



Series ITS-NG



CLASS 1E

Series ITS-NG Reverse-Bayonet Coupling

Nuclear industry standard power and signal connectors for existing plant refurbishment

Glenair ITS-NG series connectors meet previous-generation nuclear industry LOCA test requirements and are suitable for equipment retrofit and refurbishment applications for power plants with legacy containment zone 1E requirements. These industry-standard reverse bayonet lock connectors offer fast and reliable mating and demating. The Nuclear-Grade ITS series connector is Glenair's qualified equivalent for MIL-DTL-5015 (VG95135)

Discrete connectors or turnkey cable assemblies



reverse-bayonet connectors. The popular series offers hundreds of crimp-contact power and signal insert arrangements with gold-plated copper contacts. Polymeric insert materials deliver maximum radiation and temperature tolerance, as well as long-term durability. Stainless steel, environmentally-resistant materials are fabricated in accordance with NQA-1 (10CFR50 Appendix B). All material selections meet cumulative radiation, thermal, seismic, and pressure-induced stress factors for legacy class 1E harsh nuclear environments.

- Fast connect / disconnect reverse-bayonet coupling
- High corrosion-resistant stainless steel shells and bodies
- Chemical and moisture-resistant inserts and O-rings
- Performance tested for advanced temperature, radiation, and seismic stress factors
- Ideally suited for power generation monitoring, valve control devices, sensors, and other electronic equipment in Class 1E harsh nuclear / safety-related applications

NUCLEAR-GRADE QUICK-DISCONNECT CONNECTORS

Reverse-Bayonet (5015 type) Interconnect for Legacy Containment Area (Class 1E) Applications

Series ITS-NG applications and specifications



GLENAIR SERIES ITS-NG APPLICATION NOTES

- Glenair Series ITS-NG connectors are based on the MIL-DTL-5015 standard, but feature an improved reverse-bayonet coupling technology in place of the threaded interface used in MIL-DTL-5015.
- The ITS-NG family of connectors features improved O-ring sealing and other design enhancements for applicability in containment area (Class 1E) / safety-related applications, particularly in existing or older nuclear facilities with legacy LOCA test requirements. For new interconnect applications in modern-day power plants, Glenair recommends the SuperNG or Mighty Mouse NG series connectors currently undergoing qualification to the latest LOCA test and long-term durability requirements.
- ITS-NG is an industry-standard connector design, intermateable and intermountable with all other 5015-based reverse-bayonet connector series. The ITS-NG is considered particularly appropriate for retrofit and refurbishment applications as the 3-point bayonet coupling mechanism reduces mating time—an important consideration in time-sensitive plant refurbishment work. Positive locking of the three stainless steel pins provides reliable resistance to vibration and shock, and prevents connector de-coupling in severe vibration applications.
- Both plug and receptacle connector configurations are available with dynamic peripheral seals for environmental sealing. Equipped with appropriate backshells and accessories, the connectors are submersible for up to 1 year at 85°C to 1m depth.
- Glenair Series ITS-NG connectors share the same insert arrangements, shell dimensions, supported contacts, and electrical performance ratings as MIL-DTL-5015 and VG 95234 and are fully interchangeable with VG standard connectors.
- Glenair ITS-NG connectors are particularly well-suited for use in applications where electromagnetic compatibility is a requirement. A complete range of EMI shield termination accessories is available for both overall as well as individual wire shields.

CONTACT SPECIFICATIONS

Copper alloy with gold plating (standard)

Contact Size	Rated Current at 20 C	Rated Current at 80 C	Max. Contact resist.	Wire size
20	7.5 A	7.5 A	12.0 mΩ	20-26 AWG
18	10A	7.5 A	12.0 mΩ	18-26 AWG
16	22 A	13 A	6.0 mΩ	16-22 AWG
12	41 A	23 A	3.0 mΩ	12-14 AWG
8	73 A	46 A	1.0 mΩ	8-10 AWG
4	135 A	80 A	0.5 mΩ	4-6 AWG
0	245 A	150 A	0.3 mΩ	0-2 AWG
4/0	350 A	225 A	0.2 mΩ	4/0 AWG

SERVICE RATING

(Minimum Insulating resistance: $\geq 5 \times 10^3 \text{ M}\Omega$)

Class	Operating voltage Vdc	Operating voltage Vac RMS	Test voltage Vac RMS
INST.	250 V	200 V	1000 V
A	700 V	500 V	2000 V
D	1250 V	900 V	2800 V
E	1750 V	1250 V	3500 V
B	2450 V	1750 V	4500 V
C	4200 V	3000 V	7000 V

Materials and Finishes	
Shells, Coupling Nuts	316 Stainless Steel, Passivated
Contacts	Copper alloy, Gold Plated
Hoods (Socket contacts)	Copper Alloy, Nickel Plated
Pencil Clip (Socket contacts)	Stainless Steel
Wave Spring	Stainless Steel
Grounding Finger	Beryllium Copper

