

Industrial Connectors Selection Guides

CAT.No.IND-GC-D001.FEB.2021



**Japan Aviation Electronics
Industry, Limited**

Technology to Inspire Innovation

JAE focuses on technological development and product creation that inspire customer innovation

JAE has been awarded the certificate of
ISO9001 (quality management system) and
ISO14001 (environmental management system)



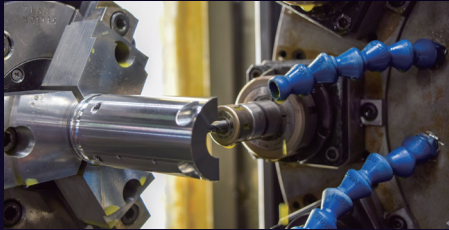
Manufacturing Technology Innovation

◆ Innovation of production capacity through in-house production, automation and labor saving efforts

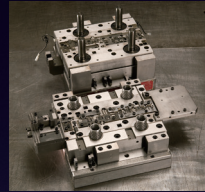
JAE's ability to continuous production 24-hours-a-day, 7-days-a-week through use of internally developed labor-saving, automated assembly machines at key automation factories in Japan.

Aiming for higher manufacturing speed and cost reduction, we spare no effort to innovate the fundamental technologies and processes ranging from automated assembly machines to every production step such as turning, stamping, molding, plating and final product assembly.

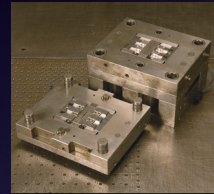
Turning



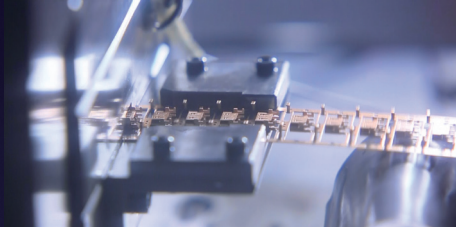
Stamping die



Molding die



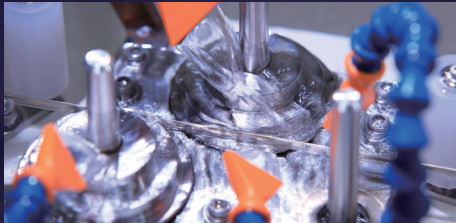
Stamping



Molding



Plating



Assembly



◆ Enhanced of the evaluation and test system to ensure highly reliable products are provided to customers

We are strengthening and enhancing our evaluation and test systems in order to fully respond to the ever higher demands for quality and reliability from our customers.

In addition to an anechoic chamber for electromagnetic compatibility (EMC) evaluation, more than 100 units of testing equipment, including combined environmental reliability test systems and vibration test devices are installed in the Integrated Evaluation & Test Laboratory.

This laboratory conducts environmental testing with even greater precision and efficiency by applying thermal and humidity stress, and mechanical testing by applying vibration and shock, and thus enables us to supply customers with reliable products.



RF anechoic chamber

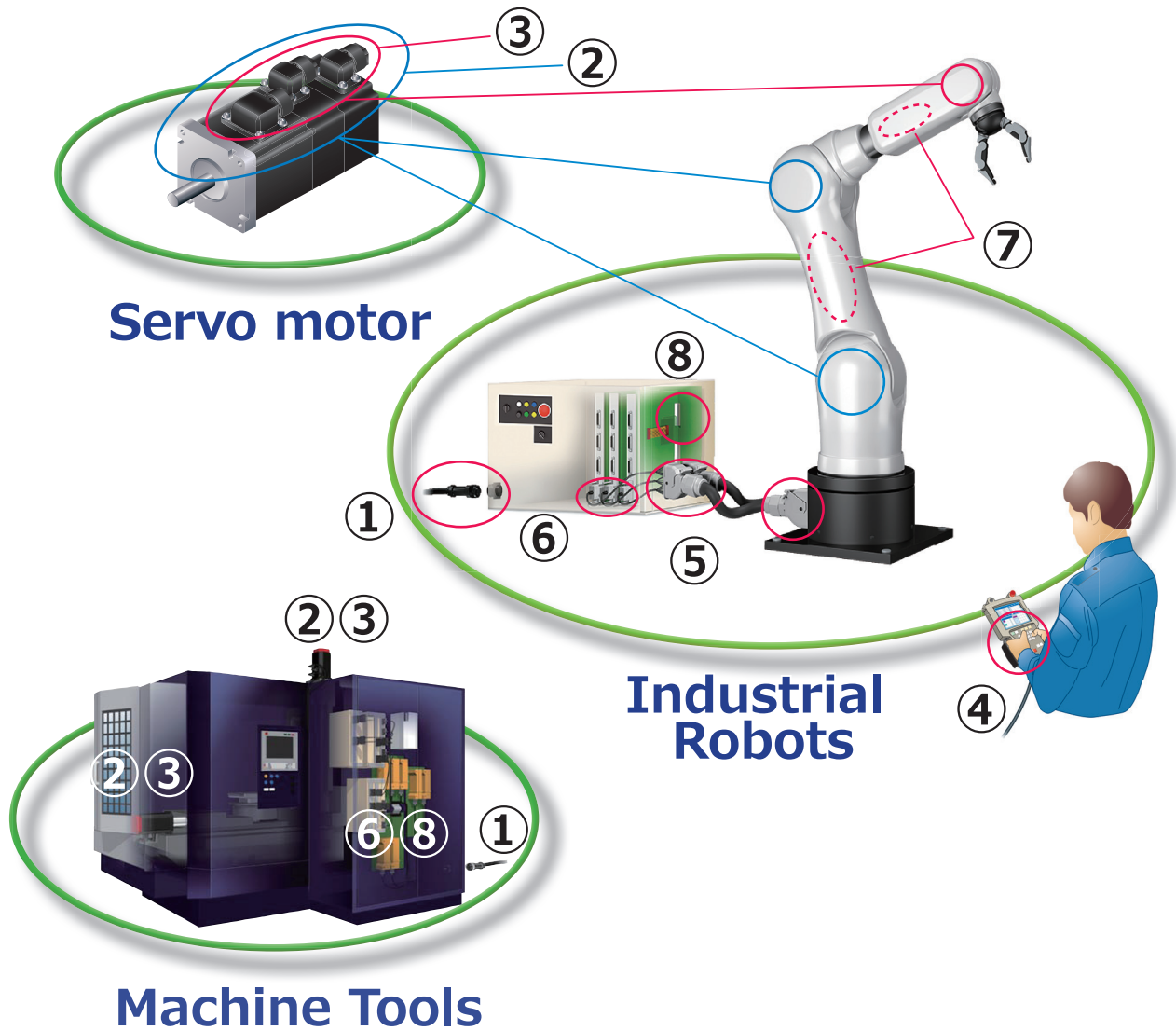


Evaluation equipment installed in the Integrated Evaluation & Test Laboratory



Integrated Evaluation & Test Laboratory

Products by Application



① External Interface Connectors

JL10	PP. 10 ~ 11
JL04V	PP. 12 ~ 13
JA06 / JA08	PP. 14 ~ 15
N/MS	PP. 16 ~ 18
JL02	PP. 19 ~ 20
JL05	PP. 21 ~ 22

② Medium and Large-sized Servo Motor Connectors

JN1 / JN2	P. 23
JN1V / JN2V	P. 24
JN1W / JN2W	P. 25
JL10	PP. 10 ~ 11

③ Compact Servo Motor Connectors

JN14	P. 26
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④ Small Interface Connectors

JB10	P. 27
SRCN	PP. 28 ~ 29

⑤ Rectangular Waterproof Connectors

KN01	PP. 30 ~ 31
KN02	PP. 32 ~ 33

⑥ Rectangular Interface Connectors

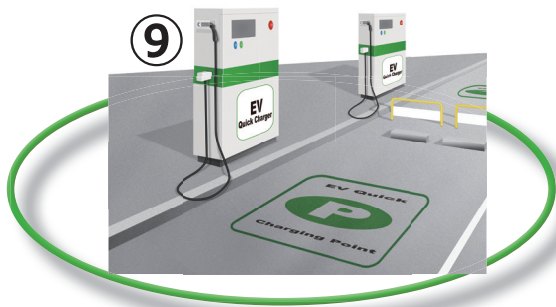
DF02	P. 34
DZ02	P. 35
DX07	PP. 36 ~ 37

⑦ Cable Relay Connectors

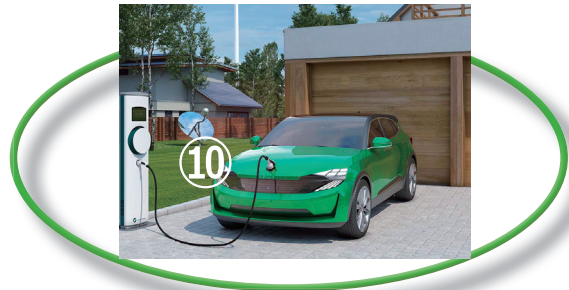
HB01	P. 38
HB03	P. 39

⑧ Board-to-Board Connectors

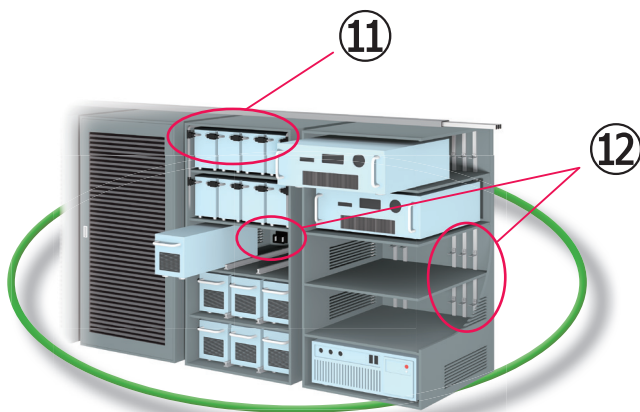
AX01	P. 40
AX03	P. 41
KX14 / KX15	P. 42



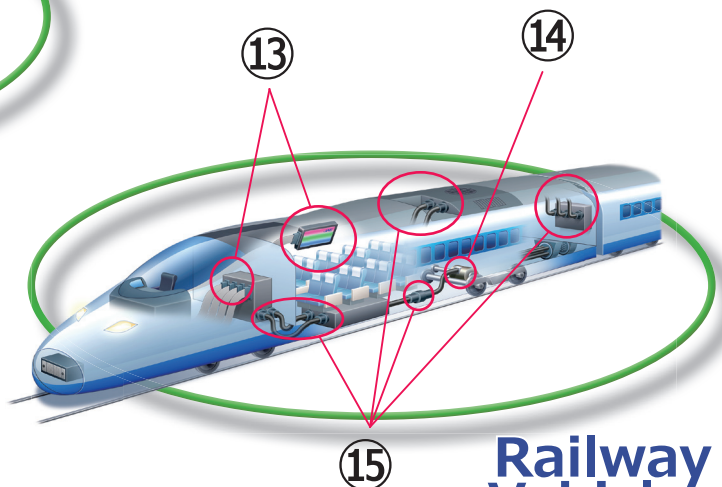
EV Charging Station



**V2H
(Vehicle to Home)**



**Storage Battery
Power Converter**



**Railway
Vehicles**

⑨ Fast Charging Connectors

KW1 / KW03	P. 43
KW04	P. 44

⑩ V2H Connector

KW02	P. 43
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⑪ High-current, Cable Relay Connector

DW05	P. 46
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⑫ High-current, Docking Connectors

