SPACECRAFT COMPONENTS CORP.

Your Connector Consultant Since 1962

Multi-Pin Power Cylindrical Connectors

Primary Markets:

- Combat Vehicles
- Industrial Machinery
- Railway/Transit
- HMI Lighting

SPACECRAFT COMPONENTS CORP.®

CATALOG 102

SPACECRAFT AT A GLANCE

Founded in 1962, Spacecraft is a family-owned, leading manufacturer and distributor of cylindrical connectors for the railways/transit, military, aerospace and various harsh environment markets.

As a Manufacturer, Spacecraft's core focus is manufacturing reverse bayonet connectors geared towards railway and transit applications. Our extensive engineering and manufacturing experience with reverse bayonet connectors provides us with the opportunity to offer a broad range of derivative cylindrical products in a short period of time with an assurance of exceptional quality.

As a Distributor, Spacecraft has developed key partnerships with world-class manufacturers whose products encompass MIL-SPEC and harsh environment industrial connectors. We are an authorized MIL-STD-790 value-added assembler for our principal connector manufacturers, such as Souriau, Reiku, Corsair, Sunbank, Astro Tool Corp., Mencom and Ulti-Mate. We stock a wide and deep variety of QPL components which enables us to provide a vast assortment of completed QPL connectors within a three-day turnaround.

As an Organization, Spacecraft prides itself on providing consultative service by utilizing our greatest asset: Our people!

Spacecraft invites you to tour our best-in-class facility located in North Las Vegas, Nevada, USA.

Spacecraft's Core Values

- MIL-STD-790 Certified
- Over 9 Million Connectors in Inventory
- Technical Solutions Oriented
- A Consultative Sales Team
- Vertically Integrated
- Supporter of the Buy American Act

CIDS (Connector Identification System)

Your Online Source for MIL-SPEC Cylindrical Connectors

- Access to MIL-SPEC Data Sheets in an Instant
- Identify Crimp Tools for Your Contacts
- Identify the Mating Connector
- Identify the Accessories for Your Connector

Exceeding Your Quality Expectations

Spacecraft Components Corp. warrants to the original purchaser that it will correct by replacement any defect in workmanship or in-operation of any component purchased from Spacecraft Components Corp. for the life of the equipment in which the component is originally and properly installed. This agreement and warranty supersedes all other warranties expressed or implied.

Mission Statement

To provide a work environment where our employees can meet their potential and thrive in an atmosphere of excellence by utilizing their strengths and attributes towards supporting our customers, thereby providing superior products and exceptional service which helps our customers gain a competitive advantage in their markets.

Locations

Nevada Headquarters	702.851.7600
Florida Office	954.748.4540
Arizona Office	623.580.1162
Mexico Office	+52 442 341 69 63
Italy Office	+39 (335) 719.4512

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MULTI-PIN CYLINDRICAL POWER CONNECTORS

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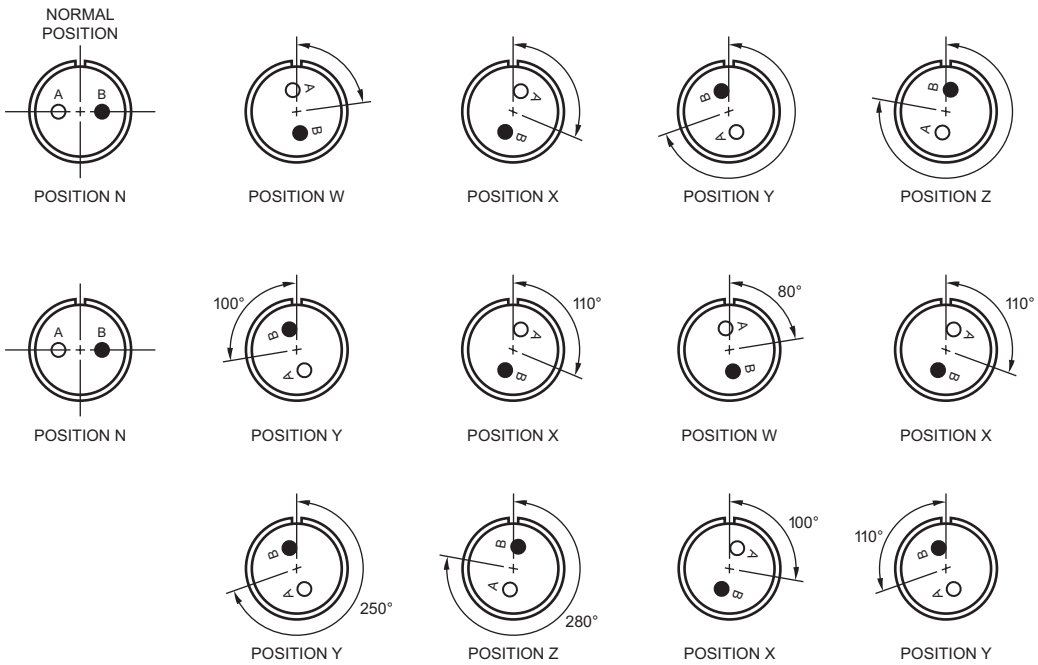
860-355-8100

SECTION 10A
INSERT CONFIGURATIONS

ALTERNATE POSITIONS (POLARIZATION)

The diagrams indicate alternate insert positions. The four positions (W, X, Y, and Z) differ in degree of rotation for various sizes and layouts. The exact angle of rotation of the combinations are listed on pages 10A-18 thru 10A-27.



ENGAGING FACE OF PIN INSERTS SHOWN
SOCKET INSERTS ARE MIRROR IMAGES

10A

MIL-DTL-5015
INSERT CONFIGURATIONS BY SHELL SIZE

INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
8S-1†	1			1					–	–	–	–	
10S-2†	1			1					–	–	–	–	
10SL-3†*	3			3					–	–	–	–	Position Q = 180°
10SL-4‡*	2			2					–	–	–	–	
10SL-51	2			2					–	–	–	–	Thermocouple - see page 10A-18
10SL-52	2			2					–	–	–	–	Thermocouple - see page 10A-18
10SL-53	2			2					–	–	–	–	Thermocouple - see page 10A-18
10SL-54	3			3					–	–	–	–	Thermocouple - see page 10A-18
10SL-55	3			3					–	–	–	–	Thermocouple - see page 10A-18
10SL-56	2			2					–	–	–	–	Thermocouple - see page 10A-18
10SL-57	2			2					–	–	–	–	Thermocouple - see page 10A-18
10SL-58	3			3					–	–	–	–	Thermocouple - see page 10A-18
10SL-59	2			2					–	–	–	–	Thermocouple - see page 10A-18
10SL-60	2			2					–	–	–	–	Thermocouple - see page 10A-18
10SL-61	2			2					–	–	–	–	Thermocouple - see page 10A-18
10SL-62	3			3					–	–	–	–	Thermocouple - see page 10A-18
10SL-63	3			3					–	–	–	–	Thermocouple - see page 10A-18
10SL-64	3			3					–	–	–	–	Thermocouple - see page 10A-18
10SL-401	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-1‡	2			2					–	–	–	–	Position #12 of 12S-3
12S-2‡	2			2					–	–	–	–	Position #13 of 12S-3
12S-3†	2			2					70	145	215	290	
12S-4†	1			1					–	–	–	–	
12-5†	1				1				–	–	–	–	
12S-6	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-51	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-54	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-55	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-56	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-57	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-58	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-59	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-60	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-61	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-62	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-64	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-65	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-407	2			2					–	–	–	–	Thermocouple - see page 10A-18
12S-409	2			2					–	–	–	–	Thermocouple - see page 10A-18
14S-1‡	3			3					–	–	–	–	Same as 14S-7
14S-2†	4			4					–	120	240	–	
14-3†	1					1			–	–	–	–	
14S-4‡	1			1					–	–	–	–	
14S-5†	5			5					–	110	–	–	
14S-6†	6			6					–	–	–	–	
14S-07	7			7					–	–	–	–	Use 14SA7
14SA7	7			7					–	–	–	–	

† = Military designation per MIL-STD-1651.
‡ = Military designation inactive for new design.
* = VG95234

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INSERT CONFIGURATIONS BY SHELL SIZE

INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
14S-7†	3			3					90	180	270	–	Replaces: 14SA7, 14S-07
14S-9‡	2			2					70	145	215	290	
14S-10‡	4			4					–	–	–	–	Position #12 of 14S-2
14S-11‡	4			4					–	–	–	–	Position #13 of 14S-2
14S-12‡	3			3					–	–	–	–	Position #12 of 14S-1
14S-1	3			3					–	–	–	–	Position #2 of 14S-1
14S-14‡	4			4					–	–	–	–	Position #12 of 14S-2
14S-51	2			2					–	–	–	–	Thermocouple - see page 10A-18
14S-52	4			4					–	–	–	–	Thermocouple - see page 10A-18
14S-53	2			2					–	–	–	–	Thermocouple - see page 10A-18
14S-54	6			6					–	–	–	–	Thermocouple - see page 10A-18
14S-55	4			4					–	–	–	–	Thermocouple - see page 10A-18
14S-56	4			4					–	–	–	–	Thermocouple - see page 10A-18
14S-57	4			4					–	–	–	–	Thermocouple - see page 10A-18
14S-58	3			3					–	–	–	–	Thermocouple - see page 10A-18
14-59	6			6					–	–	–	–	Thermocouple - see page 10A-18
14S-59	2			2					–	–	–	–	Thermocouple - see page 10A-18
14S-60	2			2					–	–	–	–	Thermocouple - see page 10A-18
14S-61	6			6					–	–	–	–	Thermocouple - see page 10A-18
14S-63	6			6					–	–	–	–	Thermocouple - see page 10A-19
14S-64	4			4					–	–	–	–	Thermocouple - see page 10A-19
14S-65	6			6					–	–	–	–	Thermocouple - see page 10A-19
14S-67	6			6					–	–	–	–	Thermocouple - see page 10A-19
14S-68	4			4					–	–	–	–	Thermocouple - see page 10A-19
14S-69	3			3					–	–	–	–	Thermocouple - see page 10A-19
14S-70	4			4					–	–	–	–	Thermocouple - see page 10A-19
14S-71	4			4					–	–	–	–	Thermocouple - see page 10A-19
14S-72	2			2					–	–	–	–	Thermocouple - see page 10A-19
14S-73	4			4					–	–	–	–	Thermocouple - see page 10A-19
14S-74	4			4					–	–	–	–	Thermocouple - see page 10A-19
14S-75	4			4					–	–	–	–	Thermocouple - see page 10A-19
14S-76	4			4					–	–	–	–	Thermocouple - see page 10A-19
14S-79	5			5					–	–	–	–	Thermocouple - see page 10A-19
14S-81	2			2					–	–	–	–	Thermocouple - see page 10A-19
14S-82	4			4					–	–	–	–	Thermocouple - see page 10A-19
14S-83	6			6					–	–	–	–	Thermocouple - see page 10A-19
14S-84	6			6					–	–	–	–	Thermocouple - see page 10A-19
14S-85	3			3					–	–	–	–	Thermocouple - see page 10A-19
14S-86	6			6					–	–	–	–	Thermocouple - see page 10A-19
14S-87	6			6					–	–	–	–	Thermocouple - see page 10A-19
14S-88	2			2					–	–	–	–	Thermocouple - see page 10A-19
14S-89	3			3					–	–	–	–	Thermocouple - see page 10A-19
14S-90	6			6					–	–	–	–	Thermocouple - see page 10A-19
14S-91	4			4					–	–	–	–	Thermocouple - see page 10A-19
14S-93	6			6					–	–	–	–	Thermocouple - see page 10A-19
14S-414	2			2					–	–	–	–	Thermocouple - see page 10A-19
14S-415	6			6					–	–	–	–	Thermocouple - see page 10A-19

† = Military designation per MIL-STD-1651.
‡ = Military designation inactive for new design.
* = VG95234

continued on next page

MIL-DTL-5015
INSERT CONFIGURATIONS BY SHELL SIZE

INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
14S-419	4			4					–	–	–	–	Thermocouple - see page 10A-19
14S-421	6			6					–	–	–	–	Thermocouple - see page 10A-19
14S-422	6			6					–	–	–	–	Thermocouple - see page 10A-19
14S-423	6			6					–	–	–	–	Thermocouple - see page 10A-19
14S-424	6			6					–	–	–	–	Thermocouple - see page 10A-19
14S-433	4			4					–	–	–	–	Thermocouple - see page 10A-19
14S-446	4			4					–	–	–	–	Thermocouple - see page 10A-19
16S-11*	7			7					80	–	–	280	
16-2†	1				1				–	–	–	–	
16S-3†	1			1					–	–	–	–	
16S-4†*	2			2					35	110	250	325	
16S-5‡	3			3					70	145	215	290	
16S-6‡	3			3					90	180	270	–	
16-7†	3			2		1			80	110	250	280	
16S-8†	5			5					–	170	265	–	
16-9†	4			2	2				35	110	250	325	
16-10†*	3				3				90	180	270	–	
16A10	10			10					35	112	235	315	
16-11†	2				2				35	110	250	325	
16A11*	2				2				–	110	250	–	
16-12†*	1						1		–	–	–	–	
16-13†	2				2				35	110	250	325	Thermocouple - see page 10A-19
16S-14‡	3			3					–	–	–	–	Position #3 of 16S-5
16S-15‡	2			2					–	–	–	–	Position #12 of 16S-4
16S-16‡	2			2					–	–	–	–	Position #13 of 16S-4
16S-50	5			5					–	–	–	–	Thermocouple - see page 10A-19
16S-51	7			7					–	–	–	–	Thermocouple - see page 10A-19
16-52	2				2				–	–	–	–	Thermocouple - see page 10A-19
16S-52	2			2					–	–	–	–	Thermocouple - see page 10A-19
16-53	4			2	2				–	–	–	–	Thermocouple - see page 10A-19
16S-54	7			7					–	–	–	–	Thermocouple - see page 10A-20
16-55	3				3				–	–	–	–	Thermocouple - see page 10A-20
16-56	2				2				–	–	–	–	Thermocouple - see page 10A-20
16S-56	7			7					–	–	–	–	Thermocouple - see page 10A-20
16-57	3				3				–	–	–	–	Thermocouple - see page 10A-20
16S-57	7			7					–	–	–	–	Thermocouple - see page 10A-20
16-58	3				3				–	–	–	–	Thermocouple - see page 10A-20
16S-58	7			7					–	–	–	–	Thermocouple - see page 10A-20
16S-59	7			7					–	–	–	–	Thermocouple - see page 10A-20
16-60	2				2				–	–	–	–	Thermocouple - see page 10A-20
16S-60	7			7					–	–	–	–	Thermocouple - see page 10A-20
16S-61	7			7					–	–	–	–	Thermocouple - see page 10A-20
16-62	2				2				–	–	–	–	Thermocouple - see page 10A-20
16-67	2				2				–	–	–	–	Thermocouple - see page 10A-20
16-68	4			2	2				–	–	–	–	Thermocouple - see page 10A-20
16-412	2				2				–	–	–	–	Thermocouple - see page 10A-20
16-414	2				2				–	–	–	–	Thermocouple - see page 10A-20

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INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
16S-417	2			2					–	–	–	–	Thermocouple - see page 10A-20
16S-418	2			2					–	–	–	–	Thermocouple - see page 10A-20
16S-419	2			2					–	–	–	–	Thermocouple - see page 10A-20
16-848	2				2				–	–	–	–	Thermocouple - see page 10A-20
18-11*	10			10					70	145	215	290	
18-3†	2				2				35	110	250	325	
18-4†	4			4					35	110	250	325	
18-5†	3			1	2				80	110	250	280	
18-06	6			2	4				–	180	–	–	Use 18A6
18-6†	1						1		–	–	–	–	
18A6	6			2	4				–	180	–	–	
18-7†	1					1			–	–	–	–	
18-8†	8			7	1				70	–	–	290	
18-9†	7			5	2				80	110	270	280	
18-10†	4				4				–	120	240	–	
18-11†*	5				5				–	170	265	–	
18-12†	6			6					80	–	–	280	
18-13†*	4				3	1			80	110	250	280	
18-14†	2			1			1		80	110	250	280	
18-15†	4				4				–	120	240	–	Thermocouple - see page 10A-20
18-16	1				1				–	–	–	–	High voltage
18-17†	7			5	2				–	–	–	–	100 Deg Rotation To Right of 18-9
18-18†	7			5	2				–	–	–	–	250 Deg Rotation To Right of 18-9
18-19†	10			10					–	120	240	–	
18-20†	5			5					90	180	270	–	
18-211	3				3				70	145	215	290	
18-22†	3			3					70	145	215	290	
18-23†	10			10					–	–	–	–	Position #12 of 18-1
18-24†	10			10					–	–	–	–	Position #13 of 18-1
18-25†	2				2				–	–	–	–	Position #12 of 18-3
18-26†	2				2				–	–	–	–	Position #13 of 18-3
18-27†	3			1	2				–	–	–	–	Position #12 of 18-5
18-28†	3			1	2				90	180	270	–	Position #13 of 18-5
18-29†	5			5					90	180	270	–	
18-30†	5			5					–	–	–	–	Position #3 of 18-20
18-31†	5			5					–	–	–	–	Position #2 of 18-20
18A31	10			10					–	–	–	–	Position #5 of 18-1
18-41	4			4					–	–	–	–	Thermocouple - see page 10A-20
18-42	4			4					–	–	–	–	Thermocouple - see page 10A-20
18-43	4			4					–	–	–	–	Thermocouple - see page 10A-20
18-44	3			3					–	–	–	–	Thermocouple - see page 10A-20
18-45	5			5					–	–	–	–	Thermocouple - see page 10A-20
18-46	4			4					–	–	–	–	Thermocouple - see page 10A-20
18-51	6			6					–	–	–	–	Thermocouple - see page 10A-20
18-52	5				5				–	–	–	–	Thermocouple - see page 10A-20
18-53	6			6					–	–	–	–	Thermocouple - see page 10A-20
18-54	4				4				–	–	–	–	Thermocouple - see page 10A-20

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INSERT CONFIGURATIONS BY SHELL SIZE

INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
18-56	10			10					–	–	–	–	Thermocouple - see page 10A-20
18-57	6			6					–	–	–	–	Thermocouple - see page 10A-20
18-59	6			6					–	–	–	–	Thermocouple - see page 10A-20
18-60	5				5				–	–	–	–	Thermocouple - see page 10A-20
18-61	6			6					–	–	–	–	Thermocouple - see page 10A-20
18-62	6			6					–	–	–	–	Thermocouple - see page 10A-20
18-63	4				4				–	–	–	–	Thermocouple - see page 10A-20
18-65	6			6					–	–	–	–	Thermocouple - see page 10A-21
18-66	10			10					–	–	–	–	Thermocouple - see page 10A-21
18-67	6			6					–	–	–	–	Thermocouple - see page 10A-21
18-68	5				5				–	–	–	–	Thermocouple - see page 10A-21
18-69	10			10					–	–	–	–	Thermocouple - see page 10A-21
18-70	5				5				–	–	–	–	Thermocouple - see page 10A-21
18-72	4				4				–	–	–	–	Thermocouple - see page 10A-21
18-73	7			5	2				–	–	–	–	Thermocouple - see page 10A-21
18-74	6			6					–	–	–	–	Thermocouple - see page 10A-21
18-75	10			10					–	–	–	–	Thermocouple - see page 10A-21
18-76	10			10					–	–	–	–	Thermocouple - see page 10A-21
18-77	10			10					–	–	–	–	Thermocouple - see page 10A-21
18-78	10			10					–	–	–	–	Thermocouple - see page 10A-21
18-79	6			6					–	–	–	–	Thermocouple - see page 10A-21
18-80	4				4				–	–	–	–	Thermocouple - see page 10A-21
18-81	10			10					–	–	–	–	Thermocouple - see page 10A-21
18-82	10			10					–	–	–	–	Thermocouple - see page 10A-21
18-401	4				4				–	–	–	–	Thermocouple - see page 10A-21
18-402	4				4				–	–	–	–	Thermocouple - see page 10A-21
18-403	4				4				–	–	–	–	Thermocouple - see page 10A-21
18-404	2				2				–	–	–	–	Thermocouple - see page 10A-21
18-405	2				2				–	–	–	–	Thermocouple - see page 10A-21
18-411	4				4				–	–	–	–	Thermocouple - see page 10A-21
18-422	2				2				–	–	–	–	Thermocouple - see page 10A-21
18-423	8			7	1				–	–	–	–	Thermocouple - see page 10A-21
18-426	10			10					–	–	–	–	Thermocouple - see page 10A-21
18-434	10			10					–	–	–	–	Thermocouple - see page 10A-21
18-435	10			10					–	–	–	–	Thermocouple - see page 10A-21
18-439	10			10					–	–	–	–	Thermocouple - see page 10A-21
18-443	6			6					–	–	–	–	Thermocouple - see page 10A-21
18-451	6			6					–	–	–	–	Thermocouple - see page 10A-21
18-452	4				4				–	–	–	–	Thermocouple - see page 10A-21
18-2005-31	10			10					–	–	–	–	Position #5 of 18-1
20-1*	14			14					–	–	–	–	Same as 20-27
20-2†*	1							1	–	–	–	–	
20-3*	3				3				70	145	215	290	
20-4†	4				4				45	110	250	–	
20-5*	2			2					35	110	250	325	
20-6*	3			3					70	145	215	290	
20-7†	8			8					80	110	250	280	

† = Military designation per MIL-STD-1651.
‡ = Military designation inactive for new design.
* = VG95234

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INSERT CONFIGURATIONS BY SHELL SIZE

INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
20-8†*	6			4		2			80	110	250	280	
20B8	8			4	4				80	110	250	280	
20-9†	8			7	1				80	110	250	280	
20A9*	9				9				–	110	250	–	
20-10*	4			4					–	–	–	–	
20-11*	13			13					–	–	–	–	
20-12*	2			1			1		80	110	250	280	
20-13*	4			4					–	–	–	–	
20-14†	5				3	2			80	110	250	280	
20-15†*	7				7				80	–	–	280	
20-16†	9			7	2				80	110	250	280	
20A16	13			13					–	–	–	–	Same as 20-11
20-17†	6			1	5				90	180	270	–	
20-18†	9			6	3				35	110	250	325	
20-19*	3					3			90	180	270	–	
20-20*	4				3		1		80	110	250	280	
20-21†	9			8	1				35	110	250	325	
20-22†	6			3		3			80	110	250	280	
20-23*	2					2			35	110	250	325	
20-24*	4			2		2			35	110	250	325	
20-25*	13			13					–	–	–	–	Position #12 of 20-11
20-26*	3				3				–	–	–	–	
20-27†	14			14					35	110	250	325	
20-29†	17			17					80	–	–	280	
20-30*	13			13					–	–	–	–	Position #13 of 20-11
20-31*	11			11					–	–	–	–	
20-32*	8			8					–	–	–	–	Position #2 of 20-7
20-33†	11			11					–	–	–	–	
20A48*	19			19					–	80	280	–	
20-50	17			17					–	–	–	–	Thermocouple - see page 10A-21
20-52	4				4				–	–	–	–	Thermocouple - see page 10A-21
20-56	8			8					–	–	–	–	Thermocouple - see page 10A-21
20-58	10			5	5				–	–	–	–	
20-60	8			8					–	–	–	–	Thermocouple - see page 10A-21
20-61	17			17					–	–	–	–	Thermocouple - see page 10A-21
20-62	7				7				–	–	–	–	Thermocouple - see page 10A-21
20-64	14			14					–	–	–	–	Thermocouple - see page 10A-21
20-65	14			14					–	–	–	–	Thermocouple - see page 10A-21
20-67	9			7	2				–	–	–	–	Thermocouple - see page 10A-21
20-68	8			8					–	–	–	–	Thermocouple - see page 10A-21
20-69	14			14					–	–	–	–	Thermocouple - see page 10A-21
20-70	17			17					–	–	–	–	Thermocouple - see page 10A-22
20-71	17			17					–	–	–	–	Thermocouple - see page 10A-22
20-74	17			17					–	–	–	–	Thermocouple - see page 10A-22
20-76	17			17					–	–	–	–	Thermocouple - see page 10A-22
20-80	14			14					–	–	–	–	Thermocouple - see page 10A-22
20-81	14			14					–	–	–	–	Thermocouple - see page 10A-22

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* = VG95234

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MIL-DTL-5015
INSERT CONFIGURATIONS BY SHELL SIZE

INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
20-82	17			17					–	–	–	–	Thermocouple - see page 10A-22
20-83	14			14					–	–	–	–	Thermocouple - see page 10A-22
20-85	11			11					–	–	–	–	Thermocouple - see page 10A-22
20-87	17			17					–	–	–	–	Thermocouple - see page 10A-22
20-88	14			14					–	–	–	–	Thermocouple - see page 10A-22
20-89	14			14					–	–	–	–	Thermocouple - see page 10A-22
20-90	14			14					–	–	–	–	Thermocouple - see page 10A-22
20-91	14			14					–	–	–	–	Thermocouple - see page 10A-22
20-92	8			8					–	–	–	–	Thermocouple - see page 10A-22
20-93	14			14					–	–	–	–	Thermocouple - see page 10A-22
20-94	7				7				–	–	–	–	Thermocouple - see page 10A-22
20-99	11			11					–	–	–	–	Thermocouple - see page 10A-22
20-408	8			8					–	–	–	–	Thermocouple - see page 10A-22
20-409	8			8					–	–	–	–	Thermocouple - see page 10A-22
20-410	4				4				–	–	–	–	Thermocouple - see page 10A-22
20-412	14			14					–	–	–	–	Thermocouple - see page 10A-22
20-413	14			14					–	–	–	–	Thermocouple - see page 10A-22
20-629	4			4					–	–	–	–	Same as 20-10
20-641	14			14					–	–	–	–	Thermocouple - see page 10A-22
20-854	2				2				–	–	–	–	
20-2006-37	4				4				–	–	–	–	Position #8 of 20-4
22-1*	2					2			35	110	250	325	
22-2†	3					3			70	145	215	290	
22-3*	2			1			1		80	110	250	280	
22-4*	4				2	2			35	110	250	325	
22-5*	6			4	2				35	110	250	325	
22-6*	3			1		2			80	110	250	280	
22-7†	1							1	–	–	–	–	
22-8*	2				2				35	110	250	325	
22-9†	3				3				70	145	215	290	
22-10†	4			4					35	110	250	325	
22A10	10			10					–	120	240	–	
22-11†	2			2					35	110	250	325	
22-12†*	5			3		2			80	110	250	280	
22-13*	5			1	4				35	110	250	325	
22-14†*	19			19					80	110	250	280	
22-15†	6			1	5				80	110	250	280	
22-16*	9			6	3				80	110	250	280	
22-17†	9			8	1				80	110	250	280	
22-18†	8			8					80	110	250	280	
22-19†	14			14					80	110	250	280	
22-20*	9			9					35	110	250	325	
22-21†	3			2				1	80	110	250	280	
22-22†*	4					4			–	110	250	–	
22B22*	4					4			–	110	250	–	
22-23†	8				8				35	–	250	–	
22-24*	6			4	2				80	110	250	280	

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INSERT CONFIGURATIONS BY SHELL SIZE

INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
22-25*	3			2				1	80	110	250	280	
22-26*	7			5	2				–	–	–	–	
22-27†*	9			8		1			80	–	250	280	
22-28*	7				7				80	–	–	280	
22-29*	7			6			1		80	110	250	280	
22-30*	19			19					–	–	–	–	Position #12 of 22-14
22-31*	2			2					–	–	–	–	Position #12 of 22-11
22-32*	6			4	2				–	–	–	–	Position #2 of 22-5
22-33†	7			7					80	110	250	280	
22-34†	5			2	3				80	110	250	280	
22-35†	3					3			–	–	–	–	
22-36†	8				8				90	–	270	–	Thermocouple - see page 10A-22
22A37	37		37						80	112	250	280	
22-57	19			19					–	–	–	–	Thermocouple - see page 10A-22
22-60	19			19					–	–	–	–	Thermocouple - see page 10A-22
22-62	8				8				–	–	–	–	Thermocouple - see page 10A-22
22-63	12			8	4				–	–	–	–	
22-68	14			14					–	–	–	–	Thermocouple - see page 10A-22
22-69	14			14					–	–	–	–	Thermocouple - see page 10A-22
22-70	13			5	8				–	–	–	–	
22-71	19			19					–	–	–	–	Thermocouple - see page 10A-22
22-72	6			4	2				–	–	–	–	Thermocouple - see page 10A-22
22-73	6			4	2				–	–	–	–	Thermocouple - see page 10A-22
22-74	8				8				–	–	–	–	Thermocouple - see page 10A-22
22-75	8				8				–	–	–	–	Thermocouple - see page 10A-22
22-76	21			21					–	–	–	–	Thermocouple - see page 10A-22
22-77	14			14					–	–	–	–	Thermocouple - see page 10A-22
22-78	19			19					–	–	–	–	Thermocouple - see page 10A-22
22-79	4			4					–	–	–	–	Thermocouple - see page 10A-22
22-81	5			2	3				–	–	–	–	Thermocouple - see page 10A-23
22-82	19			19					–	–	–	–	Thermocouple - see page 10A-23
22-82	10			8		2			80	110	250	280	
22-83	8			8					–	–	–	–	Thermocouple - see page 10A-23
22-84	19			19					–	–	–	–	Thermocouple - see page 10A-23
22-89	7				7				–	–	–	–	Thermocouple - see page 10A-23
22-404	8				8				–	–	–	–	Thermocouple - see page 10A-23
22-405	8				8				–	–	–	–	Thermocouple - see page 10A-23
22-406	8				8				–	–	–	–	Thermocouple - see page 10A-23
22-407	8				8				–	–	–	–	Thermocouple - see page 10A-23
22-412	8				8				–	–	–	–	Thermocouple - see page 10A-23
22-414	8				8				–	–	–	–	Thermocouple - see page 10A-23
22-415	8				8				–	–	–	–	Thermocouple - see page 10A-23
22-416	8				8				–	–	–	–	Thermocouple - see page 10A-23
22-422	8			8					–	–	–	–	Thermocouple - see page 10A-23
22-431	14			14					–	–	–	–	Thermocouple - see page 10A-23
24-1†	2			1				1	80	110	250	280	
24A1	1							1	–	–	–	–	

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MIL-DTL-5015
INSERT CONFIGURATIONS BY SHELL SIZE

INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
24-2†	7				7				80	–	–	280	
24-3†	7			5	2				80	110	250	280	
24-4†	4			3				1	80	110	250	280	
24-5†	16			16					80	110	250	280	
24G5	5					5			70	110	240	270	
24-06	6			2		4			40	–	–	–	Use 24A6
24-6†	8				8				80	110	250	280	
24A6	6				4	2			40	–	–	–	
24-07	7				7				80	–	–	280	Use 24A7
24-7†	16			14	2				80	110	250	280	
24A7	7				7				80	–	–	280	
24-9†	2						2		35	110	250	325	
24-10†*	7					7			80	–	–	280	
24-11†*	9				6	3			35	110	250	325	
24-12†*	5				3		2		80	110	250	280	
24S12	12			10			2						
24-013	13			7	6				–	–	–	–	Use 24A13
24A13	13			7	6				–	–	–	–	
24-14†	3				2			1	80	110	250	280	
24S14	14			12			2		–	–	–	–	
24-15†	16			16					–	–	–	–	Position #12 of 24-5
24-16†	7			3	3	1			80	110	250	280	
24-17†	5			3	2				80	110	250	280	
24-18	4			4					–	–	–	–	Shorting type
24-19†	12			12					–	–	–	–	
24-20†	11			9	2				80	110	250	280	
24-21†	10			9		1			80	110	250	280	
24-22†	4					4			45	110	250	–	
24-23†	5			2		3			80	110	250	280	
24-24†	16			16					–	–	–	–	Position #13 of 24-5
24-25†	8				8				–	–	–	–	Position #12 of 24-6
24A25	25			25					80	110	250	280	
24-26†	8				8				–	–	–	–	Position #13 of 24-6
24-27†	7			7					80	–	–	280	
24-28†	24			24					80	110	250	280	
24A28	28			28					65	146	235	–	
24A35*	16				14	2			–	–	–	–	Position #12 of 24-7
24A40	16			14	2				–	–	–	–	
24-56	11			9	2				–	–	–	–	Thermocouple - see page 10A-23
24-57	24			24					–	–	–	–	Thermocouple - see page 10A-23
24-58	13			7	3	3			–	–	–	–	
24-59	14			7	7				–	–	–	–	
24-62	24			24					–	–	–	–	Thermocouple - see page 10A-23
24-63	24			24					–	–	–	–	Thermocouple - see page 10A-23
24-64	16			16					–	–	–	–	Thermocouple - see page 10A-23
24-65	15			4	11				–	–	–	–	
24-66	7				7				–	–	–	–	

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INSERT CONFIGURATIONS BY SHELL SIZE

INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
24-67	19				19				80	–	–	335	
24-68	24			24					–	–	–	–	Thermocouple - see page 10A-23
24-69	12			12					–	–	–	–	Thermocouple - see page 10A-23
24-70	24			24					–	–	–	–	Thermocouple - see page 10A-23
24-79	5					5			–	–	–	–	
24-80†	23			23					35	145	240	300	
24-81	16			14	2				–	–	–	–	Thermocouple - see page 10A-23
24-88	24			24					–	–	–	–	Thermocouple - see page 10A-23
24-91	16			16					–	–	–	–	Thermocouple - see page 10A-23
24-401	8				8				–	–	–	–	Thermocouple - see page 10A-23
24-402	8				8				–	–	–	–	Thermocouple - see page 10A-23
24-406	8				8				–	–	–	–	Thermocouple - see page 10A-23
24-409	12			12					–	–	–	–	Thermocouple - see page 10A-23
24-412	12			12					–	–	–	–	Thermocouple - see page 10A-23
24-414	24			24					–	–	–	–	Thermocouple - see page 10A-23
24-415	24			24					–	–	–	–	Thermocouple - see page 10A-23
24-417	16			16					–	–	–	–	Thermocouple - see page 10A-23
24-418	12			12					–	–	–	–	Thermocouple - see page 10A-23
24-422	24			24					–	–	–	–	Thermocouple - see page 10A-23
24-423	16			16					–	–	–	–	Thermocouple - see page 10A-23
24-430	24			24					–	–	–	–	Thermocouple - see page 10A-23
24-431	24			24					–	–	–	–	Thermocouple - see page 10A-23
24-621	24			24					–	–	–	–	Thermocouple - see page 10A-24
24-622	24			24					–	–	–	–	Thermocouple - see page 10A-24
24-2008-35	16			14	2				–	–	–	–	Position #12 of 24-7 Same as 24A35
28-1†	9				6	3			80	110	250	280	
28B1	1							1	–	–	–	–	
28-2†	14			12	2				35	110	250	325	
28-3†	3					3			70	145	215	290	
28-4†	9			7	2				80	110	250	280	
28-5†	5			2	1		2		35	110	250	325	
28-6‡	3						3		70	145	215	290	
28-7†	2						2		35	110	250	325	
28-8†	12			10	2				80	110	250	280	
28-09	9			5			4		110	250	260	280	Use 28A9
28-9†	12			6	6				80	110	250	280	
28A9	9			5			4		110	250	260	280	
28-10†	7				3	2	2		80	110	250	280	
28-11†*	22			18	4				80	110	250	280	
28-12†	26			26					90	180	270	–	
28-13‡	26			26					–	–	–	–	Position #12 of 28-12
28-14‡	11			11					80	110	250	280	
28-15†	35			35					80	110	250	280	
28-16‡	20			20					80	110	250	280	
28-17†	15			15					80	110	250	280	
28-18†	12			12					70	145	215	290	
28-19†	10			6	4				80	110	250	280	

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INSERT CONFIGURATIONS BY SHELL SIZE

INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
28-20†*	14			4	10				80	110	250	280	
28-21†*	37			37					80	110	250	280	
28-22†	6			3			3		70	145	215	290	
28A29	29			27		2			80	110	250	280	
28A31	31		25			6			–	–	–	–	
28A35	35			35					80	110	250	280	
28-51	12				12				80	135	195	–	
28-53	22			18	4				–	–	–	–	Thermocouple - see page 10A-24
28A55	29			29					–	–	–	–	
28-58	14			4	10				–	–	–	–	Thermocouple - see page 10A-24
28-59	17			10	7				–	–	–	–	
28-61	37			37					–	–	–	–	Thermocouple - see page 10A-24
28-63	14			4	10				–	–	–	–	Thermocouple - see page 10A-24
28A63*	28			19	9				–	100	260	–	
28-64	35			35					–	–	–	–	Thermocouple - see page 10A-24
28-65	26			26					–	–	–	–	Thermocouple - see page 10A-24
28-67	20			20					–	–	–	–	Thermocouple - see page 10A-24
28-68	35			35					–	–	–	–	Thermocouple - see page 10A-24
28-69	22			18	4				–	–	–	–	Thermocouple - see page 10A-24
28-70	22			18	4				–	–	–	–	Thermocouple - see page 10A-24
28-72	72	72							72	144	216	288	
28-78	35			35					–	–	–	–	Thermocouple - see page 10A-24
28-79	16			9		7			80	110	250	280	
28-81	37			37					–	–	–	–	Thermocouple - see page 10A-24
28-84	9						9		–	–	–	–	
28-85	22				18	4			–	–	–	–	Thermocouple - see page 10A-24
28-91	12				6	6			–	–	–	–	Thermocouple - see page 10A-24
28-94	26				26				–	–	–	–	Thermocouple - see page 10A-24
28-98	37				37				–	–	–	–	Thermocouple - see page 10A-24
28-99	26				26				–	–	–	–	Thermocouple - see page 10A-24
28-124	16			12		4			80	110	250	280	
28-201	14			4	10				–	–	–	–	Thermocouple - see page 10A-24
28-413	26			26					–	–	–	–	Thermocouple - see page 10A-24
28-414	26			26					–	–	–	–	Thermocouple - see page 10A-24
28-420	20			20					–	–	–	–	Thermocouple - see page 10A-24
28-AC	20			20					–	–	–	–	Thermocouple - see page 10A-24
28-AD	37			37					–	–	–	–	Thermocouple - see page 10A-24
28-AE	37			37					–	–	–	–	Thermocouple - see page 10A-24
28-AF	12			12					–	–	–	–	Thermocouple - see page 10A-24
28-AG	26			26					–	–	–	–	Thermocouple - see page 10A-24
28-AK	37			37					–	–	–	–	Thermocouple - see page 10A-24
32-1†*	5				3			2	80	110	250	280	
32A1	1								–	–	–	–	1 Size 4/0 Contact
32-2†	5			2			3		70	145	215	290	
32-3†*	9			4	2		2	1	80	110	250	280	
32A3	3						3		22	44	75	–	
32-4‡	14			12	2				80	110	250	280	
32-5‡	2							2	35	110	250	325	

† = Military designation per MIL-STD-1651.
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* = VG95234

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INSERT CONFIGURATIONS BY SHELL SIZE

INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
32-6†*	23			16	2	3	2		80	110	250	280	
32-7†*	35			28	7				80	125	235	280	
32-8‡	30			24	6				80	125	235	280	
32-9†	14			12			2		80	110	250	280	
32-10‡	7			3		2	2		80	110	250	280	
32-12‡	15			10	5				80	110	250	280	
32-013	13				13				65	130	230	295	Use 32A13
32-13†	23			18	5				80	110	250	280	
32A13	13				13				65	130	230	295	
32-14‡	7				5		2		35	110	250	325	
32-15†	8				6			2	35	110	250	280	
32-16*	23			16	2	3	2		–	–	–	–	Position #12 of 32-6
32-17*	4						4		45	110	250	–	
32-18*	14			12	2				–	–	–	–	Position #12 of 32-4
32-19*	5				3			2	–	–	–	–	Position #2 of 32-1
32S19	19				19				–	–	–	–	
32-20**	23			16	2	3	2		–	–	–	–	Position #2 of 32-6
32-22**	54			54					80	110	250	280	
32A22	22			20				2	55	135	230	295	
32B22	22			20			2		35	110	250	325	
32A25	25				25				60	120	–	–	
32A27	27			17	10				30	115	285	335	
32A29	23			16	2	3	2		–	–	–	–	Rotation of 32-6
32A30	30			20	10				–	–	–	–	
32-31	31			31					–	–	–	–	
32A40	40			40					35	130	–	–	
32A48	48			48					80	–	–	–	
32-50	30			24	6				–	–	–	–	Thermocouple - see page 10A-24
32-52	8				6			2	–	–	–	–	90 Deg Rotation of 32-15
32-53	42			37	5				–	–	–	–	Thermocouple - see page 10A-24
32-55	30			24	6				–	–	–	–	Thermocouple - see page 10A-24
32A55	55			55					80	110	250	280	
32-59	42			40		2			36	108	252	324	
32-63*	5						5		–	–	–	–	
32-64	54			54					–	–	–	–	
32-68	16			12			4		65	135	225	275	
32A69*	61	41		20					–	110	250	–	
32-73*	46			46					36	–	–	–	
32-76	19				19				80	110	250	280	
32-79	5					1	4		–	–	–	315	
32-88	54			54					–	–	–	–	
32-91	54			54					–	–	–	–	Thermocouple - see page 10A-24
32A401	40			40					–	–	–	–	
32-408	30			24	6				–	–	–	–	Thermocouple - see page 10A-25
32-689	9			6			3		–	–	–	–	
32-2010-29	23			16	2	3	2		–	–	–	–	Position #13 of 32-6
32-2010-30	5				3			2	–	–	–	–	Position #12 of 32-1

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* = VG95234

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MIL-DTL-5015
INSERT CONFIGURATIONS BY SHELL SIZE

INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
36-01	1								–	–	–	–	1 Size 4/0 Contact
36A1	1								–	–	–	–	1 Size 4/0 Contact
36-1*	22			18	4				80	110	250	280	
36-2*	5				2			3	–	–	–	–	
36-3*	6				3			3	70	145	215	290	
36-4*	3							3	70	145	215	290	
36-5**	4							4	–	120	240	–	
36-6**	6						4	2	35	110	250	325	
36-7*	47			40	7				80	110	250	280	
36-8*	47			46	1				80	110	250	280	
36-9*	31			14	14	2	1		80	125	235	280	
36-10**	48			48					80	125	235	280	
36-11*	48			48					–	–	–	–	Position #12 of 36-10
36-12*	48			48					–	–	–	–	Position #13 of 36-10
36-13*	17			15	2				80	110	250	280	
36-14*	16			6	5	5			90	180	270	–	
36-15f	35			35					60	125	245	305	
36-16*	47			40	7				–	–	–	–	Position #12 of 36-7
36-17*	47			40	7				–	–	–	–	Position #13 of 36-7
36-18*	31			14	14	2	1		–	–	–	–	Position #12 of 36-9
36-19*	17			10	5		1	1	80	110	250	280	
36-20*	34			30	2	2			–	–	–	–	
36-21*	31			14	14	2	1		–	–	–	–	Position #2 of 36-9
36-22	22				22				80	110	250	280	
36A22	22				22				–	–	–	–	
36-35	36			32		4			–	–	–	–	
36-51	4						2	2	–	–	–	–	
36A51	6				1		2	3	45	135	225	315	
36-52*	52			52					72	144	216	288	
36-53	47			40	7				–	–	–	–	Thermocouple - see page 10A-25
36-54	39			31		8			–	–	–	–	
36-56	48			48					–	–	–	–	Thermocouple - see page 10A-25
36-57	47			46	1				–	–	–	–	Thermocouple - see page 10A-25
36-58	35			35					–	–	–	–	Thermocouple - see page 10A-25
36-61	35			35					–	–	–	–	Thermocouple - see page 10A-25
36-62	48			48					–	–	–	–	Thermocouple - see page 10A-25
36-66*	56			52	4				110	250	260	280	
36-71	53			50	3				–	–	–	–	
36A72	72		52	16	4				–	110	–	–	
36-74	44			43		1			–	–	–	–	
36B78	14			2		12			–	–	–	–	
36D78	14			4		10			–	–	–	–	
36-82	52			52					–	–	–	–	Thermocouple - see page 10A-25
36-86	48			48					–	–	–	–	Thermocouple - see page 10A-25
36-88	52			52					–	–	–	–	Thermocouple - see page 10A-25
36-101	48			48					–	–	–	–	Thermocouple - see page 10A-25
36-102	48			48					–	–	–	–	Thermocouple - see page 10A-25