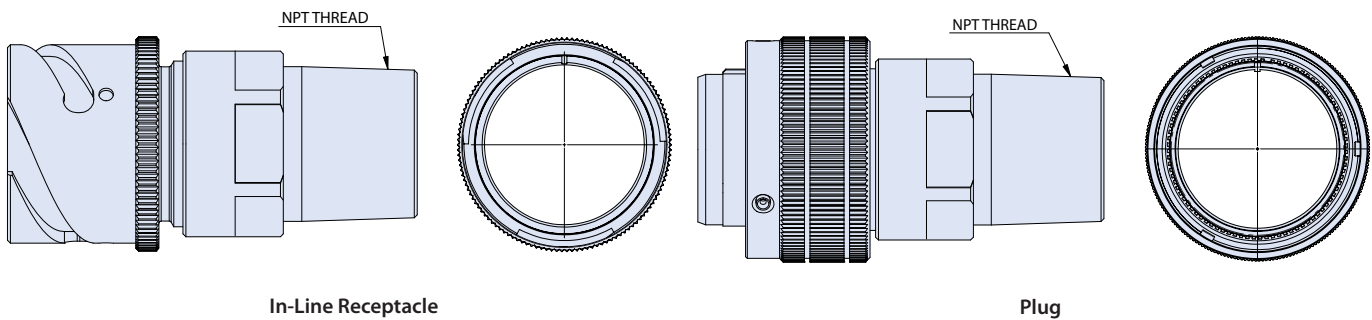




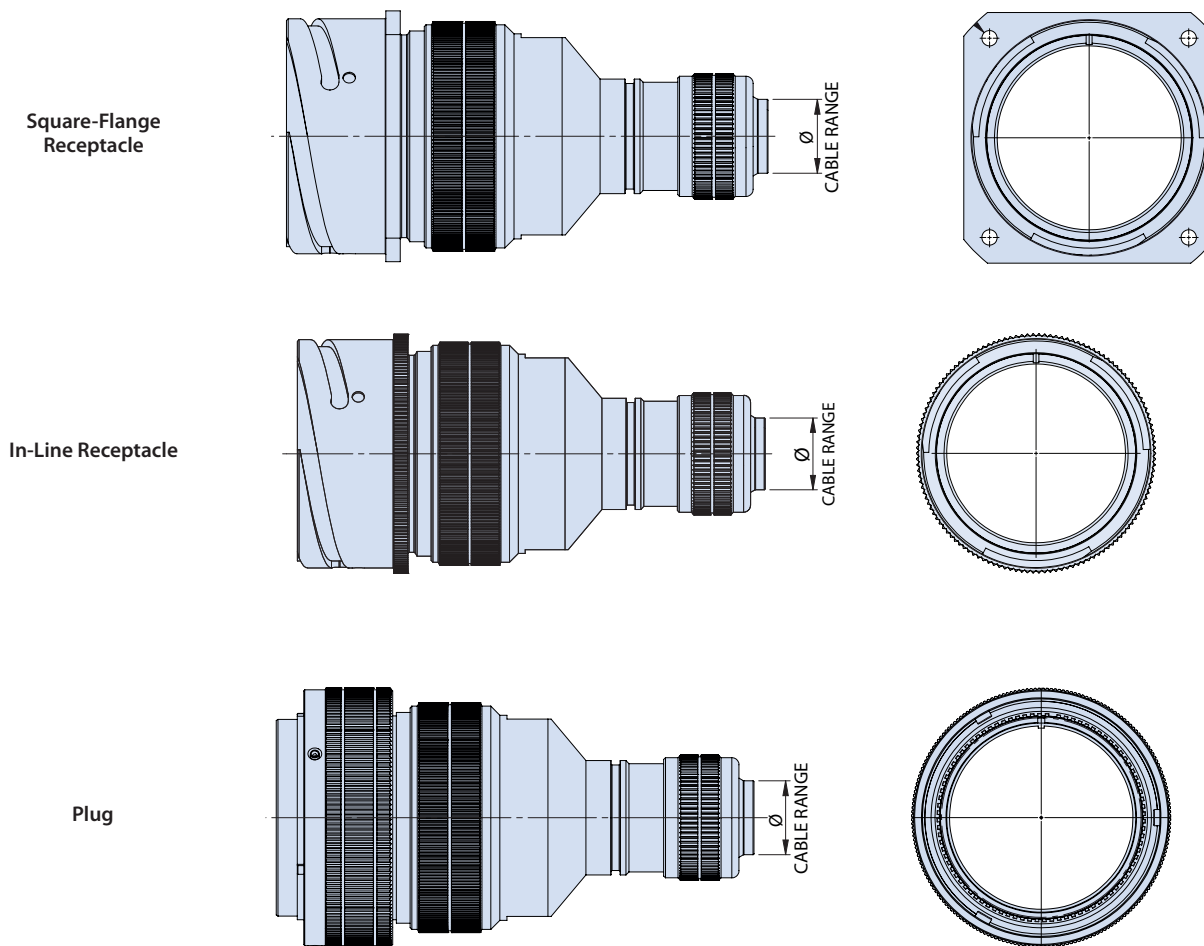
NUCLEAR-GRADE QUICK-DISCONNECT CONNECTORS Reverse-Bayonet (5015 type) Interconnect for Legacy Containment Area (Class 1E) Applications