DW1 / DW2 / DW3	P. 45
DW07	P. 47

⑬ Railway and On-board Connectors

QE6	P. 52
QX	P. 53

⑭ General Railway and
High-current Railway Motor Connector

JK11	P. 51
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⑮ Railway Sub-floor Connectors

JK06	PP. 48 ~ 49
JK06 for Ethernet	P. 50

Connector Series

Series	JL10	JL04V	JA06/JA08	N/MS
Image				
Rated Current	1A (#20) ~ 80A (#4)	13A (#16) ~ 80A (#4)	13A (#16) ~ 80A (#4)	13A (#16) ~ 150A (#0)
Rated Voltage	AC 100V / AC 250V / AC 500V	AC 100V/AC 200V/AC 250V/ AC 400V/AC 500V	AC : 200V / 500V / 900V DC : 250V / 700V / 1,250V	AC:200V/500V/900V/3,000V DC:250V/700V/1,250V/4,200V
Dielectric Withstanding Voltage	AC 500V / AC 1,000V / AC 2,000V	AC 2,000V	AC 1,000V / AC 2,000V / AC 2,800V	AC 1,000V / AC 2,000V / AC 2,800V / AC 7,000V
Insulation Resistance	1,000MΩ min.	1,000MΩ min./ 5,000MΩ min.	5,000MΩ min.	5,000MΩ min.
Ingress Protection	IP67	IP67	IP67	—
Posting Page	pg. 10 ~ 11	pg. 12 ~ 13	pg. 14 ~ 15	pg. 16 ~ 18
Series	JL02	JL05	JN1/JN2	JN1V/JN2V
Image				
Rated Current	1.5A ~ 13A	2A (#20) ~ 46A (#8)	5A (4 pos. · #20) 3A (10 pos. · #22)	3A
Rated Voltage	AC : 200V / AC 500V DC : 250V / 700V	AC 200V / 500V / 900V DC 250V / 700V / 1,250V	AC 200V AC 400V (JN2 · 4 pos.)	AC 230V
Dielectric Withstanding Voltage	AC 1,000V / AC 2,000V	AC 1,000V / AC 1,500V / AC 2,000V / AC 2,800V	AC 2,000V (4 pos.) AC 900V (10 pos.)	AC 900V
Insulation Resistance	5,000MΩ min.	5,000MΩ min. (Waterproof when mated) / 1,000MΩ min. (Individually waterproof)	1,000MΩ min.	1,000MΩ min.
Ingress Protection	—	IP67	IP67	IP67
Posting Page	pg. 19 ~ 20	pg. 21 ~ 22	pg. 23	pg. 24
Series	JN1W/JN2W	JN14	JB10	SRCN
Image				
Rated Current	13A (5 pos. · #16) 3A (15 pos. · #22)	7A (4 pos.) / 1A (2 / 9 pos.)	1A	5A (#20) ~ 10A (#16)
Rated Voltage	AC 400V (5 pos.) AC 200V (15 pos.)	AC 240V (4 pos.) AC 100V (2 / 9 pos.)	AC 100V	—
Dielectric Withstanding Voltage	AC 2,000V (5 pos.) AC 900V (15 pos.)	AC 1,500V (4 pos.) AC 500V (2 / 9 pos.)	AC 900V	AC 1,000V
Insulation Resistance	1,000MΩ min.	1,000MΩ min. (4 pos.) 100MΩ min. (2 / 9 pos.)	1,000MΩ min.	1,000MΩ min.
Ingress Protection	IP67	IP67	IP67	—
Posting Page	pg. 25	pg. 26	pg. 27	pg. 28 ~ 29

Connector Series

Series	KN01	KN02	DF02	DZ02
Image				
Rated Current	1A (#22) ~ 23A (#12)	13A / 4A / 2A	0.5A	0.5A
Rated Voltage	AC 250V / DC 24V	AC 250V / DC 24V	AC 250V	AC 30V
Dielectric Withstanding Voltage	AC 1,500V (Power) AC 500V (Signal)	AC 500V / AC 1,500V	AC 500V	AC 250V
Insulation Resistance	1,000MΩ min.	100MΩ min.	100MΩ min.	500MΩ min.
Ingress Protection	IP67	—	—	—
Posting Page	pg. 30 ~ 31	pg. 32 ~ 33	pg. 34	pg. 35
Series	DX07 Cable Harness with Screw Lock	DX07 · Receptacle		
Image				
Rated Current	1m : 5A / 2m : 3A	5A		
Rated Voltage	AC 20V	AC 20V		
Dielectric Withstanding Voltage	AC 40V	AC 100V		
Insulation Resistance	100MΩ min.	100MΩ min.		
Posting Page	pg. 36	pg. 37		
Series	HB01	HB03		
Image				
Rated Current	9A / 11A / 13A (Power) 2A / 3A / 4A (Signal)	1A / 2A		
Rated Voltage	AC 250V / DC 250V	AC 250V / DC 250V		
Dielectric Withstanding Voltage	AC 1,500V	AC 1,500V		
Insulation Resistance	5,000MΩ min.	1,000MΩ min.		
Ingress Protection	IP67	—		
Posting Page	pg. 38	pg. 39		

Connector Series

Series	AX01	AX03	KX14/KX15	
Image				
Rated Current	0.5A	0.5A	0.5A	
Rated Voltage	AC 50V	AC 50V	AC 200V / DC 300V	
Dielectric Withstanding Voltage	AC 250V	AC 250V	AC 500V	
Insulation Resistance	100MΩ min.	100MΩ min.	100MΩ min.	
Posting Page	pg. 40	pg. 41	pg. 42	
Series	KW1	KW02	KW03	KW04
Image				
Rated Current	Power : 125A Signal : 2A	Power : 25A, 12V : 6.4A, Signal : 2A	Power : 80A, 12V : 6.4A, Signal : 2A	Power : 150A / 200A, Signal : 2A
Rated Voltage	Power : DC 500V	Power : DC 450V	Power : DC 500V	Power : DC 1,000V
Dielectric Withstanding Voltage	AC 2,200V	AC 3,000V	AC 3,000V	AC 3,000V
Insulation Resistance	100MΩ min.	100MΩ min.	100MΩ min.	5MΩ min.
Posting Page	pg. 43			pg. 44
Series	DW1	DW2	DW3	DW05
Image				
Rated Current	Power : 500A / Signal: 2A	Power : 200A / Signal : 2A	Power : 150A / Signal : 2A	AC / DC 150A
Rated Voltage	Power : DC 600V Signal : AC 100V	Power : DC 600V Signal : AC 100V	Power : DC 600V Signal : AC 100V	—
Dielectric Withstanding Voltage	Power : DC 1,800V Signal : AC 300V	Power : DC 3,000V Signal : AC 300V	Power : DC 3,000V Signal : AC 300V	—
Insulation Resistance	Power-Signal:5,000MΩ min. Signal-Signal : 100MΩ min.	Power-Signal : 5,000MΩ min. Signal-Signal : 100MΩ min.	Power-Power / Power-Signal : 5,000MΩ min. Signal-Signal : 100MΩ min.	—
Posting Page	pg. 45			pg. 46

Series	DW07			
Image				
Rated Current	130A ~ 685A (Ref.)			
Rated Voltage	-			
Dielectric Withstanding Voltage	-			
Insulation Resistance	-			
Posting Page	pg. 47			
Series	JK06	JK06 · Ethernet	JK11	QE6
Image				
Rated Current	13A (Cat.5,#16) 5A (Cat.6A,Inside Ethernet Contact.)	13A (Cat.5,#16) 5A (Cat.6A,Inside Ethernet Contact.)	150A	5A
Rated Voltage	AC 220V / DC 220V	AC 220V / DC 220V	-	-
Dielectric Withstanding Voltage	AC 1,550V (Cat.5) AC 500V (Cat.6A)	AC 1,550V (Cat.5) AC 500V (Cat.6A)	AC 6,000V	AC 1,500V
Insulation Resistance	5,000MΩ min.(Cat.5) 1,000MΩ min.(Cat.6A)	5,000MΩ min.(Cat.5) 1,000MΩ min.(Cat.6A)	5,000MΩ min.	5,000MΩ min.
Ingress Protection	IP67	IP67	IP67	-
Posting Page	pg. 48 ~ 49	pg. 50	pg. 51	pg. 52
Series	QX			
Image				
Rated Current	5A			
Rated Voltage	AC 330V / DC450V			
Dielectric Withstanding Voltage	AC 1,500V			
Insulation Resistance	1,000MΩ min.			
Ingress Protection	-			
Posting Page	pg. 53			

External Interface, Servo Motor Connectors

Dust-and-waterproof, One-touch Locking Connector

JL10 Series



Connector
Details



General Specifications

Number of Contacts	4, 6, 9, 17, 19, 22, 37
Rated Current (by contact size)	#20 Cont. : 1A max. #16 Cont. : 13A max. #12 Cont. : 23A max. #8 Cont. : 46A max., 57A max.(Note1) #4 Cont. : 80A max.
Rated Voltage	AC 100V / AC 250V / AC 500V
Dielectric Withstanding Voltage	AC 500V / AC 1,000V / AC 2,000V
Insulation Resistance	1,000MΩ min.
Durability	500 cycles
Operating Temperature	-55°C ~ +125°C
Applicable Wire	Solder : #16 Cont. : AWG 16 max. #12 Cont. : AWG 12 max. #8 Cont. : AWG 8 / 10 max. #4 Cont. : AWG 4 max. Crimp : #20 Cont. : AWG 20 to 22 #12 Cont. : AWG 12 to 18 #8 Cont. : AWG 8 to 14 #4 Cont. : AWG 8 to 10

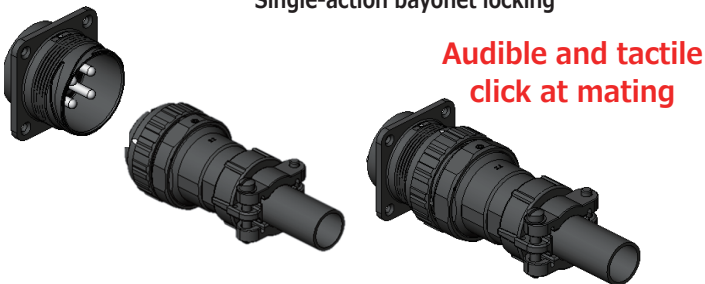
Features

- One-touch bayonet lock reduces operation-hours
- Receptacle: Hybrid mating structure allows mating with either bayonet or MIL-standard MS-connectors. (excludes 18-A6 and 22-A6 contact arrangements)
- Visual mating assurance through aligned white arrow markings on JL10 receptacle and plug.
- Angled plug cable exit can be set in 8 different 45° increment.