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* = VG95234

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INSERT CONFIGURATIONS BY SHELL SIZE

INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
36-411	22			18	4				–	–	–	–	Thermocouple - see page 10A-25
36-412	22			18	4				–	–	–	–	Thermocouple - see page 10A-25
36-414	48			48					–	–	–	–	Thermocouple - see page 10A-25
36-416	48			48					–	–	–	–	Thermocouple - see page 10A-25
36-417	48			48					–	–	–	–	Thermocouple - see page 10A-25
40-1*	30			24	6				65	130	235	300	
40-2*	23			23					80	110	250	280	
40-3*	23			18	4		1		80	110	250	280	
40A3	5				2			3	70	145	215	290	
40-4*	23			16	2	3	2		80	110	250	280	
40A4	6				2			4	50	120	240	325	
40B4	4							4	45	110	–	–	
40-5*	15				6	4	2	3	80	110	250	280	
40A5	5				1		1	3	33	–	–	270	
40B5	5							5					
40-6*	26			24	1			1	80	110	250	280	
40A6	6				6				35	110	250	280	
40-7*	22			18	2			2	80	110	250	280	
40A8	8			4			4		35	110	250	325	
40-9*	47			24	22	1			65	125	225	310	
40-10*	29			16		9	4		65	125	225	310	
40A10	8			4			4		80	135	195	–	
40-11*	25			18	4	1	1	1	80	110	250	280	
40-12*	29			22	6			1	–	–	–	–	
40-13*	23			23					–	–	–	–	Position #12 of 40-2
40-14*	32			21	10			1	–	–	–	–	
40B19	19					19			35	105	255	325	
40A24	24				16	8			80	120	245	300	
40-26	26				19	7			80	110	250	280	
40A27	27				25		2		45	110	250	315	
40S27	60			60					–	–	–	–	
40-31	31				31				80	110	250	280	
40-35	35				35				70	130	230	290	
40B37	37				37				30	135	–	–	
40A38	38				38				37	74	285	322	
40-47	47			24	22	1			65	125	225	310	
40A51	31			16		15			–	–	–	–	
40-53	60			60					80	110	250	280	
40-56*	85			85					72	144	216	288	
40A56	85			85					72	144	216	288	
40N56	85			85					72	144	216	288	
40-57	4							4	–	–	–	–	
40-59	85			85					–	–	–	–	Thermocouple - see page 10A-25
40-60	6							6	80	110	250	280	
40-62	60			60					30	130	220	290	
40A62	62			60		2			80	130	230	280	
40-63	61			61					80	–	–	280	

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INSERT CONFIGURATIONS BY SHELL SIZE

INSERT NUMBER	CONTACTS								ALTERNATE POSITIONS (Degrees)				REMARKS
	TOTAL	SIZE							W	X	Y	Z	
		#20	#18	#16	#12	#8	#4	#0					
40A65	65			65					70	145	215	285	
40-67	11			1			10		–	–	–	–	
40-68	21					21			–	–	–	–	
40-70	61			61					–	–	–	–	
40A75	75			73		2			–	–	–	–	
40-77	60			60					–	–	–	–	Thermocouple - see page 10A-25
40-78	60			60					–	–	–	–	Thermocouple - see page 10A-25
40-80	11			1			10		–	–	–	–	
40-82	62			62					–	–	–	–	
40-87	7						7		–	–	–	–	
40-88	60			60					–	–	–	–	Thermocouple - see page 10A-25
40-150	150		150						–	–	–	–	
40A150	150		150						–	–	–	–	
40-951	51				26	25			–	–	–	–	
40-AA	85			85					–	–	–	–	Thermocouple - see page 10A-25
44-1†	42			36	6				65	125	225	310	
44-2†	31			14	14	2	1		65	125	225	310	
44-3†	31			24	3	2	2		65	125	225	310	
44-4†	41			31	8			2	65	125	225	310	
44-5‡	42			36	6				–	–	–	–	Position #12 of 44-1
44-6‡	42			36	6				–	–	–	–	Position #13 of 44-1
44-52†	104			104					72	135	225	288	
44-57	104			104					–	–	–	–	Thermocouple - see page 10A-25
44-59	104			104					–	–	–	–	Thermocouple - see page 10A-25
44-60	104			104					–	–	–	–	Thermocouple - see page 10A-25
44-62	104			104					–	–	–	–	Thermocouple - see page 10A-25
48-1†	15				6	4	2	3	65	125	225	310	
48-2†	47			46	1				65	125	225	310	
48-3†	25			18	1	3		3	65	125	225	310	
48-4†	68			47	16	3		2	65	125	225	310	
48-5‡	100			90	9	1			65	125	225	310	
48-52	61			56				5	–	–	–	–	
48-53	37				37				–	–	–	–	
48-55	78			68	2	2	6		–	–	–	–	
48-57	56			42		10		4	–	–	–	–	
48-62†	85			85					72	144	216	288	

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THERMOCOUPLE CONTACTS & INSERT ARRANGEMENTS BY SHELL SIZE

A thermocouple is essentially a pair of wires of dissimilar metals connected at both ends. When the two junctions are subjected to different temperatures, an electrical potential is set up between them, almost directly proportional to the temperature difference. A voltage measuring instrument in the circuit can thus measure temperature. Because thermocouple junctions can withstand higher temperatures than the connectors used in conjunction with them, care must be taken to isolate the connectors. While contacts can withstand temperatures shown in the following table, standard insert materials can withstand only 257°F continuous operation. However, special dielectrics and shell finishes can extend the usable connector range above 500°F.

THERMOCOUPLE LIMITS

COMBINATION	CONDITIONS	TEMPERATURE RANGE
Copper-Constantan (Note 1)	Material has good resistance to corrosion with long life and stable calibration.	Thermocouple Junction: Below 500°F Connector Contacts: 400°F
Iron-Constantan (Note 1)	Material can be used in either oxidizing or reducing atmospheres. It is not recommended for low temperatures and in the presence of moisture due to the rusting of the iron.	Thermocouple Junction: 500°F to 1200°F Connector Contacts: *600°F
Chromel-Alumel (Note 1)	Material is good for high temperature work and is more stable than iron and constantan combinations.	Thermocouple Junction: High Temperature Connector Contacts: *400°F

* These contacts can withstand higher temperatures but have not been tested because the general line of connectors will not withstand such temperatures in continuous operation.
(Note 1) - These are registered Trade names of the Hoskins Corporation.

THERMOCOUPLE MATERIALS

CONTACT DESIGNATION	MATERIAL	ASTM-E230 SPECIFICATIONS	Polarity	MAGNETISM
Alumel (Al) (Note 1)	94% Nickel; 2.5% Manganese; 2% Aluminum; 1% Silicone; ½% Iron	Type KN	Negative	Magnetic
Constantan (Co) (Note 1)	45% to 60% Copper; 40% to 55% Nickel; 0 to 1.4% Manganese; 0.1% Iron	Type JN	Negative	Non-Magnetic
Copper (Cu) (Note 1)	87.5 to 90% Copper; 1.8 to 2.2% Lead; .1% Iron; 5% Nickel; .5% normal impurities and balance zinc	Type T	Positive	Non-Magnetic
Iron (Ir) (Note 1)	84.4% Iron; 2% Carbon; 3% manganese; 6% Phosphorus; 2% Sulphur; 4% Silicone; 8.1% Copper; 9% Tin (Cadmium plated for corrosion resistance)	Type JP	Positive	Magnetic
Chromel P (Ch) (Note 1)	90% Nickel; 10% Chromium	Type KP	Positive	Non-Magnetic

(Note 1) - These are registered Trade names of the Hoskins Corporation.

CONTACT COLOR CODING

CONTACT MATERIAL	COLOR
Alumel	Green
Chromel	White
Copper	–
Constantan	Yellow
Iron	Black

For solder thermocouple contacts, see page 9A-3.
For crimp thermocouple contacts, see pages 9A-4 thru 9A-7.

MIL-DTL-5015 SERIES I
THERMOCOUPLE CONTACTS & INSERT ARRANGEMENTS BY SHELL SIZE

THERMOCOUPLE INSERT	TOTAL CONTACTS	CONTACT SIZE		BASIC INSERT	ROTATION (Degrees)	CONTACT MATERIAL
		#16	#12			
10SL-51	2	2		10SL-4	45	A = Ir,; B = Con.
10SL-52	2	2		10SL-4	45	A = Cu.; B = Con.
10SL-53	2	2		10SL-4	45	A= Al.; B = Ch.
10SL-54	3	3		10SL-3	–	A = Ir.; B = Con.; C = Cu.
10SL-55	3	3		10SL-3	–	A = Al.; B = Ch.; C = Cu.
10SL-56	2	2		10SL-4	–	A = Al.; B = Ch.
10SL-57	2	2		10SL-4	–	A = Ch.; B = Con.
10SL-58	3	3		10SL-3	–	A = Ch.; B = Al.; C = Cu.
10SL-59	2	2		10SL-4	–	A = Ch.; B = Al.
10SL-60	2	2		10SL-4	–	A = Ir.; B = Con.
10SL-61	2	2		10SL-4	–	A = Cu.; B = Con.
10SL-62	3	3		10SL-3	–	A = Cu.; B = Al.; C = Ir.
10SL-63	3	3		10SL-3	–	A, C = Con.; B = Ch.
10SL-64	3	3		10SL-3	–	A, C = Ch.; B = Al.
10SL-401	2	2		10SL-4	–	A = Al.; B = Ch.
12S-6	2	2		12S-3	–	A = Con.; B = Ir.
12S-51	2	2		12S-3	315	A = Ch.; B = Al.
12S-54	2	2		12S-3	315	A = Ir.; B = Con.
12S-55	2	2		12S-3	45	A = Cu.; B = Con.
12S-56	2	2		12S-3	–	A = Al.; B = Ch.
12S-57	2	2		12S-3	60	A = Ch.; B = Al.
12S-58	2	2		12S-3	120	A = Ir.; B = Con.
12S-59	2	2		12S-3	–	A = Ir.; B = Con.
12S-60	2	2		12S-3	–	A = Cu.; B = Con.
12S-61	2	2		12S-3	–	A = Ch.; B = Con.
12S-62	2	2		12S-3	–	A = Ch.; B = Al.
12S-64	2	2		12S-3	315	A = Cu.; B = Con.
12S-65	2	2		12S-3	–	A = Con.; B = Ir.
12S-407	2	2		12S-3	–	A = Al.; B = Ch.
12S-409	2	2		12S-3	–	A = Cu.; B = Con.
14S-51	2	2		14S-9	90	A = Al.; B = Ch.
14S-52	4	4		14S-2	45	A, B = Cu; C = Al; D = Ch.
14S-53	2	2		14S-9	90	A = Ir.; B = Con.
14S-54	6	6		14S-6	45	A, C, E = Ir.; B, D, F = Con.
14S-55	4	4		14S-2	45	A, C = Ir.; B, D = Con.
14S-56	4	4		14S-2	45	A = Ir.; B = Con.; C, D = Cu.
14S-57	4	4		14S-2	45	A, C = Al.; B, D = Ch.
14S-58	3	3		14S-7	45	A = Al,; B = Ch,; C = Cu.
14-59	6	6		14S-6	–	A = Al.; B = Ch.; C = Ir.; D = Con.; E, F = Cu
14S-59	2	2		14S-9	90	A = Cu.; B = Con.
14S-60	2	2		14S-9	–	A = Al.; B = Ch.
14S-61	6	6		14S-6	45	A = Al.; B = Ch.; C = Ir.; D = Con.; E, F = Cu.

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THERMOCOUPLE CONTACTS & INSERT ARRANGEMENTS BY SHELL SIZE

THERMOCOUPLE INSERT	TOTAL CONTACTS	CONTACT SIZE		BASIC INSERT	ROTATION (Degrees)	CONTACT MATERIAL
		#16	#12			
14S-63	6	6		14S-6	–	A, C = Al.; B, D = Ch.; E = Ir.; F = Con.
14S-64	4	4		14S-2	–	A, C = Con.; B, D = Cu.
14S-65	6	6		14S-6	–	A, C, E = Cu.; B, D, F = Con.
14S-67	6	6		14S-6	–	A = Al.; B = Ch.; Bal = Cu.
14S-68	4	4		14S-2	45	A = Ch.; B = Con.; C, D = Cu.
14S-69	3	3		14S-7	–	A = Con.; B = Ch.; C = Cu.
14S-70	4	4		14S-2	–	A, D = Ch.; B, C = Al.
14S-70	4	4		14S-2	–	D = Al.; A = Ch.; Bal = Std.
14S-71	4	4		14S-2	–	A, B, D = Cu.; C = Con.
14S-72	2	2		14S-9	–	A = Con.; B = Cu.
14S-73	4	4		14S-2	–	A, B = Cu.; C = Al.; D = Ch.
14S-74	4	4		14S-2	–	A, B = Ch.; C, D = Al.
14S-75	4	4		14S-2	–	A, B = Cu.; C, D = Con.
14S-76	4	4		14S-2	–	A, C = Al.; B, D = Ch.
14S-79	5	5		14S-5	–	A, B, E = Cu.; C = Al.; D = Ch.
14S-79	5	5		14S-5	–	1 = Al.; 1 = Ch.; Bal = Std.
14S-81	2	2		14S-9	–	A = Al.; B = Cu.
14S-82	4	4		14S-2	–	A = Ir.; B = Con.; C = Ch.; D = Al.
14S-83	6	6		14S-6	–	A, C = Ir.; B, D = Con.; E, F = Cu.
14S-84	6	6		14S-6	–	A, B = Al.; Bal = Cu.
14S-85	3	3		14S-7	–	A = Ch.; B = Al.; C = Cu.
14S-86	6	6		14S-6	–	A, F = Ir.; B, E = Con.; C, D = Cu.
14S-87	6	6		14S-6	–	A, B, C, D = Ir.; E, F = Con.
14S-88	2	2		14S-9	90	A = Ch.; B = Con.
14S-89	3	3		14S-7	–	A = Ir.; B = Cu.; C = Con.
14S-90	6	6		14S-6	–	A = Al.; C = Ch.; Bal = Cu.
14S-91	4	4		14S-2	–	A = Al.; B = Ch.; Bal = Cu.
14S-93	6	6		14S-6	–	A, B, F = Al.; C, D, E = Ch.
14S-414	2	2		14S-9	–	A = Al.; B = Ch.
14S-415	6	6		14S-6	–	A, C, E = Cu.; B, D, F = Con.
14S-419	4	4		14S-2	–	A, B = Al.; C, D = Ch.
14S-421	6	6		14S-6	–	A, B, C = Ir.; D, E, F = Con.
14S-422	6	6		14S-6	–	A, B, C = Al.; D, E, F = Ch.
14S-423	6	6		14S-6	–	A = Ir.; B, C = Al.; D = Con.; E, F = Ch.
14S-424	6	6		14S-6	–	A = Ch.; B, C = Ir.; D = Al.; E, F = Con.
14S-433	4	4		14S-2	–	A, B = Std.; C = Al.; D = Ch.
14S-446	4	4		14S-2	–	A, B = Std.; C = Al.; D = Ch.
16-13	2		2	16-13	–	A = Ir.; B = Con.
16S-50	5	5		16S-8	–	1 = Con.; 1 = Ir.; 3 = Cu.
16S-51	7	7		16S-1	–	A, F = Al.; B = Ch.; Bal = Std.
16-52	2	2		16-11	90	A = Al.; B = Ch.
16S-52	2	2		16S-4	–	A = Ch.; B = Al.
16-53	4	2	2	16-9	70	A = Al.; C = Ch.; B, D = Cu.

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MIL-DTL-5015 SERIES I
THERMOCOUPLE CONTACTS & INSERT ARRANGEMENTS BY SHELL SIZE

THERMOCOUPLE INSERT	TOTAL CONTACTS	CONTACT SIZE		BASIC INSERT	ROTATION (Degrees)	CONTACT MATERIAL
		#16	#12			
16S-54	7	7		16S-1	–	A = Al.; B = Ch.; Bal = Cu.
16-55	3		3	16-10	45	A = Al.; B = Ch.; C = Cu.
16-56	2		2	16-13	90	A = Con.; B = Cu.
16S-56	7	7		16S-1	–	A = Al.; D = Ch.; Bal = Cu.
16-57	3		3	16-10	–	A = Al.; B = Cu.; C = Ch.
16S-57	7	7		16S-1	–	A, B = Al.; C, D = Ch.; Bal = Cu.
16-58	3		3	16-10	–	A = Con.; B, C = Cu.
16S-58	7	7		16S-1	–	A, G = Al.; Bal = Ch.
16S-59	7	7		16S-1	–	A, C = Ir.; B, D = Con.; Bal = Cu.
16-60	2		2	16-13	–	A = Al.; B = Ch.
16S-60	7	7		16S-1	–	A = Ir.; B = Con.; Bal = Cu.
16S-61	7	7		16S-1	–	G = Al.; Bal = Ch.
16-62	2		2	16-11	–	A = Con.; B = Cu.
16-67	2		2	16-11	–	A = Al.; B = Ch.
16-68	4	2	2	16-9	–	A, B, C = Ch.; D = Al.
16-412	2		2	16-13	–	A = Al, B = Ch. Al coded green. Ch coded white.
16-414	2		2	16-13	–	A = Cu.; B = Con.
16S-417	2	2		16S-4	–	A = Al.; B = Ch.
16S-418	2	2		16S-4	–	A = Ir.; B = Con.
16S-419	2	2		16S-4	–	A = Cu.; B = Con.
16-848	2		2	16-13	–	A = Al.; B = Ch.
18-15	4		4	18-15	–	A, C = Ir.; B, D = Con.
18-41	4	4		18-4	–	A, C = Ir.; B, D = Con.
18-42	4	4		18-4	–	A, C = Al.; B, D = Ch.
18-43	4	4		18-4	–	A, C = Ch.; B, D = Con.
18-44	3	3		18-22	–	1 = Al.; 1 = Ch.; 1 = Std.
18-45	5	5		18-20	–	A = Ir.; B = Con.; Bal = Std.
18-46	4	4		18-4	–	1 = Ch.; 1 = Al.; 2 = Std.
18-51	6	6		18-12	–	A = Ir.; B, E = Con.; D = Cu.; C, F = Dummy.
18-51	6	6		18-12	–	A = Ir.; B, E = Con.; D = Cu.; C, F = Std.
18-52	5		5	18-11	–	A = Ir.; B = Con.; C = Ch.; D = Al.; E = Dummy.
18-52	5		5	18-11	–	A = Ir.; B = Con.; D = Al.; E = Std.
18-53	6	6		18-12	–	A, D = Ir.; B, E = Con.; C, F = Dummy
18-53	6	6		18-12	–	A, D = Ir.; E = Con.; C, F = Std.
18-54	4		4	18-15	–	A, C = Al.; B, D = Ch.
18-56	10	10		18-1	–	A, C, E, G, I = Ir.; B, D, F, H, J = Con.
18-57	6	6		18-12	–	A, C, E = Al.; B, D, F = Ch.
18-59	6	6		18-12	–	A, C = Ir.; B, E, F = Con.; D = Cu.
18-60	5		5	18-11	45	A, D = Al.; B, C = Ch.; E = Cu.
18-61	6	6		18-12	–	A, C = Ir.; B, D = Con.; E = Ch.; F = Al.
18-62	6	6		18-12	–	A, B, C = Ir.; D, E, F = Con.
18-63	4		4	18-15	–	A, C = Con.; B, D = Cu.