Series ITS-NG connectors with NPT adapters or cable gland

ITS-NG RECEPTACLE AND PLUG WITH NPT ADAPTER



ITS-NG RECEPTACLES AND PLUG WITH ENVIRONMENTAL CABLE GLAND

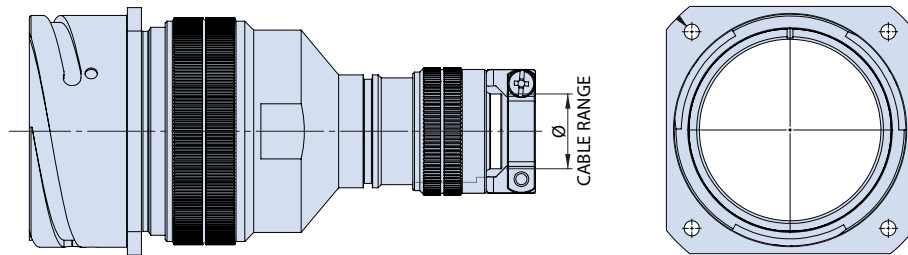


NUCLEAR-GRADE QUICK-DISCONNECT CONNECTORS
**Reverse-Bayonet (5015 type) Interconnect for
 Legacy Containment Area (Class 1E) Applications**
 Series ITS-NG connectors with environmental cable clamp or backshell