(Note 1) When using 8 mm or 10 mm with arrangement 22-22(Soldering Type)

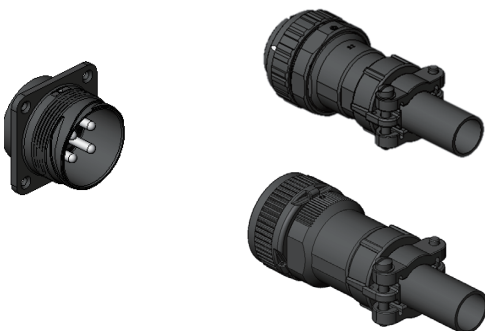
■ One-touch lock reduces operation-hours

Single-action bayonet locking



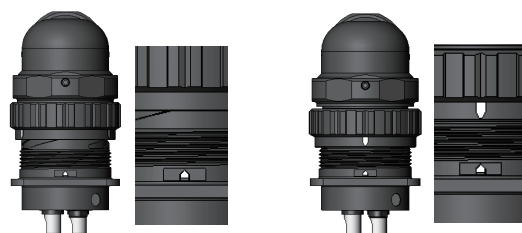
■ Single-action lock / screw structure hybrid mating

Receptacles will mate with MIL standard MS-connectors and various other JAE screw-mating plugs (JL04V, N/MS, JA*) (excludes 18-A6 and 22-A6 contact arrangements)



■ Improved mating reliability

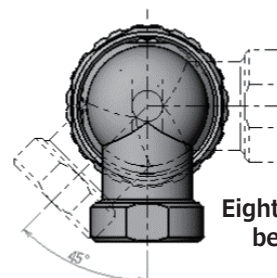
Visual mating assurance through aligned white arrow marking will prevent half-mating



Unmated
condition

Mated
condition

■ Selectable cable exit direction



Eight different orientation can be set at intervals of 45°

External Interface, Servo Motor Connectors

Dust-and-waterproof, One-touch Locking Connector JL10 Series

■ Contact arrangement

(Note 1) When using 8 mm^φ or 10 mm^φ with arrangement 22-22(Soldering Type)
(Note 2) JAE original contact arrangement

Arrangement	18-10		20-4		22-22		32-17	
Contact arrangement (mate face view)								
Size x Number of Contacts	#12 x 4 pos.		#12 x 4 pos.		#8 x 4 pos.		#4 x 4 pos.	
Rated Current	23A		23A		46A、57A(Note 1)		80A	
Rated Voltage	AC 250V	AC 500V	AC 250V	AC 500V	AC 250V	AC 500V	AC 250V	AC 500V
Overvoltage Category	III	II	III	II	III	II	III	II
Pollution Level	3	2	3	2	3	2	3	2
Dielectric Withstanding Voltage	AC 2,000V		AC 2,000V		AC 2,000V		AC 2,000V	
Arrangement	18-A6 (Note 2)		22-A6 (Note 2)		20-18		24-11	
Contact arrangement (mate face view)								
Size x Number of Contacts	#12 x 4 pos.	#20 x 2 pos.	#8 x 4 pos.	#20 x 2 pos.	#12 x 3 pos.	#16 x 6 pos.	#8 x 3 pos.	#12 x 6 pos.
Rated Current	23A	1A	46A	1A	23A	13A	46A	23A
Rated Voltage	AC 250V	AC 48V	AC 250V	AC 48V	AC 250V	AC 100V	AC 250V	AC 500V
Overvoltage Category	II		II		II		III	II
Pollution Level	3		3		2		3	2
Dielectric Withstanding Voltage	AC 2000V	AC 500V	AC 2,000V	AC 500V	AC 2,000V		AC 2,000V	
Arrangement	20-29		22-14		28-11		28-21	
Contact arrangement (mate face view)								
Size x Number of Contacts	#16 x 17 pos.		#16 x 19 pos.		#12 x 4 pos.	#16 x 18 pos.	#16 x 37 pos.	
Rated Current	13A		13A		23A	13A	13A	
Rated Voltage	AC 500V		AC 500V		AC 250V	AC 100V	AC 500V	
Overvoltage Category	-		-		III		-	
Pollution Level	-		-		2 (Mating area is 3)		-	
Dielectric Withstanding Voltage	AC 1,000V		AC 1,000V		AC 2,000V		AC 1,000V	

External Interface Connectors

TÜV Certified Waterproof Screw Mating Connector JL04V Series



Connector
Details



General Specifications

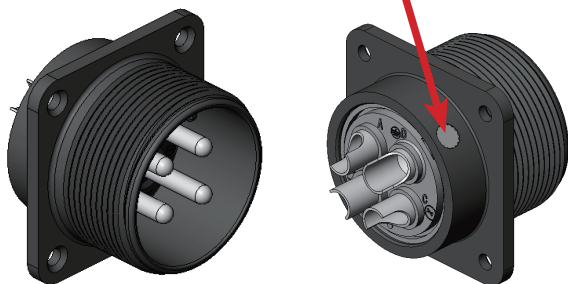
Number of Contacts	3、4、6、7、8、9、22
Rated Current (by contact size)	#16 Cont. : 13A max., #12 Cont. : 23A max. #8 Cont. : 46A max., 57A max. (For arrangement 22-22) #4 Cont. : 80A max.
Rated Voltage	AC 100V / AC 200V / AC 250V / AC 400V / AC 500V
Dielectric Withstanding Voltage	AC 2,000V
Insulation Resistance	1,000MΩ min. / 5,000MΩ min. (In the case of non-waterproof · 2A receptacle)
Operating Temperature	-55°C ~ +125°C
Applicable Wire	#16 Cont. : 1.25mm ² max. or 0.5mm ² max. #12 Cont. : 3.5mm ² max. #8 Cont. : 10mm ² max. or 8mm ² max. or 5.5mm ² max. #4 Cont. : 22mm ² max.

Features

- TÜV Rheinland Certified in compliance with European Safety Standards
- Built-in ground terminal that conducts to outer metal shell, with protective circuit connection structure that enables sequence connection
- IP67 rated water, oil and dust ingress protection

Protective Earth connection structure

Grounding pin connects from contact to outer shell



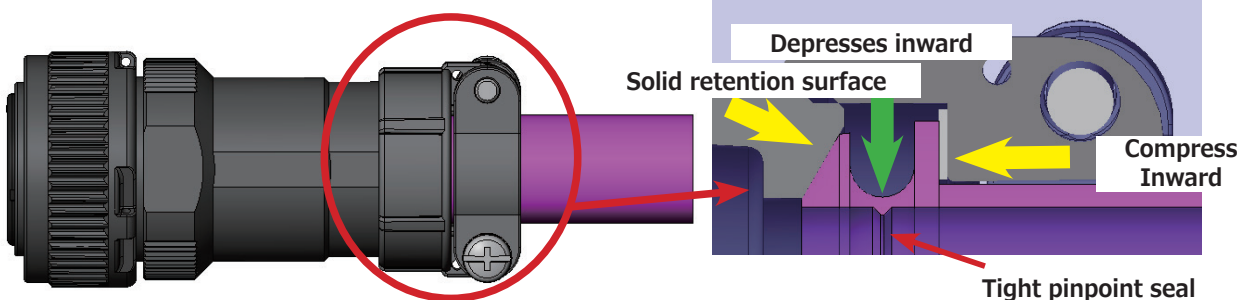
Stand alone waterproof structure

2E type receptacles use rubber insulators to prevent ingress protection into inner contacts.



Waterproof structure cable clamp

Dual function cable clamp provides both reliable waterproof sealing and tight cable retention through tightening of screws.



External Interface Connectors

TÜV Certified Waterproof Screw Mating Connector JL04V Series

■ Contact arrangement

Arrangement	10SL-3	18-10		20-4		22-22		32-17	
Contact arrangement (View of pin insert from mating side)									
Size x Number of Contacts	#16 x 3 pos.	#12 x 4 pos.		#12 x 4 pos.		#8 x 4 pos.		#4 x 4 pos.	
Rated Voltage	200V	250V	500V	250V	500V	250V	500V	250V	500V
Overvoltage Category	III	III	II	III	II	III	II	III	II
Pollution Level	3	3	2	3	2	3	2	3	2
Dielectric Withstanding Voltage	2,000V	2,000V		2,000V		2,000V		2,000V	
Rated Current	13A	23A		23A		57A		80A	
Arrangement	18-12	20-15		24-10		24-10(G)		20-7	
Contact arrangement (View of pin insert from mating side)									
Size x Number of Contacts	#16 x 6 pos.	#12 x 7 pos.		#8 x 7 pos.		#8 x 7 pos.		#16 x 8 pos. (A,B,H) (C,D,E,F)	
Rated Voltage	250V	250V	500V	250V	500V	250V		400V	100V
Overvoltage Category	III	III	II	III	II	III		II	
Pollution Level	3	3	2	3	2	3		2	
Dielectric Withstanding Voltage	2,000V	2,000V		2,000V		2,000V		2,000V	
Rated Current	13A	23A		46A		46A		13A	
Arrangement	22-23	20-18		24-11		28-11			
Contact arrangement (View of pin insert from mating side)									
Size x Number of Contacts	#12 x 8 pos.	#12 x 3 pos. (F,I,B)	#16 x 6 pos. (Other)	#8 x 3 pos. (D,E,F)	#12 x 6 pos. (Other)	#12 x 4 pos. (J,K,L,M)	#16 x 18 pos. (Other)		
Rated Voltage	250V	250V	100V	250V	500V	250V	100V		
Overvoltage Category	III	II		III	II	III			
Pollution Level	3	2		3	2	2 (Note: mating area is 3)			
Dielectric Withstanding Voltage	2,000V	2,000V		2,000V		2,000V			
Rated Current	23A	23A (#12), 13A (#16)		46A (#8), 23A (#12)		23A (#12), 13A (#16)			

External Interface Connectors

General Purpose Waterproof Circular Plug Connector

JA06 / JA08 Series



Connector
Details



General Specifications

Number of Contacts	2, 3, 4, 6, 7, 8, 9, 10, 14, 17, 19, 22, 24, 37		
Rated Current (by contact size)	#16 Cont. : 13A max. , #12 Cont. : 23A max. , #8 Cont. : 46A max. , #4 Cont. : 80A max. (Assembled In Insulator)		
Rated Voltage	Classification code	AC	DC
	INST	200V	250V
	A	500V	700V
	D	900V	1,250V
Dielectric Withstanding Voltage	AC 1,000V、AC 2,000V、AC 2,800V		
Insulation Resistance	5,000MΩ min.		
Contact Resistance (Voltage drop · Initial)	#16 Cont. : 50mV max. (DC 13A) #12 Cont. : 50mV max. (DC 23A) #8 Cont. : 28mV max. (DC 33A) #4 Cont. : 23mV max. (DC 80A)		
Operating Temperature	-55°C ~ +85°C		
Applicable Wire	#16 Cont. : 1.25mm ² max. , #12 Cont. : 3.5mm ² max. , #8 Cont. : 8mm ² max. , #4 Cont. : 22mm ² max.		

Features

- General-purpose plug connector that will mate with our JL04V and N/MS series receptacles
- Synthetic rubber gasket provides waterproof when fully mated.
- Mating key orientation options will prevent mis mating when multiple connectors are used.

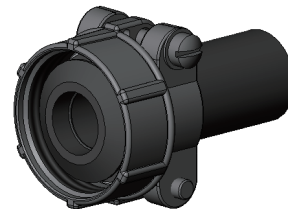
■ MIL-DTL-5015 compliant, screw mating plug connector



Straight plug



Angle plug

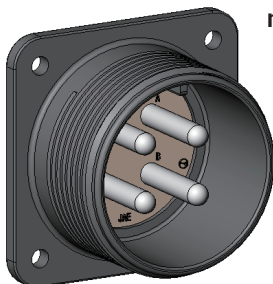


JL04 Cable clamp

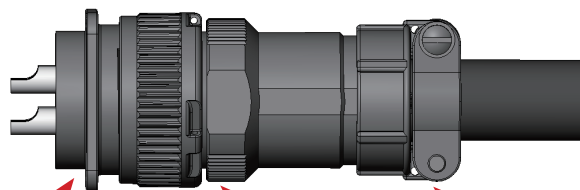
Common cable clamp with JL04V series

■ Waterproof (when mated) type

In addition to our N/MS3102A receptacles, we also have compatibility with other manufacturers' receptacles of the same standard and waterproof performance (IP67) when mated.