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THERMOCOUPLE INSERT	TOTAL CONTACTS	CONTACT SIZE		BASIC INSERT	ROTATION (Degrees)	CONTACT MATERIAL
		#16	#12			
18-65	6	6		18-12	–	A = Ir.; B = Con.; Bal = Cu.
18-66	10	10		18-1	–	A, C, E, G, I = Cu.; B, D, F, H, J = Con.
18-67	6	6		18-12	–	A, C, E = Cu.; B, D, F = Con.
18-68	5		5	18-11	–	A, D = Al.; B, C = Ch.; E = Cu.
18-69	10	10		18-1	–	A = Al.; B = Ch.; Bal = Cu.
18-70	5		5	18-11	–	A = Ir.; B = Con.; C = Ch.; D = Al.;
18-72	4		4	18-15	–	2 = Al.; 2 = Ch.; 2 = Std.
18-73	7	5	2	18-9	–	D = Con.; Bal = Cu.
18-74	6	6		18-12	–	A = Al.; D = Ch.; Bal = Cu.
18-75	10			18-1	–	A = Ch.; B = Al.; D = Ir.; E = Cu.; C, F = Con.
18-76	10			18-1	–	2 = Al.; 2 = Ch.; Bal = Std.
18-77	10			18-1	–	A, C, E, G, I = Al.; B, D, F, H, J = Ch.
18-78	10			18-1	–	A, C, E, G = Al.; B, D, F, H = Ch.; Bal = Cu.
18-79	6	6		18-12	–	A = Al.; B = Ch.; D, F, H, J = Con. Bal = Cu.
18-80	4		4	18-15	–	A, F = Ir.; B, E = Con.; C, D = Cu.
18-81	10	10		18-1	–	A, C = Cu.; B, D = Con. E, G = Con.; Bal = Cu.
18-82	10	10		18-1	–	E, G = Con.; F, H = Ir.; Bal = Cu.
18-401	4		4	18-10	–	A, B = Al.; C, D = Ch.
18-402	4		4	18-10	–	A, B = Ir.; C, D = Con.
18-403	4		4	18-15	–	A, C = Al.; B, D = Ch.
18-404	2		2	18-3	–	A = Con.; B = Ir.
18-405	2		2	18-3	–	A = Al.; B = Ch.
18-411	4		4	18-10	–	A = Con.; B, C, D = Cu.
18-422	2		2	18-3	–	A = Cu.; B = Con.
18-423	8	7	1	18-8	–	A, B, C, H = Ch,; D, E, F, G = Al.
18-426	10	10		18-1	–	A, B, C, D, J = Ir.; E, F, G, H, I = Con.
18-434	10	10		18-1	–	All Alumel
18-435	10	10		18-1	–	All Chromel
18-439	10	10		18-1	–	A, B, G, H, I = Al.; C, D, E, F, J = Ch.
18-443	6	6		18-12	–	A, C, E = Ir.; B, D, F = Con.
18-451	6	6		18-12	–	A, C, E = Cu.; B, D, F = Con.
18-452	4		4	18-15	–	A = Con.; B = Cu.; C, D = Std.
20-50	17	17		20-29	–	7 = Al.; 7 = Ch.; 3 = Std.
20-52	4		4	20-4	315	A = Ir.; B = Con.; C = Ch.; D = Al.
20-56	8	8		20-7	45	A, B, G, H = Ir.; C, D, E, F = Con.
20-60	8	8		20-7	45	D = Ch.; E = Al.; Bal = Cu.
20-61	17	17		20-29	45	A, B, M = Cu.; Bal = Con.
20-62	7		7	20-15	80	A, C, E = Al.; B, D, F = Ch.; G = Cu.
20-64	14	14		20-27	–	A = Al.; C = Ch.; Bal = Cu.
20-65	14	14		20-27	–	A, B, C, D, E, F, G = Ir.; H, I, K, L, M, N, = Con.
20-67	9	7	2	20-16	–	H = Al.; I = Ch.; Bal = Cu.
20-68	8	8		20-7	–	A, B, G, H = Con.; C, D, E, F = Cu.
20-69	14	14		20-27	–	A, B, C, D, E, F, G = Cu.; H, I, J, K, L, M, N = Con.

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THERMOCOUPLE CONTACTS & INSERT ARRANGEMENTS BY SHELL SIZE

THERMOCOUPLE INSERT	TOTAL CONTACTS	CONTACT SIZE		BASIC INSERT	ROTATION (Degrees)	CONTACT MATERIAL
		#16	#12			
20-70	17	17		20-29	–	A, C, E, G, J, L, N, R, T = Ir.; B, D, F, H, K, M, P, S = Con.
20-71	17	17		20-29	–	S = Al.; R = Ch.; Bal = Cu.
20-74	17	17		20-29	–	A, C, E, G, J, L, N, R = Ir.; B, D, F, H, K, M, P, S = Con.; T = Cu.
20-76	17	17		20-29	–	8 = Ch.; 8 = Al.; 1 = Cu.
20-80	14	14		20-27	–	A, C, E, G, I, K, M = Cu.; B, D, F, H, J, L, N = Con.
20-81	14	14		20-27	–	A, C, E, G, I, K, M = Ch.; B, D, F, H, J, L, N = Al.
20-82	17	17		20-29	–	A, C, E, G, J, L, N, R = Al.; B, D, F, H, K, M, P, S = Ch.; T = Cu.
20-83	14	14		20-27	–	A, B = Ch.; C, D = Al.; Bal = Std.
20-85	11	11		20-33	–	A, L = Al.; Bal = Ch.
20-87	17	17		20-29	–	A, C, E, G, J, L, N, R = Con.; Bal = Cu.
20-88	14	14		20-27	–	A, C, E = Al.; B, D, F = Ch.; G, H, K, N = Con.; Bal = Cu.
20-89	14	14		20-27	–	B, D, F, H, J, L = Al.; A, C, E, G, I, K = Ch.; M, N = Cu.
20-90	14	14		20-27	–	C, G, I = Ch.; K, L, M = Al.; Bal = Cu.
20-91	14	14		20-27	–	I = Ch.; K = Al.; Bal = Cu.
20-92	8	8		20-7	–	A = Al.; H = Cu.; Bal = Ch.
20-93	14	14		20-27	–	A = Ch.; B = Al.; Bal = Cu.
20-94	7		7	20-15	–	A, C, E = Al.; B, D, F = Ch.; G = Cu.
20-99	11	11		20-33	–	A = Al.; Bal = Ch.
20-408	8	8		20-7	–	A, C, E, G = Ch.; B, D, F, H = Al.
20-409	8	8		20-7	–	A, C, E, G = Cu.; B, D, F, H = Con.
20-410	4		4	20-4	–	A, C = Cu.; B, D = Con.
20-412	14	14		20-27	–	A, B, C, D, E, F, G = Al. H, I, J, K, L, M, N = Ch.
20-413	14	14		20-27	–	A, B, C, D, E, F, G = Ir.; H, I, J, K, L, M, N = Con.
20-641	14	14		20-27	–	A, B, C, D, E, F, G = Al.; H, I, J, K, L, M, N = Ch.; 7 = Al.; 7 = Ch.
22-36	8		8	22-36	–	B, D, F, H = Con.; A, C, E, G = Ir.
22-57	19	19		22-14	45	A, C, E, G, J, L, N, R = Ir.; B, D, F, H, K, M, S, P, = Con.; T, U, V = Cu.
22-60	19	19		22-14	45	U = Al.; N = Ch.; Bal = Cu.
22-62	8		8	22-23	300	A, B, F, G = Al.; C, D, E, H = Ch.
22-68	14	14		22-19	45	A, C, E, G, J, L, M = Ir.; B, D, F, H, K, P, N = Con.
22-69	14	14		22-19	45	A, C, E, G, J, L, M = Cu.; B, D, F, H, K, P, N = Con.
22-71	19	19		22-14	–	V = Al.; U = Ch.; Bal = Cu.
22-72	6	4	2	22-5	–	B = Al.; E = Ch.; Bal = Cu.
22-73	6	4	2	22-5	–	E = Al.; B = Ch.; Bal = Cu.
22-74	8		8	22-23	–	A, C, E, G = Ir.; B, D, F, H = Con.
22-75	8		8	22-23	–	A = Al.; B, D, G, H = Cu.; C = Ch.; E = Ir.; F = Con.
22-76	21		21		–	W = Con.; Bal = Cu.
22-77	14	14		22-19	–	B, D, F, H, J, K, M, P = Cu.; A, E, L = Ir.; C, G, N = Con.
22-78	19	19		22-14	–	A, C, E, G, H, K, M, P, R, T = Con.; Bal = Cu.
22-79	4	4		22-10	–	A, C = Con.; B, D = Cu.

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		#16	#12			
22-81	5	2	3	22-34	–	E = Ir.; D = Con.; Bal = Std.
22-82	19	19		22-14	–	A, C, E, G, J, L, N, R, T = Ir.; B, D, F, H, K, M, P, S, U = Con.; V = Cu.
22-83	8	8		22-18	–	A, C, E, G = Al.; B, D, F, H = Ch.
22-84	19	19		22-14	–	A, C, S = Ch.; B, D, T = Al.; Bal = Cu.
22-89	7		7	22-28	–	A, C, E = Ir.; B, D, F = Con.; G = Cu.
22-404	8		8	22-23	–	A, B, F, G = Ir.; C, D, E, H = Con.
22-405	8		8	22-23	–	A, B, F, G = Cu.; C, D, E, H = Con.
22-406	8		8	22-23	–	A, B, F, G = Al.; C, D, E, H = Ch.
22-407	8		8	22-23	–	A, B, C = Ir.; D, E, F = Con.; G = Ch.; H = Al.
22-412	8		8	22-36	–	A, C, E, G = Al.; B, D, F, H = Ch.
22-414	8		8	22-23	–	All Alumel
22-415	8		8	22-23	–	All Chromel
22-416	8		8	22-36	–	A, C, E, G = Cu.; B, D, F, H = Con.
22-422	8	8		22-18	–	A, B, C, D = Al.; E, F, G, H = Ch.
22-431	14	14		22-19	–	A, C, E, J, P, M = Ch.; B, D, F, H, L, N = Al.
24-56	11	9	2	24-20	45	E = Al.; F = Ch.; Bal = Cu.
24-57	24	24		24-28	45	A, C, J, V, Y, W, K, E, H, U, S, M = Ch.; Bal = Al.
24-62	24	24		24-28	–	A, C, E, G = Ir.; B, D, F, H = Con.; R, T, = Ch.; S, U = Al.; Bal = Cu.
24-63	24	24		24-28	–	A, C, E, G, J, L, K, N, S, U, W, Y = Cu.; B, D, F, H, Q, R, M, P, T, V, X, Z = Con.
24-64	16	16		24-5	–	A, B, C, D, E, F, G, H = Ir.; J, K, L, M, N, P, R, S = Con.
24-68	24	24		24-28	–	D = Con.; Bal = Cu.
24-69	12	12		24-19	–	5 = Con.; 7 = Std.
24-70	24	24		24-28	–	8 = Ch.; 8 = Al.; 8 = Ph. Bz.
24-81	16	14	2	24-7	–	A, C, E, G, I, K, M, N, P = Cu.; B, D, F, H, J, L, O = Con.
24-88	24	24		24-28	–	A, B, C, D, E, F, G, H, J, K, L, M = Con.; Bal = Ir.
24-91	16	16		24-5	–	A, B, C, D, E, F, G, H = Al.; J, K, L, M, N, P, R, S = Ch.
24-401	8		8	24-6	–	A, B, F, G = Ir.; C, D, E, H = Con.
24-402	8		8	24-6	–	A, B, F, G = Al.; C, D, E, H = Ch.
24-406	8		8	24-6	–	A, B, F, G = Cu.; C, D, E, H = Con.
24-409	12	12		24-19	–	A, B, C, D, E, F = Ir.; H, J, K, L, M, N = Con.
24-412	12	12		24-19	–	A, B, C, D, E, F = Cu.; H, J, K, L, M, N = Con.
24-414	24	24		24-28	–	A, B, C, D, E, F, G, H, J, K, L, M = Al.; N, P, Q, R, S, T, U, V, W, X, Y, Z = Ch.
24-415	24	24		24-28	–	A, B, C, D, E, F, G, H, J, K, L, M = Con.; N, P, Q, R, S, T, U, V, W, X, Y, Z = Ir.
24-417	16	16		24-5	–	A, B, C, D, E, F, G, H = Al.; J, K, L, M, N, P, R, S = Ch.
24-418	12	12		24-19	–	A, B, C, D, E, F = Al.; H, J, K, L, M, N = Ch.
24-422	24	24		24-28	–	A, C, E, G, J, L, N, Q, S, V, W, Y = Cu.; B, D, F, H, K, M, R, T, U, X, Z = Con.
24-423	16	16		24-5	–	A, B, C, D, E, F, G, H = Ir.; J, K, L, M, N, P, R, S = Con.
24-430	24	24		24-28	–	All Chromel
24-431	24	24		24-28	–	All Alumel

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		#16	#12			
24-621	24	24		24-28	–	A, C, E, G, J, L, K, N, S, U, W, Y = Ir.; B, D, F, H, M, P, Q, R, T, U, X, Z = Con.
24-622	24	24		24-28	–	A, C, E, G, J, L, K, N, S, U, W, Y = Ch; B, D, F, H, Q, R, M, P, T, V, X, Z = Al.
28-53	22	18	4	28-11	45	J, L = Al.; K. M = Ch.
28-58	14	4	10	28-20	45	A, C, E, G, K, M = Al.; B, D, F, H, L, N = Ch.; J, P = Cu.
28-61	37	37		28-21	45	A, C, J, Z, m, r, n, a, K, F, H, X, k, h, T, M, N, d = Ir.; Bal = Con.
28-63	14	4	10	28-20	315	A, C, E, G, J = Al.; B, D, F, H, P = Ch.; Bal = Cu.
28-64	35	35		28-15	–	A, d = Al.; B, j = Ch.; C, D, E, F, G, N, P, R, S, H, J, K, L, N, W, X, Y, Z = Con.; Bal = Cu.
28-65	26	26		28-12	–	A, C, E, G, J, L, N, R, T, V = Ir.; X, Z = Al.; B, D, F, H, K, M, P, S, U, W = Con.; Y, a = Ch.; b, d = Cu.
28-67	20	20		28-16	–	U = Con.; Bal = Cu.
28-68	35	35		28-15	45	T= Al.; U = Ch.; Bal = Cu.
28-69	22	18	4	28-11	–	G = Al.; R = Ch.; Bal = Cu.
28-70	22	18	4	28-11	–	A = Al.; B = Ch.; Bal = Cu.
28-78	35	35		28-15	–	A, B = Ch.; C, D = Al.; Bal = Std.
28-81	37	37		28-21	–	A, D, S, Z, n, s = Ir.; B, J, K, f, g, r = Con.; G, L, P, b, e, j = Al.; F, H, T, X, h, k = Ch.; Bal = Cu.
28-85	22	18	4	28-11	45	K, M = Al.; J, L = Ch.; Bal = Cu.
28-91	12	6	6	28-9	–	M = Ir.; L = Con..; Bal = Cu.
28-94	26	26		28-12	–	B, D, F, H, K, M, P, S, U, W, Y, a, d = Al.; Bal = Ch.
28-98	37	37		28-21	–	M = Al.; F = Ch.; Bal = Cu.
28-99	26	26		28-12	–	B, D, F, H, K, M, P, S, U, W, Y, a = Con.; Bal = Cu.
28-201	14	4	10	28-20	–	A, C, E, G, J, P = Con.; Bal = Std.
28-413	26	26		28-12	–	A., B, C, D, M, N, P, R, S, T, U, Z, a = Ir.; E, F, G, H, J, K, L, V, W, X, Y, b, d = Con.
28-414	26	26		28-12	–	A, B, C, D, M, N, P, R, S, T, U, Z, a = Cu.; E, F, G, H, J, K, L, V, W, X, Y, b, d = Con.
28-420	20	20		28-16	45	A, B, C, J, K, L, M, S, T, V = Con.; D, E, F, G, H, N, P, Q, R, U = Ir.
28-AC	20	20		28-16	–	A, C, E, G, J, L = Ir.; B, D, F, N, K, M = Con.; Bal = Cu.
28-AD	37	37		28-21	–	A, C, F, H, J, K, M, N, T, X, Z, a, d, h, k, m, n, r = Cu.; Bal = Con.
28-AE	37	37		28-21	–	A, C, E, G, J, L, N, R, T, V, X, a, c, e, g, j, m, p, s = Cu.; Bal = Con.
28-AF	12	12		28-18		A, C, E, G, J, L = Ch.; Bal = Al.
28-AG	26	26		28-12	–	A, C, E, G, J, L, N, R = Al.; B, D, F, H, K, M, P, S = Ch.; Bal = Cu.
28-AK	37	37		28-21	–	A, B, C, D, J, K, L, M, N, P, X, a, b, c, m, p = Ch.; n = Cu.; Bal = Al.
32-50	30	24	6	32-8	–	M = Ch.; N = Al.; Bal = Cu.
32-51	30	24	6	32-8	90	M = Ch.; N = Al.; Bal = Cu.
32-55	30	24	6	32-8	125	M, N = Ch.; O, P = Al.; Bal = Cu.
32-91	54	54		32-64	–	A, C, E, G, J, L, N, P, S, U, W, Y, a, c, e, g, j, m = Ir.; B, D, F, H, K, M, O, R, T, V, X, Z, b, d, f, h, k, n = Con.; Bal = Cu.

continued on next page

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THERMOCOUPLE CONTACTS & INSERT ARRANGEMENTS BY SHELL SIZE

THERMOCOUPLE INSERT	TOTAL CONTACTS	CONTACT SIZE		BASIC INSERT	ROTATION (Degrees)	CONTACT MATERIAL
		#16	#12			
32-408	30	24	6	32-8	–	A, B, C, D, E, F, G, H, I, J, K, L, M, N, O = Ir.; P, R, S, T, U, V, W, X, Y, Z, a, b, c, d, e = Con.
36-53	47	40	7	36-7	45	U, V, W = Al.; X, Y, Z = Ch.; Bal = Cu.
36-56	48	48		36-10	–	A, C, E, G, L, J, H, P, R, T, V, X, Z, b, d, f, h, k, q, n, m, u, w, y = Con.; Bal = Cu.
36-57	47	46	1	36-8	–	W = Al.; f = Ch.; Bal = Cu.
36-58	35	35		36-15	–	H = Al.; G = Ch.; Bal = Cu.
36-61	35	35		36-15	–	A, C, E, J, K, L, M, N, P, R, T, V, f, X, Y, h, j, c = Con.; Bal = Cu.
36-62	48	48		36-10	–	A, C, E = Al.; B, D, F = Ch.; Bal = Cu.
36-82	52	52		36-52	–	v, g = Ir.; p, y, c = Con.; x = Ch.; Bal = Cu.
36-86	48	48		36-10	–	A, C, E, G, J, L, N, P, R, T, V, X = Al.; B, D, F, H, K, M, O, Q, S, U, W, Y = Ch.; b, d, f, h, k, n, q, s, u, w, y = Con.; a, c, e, g, j, m, p, r, t, v, x, z = Cu.
36-88	52	52		88-52	–	A, C, E, H, K, M, P, S, U, W, Y, a, c, f, h, j, m, p, r, t, v, x, z, AB, AD, AF = Cu.; Bal = Con.
36-101	48	48		36-10	–	24 = Al.; 24 = Ch.
36-102	48	48		36-10	–	24 = Ch.; 24 = Con.
36-411	22	18	4	36-1	–	A, B, E, G, I, K, M, O, R, S, U = Ir.; C, D, F, H, P, L, N, P, T, V, W = Con.
36-412	22	18	4	36-1	–	A, B, E, G, I, K, M, O, R, S, U = Ch.; C, D, F, H, J, L, N, P, T, V, W = Al.
36-414	48	48		36-10	–	A, B, C, D, E, F, G, H, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y = Ir.; Z, a, b, c, d, e, f, g, h, j, k, m, n, p, q, r, s, t, u, v, w, x, y, z = Con.
36-416	48	48		36-10	–	A, B, C, D, E, F, G, H, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y = Cu.; Z, a, b, c, d, e, f, g, h, j, k, m, n, p, q, r, s, t, u, v, w, x, y, z = Con.
36-417	48	48		36-10	–	A, B, C, D, E, F, G, H, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y = Ch.; Z, a, b, c, d, e, f, g, h, j, k, m, n, p, q, r, s, t, u, v, w, x, y, z = Con.
40-59	85	85		40-56	–	A, C, E, H, K, M, P, S, U, W, Y, a, c, f, h, j, m, p, r, t, v, x, z, AB, AD, AF, AJ, AL, AN, AP, AS, AU, AW, AY, BA, BA, BE, BH, BK, BM, BP, BS, BU = Ir.; Bal. = Con.
40-77	60	60		40-53	–	B = Ch.; C = Con.; 55, 60 = Ir.; 57, 58, 59 = Con.; 56 = Ch.; Bal = Cu.
40-78	60	60		40-53	–	50, 51 = Ir.; 27, 28, 29, 31, 32, 34, 36, 37 = Con.; 25, 39, 40, 41 = Al.; 43, 44, 45, 46, 47, 48, 49, 52, 53, 54 = Ch.; Bal = Cu.
40-88	60	60		40-53	–	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59 = Con.; Bal = Cu.
40-AA	85	85		40-56	–	A,
44-57	104	104		44-52	–	A, C, E, G, J, L, etc. = Cu.; B, D, F, H, K, M, etc. = Con.
44-59	104	104		44-52	–	34 = Con.; 70 = Cu.
44-60	104	104		44-52	–	A, C, E, etc. = Ch. (52); B, D, F, etc. = Con. (52)
44-62	104	104		44-52	–	BY, BZ, CA, CB, CC, CD, CE, CR = Al.; CH, CJ, CK, CL, CM, CN, CP, CS = Ch.; Bal = Cu.