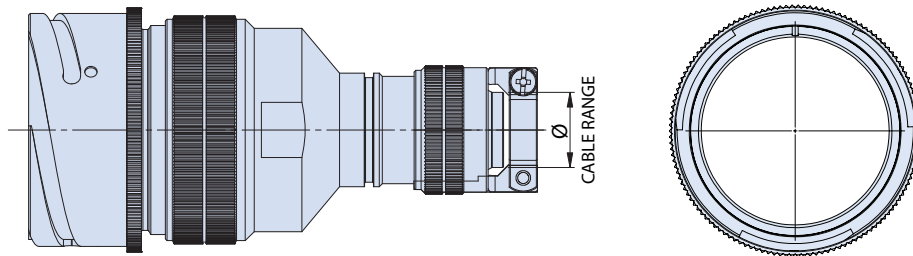


ITS-NG RECEPTACLES AND PLUG WITH ENVIRONMENTAL CABLE CLAMP

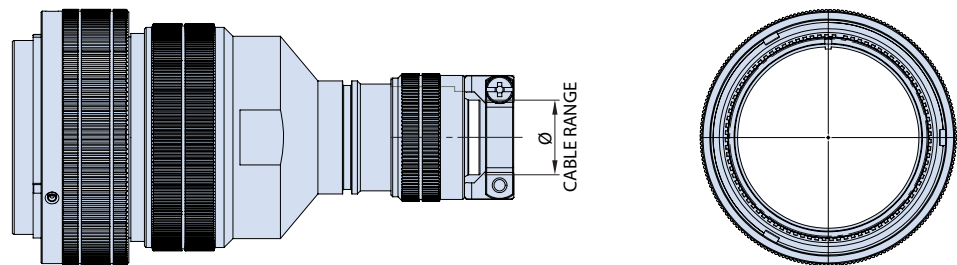
Square-Flange Receptacle



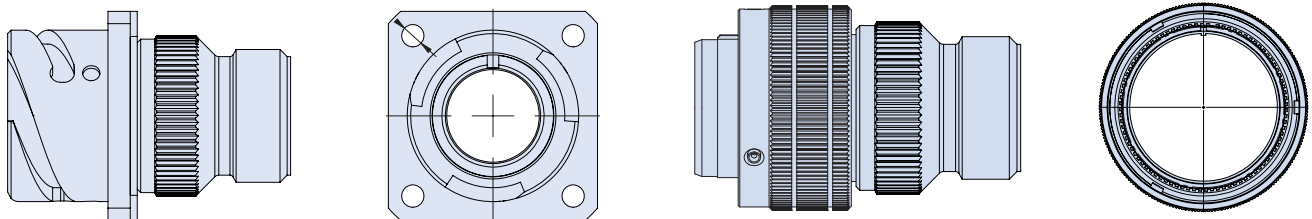
In-Line Receptacle



Plug



ITS-NG SQUARE-FLANGE RECEPTACLE AND PLUG WITH ENVIRONMENTAL BACKSHELL



Square-Flange Receptacle

Plug



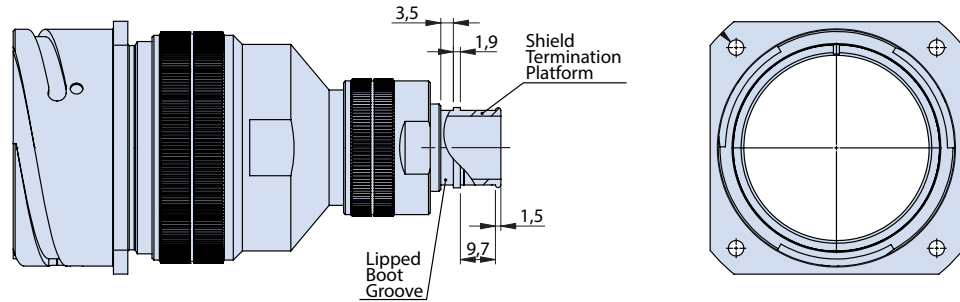
NUCLEAR-GRADE QUICK-DISCONNECT CONNECTORS

Reverse-Bayonet (5015 type) Interconnect for Legacy Containment Area (Class 1E) Applications

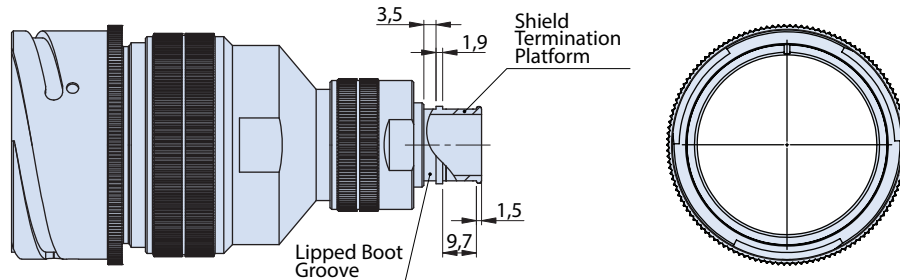
Series ITS-NG connectors with shield termination backshell