MIL-DTL-5015 compliant receptacle is compatible



N/MS Receptacle

JA06A Plug

JL04 cable clamp

External Interface Connectors

General Purpose Waterproof Circular Plug Connector
JA06 / JA08 Series

■ Contact arrangement

(Note) The rated voltage is indicated by classification symbols.
 Please refer to the "General Specifications" column on the previous page for details.

Arrangement	10SL-4	10SL-3	14S-7	14S-2	18-10	20-4
Contact arrangement (View of pin insert from mating side)						
Size x Number of Contacts	#16 x 2 pos.	#16 x 3 pos.	#16 x 3 pos.	#16 x 4 pos.	#12 x 4 pos.	#12 x 4 pos.
Rated Current	13A	13A	13A	13A	23A	23A
Rated Voltage(Note)	INST	INST	A	INST	A	D
Dielectric Withstanding Voltage	AC 2,000V	AC 2,000V	AC 2,000V	AC 1,000V	AC 2,000V	AC 2,800V
Arrangement	22-22	32-17	18-12	20-15	24-10	22-23
Contact arrangement (View of pin insert from mating side)						
Size x Number of Contacts	#8 x 4 pos.	#4 x 4 pos.	#16 x 6 pos.	#12 x 7 pos.	#8 x 7 pos.	#12 x 8 pos.
Rated Current	46A	80A	13A	23A	46A	23A
Rated Voltage(Note)	A	D	A	A	A	D(H), A(Other)
Dielectric Withstanding Voltage	AC 2,000V	AC 2,800V	AC 2,000V	AC 2,000V	AC 2,000V	AC 2,800V (H) AC 2,000V (Other)
Arrangement	24-11	18-1	20-27	28-20	20-29	22-14
Contact arrangement (View of pin insert from mating side)						
Size x Number of Contacts	#8 x 3 pos. #12 x 6 pos.	#16 x 10 pos.	#16 x 14 pos.	#12 x 10 pos. #16 x 4 pos.	#16 x 17 pos.	#16 x 19 pos.
Rated Current	46A (#8) 23A (#12)	13A	13A	23A (#12) 13A (#16)	13A	13A
Rated Voltage(Note)	A	A (B,C,F,G) INST (Other)	A	A	A	A
Dielectric Withstanding Voltage	AC 2,000V	AC 2,000V (B,C,F,G) AC 1,000V (Other)	AC 2,000V	AC 2,000V	AC 2,000V	AC 2,000V
Arrangement	28-11	24-28	28-21			
Contact arrangement (View of pin insert from mating side)						
Size x Number of Contacts	#12 x 4 pos. #16 x 18 pos.	#16 x 24 pos.	#16 x 37 pos.			
Rated Current	23A (#12) 13A (#16)	13A	13A			
Rated Voltage(Note)	A	INST	A			
Dielectric Withstanding Voltage	AC 2,000V	AC 1,000V	AC 2,000V			

External Interface Connectors

MS Standard Compatible Circular Connector N/MS Series



Connector
Details



General Specifications

Number of Contacts	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 16, 17, 19, 22, 24, 26, 35, 37, 48, 54					
Rated Current (by contact size)	#16 Cont. : 13 A max., #12 Cont. : 23A max. #8 Cont. : 46 A max., #4 Cont. : 80 A max. #0 Cont. : 150 A max.(Assembled In Insulator)					
Rated Voltage	Classification code	AC	DC	Classification code	AC	DC
	INST	200V	250V	D	900V	1,250V
Dielectric Withstanding Voltage	A	500V	700V	C	3,000V	4,200V
	INST	1,000V		D	2,800V	
A	2,000V	C		7,000V		
Insulation Resistance	5,000MΩ min.					
Contact Resistance	#16Cont. : 110mV max.(AWG #22) ~ #0 Cont. : 53mV max.(AWG #0)					
Operating Temperature	-55°C ~ +125°C					
Applicable Wire	#16 Cont. : AWG 16 max. #12 Cont. : AWG 12 max. #8 Cont. : AWG 8 max. #4 Cont. : AWG 4 max. #0 Cont. : AWG 0 max.					

Features

- MIL-DTL-5015 compliant and MS-connector compatible
- Screw-driven mating/disengagement allows for easy operation with minimal force
- Selectable insulator to fit pin and socket insert in either plug or receptacle

Standard circular connector with a wide variety of types, sizes and insert options

Component Variation

Receptacle	Plug	Accessory
 <p>N/MS3102A Panel mount receptacle</p>	 <p>N/MS3106B Straight plug</p>	 <p>N/MS3057 Cable clamp</p>
 <p>N/MS3101B Relay receptacle</p>	 <p>N/MS3108B Angle plug</p>	 <p>N/MS25043 Dust cap</p>

External Interface Connectors

MS Standard Compatible Circular Connector

N/MS Series

■ Contact arrangement

(Note) The rated voltage and withstand voltage are indicated by classification symbols. Please refer to the "General Specifications" column on the previous page for details.

Arrangement	18-16	10SL-4	12S-3	14S-9	16S-4	18-3	20-23
Contact arrangement (View of pin insert from mating side)							
Size x Number of Contacts	#12 x 1 pos.	#16 x 2 pos.	#16 x 2 pos.	#16 x 2 pos.	#16 x 2 pos.	#12 x 2 pos.	#8 x 2 pos.
Rated Current	23A	13A	13A	13A	13A	23A	46A
Rated Voltage Dielectric Withstanding Voltage (Note)	C	INST	A	A	D	D	A
Arrangement	10SL-3	14S-7	16-10	16S-5	18-21	22-2	28-6
Contact arrangement (View of pin insert from mating side)							
Size x Number of Contacts	#16 x 3 pos.	#16 x 3 pos.	#12 x 3 pos.	#16 x 3 pos.	#12 x 3 pos.	#8 x 3 pos.	#4 x 3 pos.
Rated Current	13A	13A	23A	13A	23A	46A	80A
Rated Voltage Dielectric Withstanding Voltage (Note)	INST	A	A	A	A	D	D
Arrangement	14S-2	18-10	20-4	22-22	32-17	36-5	14S-5
Contact arrangement (View of pin insert from mating side)							
Size x Number of Contacts	#16 x 4 pos.	#12 x 4 pos.	#12 x 4 pos.	#8 x 4 pos.	#4 x 4 pos.	#0 x 4 pos.	#16 x 5 pos.
Rated Current	13A	23A	23A	46A	80A	150A	13A
Rated Voltage Dielectric Withstanding Voltage (Note)	INST	A	D	A	D	A	INST
Arrangement	16S-8	18-11	14S-6	18-12	20-17	16S-1	20-15
Contact arrangement (View of pin insert from mating side)							
Size x Number of Contacts	#16 x 5 pos.	#12 x 5 pos.	#16 x 6 pos.	#16 x 6 pos.	#12 x 5 pos. #16 x 1 pos.	#16 x 7 pos.	#12 x 7 pos.
Rated Current	13A	23A	13A	13A	13A (#16) 23A (#12)	13A	23A
Rated Voltage Dielectric Withstanding Voltage (Note)	A	A	INST	A	A	A	A

External Interface Connectors

MS Standard Compatible Circular Connector N/MS Series

(Note) The rated voltage and withstand voltage are indicated by classification symbols.
Please refer to "General specifications" on page 17 for the contents.

Arrangement	24-2	24-10	18-8	22-23	20-16	20-18	24-11
Contact arrangement (View of pin insert from mating side)							
Size x Number of Contacts	#12 x 7 pos.	#8 x 7 pos.	#12 x 1 pos. #16 x 7 pos.	#12 x 8 pos.	#12 x 2 pos. #16 x 7 pos.	#12 x 3 pos. #16 x 6 pos.	#8 x 3 pos. #12 x 6 pos.
Rated Current	23A	46A	23A (#12) 13A (#16)	23A	23A (#12) 13A (#16)	23A (#12) 13A (#16)	46A (#8) 23A (#12)
Rated Voltage Dielectric Withstanding Voltage (Note)	D	A	A	D (H) A (other)	A	A	A
Arrangement	18-1	24-20	20-27	22-19	28-20	24-7	20-29
Contact arrangement (View of pin insert from mating side)							
Size x Number of Contacts	#16 x 10 pos.	#12 x 2 pos. #16 x 9 pos.	#16 x 14 pos.	#16 x 14 pos.	#12 x 10 pos. #16 x 4 pos.	#12 x 2 pos. #16 x 14 pos.	#16 x 17 pos.
Rated Current	13A	23A (#12) 13A (#16)	13A	13A	23A (#12) 13A (#16)	23A (#12) 13A (#16)	13A
Rated Voltage Dielectric Withstanding Voltage (Note)	A (B,C,F,G) INST (Other)	D	A	A	A	A	A
Arrangement	22-14	28-11	24-28	28-12	32-7		
Contact arrangement (View of pin insert from mating side)							
Size x Number of Contacts	#16 x 19 pos.	#12 x 4 pos. #16 x 18 pos.	#16 x 24 pos.	#16 x 26 pos.	#12 x 7 pos. #16 x 28 pos.		
Rated Current	13A	23A (#12) 13A (#16)	13A	13A	23A (#12) 13A (#16)		
Rated Voltage Dielectric Withstanding Voltage (Note)	A	A	INST	A	INST (A,B,h,j) A (Other)		
Arrangement	28-21	36-10	32A10				
Contact arrangement (View of pin insert from mating side)							
Size x Number of Contacts	#16 x 37 pos.	#16 x 48 pos.	#16 x 54 pos.				
Rated Current	13A	13A	13A				
Rated Voltage Dielectric Withstanding Voltage (Note)	A	A	A				

External Interface Connectors

General Purpose Rugged Circular Connector JL02 Series



General Specifications

Number of Contacts	10, 17, 19, 24, 37, 48, 54		
Rated Current (by contact size)	0.08 ~ 0.13mm ² : 1.5A max. 0.2 ~ 0.5mm ² : 2A max. 0.5 ~ 1.25mm ² : 5A max. 1.25 ~ 2 mm ² : 13A max. (Assembled In Insulator)		
Rated Voltage	Classification code	AC	DC
	INST	200V	250V
Dielectric Withstanding Voltage	A	500V	700V
	INST	1,000V	
Insulation Resistance	A	2,000V	
	Operating Temperature	-55°C ~ +85°C	
Applicable Wire	AWG 28 ~ #26, AWG 24 ~ #20 AWG 20 ~ #16, AWG 16 ~ #14		

Features

- Easy to terminate crimp contact type connector
 - Screw-driven mating/disengagement allows for easy operation with minimal force
 - Compatible with JAE N/MS Series and other MIL standard MS-connectors (Note)
- (Note) Please confirm the specifications before use.