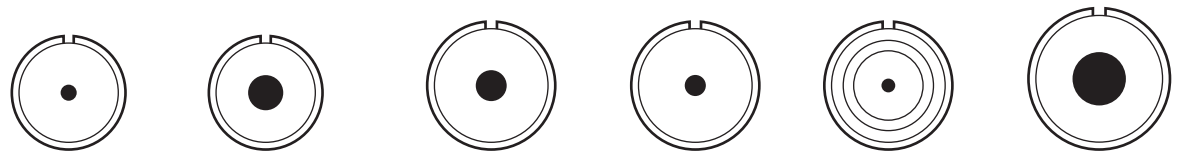
MIL-DTL-5015

INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

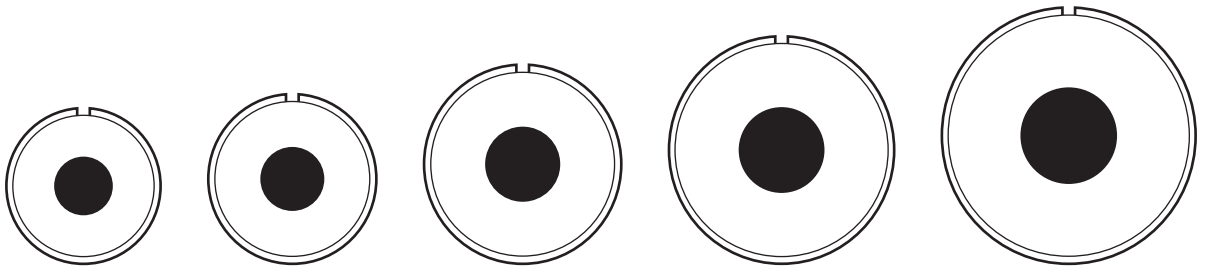
FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

1 CONTACT

	8S-1†	10S-2†	12S-4†	12-5†	14-3†	14S-4‡	16-2†
CONTACTS	1-#16	1-#16	1-#16	1-#12	1-#8	1-#16	1-#12
RATING	A	A	D	D	A	D For new MIL equip. design, use 12S-4	E

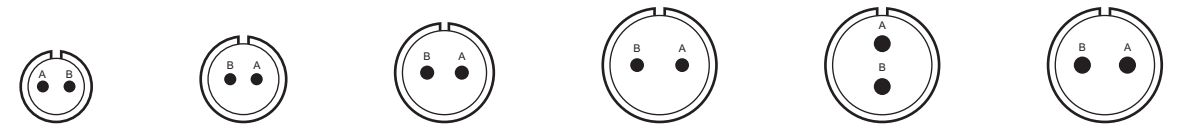


	16S-3†	16-12†	18-6†	18-7†	18-16	20-2†
CONTACTS	1-#16	1-#4	1-#4	1-#8	1-#12	1-#0
RATING	B	A	D	B	HIGH VOLTAGE	D



	22-7†	24-A1	28B1	32A1	36-01 36A1
CONTACTS	1-#0	1-#0	1-#0	1-4/0	1-#4/0
RATING	E	B	E	A	A

2 CONTACTS



	10SL-4‡	12S-3†	14S-9‡	16S-4†	16-11† 16A11★	16-13†
CONTACTS	2-#16	2-#16	2-#16	2-#16	2-#12	2-#12 Thermocouple
RATING	A	A	A For new MIL equip. design, use 12S-3	D	A	A

† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

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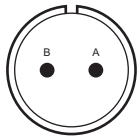
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

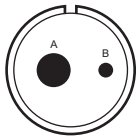
FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

2 CONTACTS (CONT.)



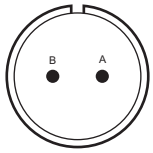
18-3‡

CONTACTS	2-#12
RATING	**D** For new MIL equip. design, use 18-5



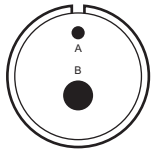
18-14†

CONTACTS	1-#4 (A) 1-#16 (B)
RATING	**A**



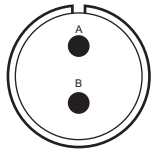
20-5‡

CONTACTS	2-#16
RATING	**E**



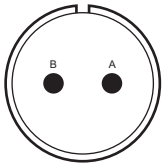
20-12‡

CONTACTS	1-#16 (A) 1-#4 (B)
RATING	**A** For new MIL equip. design, use 18-14



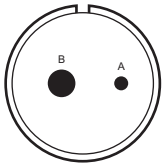
20-23‡

CONTACTS	2-#8
RATING	**A** For new MIL equip. design, use 20-22



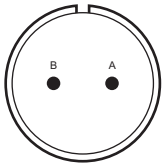
22-1‡

CONTACTS	2-#8
RATING	**D** For new MIL equip. design, use 22-2



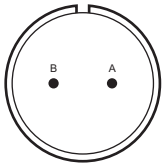
22-3‡

CONTACTS	1-#16 (A) 1-#4 (B)
RATING	**D**



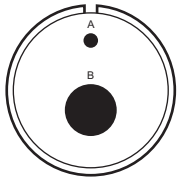
22-8‡

CONTACTS	2-#12
RATING	**E** For new MIL equip. design, use 22-9



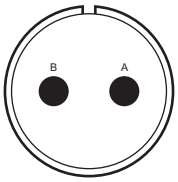
22-11†

CONTACTS	2-#16
RATING	**B**



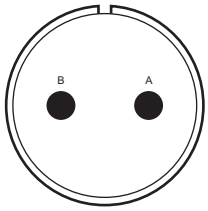
24-1‡

CONTACTS	1-#12 (A) 1-#0 (B)
RATING	**D**



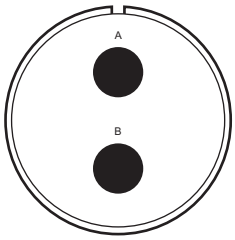
24-9‡

CONTACTS	2-#4
RATING	**A** For new MIL equip. design, use 24-12



28-7‡

CONTACTS	2-#4
RATING	**D** For new MIL equip. design, use 28-5



32-5‡

CONTACTS	2-#0
RATING	**D** For new MIL equip. design, use 32-1

† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

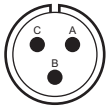
MIL-DTL-5015

INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

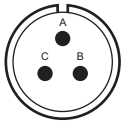
FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

3 CONTACTS

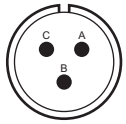
10SL-3†



14S-1‡
14S-7†

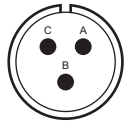


16S-5‡

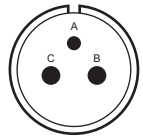


16S-6‡

16-7†

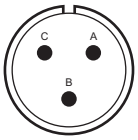


16-10†

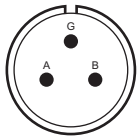


18-5†

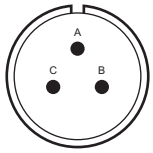
CONTACTS	3-#16	3-#16	3-#16	3-#16	2-#16 (A, B) 1-#8 (C)	3-#12	1-#16 (A) 2-#12 (B, C)
RATING	**A**	**A**	**A** For new MIL equip. design, use 14S-7	**A** For new MIL equip. design, use 14S-7	**A**	**A**	**D**



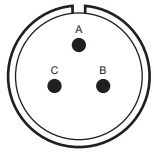
18-21‡



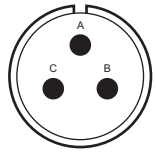
18-22‡



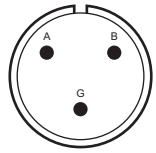
20-3‡



20-6‡

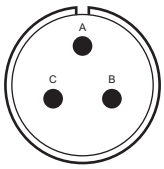


20-19‡

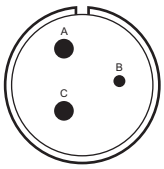


20-26‡

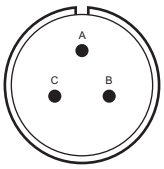
CONTACTS	3-#12	3-#16	3-#12	3-#16	3-#8	3-#12
RATING	**A**	**D** For new MIL equip. design, use 18-4	**D** For new MIL equip. design, use 20-4	**D** For new MIL equip. design, use 18-4	**A** For new MIL equip. design, use 20-22	**A**



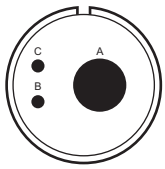
22-2†



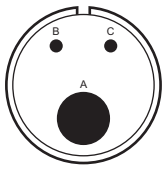
22-6‡



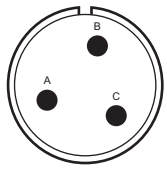
22-9†



22-21†

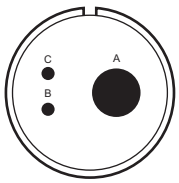


22-25‡

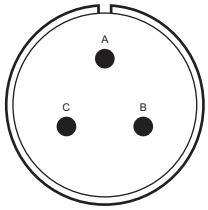


22-35‡

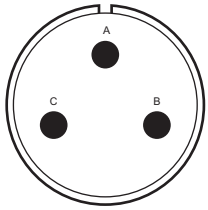
CONTACTS	3-#8	1-#16 (B) 2-#8 (A, C)	3-#12	2-#16 (B, C) 1-#0 (A)	2-#16 (B, C) 1-#0 (A)	3-#8
RATING	**D**	**D** For new MIL equip. design, use 22-12	**E**	**A**	**A**	**D**



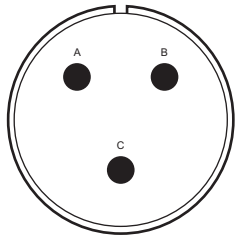
24-14‡



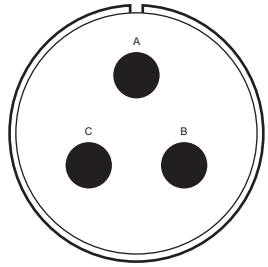
28-3†



28-6‡



32A3



36-4‡

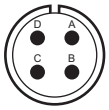
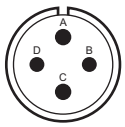
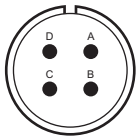
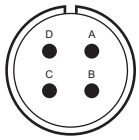
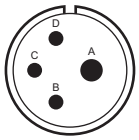
CONTACTS	2-#12 (B, C) 1-#0 (A)	3-#8	3-#4	3-#4	3-#0
RATING	**A**	**E**	**D** For new MIL equip. design, use 28-22	**E**	**D** (A); **A** (balance) For new MIL equip. design, use 36-3

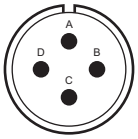
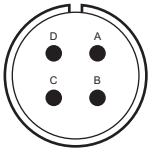
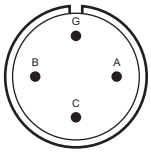
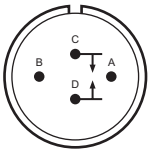
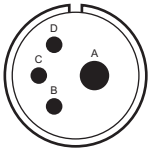
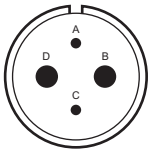
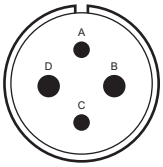
† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

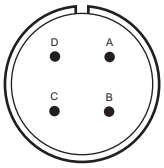
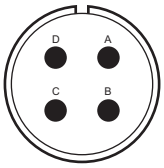
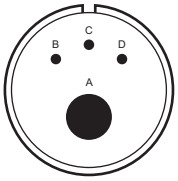
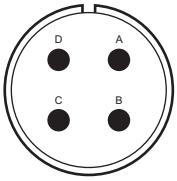
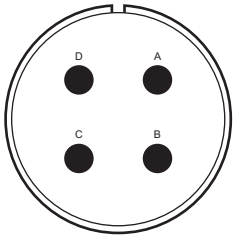
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

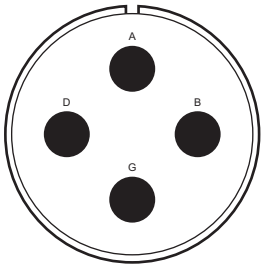
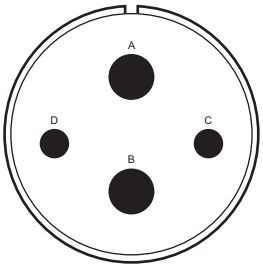
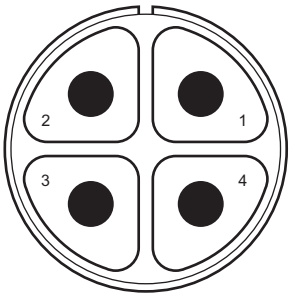
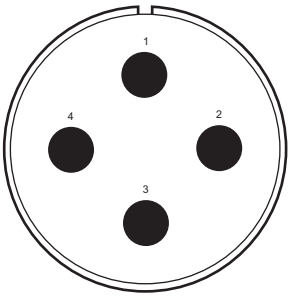
FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

4 CONTACTS

	12SA10 12S-2002-10	14S-2†	16-9†	18-4†	18-10‡	18-13†
						
CONTACTS	4-#16	4-#16	2-#16 (B, D) 2-#12 (A, C)	4-#16	4-#12	3-#12 (B, C, D) 1-#8 (A)
RATING	**A**	**INST.**	**A**	**D**	**A** For new MIL equip. design, use 18-11	**A**

	18-15†	20-4†	20-10†	20-13†	20-20‡	20-24‡	22-4‡
							
CONTACTS	4-#12 Thermocouple	4-#12	4-#16	4-#16	3-#12 (B, C, D) 1-#4 (A)	2-#16 (A, C) 2-#8 (B, D)	2-#12 (A, C) 2-#8 (B, D)
RATING	**A**	**D**	**A**	**A**	**A**	**A**	**A** For new MIL equip. design, use 20-14

	22-10†	22-22† 22B22★	24-4†	24-22†	32-17†
					
CONTACTS	4-#16	4-#8	3-#16 (B, C, D) 1-#0 (A)	4-#8	4-#4
RATING	**E**	**A**	**A**	**D**	**D**

	36-5†	36-51	40B4	40-57
				
CONTACTS	4-#0	2-#4 (C, D) 2-#0 (A, B)	4-#0	4-#0
RATING	**A**	**D**	**E**	**E**

† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

10A

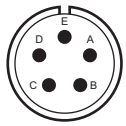
MIL-DTL-5015

INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

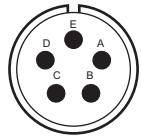
FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

5 CONTACTS

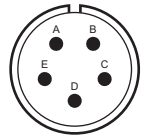
14S-5†



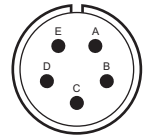
16S-8‡



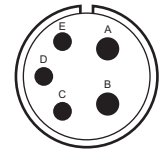
18-11†



18-20‡

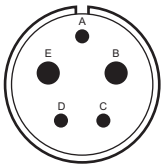


18-29‡

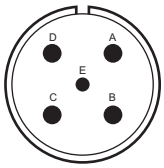


20-14†

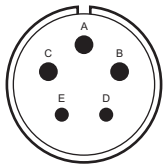
	14S-5†	16S-8‡	18-11†	18-20‡	18-29‡	20-14†
CONTACTS	5-#16	5-#16	5-#12	5-#16	5-#16	3-#12 (C, D, E) 2-#8 (A, B)
RATING	**INST.**	**A**	**A**	**A** For new MIL equip. design, use 16S-8	**A**	**A**



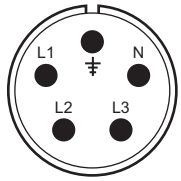
22-12†



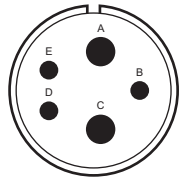
22-13‡



22-34‡

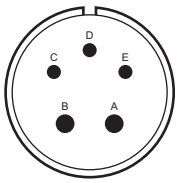


24-G5

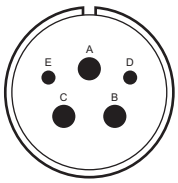


24-12†

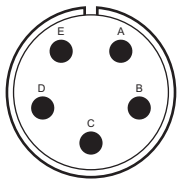
	22-12†	22-13‡	22-34‡	24-G5	24-12†
CONTACTS	3-#16 (A, C, D) 2-#8 (B, E)	1-#16 (E) 4-#12 (A-D)	2-#16 (D, E) 3-#12 (A, B, C)	5-#8 Top pin is grounded	3-#12 (B, D, E) 2-#4 (A, C)
RATING	**D**	**A** (A, D); **D** (E) For new MIL equip. design, use 22-15	**D**	**A**	**A**



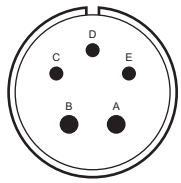
24-17‡



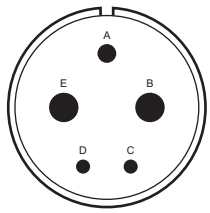
24-23‡



24-79

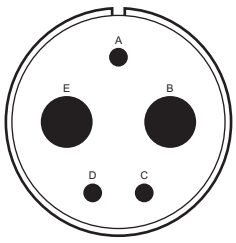


24-620

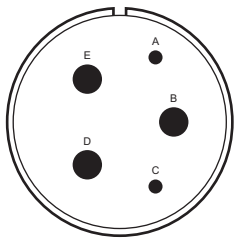


28-5†

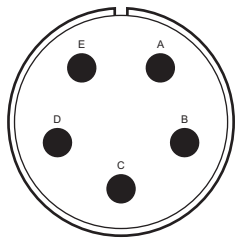
	24-17‡	24-23‡	24-79	24-620	28-5†
CONTACTS	3-#16 (C, D, E) 2-#12 (A, B)	2-#16 (D, E) 3-#8 (A, B, C)	5-#8	3-#16 (C, D, E) 2-#12 (A, B)	2-#16 (C, D) 1-#12 (A) 2-#4 (B, E)
RATING	**D** For new MIL equip. design, use 22-5	**D**	**A**		**D**



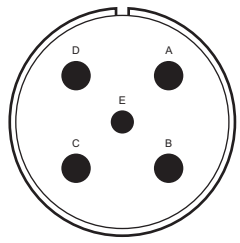
32-1†



32-2†



32-63†



32-79

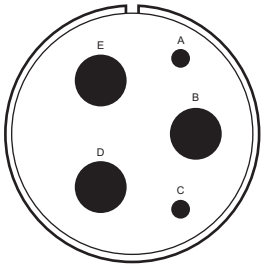
	32-1†	32-2†	32-63†	32-79
CONTACTS	3-#12 (A, C, D) 2-#1/0 (B, E)	2-#16 (A, C) 3-#4 (B, D, E)	5-#4	1-#8 (E) 4-#4 (A-D)
RATING	**E** (A); **D** (balance)	**E**	**D**	**D**

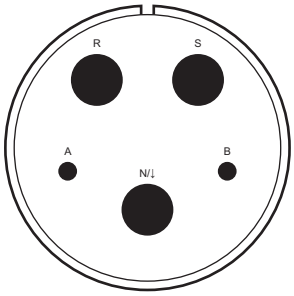
† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

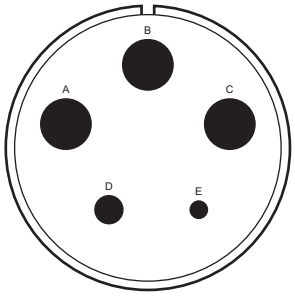
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

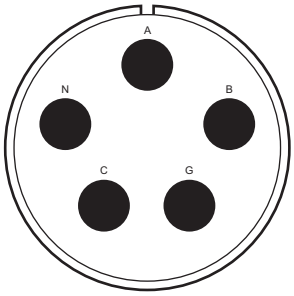
FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

5 CONTACTS (CONT.)



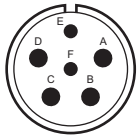


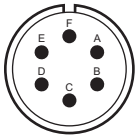


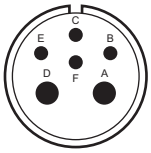


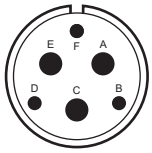
	36-2‡	40A3	40A5	40B5
CONTACTS	2-#12 (A, C) 3-#0 (B, D, E)	2-#12 (A,D) 3-#0 (N,R,S)	1-#12 (E) 1-#4 (D) 3-#0 (A, B, C)	5-#0
RATING	**D** For new MIL equip. design, use 36-3	**D**	**D**	**D**

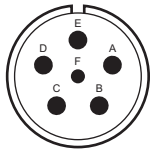
6 CONTACTS



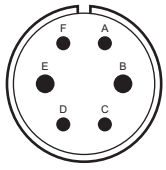


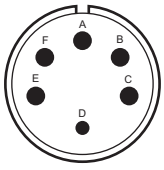


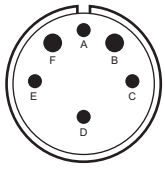


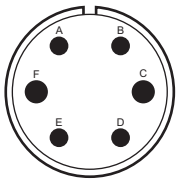


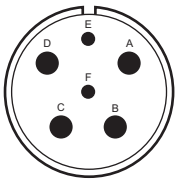
	14S-6†	18A6 18-06	18-12†	20-8†	20-22†	20-17†
CONTACTS	6-#16	2-#16 (E, F) 4-#12 (A-D)	6-#16	4-#16 (B, C, E, F) 2-#8 (A, D)	3-#16 (B, D, F) 3-#8 (A, C, E)	1-#16 (F) 5-#12 (A-E)
RATING	**INST.**	**A**	**A** For new MIL equip. design, use 16S-1	**INST.**	**A**	**A**











	22-5†	22-15†	22-24†	24A-6	24-06
CONTACTS	4-#16 (A,C,D,F) 2-#12 (B,E)	1-#16 (D) 5-#12 (A, B, C, E, F)	4-#16 (A, C, D, E) 2-#12 (B, F)	2-#8 (F, C) 4-#12 (A, B, E, D)	2-#16 (E, F) 4-#8 (A, B, C, D)
RATING	**A** (A, B, C, E, F)	**A** (A, B, C, E, F) **E** (D)	**A** (A, B, F); **D** (C, D, E) For new MIL equip. design, use 22-5	**D**	**D**

† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

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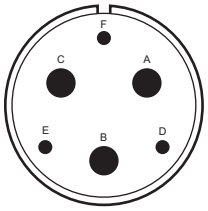
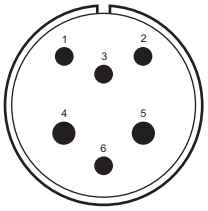
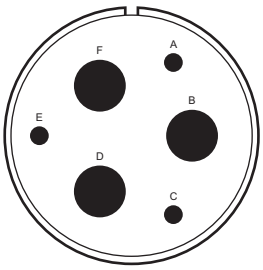
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