ITS-NG RECEPTACLES AND PLUG WITH SHIELD TERMINATION BACKSHELL

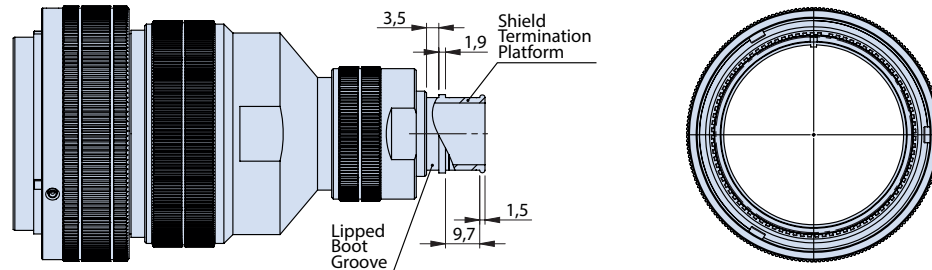
Square-Flange Receptacle



In-Line Receptacle



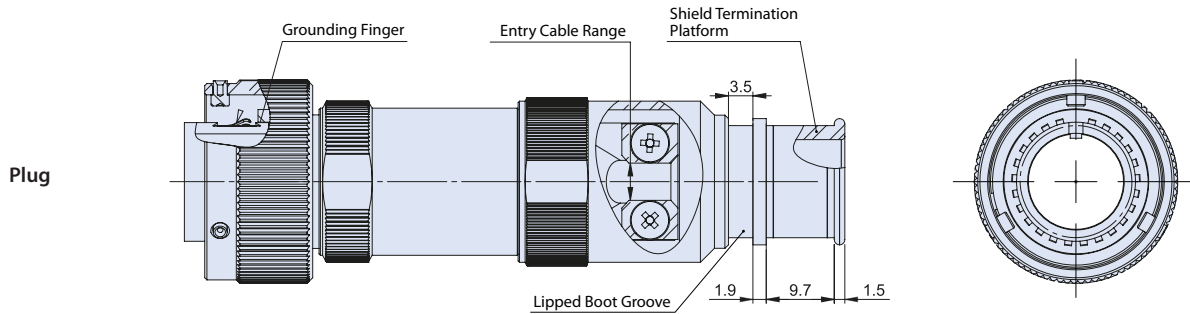
Plug



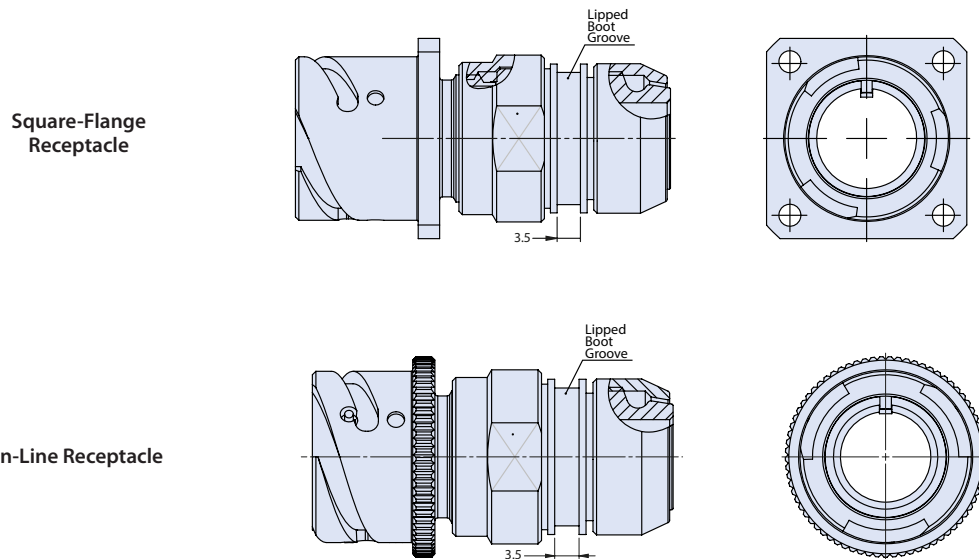
NUCLEAR-GRADE QUICK-DISCONNECT CONNECTORS
Reverse-Bayonet (5015 type) Interconnect for
Legacy Containment Area (Class 1E) Applications
Series ITS-NG connectors with special backshell configurations



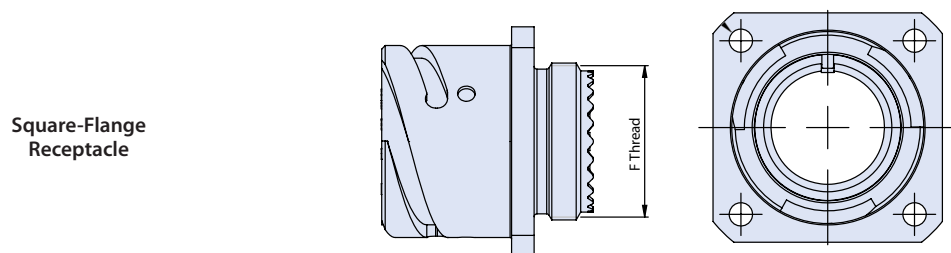
PLUG WITH INTERNAL STRAIN RELIEF AND SHIELD TERMINATION



IN-LINE AND PANEL MOUNT RECEPTACLE WITH EMI/RFI SHIELDING ENVIRONMENTAL BACKSHELL



SQUARE-FLANGE RECEPTACLE WITH ACCESSORY THREAD





NUCLEAR-GRADE QUICK-DISCONNECT CONNECTORS

Reverse-Bayonet (5015 type) Interconnect for Legacy Containment Area (Class 1E) Applications

Series ITS-NG contact arrangements

Arrangement	Rating	Contact Number	Contact Size									
			4/0	0	4	8	12	16	16S	18	20	
10SL-3	A	3								3		
10SL-4	A	2								2		
14S-1	A	3								3		
14S-2	I	4								4		
14S-5	I	5								5		
14S-6	I	6								6		
14S-7	A	3								3		
14S-9	A	2								2		
14S-07	I	7								7		
16S-1	A	7								7		
16S-4	D	2								2		
16S-5	A	3								3		
16S-8	A	5								5		
16-2	E	1					1					
16-7	A	3				1		2				
16-9	A	4					2	2				
16-10	A	3					3					
16-11	A	2					2					
16-12	A	1			1							
16-A10	I	10									10	
18-1	I	10						10				
18-3	D	2					2					
18-4	D	4						4				
18-5	D	3					2	1				
18-6	D	1			1							
18-06	A	6					4	2				
18-7	B	1				1						
18-8	A	8					1	7				
18-9	I	7					2	5				
18-10	A	4					4					
18-10S MT	A	4					4					
18-11	A	5						5				
18-12	A	6						6				
18-13	A	4				1	3					
18-16	C	1					1					
18-19	A	10						10				
18-20	A	5						5				
18-22	D	3						3				
18-30 (18-20x110")	A	5						5				
20-2	D	1		1								
20-3	D	3					3					
20-4	D	4					4					
20-6	D	3						3				
20-7	A	8						8				
20-8	I	6				2		4				
20-9	A	8					1	7				
20-11	I	13						13				
20-14	A	5				2	3					
20-15	A	7					7					
20-16	A	9					2	7				
20-17	A	6					5	1				
20-18	A	9					3	6				
20-19	A	3				3						
20-21	A	9					1	8				
20-22	A	6				3		3				
20-23	A	2				2						
20-24	A	4				2		2				
20-A24	A	4				2		2				
20-25 (20-11x100")	I	13						13				
20-27	A	14						14				
20-29	A	17						17				

