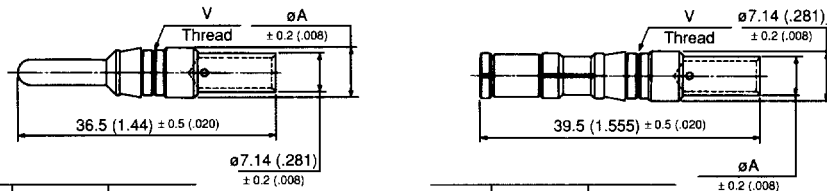
#12 Machined



Version	øA	V Thread
C1	5.6 (.220)	With
C2	4.5 (.117)	Without

Version	øA	V Thread
C1	5.6 (.220)	With
C2	4.5 (.117)	Without

#8 Machined



Contact Size	Part Number			Contact	Available Wire			
	Bag/Reel	Pin Contacts	Socket Contacts		AWG No.	Area of Conductor	Outer Dia. for Insulator	
#20	C1	100 (loose piece)	ST-JL05-20P-C1-100	ST-JL05-20S-C1-100	Stamped	#18 ~ #22	0.8 (.031) ~ 0.3 (.012) mm ²	ø2.3 (.091) Max.
		10,000 (reel)	ST-JL05-20P-C1-10000	ST-JL05-20S-C1-10000				
	C2	100 (loose piece)	ST-JL05-20P-C2-100	ST-JL05-20S-C2-100		#22 ~ #26	0.3 (.012) ~ 0.13 (.512) mm ²	ø1.0 (.039) ~ 1.7 (.109)
		10,000 (reel)	ST-JL05-20P-C2-10000	ST-JL05-20S-C2-10000				
#16	C1	100 (loose piece)	ST-JL05-16P-C1-100	ST-JL05-16S-C1-100	Stamped	#14 ~ #16	2 (.079) ~ 1.25 (.049) mm ²	ø3.8 (.150) Max.
		3,500 (Reel of of 500)	ST-JL05-16P-C1-3500	ST-JL05-16S-C1-3500				
	C2	100 (loose piece)	ST-JL05-16P-C2-100	ST-JL05-16S-C2-100		#16 ~ #20	1.25 (.049) ~ 0.5 (.020) mm ²	ø3.8 (.150) Max.
		3,500 (Reel of of 500)	ST-JL05-16P-C2-3500	ST-JL05-16S-C2-3500				
	C3	100 (loose piece)	ST-JL05-16P-C3-100	ST-JL05-16S-C3-100		#20 ~ #24	0.5 (.020) ~ 0.2 (.079) mm ²	ø3.8 (.150) Max.
		3,500 (Reel of of 500)	ST-JL05-16P-C3-3500	ST-JL05-16S-C3-3500				
#12	C1	10 (loose piece)	CONT-JL05-12P-C1-10	CONT-JL05-12S-C1-10	Machined	#12 ~ #16	3.5 (.138) ~ 1.25 (.049) mm ²	ø4.65 (.183) Max.
#8	C1	10 (loose piece)	CONT-JL05-08P-C1-10	CONT-JL05-08S-C1-10	Machined	#8 ~ #10	8 (.315) ~ 5.5 (.217) mm ²	ø7.25 (.285) Max.
		C3	10 (loose piece)	CONT-JL05-08P-C2-10				

Dimensions in mm (inches).

JL05 SERIES CONNECTORS

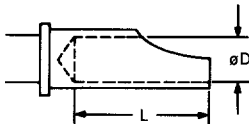
Waterproof, Circular Connectors

TOOLING

Crimp Tool		#20	#16	#12	#8
				CT150-2	CT160-3
Extraction Tool		ET-JL05-20-2 ET-JL05-20-3	ET-JL05-16	JET-GTC-K15	JET-GTC-8
Contact Size		Wire	Part Number		Extraction Tool
			Hand Tool	Locator	
#20	C1	#18 ~ #22	CT150-2C-JL05	—	ET-JL05-20-2 for Pin Contact ET-JL05-20-3 for Socket Contact
	C2	#22 ~ #26	CT150-2B-JL05	—	
#16	C1	#14 ~ #16	CT160-3C-JL05	—	ET-JL05-16
	C2	#16 ~ #20	CT160-3B-JL05	—	
	C3	#20 ~ #24	CT160-3-JL05	—	
#12	C1	#12 ~ #16	M22520/1-01	JP-JL05-12	JET-GTC-K15
#8	C1	#8 ~ #10	JCT-16128-3	—	JET-GTC-8
	C2	#10 ~ #12			

CONTACT TERMINAL

• Solder Type



Contact Size	L	øD
#12	9.6 (.378)	2.95 (.116)
#8	12.7 (.500)	5.31 (.209)

Dimensions in mm (inches).