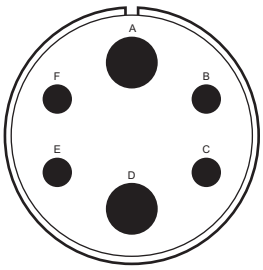
FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

6 CONTACTS (CONT.)

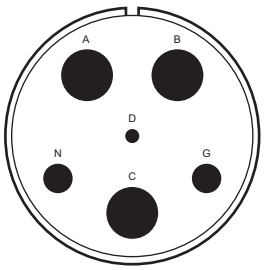


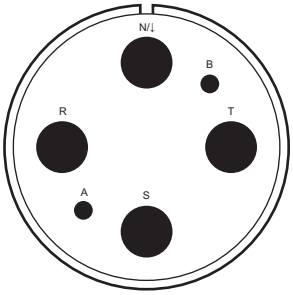


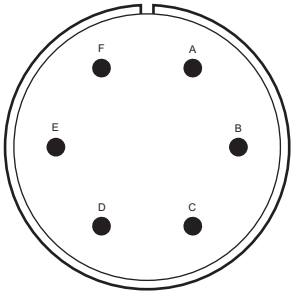


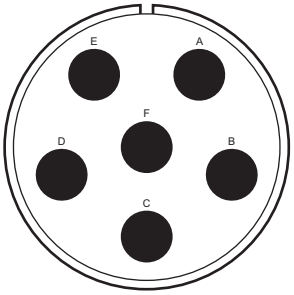


	28-22†	28-82‡	36-3†	36-6†
CONTACTS	3-#16 (D, E, F) 3-#4 (A, B, C)	4-#12 (1, 2, 3, 6) 2-#8 (4, 5)	3-#12 (A, C, E) 3-#0 (B, D, F)	4-#4 (B, C, E, F) 2-#0 (A, D)
RATING	D	D	D	A



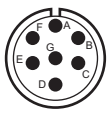


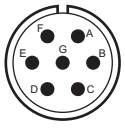


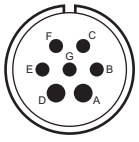


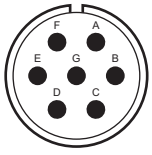
	36A51	40A4	40-A6	40-60
CONTACTS	1-#16 (D) 2-#4 (G, N) 3-#0 (A, B, C)	2-#12 (A, B) 4-#0 (N, R, S, T)	6-#12	6-#0
RATING	D	A	B	A

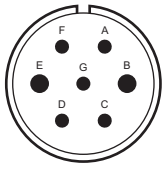
7 CONTACTS

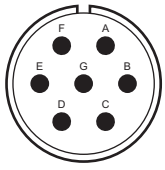












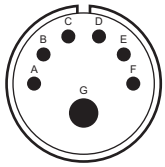
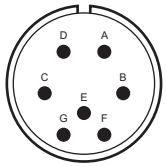
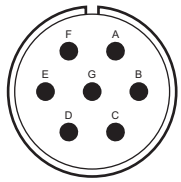
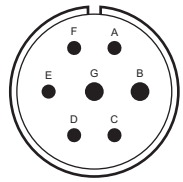
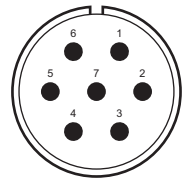
	14SA7 14S-07	16S-1†	18-9‡	20-15‡	22-26‡	22-28‡
CONTACTS	7-#16	7-#16	5-#16 (B, C, E, F, G) 2-#12 (A, D)	7-#12	5-#16 (A, C, D, F, G) 2-#12 (B, E)	7-#12
RATING	A	A	INST.	A		A For new MIL equip. design, use 22-33

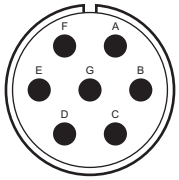
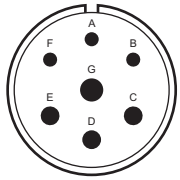
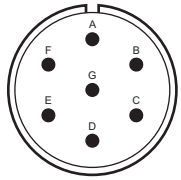
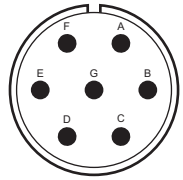
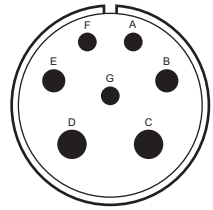
† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

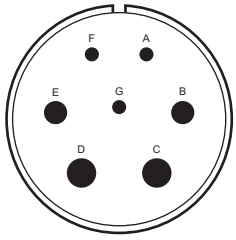
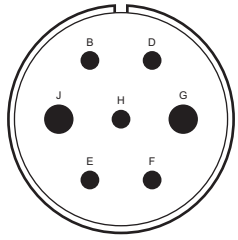
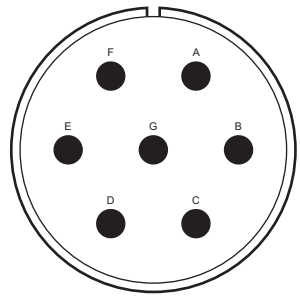
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

7 CONTACTS (CONT.)

	22-29‡	22-33‡	24-2†	24-3‡	24A7 24-07
					
CONTACTS	6-#16 (A, B, C, D, E, F) 1-#4 (G)	7-#16	7-#12	5-#16 (A, C-F) 2-#12 (B, G)	7-#12
RATING	**A**	**A** (E-G); **D** (A-D)	**D**	**D** For new MIL equip. design, use 24-20	**D**

	24-10†	24-16†	24-27†	24-66	28-10†
					
CONTACTS	7-#8	3-#16 (A, B, F) 3-#12 (C, D, E) 1-#8 (G)	7-#16	7-#12	3-#12 (A, F, G) 2-#8 (B, E) 2-#4 (C, D)
RATING	**A**	**A** (C-E); **D** (A, B, F, G)	**E**	**A**	**D** (G); **A** (balance)

	32-10‡	32-14	40-87
			
CONTACTS	3-#16 (A, F, G) 2-#8 (B, E) 2-#4 (C, D)	5-#12 (B, D, E, F, H) 2-#4 (G, J)	7-#4
RATING	**A** (C, D); **B** (G) **D** (B, E); **E** (A, F)	**D**	**D**

† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

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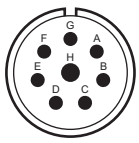
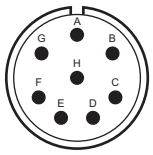
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

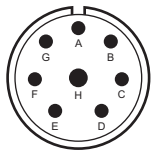
8 CONTACTS



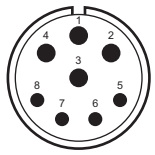
18-8‡



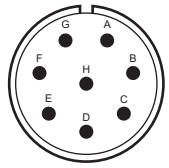
20-7‡



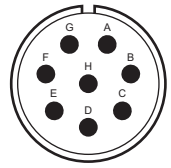
20-9‡



20-B8

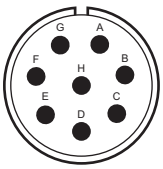


22-18‡

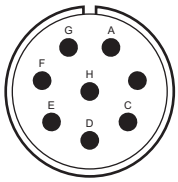


22-23‡

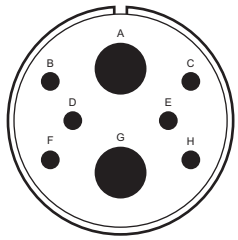
	18-8‡	20-7‡	20-9‡	20-B8	22-18‡	22-23‡
CONTACTS	7-#16 (A-G) 1-#12 (H)	8-#16	7-#16 (A-G) 1-#12 (H)	4-#16 (5-8) 4-#12 (1-4)	8-#16	8-#12
RATING	**A**	**A** (C-F) **D** (A, B, G, H)	**A** (A-G); **D** (H)	**A**	**A** (C-E) **D** (balance)	**D** (H); **A** (balance)



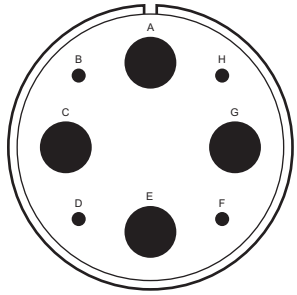
22-36‡



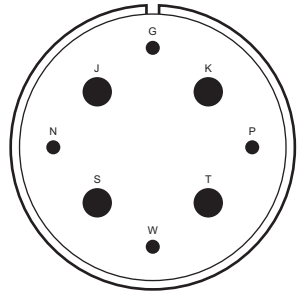
24-6†



32-15†



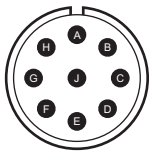
40A8



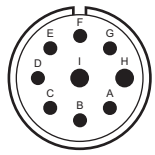
40A10

	22-36‡	24-6†	32-15†	40A8	40A10
CONTACTS	8-#12 Thermocouple	8-#12	6-#12 (B, F, H) 2-#0 (A, G)	4-#16 (B,D,F,H) 4-#0 (A,C,E,G)	4-#16 (G, N, P, W) 4-#4 (J, K, S, T)
RATING	**A** (A-G); **D** (H)	**D** (A, G, H) **A** (balance)	**D**	**D**	**D**

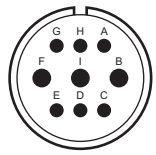
9 CONTACTS



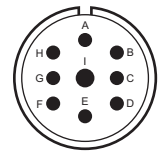
20A9



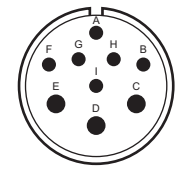
20-16†



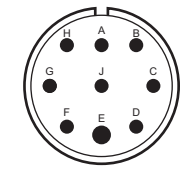
20-18†



20-21†



22-16†



22-17†

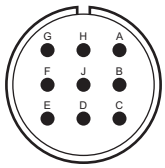
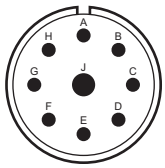
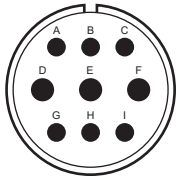
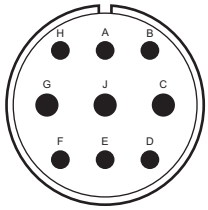
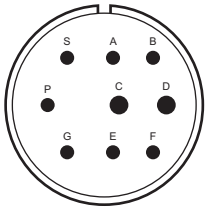
	20A9	20-16†	20-18†	20-21†	22-16†	22-17†
CONTACTS	9-#12	7-#16 (A-G) 2-#12 (H, I)	6-#16 (A, C, D, E, G, H) 3-#12 (B, F, I)	8-#16 (A-H) 1-#12 (I)	6-#16 (A, B, F-J) 3-#12 (C, D, E)	8-#16 (A-D, F-J) 1-#12 (E)
RATING	**D** (J) **A** (balance)	**A**	**A**	**A**	**A** For new MIL equip. design, use 20-18	**D** (A); **A** (balance)

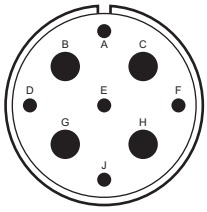
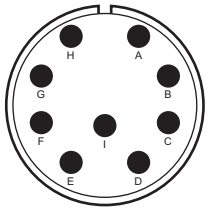
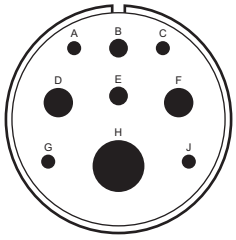
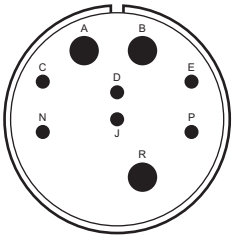
† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

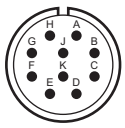
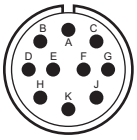
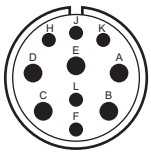
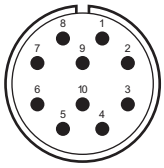
FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

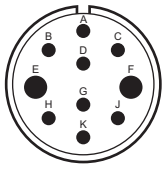
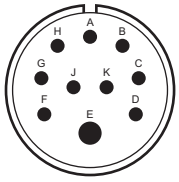
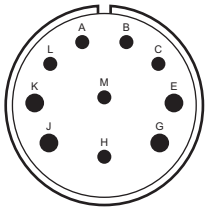
9 CONTACTS (CONT.)

	22-20‡	22-27†	24-11†	28-1†	28-4†
					
CONTACTS	9-#16	8-#16 (A-H) 1-#8 (J)	6-#12 (A-C, G-I) 3-#8 (D, E, F)	6-#12 (A, B, D, E, F, H) 3-#8 (C, J, G)	7-#16 (A, B, E, F, G, P, S) 2-#12 (C, D)
RATING	**A** For new MIL equip. design, use 20-33	**D** (J); **A** (balance)	**A**	**D** (A, E, J) **A** (balance)	**E** (G, P, S) **D** (balance)

	28A9 28-09	28-84	32-3†	32-689
				
CONTACTS	5-#16 (A,D,E,F,J) 4-#4 (B,C,G,H)	9-#8	4-#16 (A, C, G, J) 2#12 (B, E) 2-#4 (D, F), 1-#0 (H)	6-#16 (C,D,E,J,N,P) 3-#4 (A,B,R)
RATING	**A**	**A**	**D**	**A**

10 CONTACTS

	16A10	18-1†	18-19‡	20-58	22A10
					
CONTACTS	10-#18	10-#16	10-#16	5-#16 (F-L) 5-#12 (A-E)	10-#16
RATING	**A**	**A** (B, C, F, G) **INST.** (balance)	**A** For new MIL equip. design, use 18-1	**A**	**A**

	22-82	24-21†	28-19 †
			
CONTACTS	8-#16 (A-D,G-K) 2-#8 (E,F)	9-#16 (A-D, F-K) 1-#8 (E)	6-#16 (A, B, C, H, L, M) 4-#12 (E, G, J, K)
RATING	**A**	**D**	**A** (C, E, G, J, K, L) **B** (H, M); **D** (A, B)

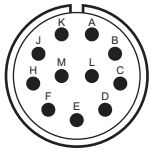
† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

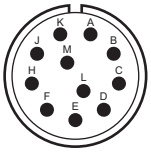
MIL-DTL-5015

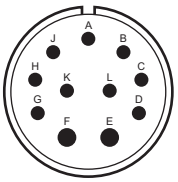
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

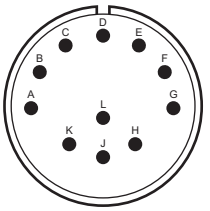
FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

11 CONTACTS

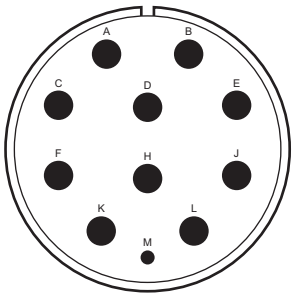


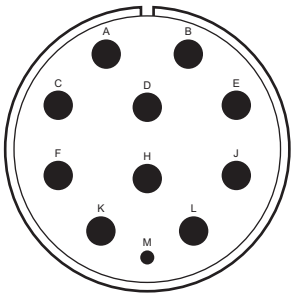




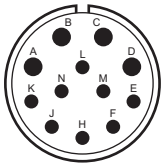


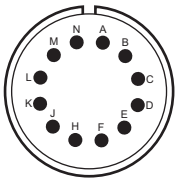
	20-31‡	20-33†	24-20†	28-14‡
CONTACTS	11-#16	11-#16	9-#16 (A-D, G-L) 2-#12 (E, F)	11-#16
RATING	**A**	**A**	**D** For new MIL equip. design, use 28-2	**D**



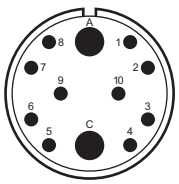


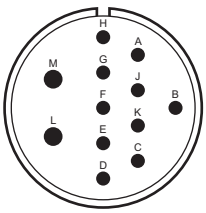
12 CONTACTS

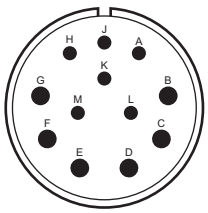


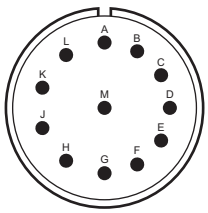


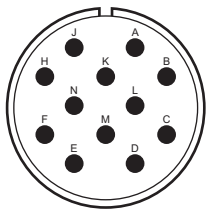
	40-67	40-80	22-63	24-19‡
CONTACTS	1-#16 (M) 10-#4 (A-L)	1-#16 (M) 10-#4 (A-L)	8-#16 (E-L) 4-#12 (A-D)	12-#16
RATING	**A**	**A**	**A**	**A**











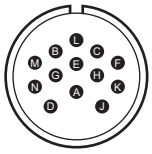
	24S12	28-8†	28-9†	28-18†	28-51
CONTACTS	10-#16 (1-10) 2-#4 (A,C)	10-#16 (A-K) 2-#12 (L, M)	6-#16 (A, H, M) 6-#12 (B-G)	12-#16	12-#12
RATING	**A**	**D** (B); **E** (L, M) **A** (balance)	**D**	**A** (A, B); **C** (M) **D** (G, L); **INST.** (C-F)	**A**

† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

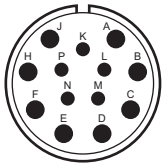
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

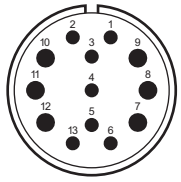
13 CONTACTS



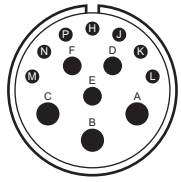
20-11†



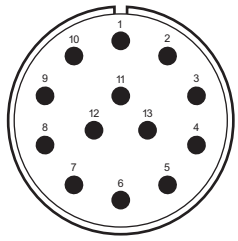
22-70



24A13
24-013



24-58

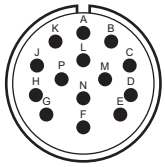


32A13
32-013

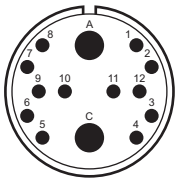
	20-11†	22-70	24A13 24-013	24-58	32A13 32-013
CONTACTS	13-#16	5-#16 (K-P) 8-#12 (A-J)	7-#16 (1-6, 13) 6-#12 (7-12)	7-#16 (H-P) 3-#12 (D, E, F); 3-#8 (A, B, C)	13-#12
RATING	**INST.**		**A**		**D**

14 CONTACTS

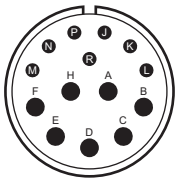
20-27†



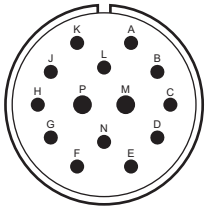
22-19†



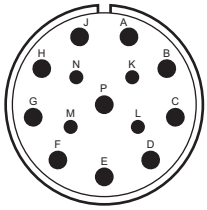
24S14



24-59

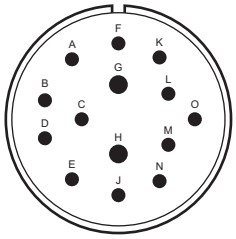


28-2†

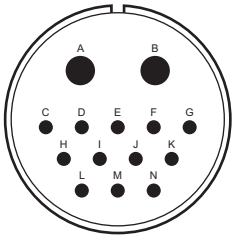


28-20†

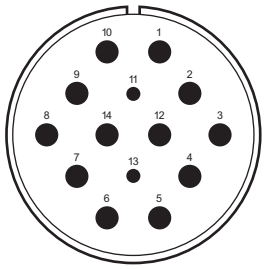
	20-27†	22-19†	24S14	24-59	28-2†	28-20†
CONTACTS	14-#16	14-#16	12-#16 (1-12) 2-#4 (A,C)	7-#16 (J-R) 7-#12 (A-H)	12-#16 (A, L, N) 2-#12 (M, P)	4-#16 (K-N) 10-#12 (A-J,P)
RATING	**A**	**A**	**A**	**A**	**D**	**A**



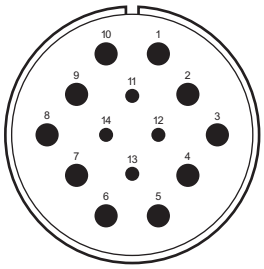
32-4‡



32-9‡



36B78



36D78

	32-4‡	32-9‡	36B78	36D78
CONTACTS	12-#16 (A-F, J-O) 2-#12 (G, H)	12-#16 (C-N) 2-#4 (A, B)	2-#16 (11, 13) 12-#8 (1-10,12,14,)	4-#16 (11-14) 10-#8 (1-10)
RATING	**A** (F, J, K, N,) **D** (balance)	**D** For new MIL equip. design, use 28-2	**D**	**D**

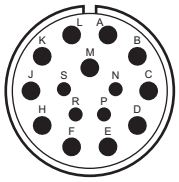
† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

MIL-DTL-5015

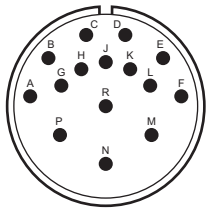
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