* Only Crimp Contact Version

Arrangement	Rating	Contact Number	Contact Size									
			4/0	0	4	8	12	16	18	20		
20-30 (20-11x250")	I	13									13	
20-33	A	11									11	
20-A8	I	8						2		6		
20-A9	A	9							9			
20-A48	I	19									19	
20-B8	A	8							4	4		
22-1	D	2						2				
22-2	D	3						3				
22-4	A	4						2	2			
22-5	D	6							2	4		
22-7	E	1		1								
22-9	E	3						3				
22-10	E	4								4		
22-11	B	2								2		
22-12	D	5						2		3		
22-14	A	19									19	
22-15	A	6							5	1		
22-17	A	9							1	8		
22-18	A	8									8	
22-19	A	14									14	
22-20	A	9									9	
22-21	A	3		1						2		
22-22	A	4						4				
22-23	A	8							8			
22-27	A	9						1		8		
22-28	A	7							7			
22-34	D	5							3	2		
22-82	A	10							2		8	
22-A10	A	10									10	
22-A37	A	37										37
22-22S MT	A	4						4				
24-2	D	7								7		
24-3	A	7							2	5		
24-4	D	4		1							3	
24-5	A	16									16	
24-06	D	6						4		2		
24-6	A	8								8		
24-07	D	7								7		
24-7	A	16							2	14		
24-9	A	2			2							
24-10	A	7						7				
24-11	A	9						3		6		
24-12	A	5			2				3			
24-013	A	13								6	7	
24-19	A	12									12	
24-20	D	11							2	9		
24-22	D	4						4				
24-27	E	7									7	
24-28	I	24									24	
24-67	A	19								19		
24-A1	B	1			1							
24-A8	A	8						5		3		
24-A11	A	11						2		9		
24-A12	A	12						2		10		
24-A25	A	25									25	
24-A28	I	28									28	
24-A55*	I	55										55
24-G5	A	5						5				
28-1	A	9						3	6			
28-2	D	14							2	12		
28-3	E	3						3				
28-6	D	3						3				
28-09	A	9						4		5		

NUCLEAR-GRADE QUICK-DISCONNECT CONNECTORS

Reverse-Bayonet (5015 type) Interconnect for Legacy Containment Area (Class 1E) Applications

Series ITS-NG contact arrangements



Arrangement	Rating	Contact Number	Contact Size							
			4/0	0	4	8	12	16	18	20
28-9	D	12					6	6		
28-10	A	7			2	2	3			
28-11	A	22					4	18		
28-12	A	26						26		
28-13 (28-12x100*)	A	26						26		
28-15	A	35						35		
28-16	A	20						20		
28-17	A	15						15		
28-18	I	12						12		
28-19	A	10					4	6		
28-20	A	14					10	4		
28-21	A	37						37		
28-22	D	6			3			3		
28-51	D	12						12		
28-59	A	17					7	10		
28-70	A	7				7				
28-72*	I	72								72
28-79	A	16				7		9		
28-84	A	9				9				
28-124	A	16				4		12		
28-A29	A	29				2		27		
28-A31*	A	31				6				25
28-A35	A	35						35		
28-A63	I	28					9	19		
28-B1	B	1		1						
28-B2	E	2				2				
32-1	D	5		2			3			
32-2	E	5			3			2		
32-3	D	9		1	2		2	4		
32-5	D	2		2						
32-6	A	23			2	3	2	16		
32-7	I	35					7	28		
32-8	A	30					6	24		
32-9	D	14			2			12		
32-013	D	13					13			
32-13	D	23					5	18		
32-15	D	8		2			6			
32-17	D	4			4					
32-22	A	54						54		
32-31	A	31						31		
32-59	A	42				2		40		
32-68	A	16			4			12		
32-689	A	9			3			6		
32-A5GM	A	5			5					
32-76	A	19					19			
32-79	D	5			4	1				
32-88	A	54						54		
32-A1	A	1		1						
32-A3	E	3			3					
32-A8	A	8				8				
32-A25	A	25					25			
32-A27	A	27					10	17		
32-A28	A	28						28		
32-A30	A	30					10	20		
32-A40	A	40						40		
32-A48	I	48						48		
32-A55	A	55						55		
32-B22	A	22			2			20		
36-01	C	1		1						
36-3	D	6			3			3		
36-4	A	3			3					
36-5	A	4			4					
36-6	A	6		2	4					