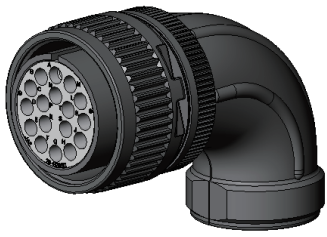
MIL-DTL-5015 compliant screw mating circular connector



Panel mount receptacle



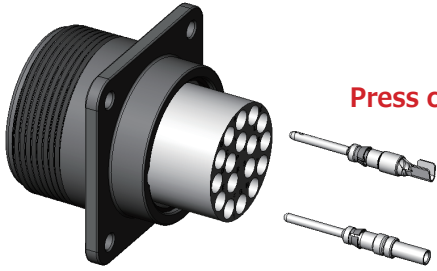
Straight plug



Angle plug

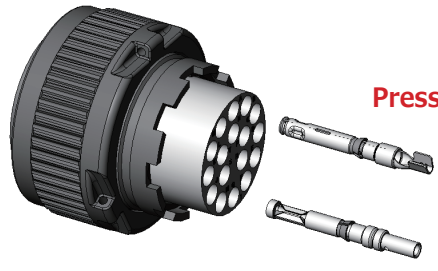
Crimp contact

Selectable Low cost & light weight press contact and high reliability machine contact options



Press contact

Machine contact



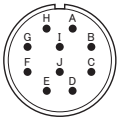
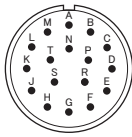
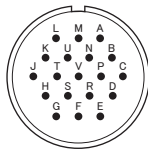
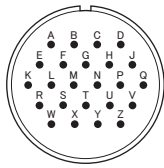
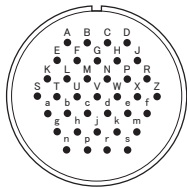
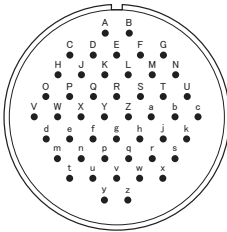
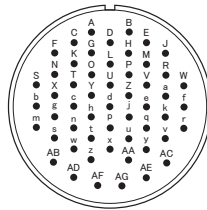
Press contact

Machine contact

External Interface Connectors

General Purpose Rugged Circular Connector JL02 Series

■ Contact arrangement

Arrangement	18-B1	20-B29	22-B14	24-B28
Contact arrangement (View of pin insert from mating side)				
Size x Number of Contacts	#16 x 10 pos.	#16 x 17 pos.	#16 x 19 pos.	#16 x 24 pos.
Rated Current	13A	13A	13A	13A
Rated Voltage Dielectric Withstanding Voltage (Note)	A (B,C,F,G) INST (Other)	A	A	INST
Arrangement	28-B21	36-B10	32-BA10	
Contact arrangement (View of pin insert from mating side)				
Size x Number of Contacts	#16 x 37 pos.	#16 x 48 pos.	#16 x 54 pos.	
Rated Current	13A	13A	13A	
Rated Voltage Dielectric Withstanding Voltage (Note)	A	A	A	

(Note) The rated voltage and withstand voltage are indicated by classification symbols. Please refer to the "General Specifications" column on the previous page for details..

External Interface Connectors

One-touch Bayonet locking Waterproof Connector JL05 Series



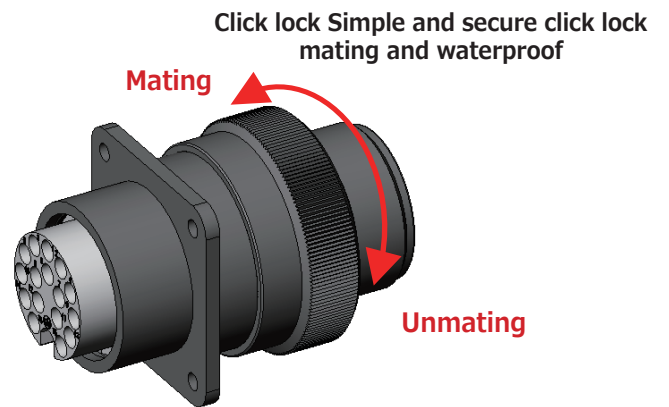
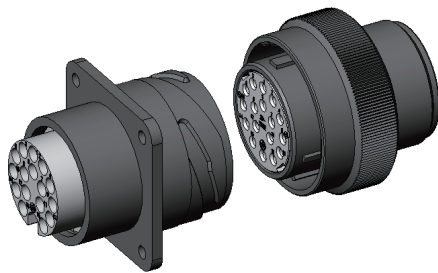
General Specifications

Number of Contacts	4, 5, 7, 8, 9, 10, 17, 19, 24, 30, 36, 37, 52, 73		
Rated Current (by contact size)	#20 Cont. : 5A max. , #16 Cont. : 13A max. #12 Cont. : 23A max. , #8 Cont. : 46A max. (Assembled In Insulator)		
Rated Voltage	Classification code	AC	DC
	INST	200V	250V
	A	500V	700V
Dielectric Withstanding Voltage	D	900V	1,250V
	INST	1,000V	
A	2,000V		
D	2,800V		
Insulation Resistance	5,000MΩ max.(Waterproof type when mated) 1,000MΩ max.(Individually waterproofed type)		
Operating Temperature	-55°C ~ +125°C		
Applicable Wire	#20 Cont. : AWG 18 ~ 26 #16 Cont. : AWG 14 ~ 24 #12 Cont. : AWG 12 ~ 16 #8 Cont. : AWG 8 ~ 12		

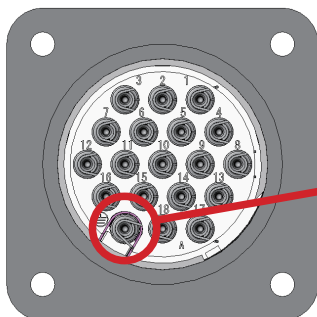
Features

- One-touch bayonet lock mating type
- Five optional keyed mating orientation to prevent mis-mating in multiple connector use
- Sequential connection ensures reliable link with protection circuit.

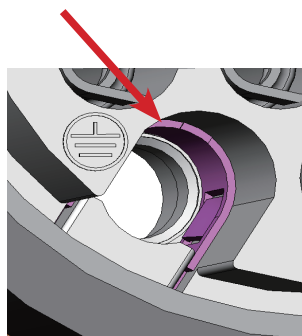
One-touch lock mating



Protective Earth connection



Ground lug



Grounding lug to connect contact to outer metal shell

External Interface Connectors

One-touch Bayonet locking Waterproof Connector JL05 Series

■ Contact arrangement

Arrangement	22-22	18-11	20-15	24-10	22-23	24-11
Contact arrangement (View of pin insert from mating side)						
Size x Number of Contacts	#8 x 4 pos.	#12 x 5 pos.	#12 x 7 pos.	#8 x 7 pos.	#12 x 8 pos.	#8 x 3 pos. #12 x 6 pos.
Rated Current	46A	23A	23A	46A	23A	46A (#8) 23A (#12)
Rated Voltage Dielectric Withstanding Voltage (Note1)	A	A	A	A	D (H) A (Other)	A
Arrangement	18-1	20-29	18-19A	22-14	24-28	20-30A
Contact arrangement (View of pin insert from mating side)						
Size x Number of Contacts	#16 x 10 pos.	#16 x 17 pos.	#20 x 19 pos.	#16 x 19 pos.	#16 x 24 pos.	#20 x 30 pos.
Rated Current	13A	13A	5A	13A	13A	5A
Rated Voltage Dielectric Withstanding Voltage (Note1)	A (B,C,F,G) INST (Other)	A	INST	A	INST	INST
Arrangement	28-36B	28-21	24-52A	28-73A		
Contact arrangement (View of pin insert from mating side)						
Size x Number of Contacts	#12 x 4 pos. #16 x 4 pos. #20 x 28 pos.	#16 x 37 pos.	#20 x 52 pos.	#20 x 73 pos.		
Rated Current	23A (#12) 13A (#16) 5A (#20)	13A	5A	5A		
Rated Voltage Dielectric Withstanding Voltage (Note1)	(Note2)	A	INST	INST		

(Note1) The rated voltage and withstand voltage are indicated by classification symbols.

Please refer to the "General Specifications" column on the previous page for details.

(Note2) The table below shows the rated voltage and withstand voltage of the contact arrangement 28-36B (36 positons).

	Terminal No.	AC	DC
Rated Voltage	1 ~ 28	200V	250V
	29 ~ 35,Ground	500V	700V
Dielectric Withstanding Voltage	1 ~ 28	1,500V	
	29 ~ 35,Ground	2,000V	

Medium-and Large-sized Servo Motor Connectors

Compact, lightweight, One-touch locking Waterproof connector

JN1 / JN2 Series



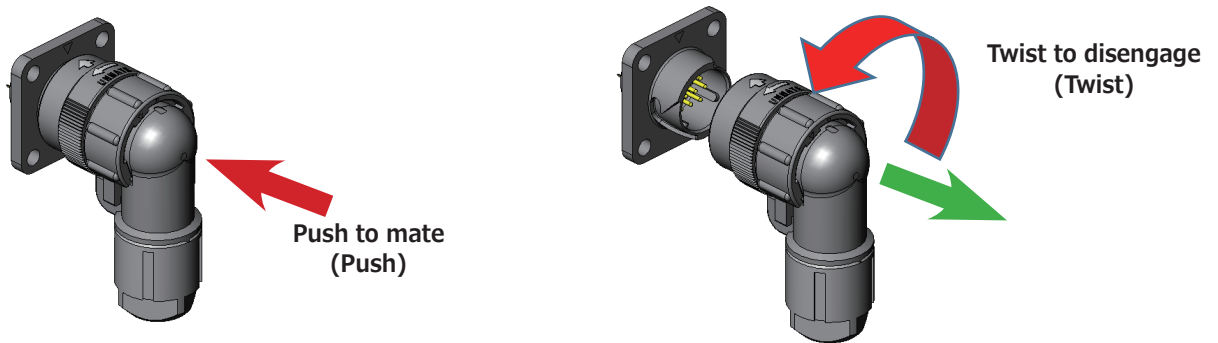
General Specifications

Number of Contacts	4, 10
Rated Current (by contact size)	4 pos. : 5A max. (# 20 Cont.) 10 pos. : 3A max. (# 22 Cont.)
Rated Voltage	AC 200V, JN2 · 4 pos. : AC 400V (Pollution Level:2 / Overvoltage Category: III)
Dielectric Withstanding Voltage	4 pos. : AC 2,000V 10 pos. : AC 900V
Insulation Resistance	1,000MΩ min.
Durability	500 cycles
Operating Temperature	JN1 : -20°C ~ +125°C JN2 : -20°C ~ +100°C
Airtightness (Individually Waterproofed)	2.9 X 10 ⁴ Pa (per minute), without leakage
Applicable Wire	4 pos. : Receptacle · Solder · AWG 18 max. Plug / Cable connecting receptacle(JN1) Solder · AWG 16 max. 10pos. : Receptacle · Solder · AWG 22 max. Plug / Cable connecting receptacle(JN1) Solder · AWG 20 max. Crimp · AWG 20 ~ 28

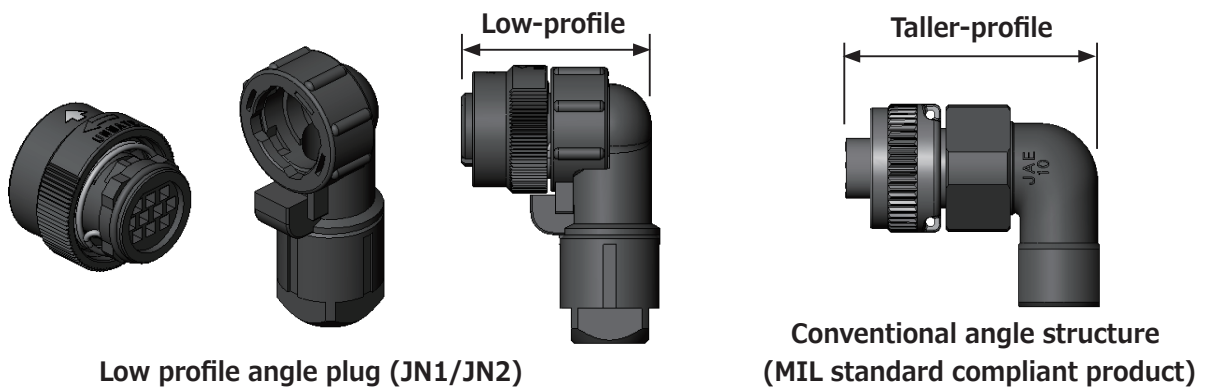
Features

- Compact and lightweight
- Push-twist one-touch locking reduces operation-hours
- JN1: Lightweight all-plastic
- JN2 : Robust metallic outer shell for added ruggedness