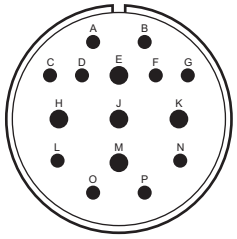
15 CONTACTS



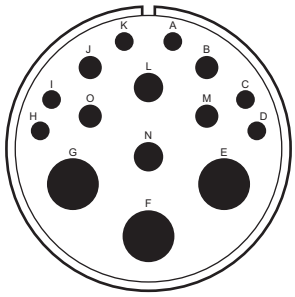
24-65



28-17†

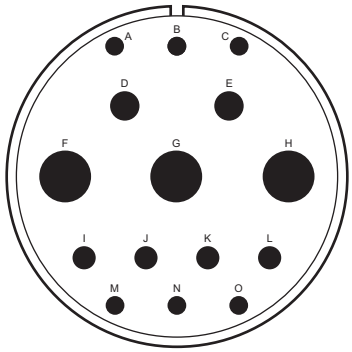


32-12‡



40-5†

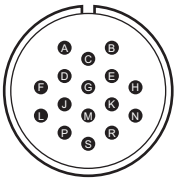
	24-65	28-17†	32-12‡	40-5†
CONTACTS	4-#16 (N-S) 11-#12 (A-M)	15-#16	10-#16 (A-D, F, G, L, N-P) 5-#12 (E, H, J, K, M)	6-#12 (C, D, H, I, K) 4-#8 (B, J, M, O) 2-#4(L, N), 3-#0 (E, F, G)
RATING	**A**	**A** (A-L); **B** (R) **D** (M-P)	**A** (C-G); **D** (balance) For new MIL equip. design, use 32-13	**D**



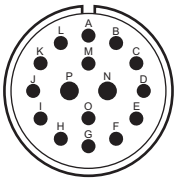
48-1†

	48-1†
CONTACTS	6-#12 (A-C, M-O) 4-#8 (I-L), 2-#4 (D,E) 3-#0 (F-H)
RATING	**E** (B, N); **D** (balance)

16 CONTACTS

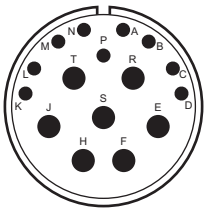


24-5‡

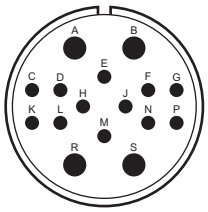


24-7†

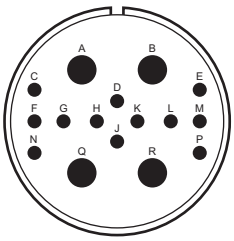
	24-5‡	24-7†
CONTACTS	16-#16	14-#16 (A-M,O) 2-#12 (N,P)
RATING	**A** For new MIL equip. design, use 22-14	**A**



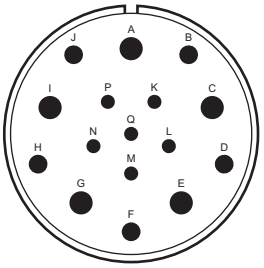
28-79



28-124



32-68



36-14 ‡

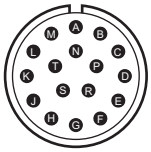
	28-79	28-124	32-68	36-14 ‡
CONTACTS	9-#16 (A-D, K-P) 7-#8 (J, R, S, T)	12-#16 (C-P) 4-#8, (A,B,R,S)	12-#16 (C-P) 4-#4, (A,B,Q,R)	6-#16 (K-Q) 5-#12 (B, D, F, H, J) 5-#8 (A, C, E, G, I)
RATING	**A**	**A**	**A**	**D**

† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

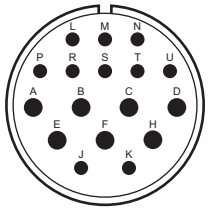
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

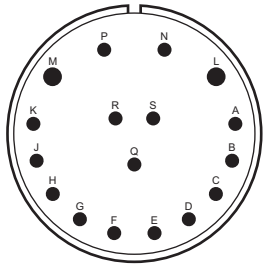
17 CONTACTS



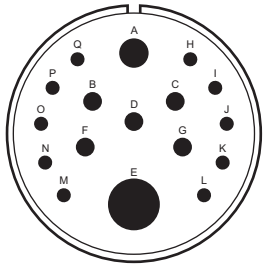
20-29‡



28-59



36-13‡

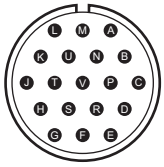


36-19‡

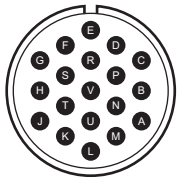
	20-29‡	28-59	36-13‡	36-19‡
CONTACTS	17-#16	10-#16 (J-U) 7-#12 (A-H)	15-#16 (A-K, N-S) 2-#12 (L, M)	10-#16 (H-Q) 5-#12 (B-D,F, G) 1-#4 (A), 1-#0 (E)
RATING	**A**	**A**	**E** (N-Q); **A** (balance)	**D**

19 CONTACTS

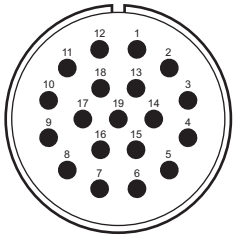
20A48



22-14‡



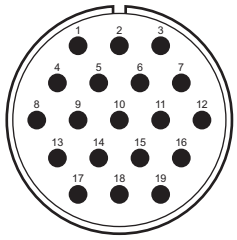
24-67



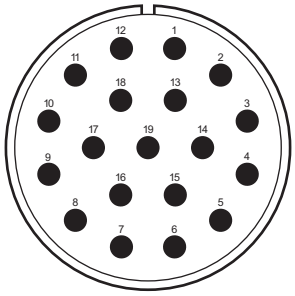
32S19

	20A48	22-14‡	24-67	32S19
CONTACTS	19-#16	19-#16	19-#12	19-#12
RATING	**I**	**A**	**INST.**	**A**

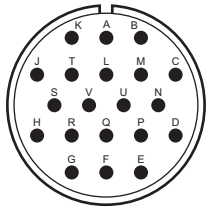
20 CONTACTS



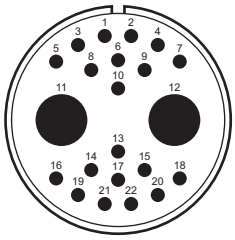
32-76



40B19



28-16‡



32-76

	32-76	40B19	28-16‡	32-76
CONTACTS	19-#12	19-#8	20-#16	20-#16 2-#1/0
RATING	**A**	**A**	**A** For new MIL equip. design, use 28-12	**A**

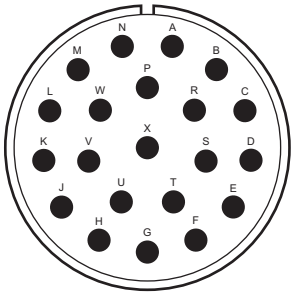
† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

MIL-DTL-5015

INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

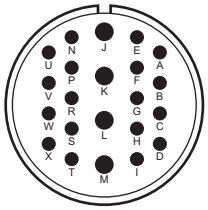
21 CONTACTS



40-68

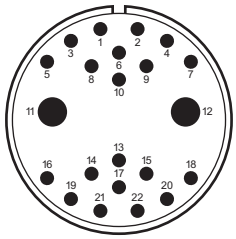
CONTACTS	21-#8
RATING	**A**

22 CONTACTS



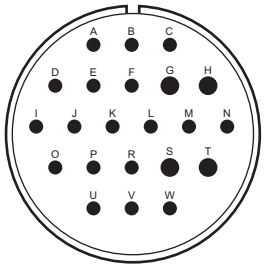
28-11†

CONTACTS	18-#16 (A-I, N-X) 4-#12 (J-M)
RATING	**A**



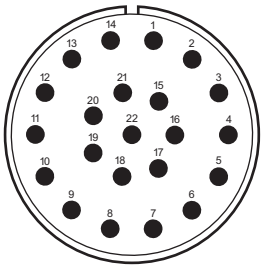
32B22

CONTACTS	20-#16 (1-10,13-22) 2-#4 (11,12)
RATING	**A**



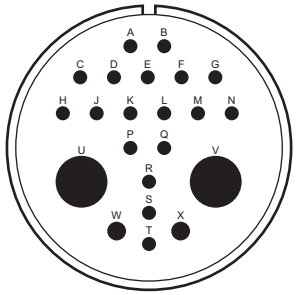
36-1‡

CONTACTS	18-#16 (A-F, I-R, U-W) 4-#12 (G, H, S, T)
RATING	**D** For new MIL equip. design, use 32-13



36-22
36A22

CONTACTS	22-#12
RATING	**D**



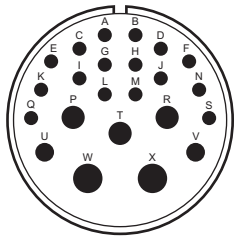
40-7†

CONTACTS	18-#16 (A-T), 2-#12 (W, X) 2-#0 (U, V)
RATING	**A** (P, Q, U-X); **D** (balance)

23 CONTACTS

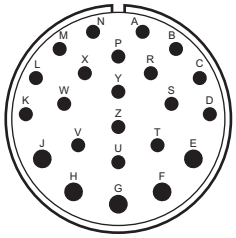
24-80†

CONTACTS	23-#16
RATING	**INST.**



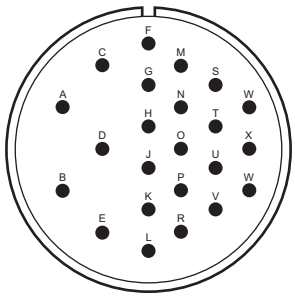
32-6†

CONTACTS	16-#16 (A-O, S) 2-#12 (U,V) 3-#8 (P-T), 2-#4 (W, X)
RATING	**A**



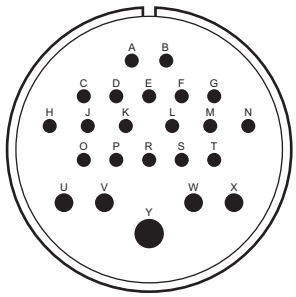
32-13†

CONTACTS	18-#16 (A-D, K-Z) 5-#12 (E-J)
RATING	**D**



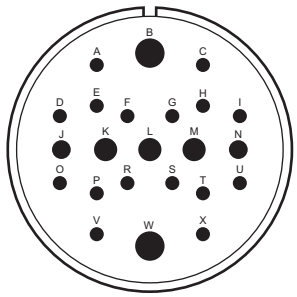
40-2†

CONTACTS	23-#16
RATING	**B** (A-E); **D** (balance)



40-3†

CONTACTS	18-#16 (A-T) 4-#12 (U-X); 1-#4 (Y)
RATING	**D**



40-4†

CONTACTS	16-#16 (A, C-I, O-V, X) 2-#12 (J, N); 3-#8 (K, L, M); 2-#4 (B, W)
RATING	**D**

† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

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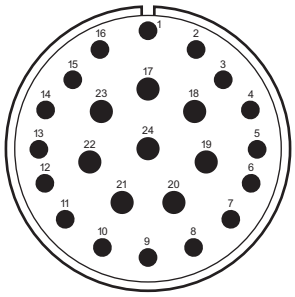
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

24 CONTACTS

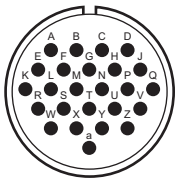
24-28†



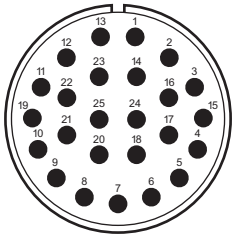
40-A24

	24-28†	40-A24
CONTACTS	24-#16	16-#12 (1-16) 8-#8 (17-24)
RATING	INST.	D

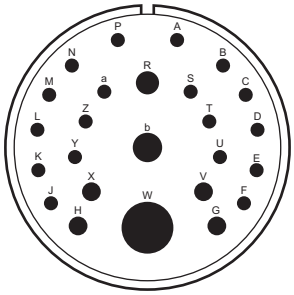
25 CONTACTS



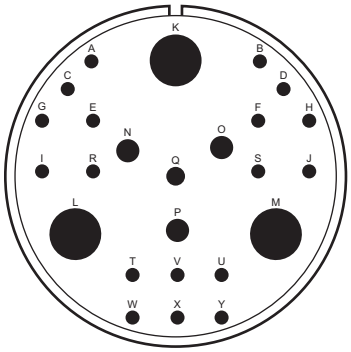
24A25



32A25



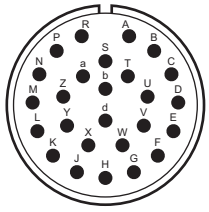
40-11†



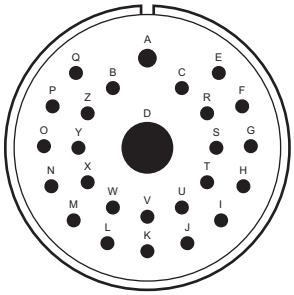
48-3†

	24A25	32A25	40-11†	48-3†
CONTACTS	25-#16	25-#12	18-#16 (A-F, J-P, S-U, Y, Z a) 4-#12 (G, H, V, X) 1-#8 (R), 1-#4 (b), 1-#0 (W)	18-#16 (A-J, R-Y) 1-#12 (Q), 3-#8 (N-P) 3-#0 (K-M)
RATING	A	A	D	D

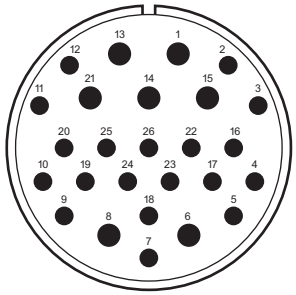
26 CONTACTS



28-12†



40-6†



40-26

	28-12†	40-6†	40-26
CONTACTS	26-#16	24-#16 (B, C, E, Z) 1-#12 (A), 1-#0 (D)	19-#12 (2-5,7,9-12,16-20,22-26) 7-#8 (1,6,8,13-15,21)
RATING	A	D	A

† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

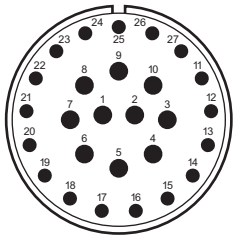
10A

MIL-DTL-5015

INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

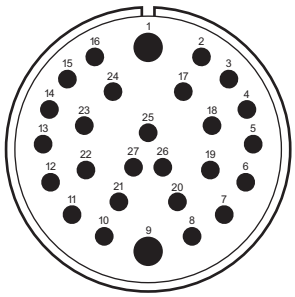
FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

27 CONTACTS



32A27

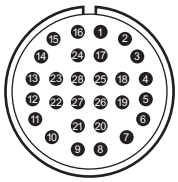
CONTACTS	RATING
10-#12 (1-10) 17-#16 (11-27)	**A**



40A27

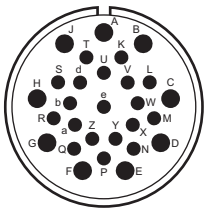
CONTACTS	RATING
25-#12 (2 thru 8, 10 thru 27) 2-#4 (1,9)	**D**

28 CONTACTS



24A28

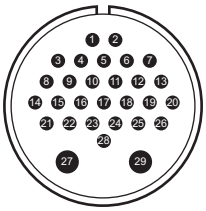
CONTACTS	RATING
28-#16	**I**



28A63

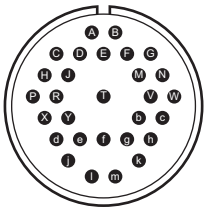
CONTACTS	RATING
19-#16 (K-e) 9-#12 (A-J)	**A** (e) **I** (balance)

29 CONTACTS



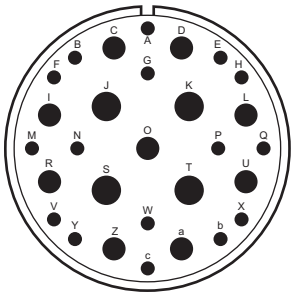
28-A29

CONTACTS	RATING
27-#16 (1-26,28) 2-#8 (27,29)	**D**



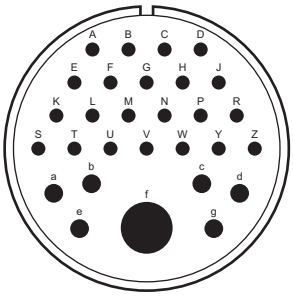
28A55

CONTACTS	RATING
29-#16	**A**



40-10†

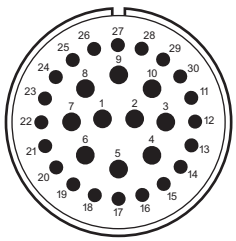
CONTACTS	RATING
16-#16 (A, B, E-H, M, N, P, Q, V-Y, b, c) 9-#8 (C, D, I, L, O, R, U, z, a) 4-#4 (J, K, S, T)	**A**



40-12‡

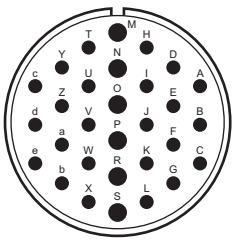
CONTACTS	RATING
22-#16 (A-Z) 6-#12 (a-e, g), 1-#0 (f)	**D**

30 CONTACTS



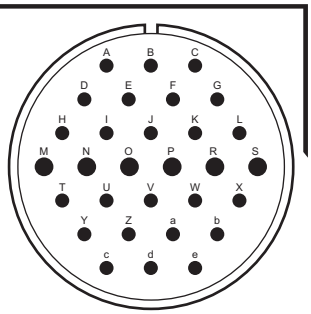
32A30

CONTACTS	RATING
20-#16 (11-30) 10-#12 (1-10)	**A**



32-8†

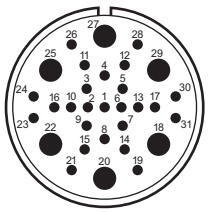
CONTACTS	RATING
24-#16 (A-L, T-Z, a-e) 6-#12 (M-S)	**A** For new MIL equip. design, use 32-7



40-1†

CONTACTS	RATING
24-#16 (A-L,T-e) 6-#12 (M-S)	**D**

31 CONTACTS



28A31

CONTACTS	RATING
25-#18 (1-17,19,21,23,24,26,28,30,31) 6-#8 (18,20,22,25,27,29)	**A**

† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

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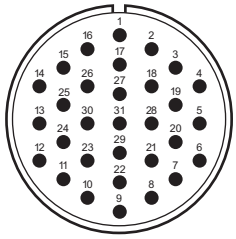
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

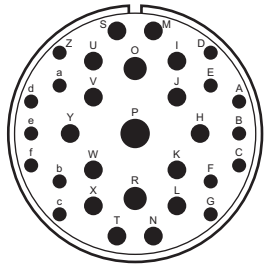
FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

31 CONTACTS (CONT.)



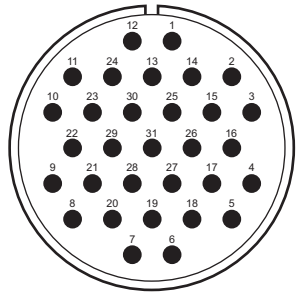
32-31

CONTACTS	31-#16
RATING	**A**



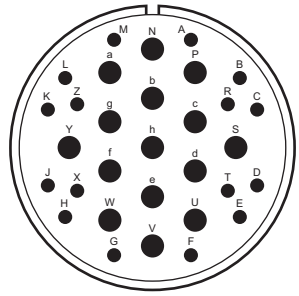
36-9†

CONTACTS	14-#16 (A-G, Z-f) 14-#12 (H-N, S-Y) 2-#8 (O, R), 1-#4 (P)
RATING	**A**



40-31

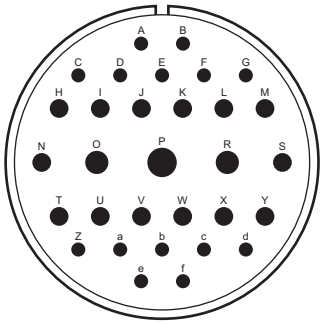
CONTACTS	31-#12
RATING	**D**



40A51

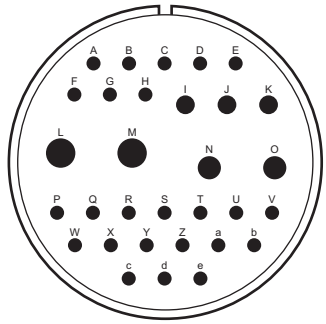
CONTACTS	16-#16 (A-M,R,T,X,Z) 15-#8 (N,P,S,U-W,Y,a-h)
RATING	**A**

32 CONTACTS



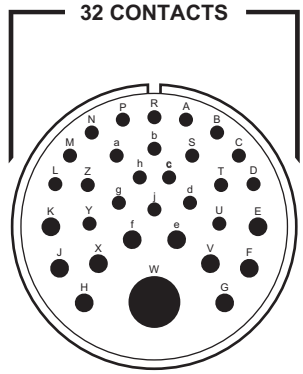
44-2†

CONTACTS	14-#16 (A-G, Z-f) 14-#12 (H-N,S-Y) 2-#8 (O,R), 1-#4 (P)
RATING	**D**



44-3†

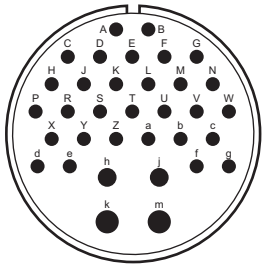
CONTACTS	24-#16 (A-H, P-e) 3-#12 (I, J, K) 2-#8 (N, O), 2-#4 (L, M)
RATING	**D**



40-14‡

CONTACTS	21-#16 (A-D, L-U, Y-d, g, h, j) 10-#12 (E-K, V, X, e, f) 1-#0 (W)
RATING	**D**

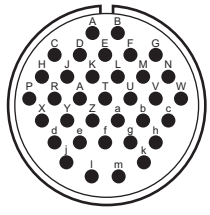
34 CONTACTS



36-20‡

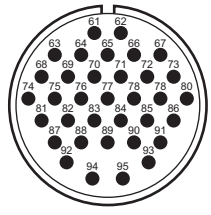
CONTACTS	30-#16 (A-g) 2-#12 (h-j) 2-#8 (k, m)
RATING	**A**

35 CONTACTS



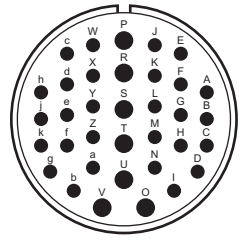
28-15†

CONTACTS	35-#16
RATING	**A** For new MIL equip. design, use 28-21



28A35

CONTACTS	35-#16
RATING	**A**



32-7†

CONTACTS	28-#16 (A-N, W-Z, a-k) 7-#12 (O-V)
RATING	**INST.** (A,B,h,j) **A** (balance)