Arrangement	Rating	Contact Number	Contact Size							
			4/0	0	4	8	12	16	18	20
36-7	A	47						7	40	
36-8	A	47						1	46	
36-9	A	31			1	2		14	14	
36-10	A	48							48	
36-14	D	16					5	5	6	
36-15	A	35							35	
36-18 (36-9x100*)	A	31			1	2		14	14	
36-22	D	22						22		
36-35	A	36					4		32	
36-54=36-B39	A	39					8		31	
36-66	A	56						4	52	
36-74	A	44					1		43	
36-77	D	7				7				
36-A7	A	7		3	2			2		
36-A10	A	10				2	8			
36-A35	A	8			4				4	
36-A51	D	6		3	2				1	
36-A72	I	72						4	16	52
36-A99*	A	65							15	50
36-B61	E	6			2			4		
36-B78	D	14					12		2	
36-B90	D	1								n.1 Special Contact
36-D78	D	14					10		4	
40-1	D	30						6	24	
40-9	A	47					1	22	24	
40-10	A	29			4	9		16		
40-26	A	26					7	19		
40-31	D	31							31	
40-35	D	35							35	
40-47	A	47					1	22	24	
40-53	A	60							60	
40-56	A	85							85	
40-62	A	60							60	
40-63	A	61							61	
40-67	A	11			10				1	
40-100	A	100								100
40-150	I	150								150
40-951	A	51						25	26	
40-A3	A	5			3			2		
40-A4	A	6			4			2		
40-A5	A	5			3	1		1		
40-A5GM	A	5			5					
40-A6	B	6						6		
40-A8	E	8			4				4	
40-A9	A	9			3		6			
40-A10	D	8				4			4	
40-A14	A	14				8		6		
40-A20	D	20					2	18		
40-A24	D	24					8	16		
40-A38	A	38						38		
40-A51	A	31					15		16	
40-A55	A	5			5					
40-A56	A	85							85	
40-A62	A	62					2		60	
40-A65	A	65							65	
40-A70	A	70							70	
40-B4	E	4			4					
40-B19	A	19					19			
40-B25	A	29			4				25	
40-B37	A	37						37		
40-D4	C	4					4			
40-G4	E	4					4			

* Only Crimp Contact Version



NUCLEAR-GRADE QUICK-DISCONNECT CONNECTORS
Reverse-Bayonet (5015 type) Interconnect for
Legacy Containment Area (Class 1E) Applications
Series ITS-NG insert rotation alternate positions

Arrangement	$\alpha \pm 2^\circ$			
	W	X	Y	Z
10SL-3				
10SL-4				
14S-1	90	180	270	
14S-2		120	240	
14S-5		110		
14S-6	90			
14S-7	90	180	270	
14S-9	70	145	215	290
14S-07				
16S-1	80			280
16S-4	35	110	250	325
16S-5	70	145	215	290
16S-8		170	265	
16-2				
16-7	80	110	250	280
16-9	35	110	250	325
16-10	90	180	270	
16-11	35	110	250	325
16-12				
16A-10	35	112	235	315
18-1	70	145	215	290
18-3	35	110	250	325
18-4	35	110	250	325
18-5	80	110	250	280
18-6				
18-06	180			
18-7				
18-8	70			290
18-9	80	110	250	280
18-10		120	240	
18-10S MT				
18-11		170	265	
18-12	80			280
18-13	80	110	250	280
18-16				
18-19		120	240	
18-20	90	180	270	
18-22	70	145	215	290
18-29	90	180	270	
18-30				
20-2				
20-3	70	145	215	290

Arrangement	$\alpha \pm 2^\circ$			
	W	X	Y	Z
20-4	45	110	250	
20-6	70	145	215	290
20-7	80	110	250	280
20-8	80	110	250	280
20-9	80	110	250	280
20-11				
20-14	80	110	250	280
20-15	80			280
20-16	80	110	250	280
20-17	90	180	270	
20-18	35	110	250	325
20-19	90	180	270	
20-21	35	110	250	325
20-22	80	110	250	280
20-23	35	110	250	325
20-24	35	110	250	325
20-A24	55	125	200	340
20-25				
20-27	35	110	250	325
20-29	80			280
20-30				
20-33				280
20-A8				
20-A9		110	250	
20-A48		80	280	
20-B8	80	110	250	280
22-1	35	110	250	325
22-2	70	145	215	290
22-4	35	110	250	325
22-5	35	110	250	325
22-7				
22-9	70	145	215	290
22-10	35	110	250	325
22-11	35	110	250	325
22-12	80	110	250	280
22-14	80	110	250	280
22-15	80	110	250	280
22-17	80	110	250	280
22-18	80	110	250	280
22-19	80	110	250	280
22-20	35	110	250	325
22-21	80	110	250	280

Arrangement	$\alpha \pm 2^\circ$			
	W	X	Y	Z
22-22		110	250	
22-23	35		250	
22-27	80		250	280
22-28	80			280
22-34	80	110	250	280
22-82	80	110	250	280
22A-10		120	240	
22-A37	80	112	250	280
22-22S MT				
24-2	80			280
24-3	80	110	250	280
24-4	80	110	250	280
24-5	80	110	250	280
24-06	40			320
24-6	80	110	250	280
24-07	80			280
24-7	80	110	250	280
24-9	35	110	250	325
24-10	80			280
24-11	35	110	250	325
24-12	80	110	250	280
24-013				
24-19				
24-20	80	110	250	280
24-22	45	110	250	
24-27	80			280
24-28	80	110	250	280
24-67	80			335
24-A1				
24-A8				
24-A11	35	110	250	325
24-A12				
24-A25	80	110	250	280
24-A28	65	146	235	
24-A55	80	110	250	280
24-G5	70	110	240	270
28-1	80	110	250	280
28-2	35	110	250	325
28-3	70	145	215	290
28-6	70	145	215	290
28-09	110	250	260	280
28-9	80	110	250	280