■ Push-twist one-touch locking



■ Low-profile endbell



Medium-and Large-sized Servo Motor Connectors

Compact Circular One-touch Locking waterproof Connector with Enhanced Vibration Resistance

JN1V / JN2V Series



Connector
Details



General Specifications

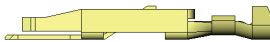
Number of Contacts	10
Rated Current (by contact size)	3A max.
Rated Voltage	AC 230V max.
Dielectric Withstanding Voltage	AC 900V
Insulation Resistance	1,000MΩ min.
Durability	500 cycles
Operating Temperature	-20°C ~ +125°C
Vibration Resistance	245 m/s ² peaks, 10 to 500Hz, 3 hours for each 3 axes (total 9 hours)
Applicable Wire	AWG 20 ~ 21, AWG 21 ~ 25, AWG 26, 28

Features

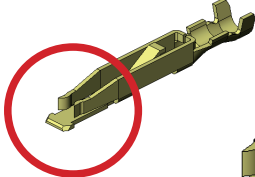
- Vibration resistant multi-point contact socket contact provides excellent contact reliability
- Withstands up to 245 m/S² (25G) of vibration
- Mates with JN1/JN2 series receptacles
- JN1V : All-plastic and lightweight
- JN2V : Robust metallic outer shell for added ruggedness

Enhanced vibration resistance

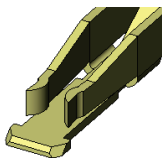
Standard JN1/JN2 socket contact



Withstands up to 10G of vibration

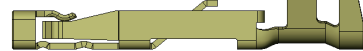


Two-point contact structure

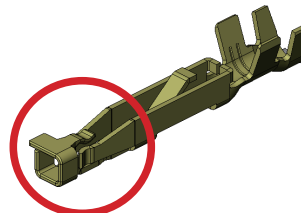


Vibration Resistant

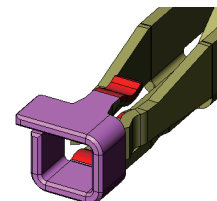
· JN1V / JN2V socket contact



Withstands up to 25G of vibration

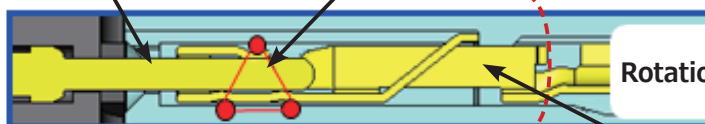


Five-point contact structure



Pin contact

Added socket contact points prevent rotation



Rotation suppression

Cross-section of mated contacts

Socket contact

Medium-and Large-sized Servo Motor Connectors

Compact, lightweight, One-touch locking waterproof connector

JN1W / JN2W Series



General Specifications

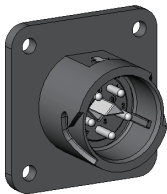
Number of Contacts	JN1W : 15、 JN2W : 5、 15
Rated Current (by contact size)	5 pos. : 13A max. (#16 Cont.) 15 pos. : 3A max. (#22 Cont.)
Rated Voltage	5 pos. : AC 400V (Pollution Level:2/Overvoltage Category: II) 15 pos. : AC 200V
Dielectric Withstanding Voltage	5 pos. : AC 2,000V 15 pos. : AC 900V
Insulation Resistance	1,000MΩ min.
Durability	500 cycle
Operating Temperature	JN1W : -20°C ~ +125°C JN2W : -20°C ~ +100°C
Applicable Wire	5 pos. : Solder · AWG 14 max. 15 pos. : Crimp · AWG 20 ~ 28 Solder · AWG 20 max. (JN2W · Plug only)

Features

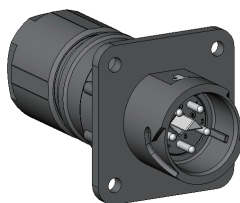
- Compact and lightweight connector developed for power supply (5 pos) and signal (15 pos) of industrial equipment
- Push-twist one-touch locking reduces operation-hours
- 5 pos version will support 13A high-current
- JN1 : Lightweight all-plastic
- JN2 : Robust metallic outer shell for added ruggedness

Small one-touch locking waterproof connector variation

Panel mount receptacle



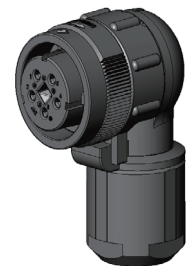
Bulkhead relay receptacle



Straight Plug



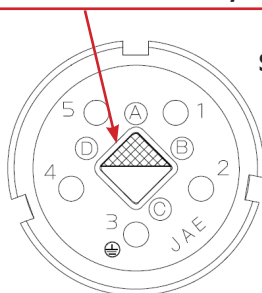
Angle Plug



Relay receptacles and bulkhead relay angle receptacles also available.

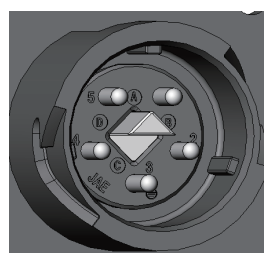
Mis-mating prevention key

Shaded area: Mis-mating prevention key (A position)

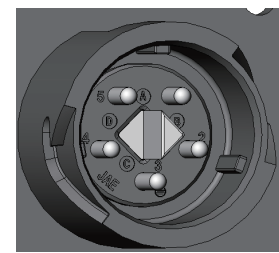


Selectable key positions from A to D in 90° intervals

Convenient selectable 4-position orientation to present mis-mating while using multiple connectors



In A position



In B position

Compact Servo Motor Connectors

Low-cost, Lightweight All-plastic Connector JN14 Series



Connector
Details



Features >

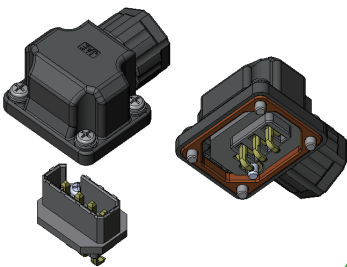
- Low-cost, lightweight all-plastic connector
- Secure mating structure with excellent vibration resistance and waterproof
- Selectable cable exit orientation
- Can be mounted to a metal motor enclosure

General Specifications >

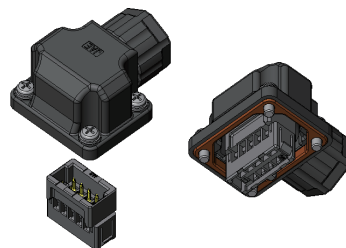
Number of Contacts	4 (For power)、 2 (For brake)、 9 (For encoder)
Rated Current (by contact size)	4 pos. : 7A max., 2 pos. / 9 pos. : 1A max.
Rated Voltage	4 pos. : AC 240V, 2 pos. / 9 pos. : AC 100V
Dielectric Withstanding Voltage	4 pos. : AC 1,500V, 2 pos. / 9 pos. : AC 500V
Insulation Resistance	4 pos. : 1,000MΩ min., 2 pos. / 9 pos. : 100MΩ min.
Durability	50 cycles
Operating Temperature	-40℃~+125℃

■ All Plastic: Lightweight and Low-cost

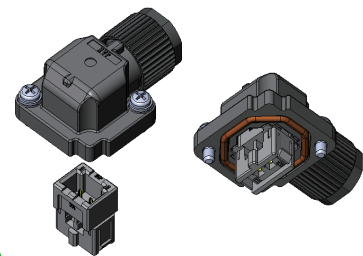
[4 pos.] For power



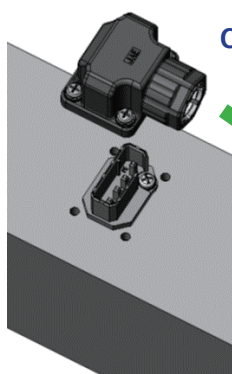
[9 pos.] For encoder



[2 pos.] For brake



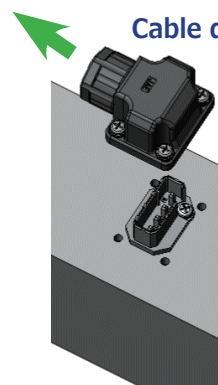
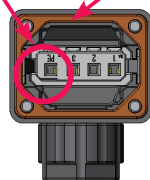
■ User preference selectable cable exit orientation of plug housing



Cable direction

Ground terminal

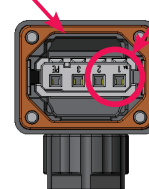
Insulator



Cable direction

Insulator

Ground terminal



Small Interface Connectors

All-plastic One-touch Locking Waterproof Connector

JB10 Series

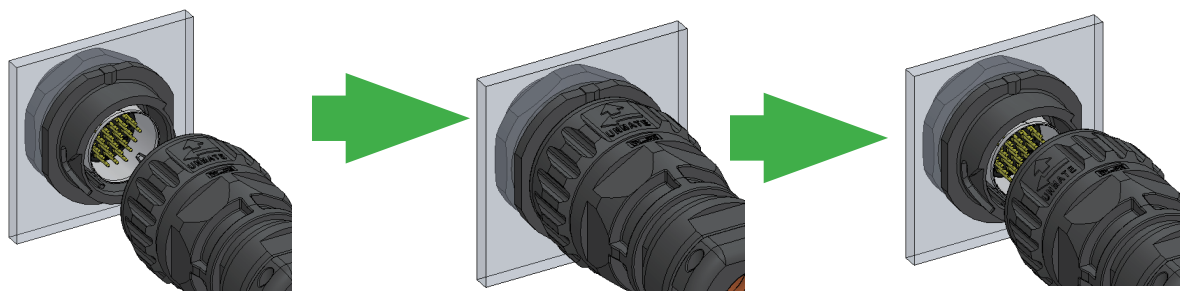


Features ▶

- Two types of receptacles for front and rear panel mounting.
- One-touch, push and twist locking structure
- All-plastic lightweight with embedded internal shielding
- Selectable pin and socket insulator orientation based on application requirement
- Vibration-resistant, multipoint socket contact provides excellent contact reliability

Number of Contacts	26
Rated Current (by contact size)	1A max.
Rated Voltage	AC 100V
Dielectric Withstanding Voltage	AC 900V
Insulation Resistance	1,000MΩ min.
Durability	500 cycle
Operating Temperature	- 20°C ~ + 125°C
Applicable Wire	AWG 20 ~ 21, AWG 21 ~ 25, AWG 26, 28

■ One-touch, push to mate twist to disengage locking structure

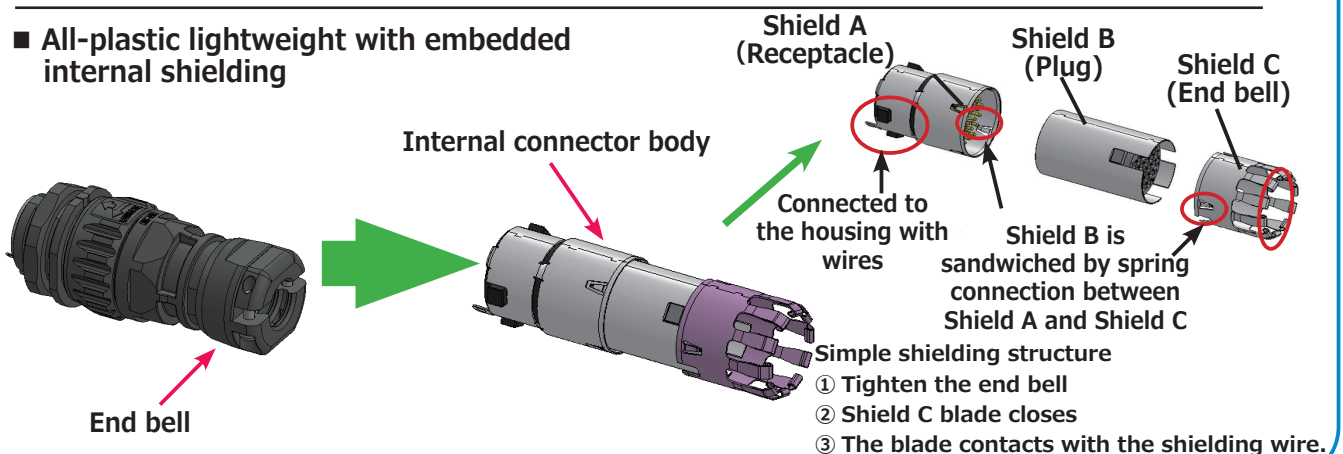


① **Insert**
Lock by simply pushing in the plug

② **Mating**
The force of the spring rotates the coupling nut to lock in position.