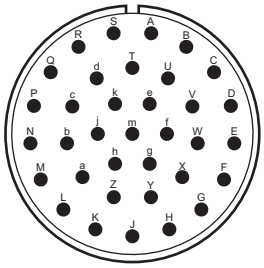
† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

MIL-DTL-5015

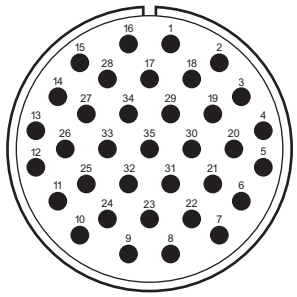
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

35 CONTACTS (CONT.)

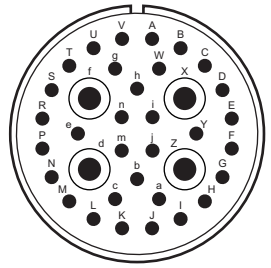


36-15†



40-35

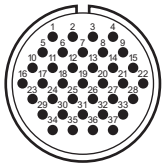
36 CONTACTS



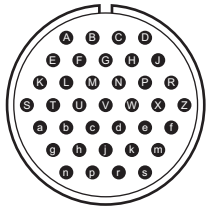
36-35

	36-15†	40-35	36-35
CONTACTS	35-#16	35-#12	4-#8 (d, f, X, Z) 32-#16 (A-W,Y,a,b,c,e,g-n)
RATING	**D** (m); **A** (balance)	**D**	**A**

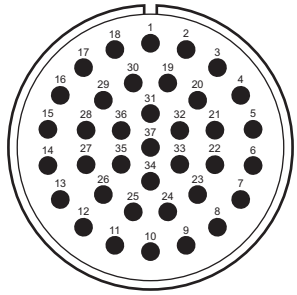
37 CONTACTS



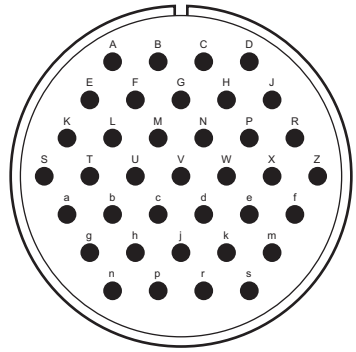
22A37



28-21†



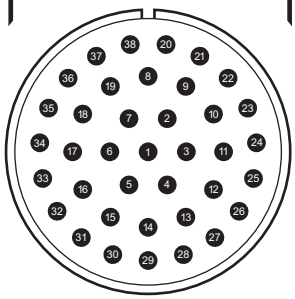
40B37



48-53

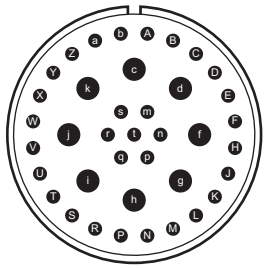
	22A37	28-21†	40B37	48-53
CONTACTS	37-#18	37-#16	37-#12	37-#12
RATING	**A**	**A**	**A**	**A**

38 CONTACTS



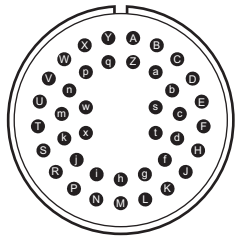
40A38

39 CONTACTS



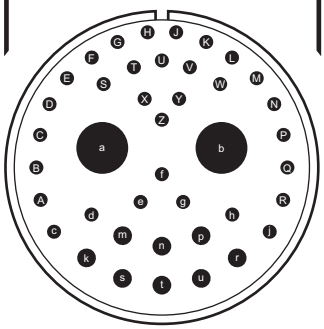
36-54

40 CONTACTS



32A40

41 CONTACTS



44-4†

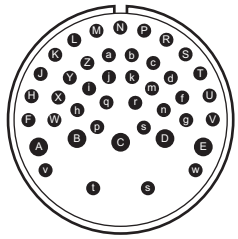
	40A38	36-54	32A40	44-4†
CONTACTS	38-#12	31-#16 (A-b, m-t) 8-#8 (c-k)	40-#16	31-#16 (A-Z, c, j) 8-#12 (k-u), 2-#0 (a, b)
RATING	**A**	**A**	**A**	**D**

† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

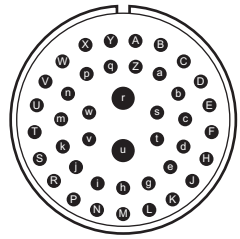
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

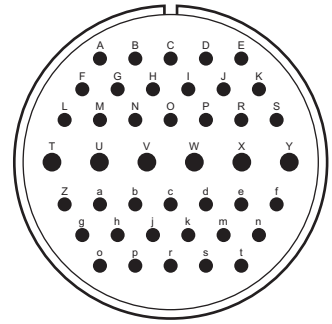
42 CONTACTS



32-53



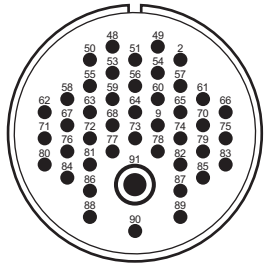
32-59



44-1†

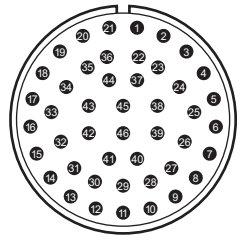
	32-53	32-59	44-1†
CONTACTS	37-#16 (F-w) 5-#12 (A-E)	2-#8 (r, u) 40-#16 (balance)	36-#16 (A-S, Z-t) 6-#12 (T-Y)
RATING	**E** (t,u); **INST.** (balance)	**A**	**D**

44 CONTACTS



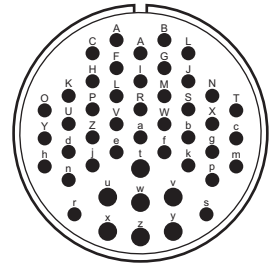
36-74

46 CONTACTS



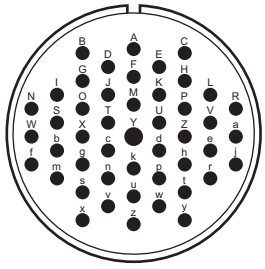
32-73†

47 CONTACTS

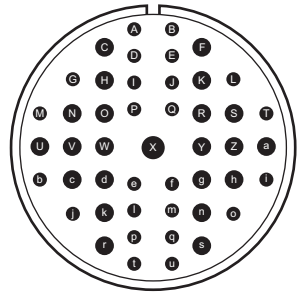


36-7†

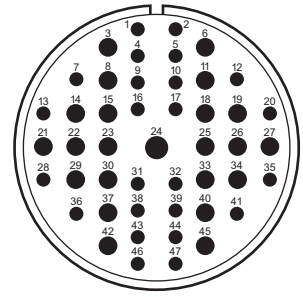
	36-74	32-73†	36-7†
CONTACTS	43-#16 (48-90) 1-#8	46-#16	40-#16 (A-Z, a-s) 7-#12 (t-z)
RATING	**A**	**A**	**A**



36-8†



40-9†



40-47

	36-8†	40-9†	40-47
CONTACTS	46-#16 (A-X, Z-z) 1-#12 (Y)	24-#16 (A, B, D, E, G, I, J, L, M, P, Q, T, b, e, f, i, j, l, m, o, p, q, t, u) 22-#12 (C, F, H, K, N, O, R, S, U-W, Y, Z, a, c, d, g, h, k, n, r, s), 1-#8 (X)	24-#16 (1,2,4,5,7,9,10,12,13,16,17,20,28, 31,32,25, 38,39,44 ,43,44,46,47) 22-#12 (3,6,8,11,14,15,18,19,21,22,23,25,26, 27,29,30,33,34,37,40,42,45) 1-#8 (24)
RATING	**A**	**A**	**A**

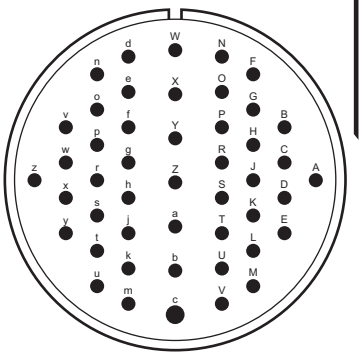
† = Military designation per MIL-STD-1651. ‡ = Military designation inactive for new design. ★ = VG95234

MIL-DTL-5015

INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

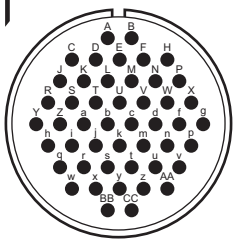
47 CONTACTS (CONT.)



48-2†

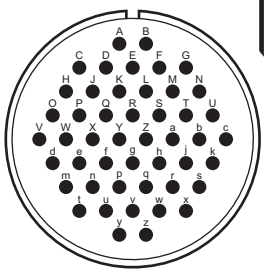
CONTACTS	46-#16 (A-b, d-z) 1-#12 (c)
RATING	**E** (W-b); **D** (balance)

48 CONTACTS



32A48

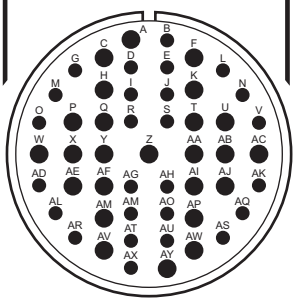
CONTACTS	48-#16
RATING	**I**



36-10†

CONTACTS	48-#16
RATING	**A**

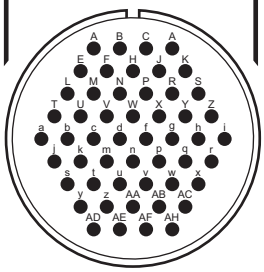
51 CONTACTS



40-951 (A,P)

CONTACTS	25-#12 (A,C,F,H,K,P,Q,T,U,W-AC, AE,AF,AI,AJ,AM,AP,AV,AW) 26-#16 (balance)
RATING	**A**

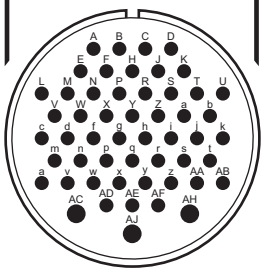
52 CONTACTS



36-52†

CONTACTS	52-#16
RATING	**A**

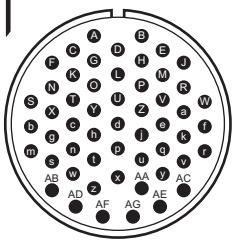
53 CONTACTS



36-71

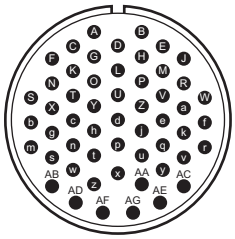
CONTACTS	50-#16 (A-AB, AD-AF) 3-#12 (AC, AH, AJ)
RATING	**A**

54 CONTACTS



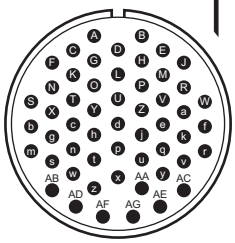
32-22†

CONTACTS	54-#16
RATING	**A**



32-64

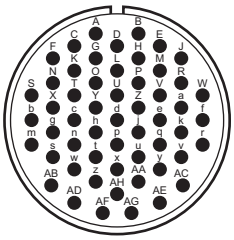
CONTACTS	54-#16
RATING	**INST.**



32-88

CONTACTS	54-#16
RATING	**A**

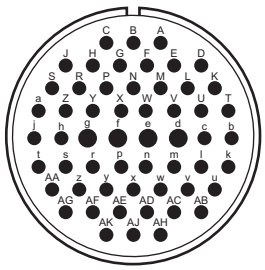
55 CONTACTS



32A55

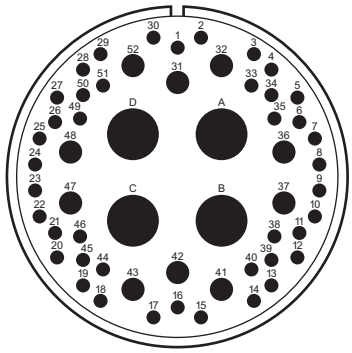
CONTACTS	55-#16
RATING	**A**

56 CONTACTS



36-66†

CONTACTS	52-#16 (A-c, h-AH) 4-#12 (d, e, f, g)
RATING	**A**



48-57

CONTACTS	42-#16 (1-30, 33-35, 38-40, 44-46, 49-51) 10-#8 (31, 32, 36, 37, 41-43, 47, 48, 52) 4-#0 (A-D)
RATING	**A**

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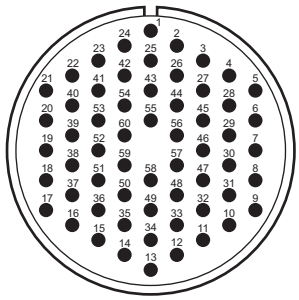
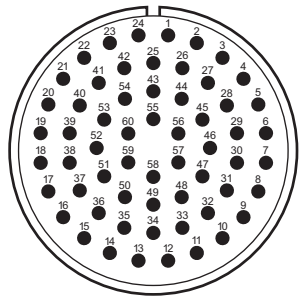
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

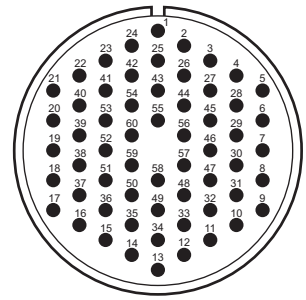
60 CONTACTS



40S27



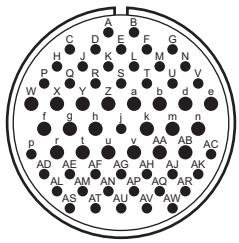
40-53



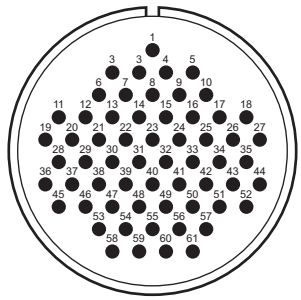
40-62

	40S27	40-53	40-62
CONTACTS	60-#16	60-#16	60-#16
RATING	A	A	A

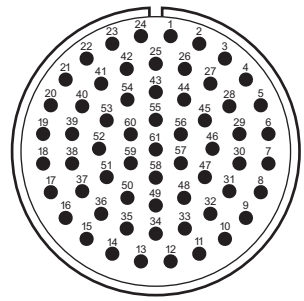
61 CONTACTS



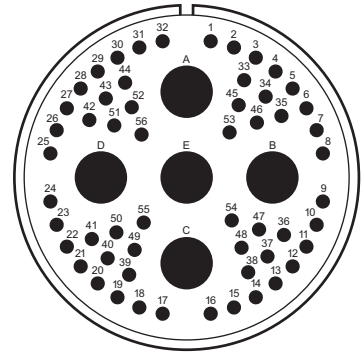
32A69★



40-70



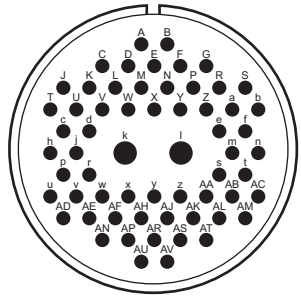
40-63



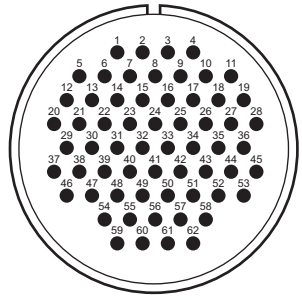
48-52

	32A69★	40-70	40-63	48-52
CONTACTS	41-#18 (A-V, j, p, AC-AW) 20-#16 (W-Z, a-v, AA, AB)	61-#16	61-#16	56-#16 (1-56) 5-#0 (A-E)
RATING	I	A	A	A

62 CONTACTS

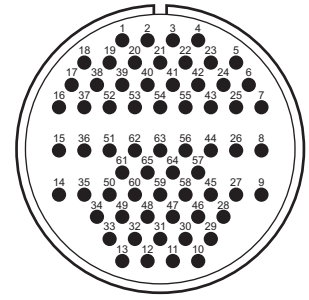


40A62



40-82

65 CONTACTS



40A65

	40A62	40-82	40A65
CONTACTS	60-#16 (A-j,m-AV) 2-#8 (k,l)	62-#16	65-#16
RATING	A	A	A

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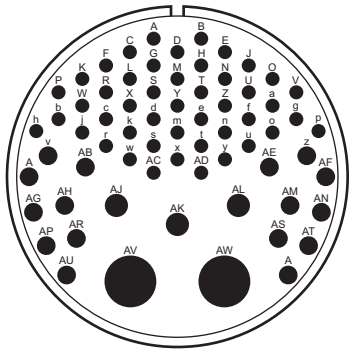
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

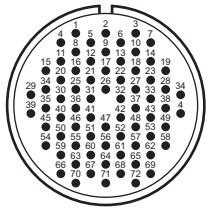
FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

68 CONTACTS

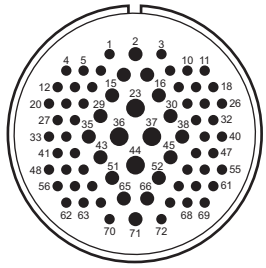


48-4†

72 CONTACTS



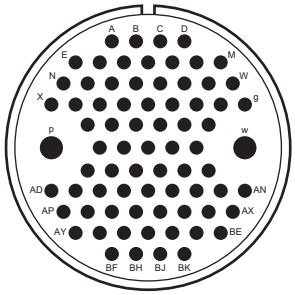
28-72



36-A72

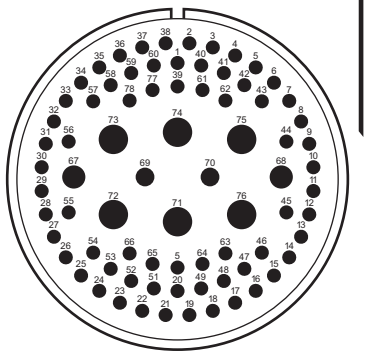
	48-4†	28-72	36-A72
CONTACTS	47-#16 (A-u, w, y, AC,AD) 16-#12 (v, z, AA, AB, AE-AH, AM-AU, AX) 3-#8 (AJ-AL), 2-#0 (AV, AW)	72-#20	52-#18 (balance) 16-#16 (2,7,8,15,16,29,30,35,38,43,45,51,5265,66,71) 4-#12 (23,36,37,44)
RATING	**D** (AJ-AL, AV, AW); **A** (balance)	**I**	**I**

75 CONTACTS



40A75

78 CONTACTS



48-55

	40A75	48-55
CONTACTS	73-#16 (A-n, q-v, x-BK) 2-#8 (p, w)	68-#16 (1-66, 77, 78) 2-#12 (69, 70); 2-#8 (67, 68) 6-#4 (71-76)
RATING	**A**	**A**

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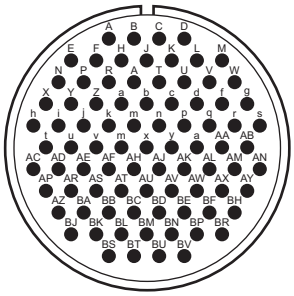
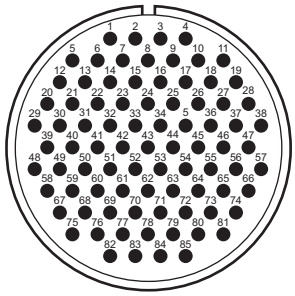
INSERT CONFIGURATIONS BY NUMBER OF CONTACTS

FACE VIEW OF PIN INSERTS SHOWN APPROXIMATELY 3/4 ACTUAL SIZE

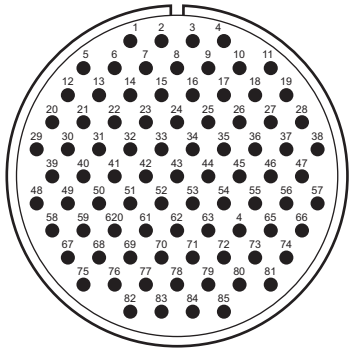
85 CONTACTS



40-56†



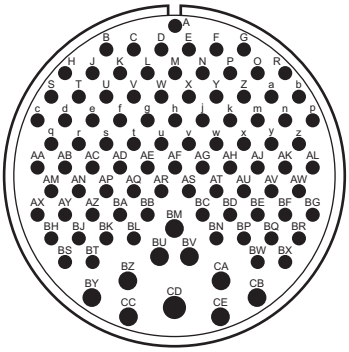
40A56
40N56



48-62†

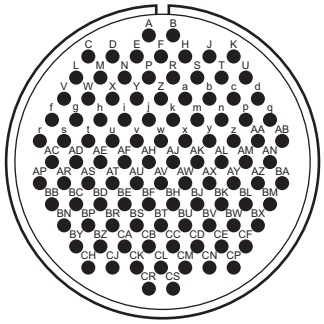
CONTACTS	85-#16	85-#16	85-#16
RATING	**A**	**A**	**D**

100 CONTACTS



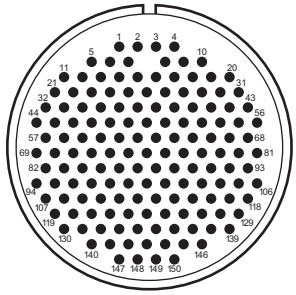
48-5‡

104 CONTACTS



44-52†

150 CONTACTS



40-150
40A150

CONTACTS	90-#16 (A-BL, BN-BT, BW, BX) 9-#12 (BM, BU, BV, BY-CC, CE) 1-#8 (CD)	104-#16	150-#18
RATING	**A**	**A**	**I**

10A

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