NUCLEAR-GRADE QUICK-DISCONNECT CONNECTORS

Reverse-Bayonet (5015 type) Interconnect for Legacy Containment Area (Class 1E) Applications

Series ITS-NG insert rotation alternate positions

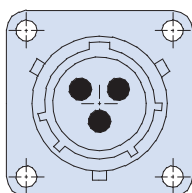


Arrangement	$\alpha \pm 2^\circ$			
	W	X	Y	Z
28-10	80	110	250	280
28-11	80	110	250	280
28-12	90	180	270	
28-13				
28-15	80	110	250	280
28-16	80	110	250	280
28-17	80	110	250	280
28-18	70	145	215	290
28-19	80	110	250	280
28-20	80	110	250	280
28-21	80	110	250	280
28-22	70	145	215	290
28-51	80	135	190	
28-59	35	110	250	325
28-70	80			280
28-72	72	144	216	288
28-79	70	133	227	290
28-84	45	157	90	135
28-124	80	110	250	280
28A-29	80	110	250	280
28A-31	35		260	310
28A-35	80	110	250	280
28A-63		100	260	
28-B1				
28-B2				
32-1	80	110	250	280
32-2	70	145	215	290
32-3	80	110	250	280
32-5	35	110	250	325
32-6	80	110	250	280
32-7	80	125	235	280
32-8	80	125	235	280
32-9	80	110	250	280
32-013	65	130	230	295
32-13	80	110	250	280
32-15	35	110	250	280
32-17	45	110	250	
32-22	80	110	250	280
32-31	80	125	215	280
32-59	36	108	252	324
32-68	65	135	225	275
32-689				

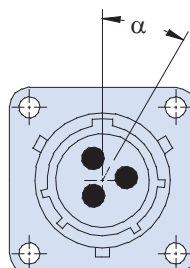
Arrangement	$\alpha \pm 2^\circ$			
	W	X	Y	Z
32-A5 GM				
32-76	80	110	250	280
32-79				
32-88	80	110	250	280
32-A1				
32-A3	22	44	76	98
32A-8	35	122		315
32A-25	60	120		
32-A27	30	115	285	335
32-A28				
32-A30				
32A-40	35	130		
32A-48	80	125	235	
32-A55	80	110	250	280
32-B22	35	110	250	325
36-01				
36-3	70	145	215	290
36-4	70	145	215	290
36-5		120	240	
36-6	35	110	250	325
36-7	80	110	250	280
36-8	80	110	250	280
36-9	80	125	235	280
36-10	80	125	235	280
36-14	90	180	270	
36-15	60	125	245	305
36-18				
36-22	80	110	250	280
36-35				
36-54 = 36-B39	67			
36-66	110	250	260	280
36-74				
36-77	45	90		
36-A7				
36-A10	45	110	250	315
36-A35				
36-A51	45	135	225	315
36A-72		110		
36-A99	30	135		
36B-61				
36B-78	35	106	254	325
36B-90				

Arrangement	$\alpha \pm 2^\circ$			
	W	X	Y	Z
36D-78	35	106	254	325
40-1	65	130	235	300
40-9	65	125	225	310
40-10	65	125	225	310
40-26	80	110	250	280
40-31	80	110	250	280
40-35	70	130	230	290
40-47	65	125	225	310
40-53	80	110	250	280
40-56	72	144	216	288
40-62	30	130	220	290
40-63	80			280
40-67	70	110	230	280
40-100	30	105	230	315
40-150				
40-951	90	105		
40-A3	70	145	215	290
40-A4	50	120	240	325
40-A5	33			270
40-A6	35	110	250	280
40-A5GM	33			270
40-A8	35	110	250	325
40-A9				
40-A10	65			
40-A14	80	135	195	
40-A20	80	110	250	280
40-A24				
40-A38	37			
40-A51				
40-A55				
40-A56	72	144	216	288
40-A62	80	130	230	280
40-A65	70	145	215	285
40-A70	80	110	250	280
40-B4	45	110	215	300
40-B19	35	105	255	325
40-B25				
40-B37				
40-D4				
40-G4				

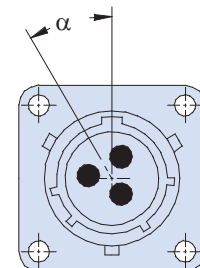
Insert Rotation (front view)



Normal Position



Alternate Position with Pin Contacts



Alternate Position with Socket Contacts