③ **Disengagement**
Rotate the coupling nut to unlock

■ All-plastic lightweight with embedded internal shielding



Small Interface Connectors

Conformed to JIS C 5432 · Compact and lightweight connector

SRCN Series



Connector
Details



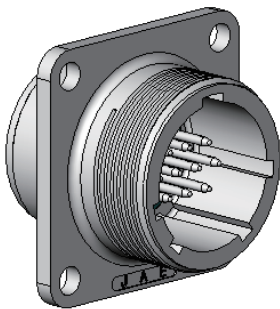
Features >

- Secure screw, mating requiring minimal force
- Selectable pin and socket insulator orientation based on application
- Socket insulator contact entry is closed to smoothly guide pin contact insertion

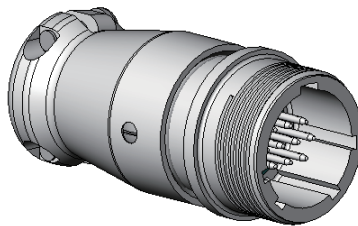
General Specifications >

Number of Contacts	3、5、7、10、16、24
Rated Current (by contact size)	5A max.(#20 Cont.) 10A max.(#16 Cont.)
Dielectric Withstanding Voltage	AC 1,000V
Insulation Resistance	1,000MΩ min.
Operating Temperature	-25℃~ +85℃
Applicable Wire	#20 Cont. : AWG 20 max. #16 Cont. : AWG 16 max.

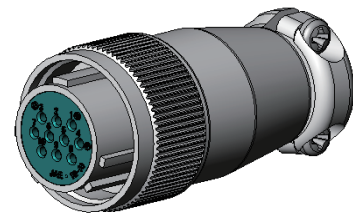
- JIS C 5432 standard compliant
Compact screw mating type connector (solder connection)



Panel mount
receptacle



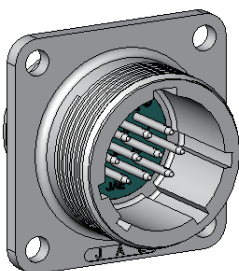
Cable in-line
receptacle



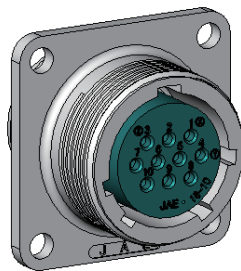
Straight plug

■ Selectable Pin/Socket Insert

Use of press contact provides light-weight
and low cost



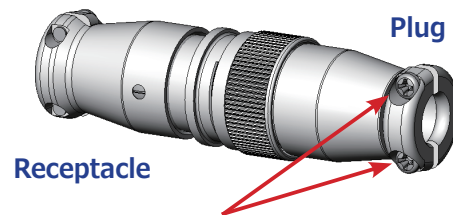
Pin inserts



Socket inserts

■ Strong cable Retention

Panel mount and in-line solution
available



Receptacle

Plug

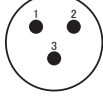
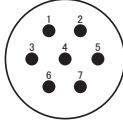
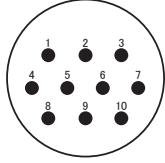
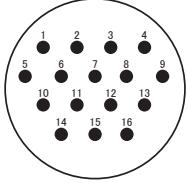
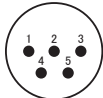
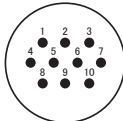
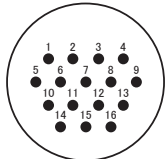
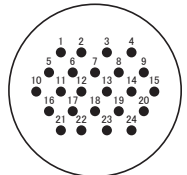
Screw tightened cable clamp will
provide excellent cable retention.

Small Interface Connectors

Conformed to JIS C 5432 · Compact and lightweight interface connector

SRCN Series

■ Contact arrangement

Arrangement	13-3	16-7	21-10	25-16
Contact arrangement (View of pin insert from mating side)				
Size x Number of Contacts	#16 × 3 pos.	#16 × 7 pos.	#16 × 10 pos.	#16 × 16 pos.
Rated Current	10A	10A	10A	10A
Dielectric Withstanding Voltage	1,000V	1,000V	1,000V	1,000V
Arrangement	13-5	16-10	21-16	25-24
Contact arrangement (View of pin insert from mating side)				
Size x Number of Contacts	#20 × 5 pos.	#20 × 10 pos.	#20 × 16 pos.	#20 × 24 pos.
Rated Current	5A	5A	5A	5A
Dielectric Withstanding Voltage	1,000V	1,000V	1,000V	1,000V

Rectangular Waterproof Connectors

High-density Waterproof Lightweight Rectangular Connector

KN01 Series



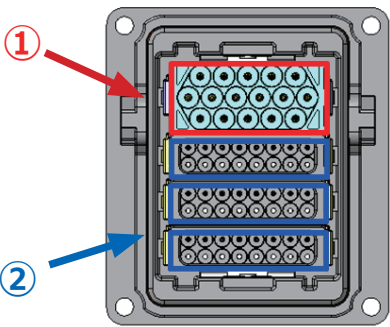
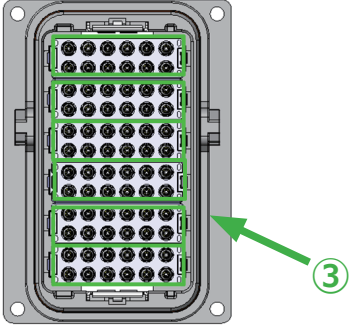
Connector
Details



Features

- Rack-and-pinion lever structure for easy with minimal force
- Allows for combined use of power and signal lines in a single unit, with an internal EMI noise suppression option.
- Modular insulator blocks allows for customized application use

General Specifications

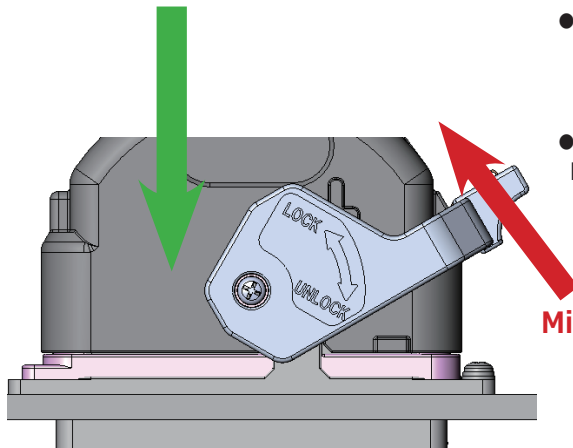
		M Size	L Size
Arrangement			
Number of Contacts	Power	① #16 × 16 pos.	③ #12 × 12 pos.
	Signal	② #20 × 16 pos.	③ #20 × 18 pos.
		② #20 × 14 pos.(With shield)	③ #22 × 50 pos.
Rated Current		#16 : 16A max. #20 : 3A max.	#12 : 23A max. #20 : 3A max. #22 : 1A max.
Rated Voltage		#16 : AC 250V #20 : DC 24V	#12 : AC 250V #20 : DC 24V #22 : DC 24V
Dielectric Withstanding Voltage	Power	AC 1,500V	
	Signal	AC 500V	
Insulation Resistance		1,000MΩ min.	
Operating Temperature		-20C°~ +105°C	
Cable Retention Force		300N min.	
Durability		100 times	
Applicable Wire (AWG / Insulation outer diameter)		AWG 10 ~ 28 / φ 4.7mm ~ φ 0.8mm	

Rectangular Waterproof Connectors

High-density Waterproof Lightweight Rectangular Connector KN01 Series

■ Lever structure for excellent operability

Great driving force



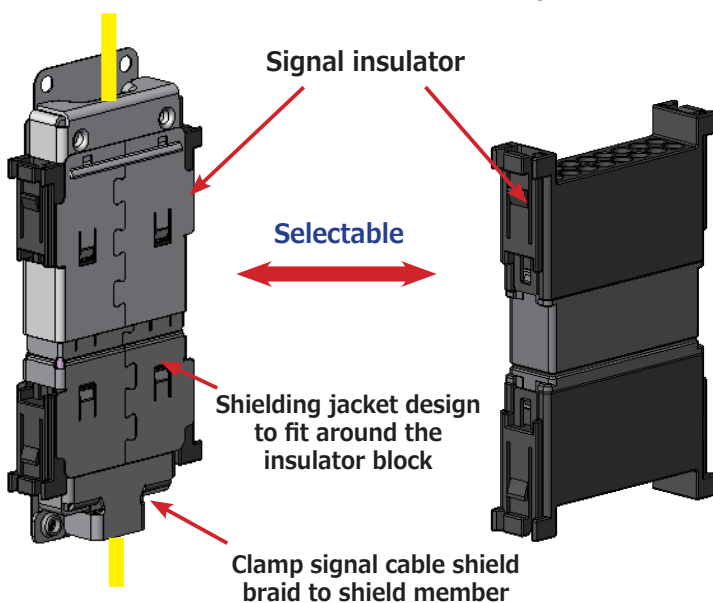
- Rack-and-pinion system allows for easy mating and disengagement with minimal force.
- To avoid half-mated operation the locking lever is designed to remain in the unlocked position until the connector pair are fully engaged
- Lever lock will function only in mated state. Double locking mechanism to ensure

Minimal operating force

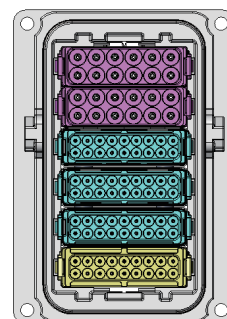
■ Combined power and signal with optional internal shielding

Shield type

Standard type
(without shield)



Complex arrangement
example



Power
(UVW ground)
With signal shielding
(Encoder)
Signal
(Brake)

Rectangular Waterproof Connectors

All-plastic Rectangular Connector

KN02 Series



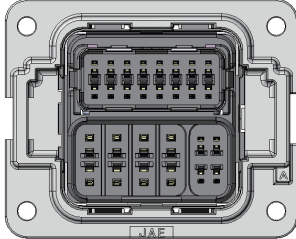
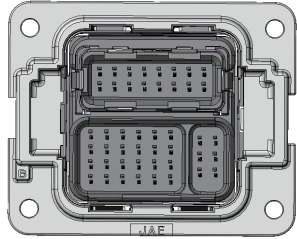
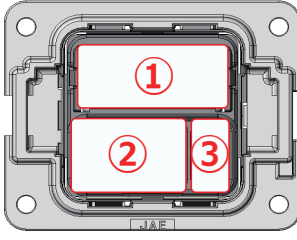
Connector
Details



Features >

- Selectable insert variations
- Resin plated all-plastic outer shell
- Easy one-touch locking structure
- Angle plug offered in low-profile option and selectable cable exit orientation

General Specifications >

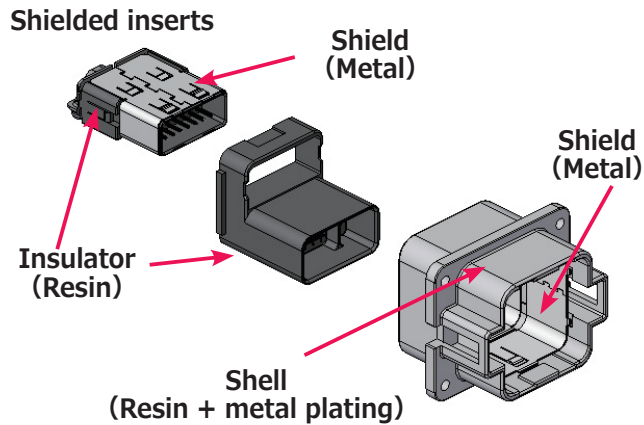
		Type-A	Type-B		
Arrangement					
Insulator Block Configuration					
Internal insulator	Number of Contacts	① 16		① 16	
	Rated Voltage	DC 24V		DC 24V	
	Rated Current	4A max.		2A max.	
	Dielectric Withstanding Voltage	AC 500V		AC 500V	
Main insulator	Number of Contacts	② 8	③ 4	② 24	③ 6
	Rated Voltage	AC 250V (II / 3)	DC 24V	AC 250V (II / 2)	DC 24V
	Rated Current	13A max.	4A max.	2A max.	2A max.
	Dielectric Withstanding Voltage	AC 1,500V	AC 500V	AC 1,500V	AC 500V
Insulation Resistance		100MΩ min.			
Operating Temperature		- 10°C ~ + 85°C			
Cable Retention Force		100N min.			
Durability		30 cycles			
Applicable Wire (AWG / Insulation outer diameter)		AWG 12 ~ 30 / φ 2.8mm ~ φ 0.6mm			

Rectangular Waterproof Connectors

All-plastic Rectangular Connector

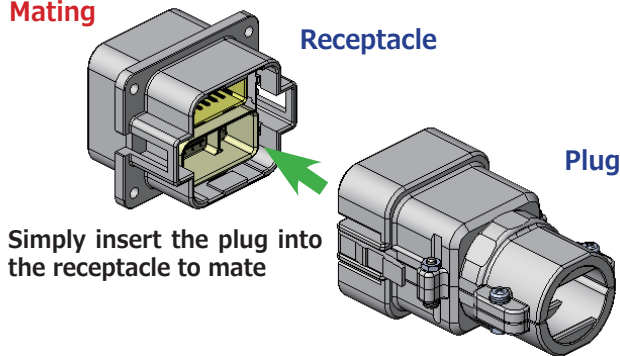
KN02 Series

■ Resin plated all-plastic outer shell

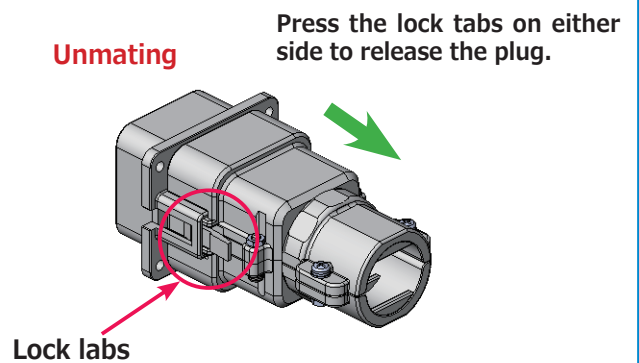


■ Simple one-touch locking structure

Mating

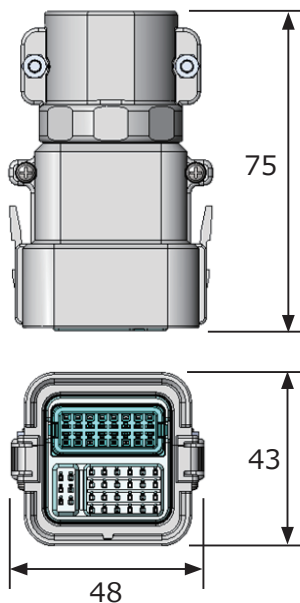


Unmating

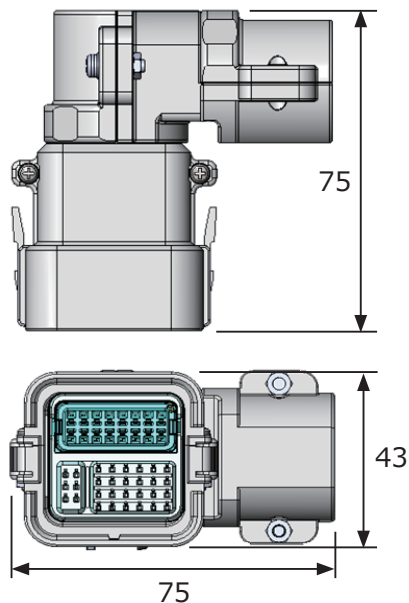


■ Low-profile angle plug : Eight selectable cable exit orientation

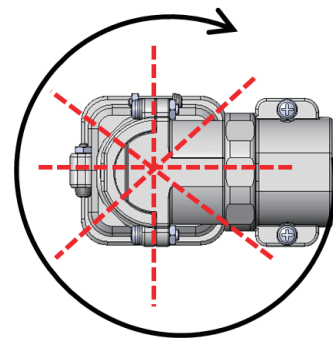
Straight type



Angle type



Angle plugs can be set to eight directions in 45° increments



(Unit : mm)

Rectangular Interface Connectors

1.27mm Pitch, Square Interface Connector DF02 Series



Connector
Details



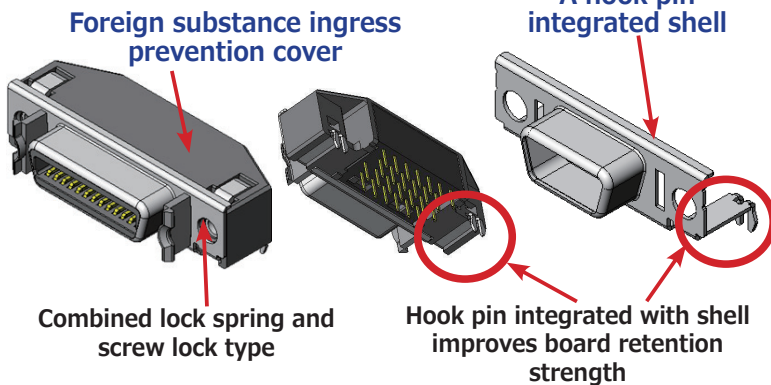
Features ▶

- Receptacles offered in one-touch spring lock and screw lock options
- Terminal covers to prevent foreign contaminant ingress
- Lightweight resin hood with excellent workability during assembly and repair processes

General Specifications ▶

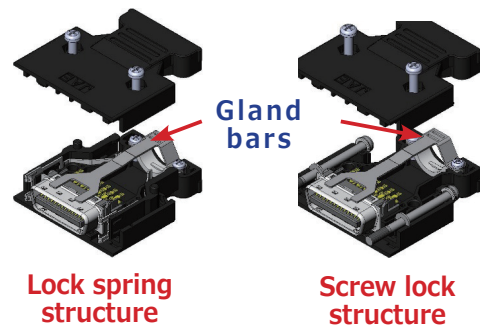
Number of Contacts	14, 20, 26, 36, 50
Rated Current (by contact size)	0.5A max.
Rated Voltage	AC 250V
Dielectric Withstanding Voltage	AC 500V (Contact Only)
Insulation Resistance	100MΩ min. (Contact Only)
Contact Resistance	35mΩ max.
Operating Temperature	-20°C ~ +80°C
Applicable Wire	Solder: AWG 22 ~ 30 (Insulation outer diameter Φ 1.1 max.) Crimp: AWG 28, 30 (Insulation outer diameter Φ 0.51 ~ Φ 0.64)

■ Cover for foreign substance ingress protection and board mounting strength



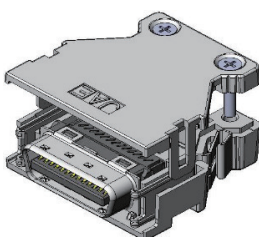
■ Low-cost type hood without resin plating

The Grounding bar provides proper grounding between devices

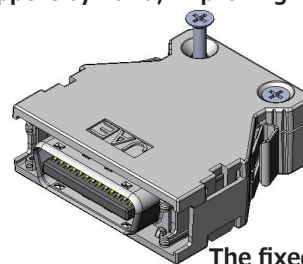
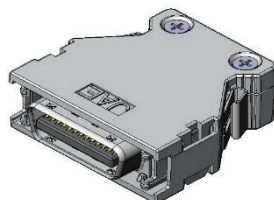


■ Enhanced workability of plug hood during assembly and repair

Side locks to simplify securing process.



Screws will stand independently even when without support by hand, improving workability

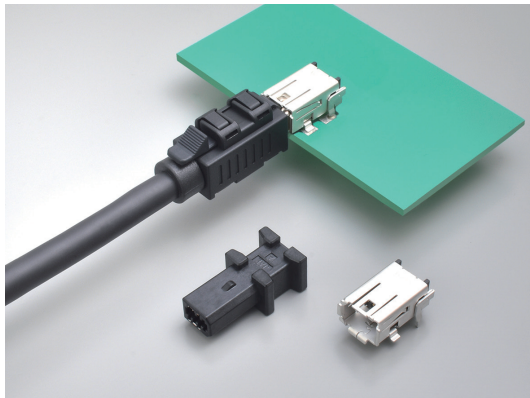


The fixed nut prevents the screw from falling off the hood.

Rectangular Interface Connectors

1.27 mm Pitch Compact I/O Connector

DZ02 Series



(Note)The plug side is sold as a harnessed product.

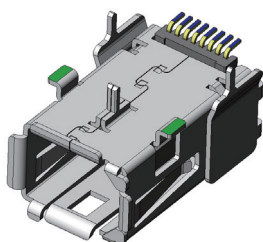
Features ▶

- SMT mounting receptacle with excellent coplanarity
- Receptacle comes with a structure to prevent solder flux from scattering.
- Locking structure with excellent vibration resistance

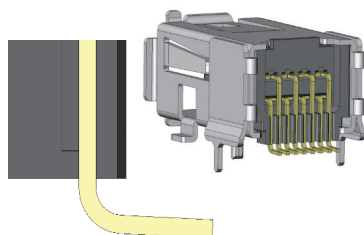
General Specifications ▶

Number of Contacts	8
Rated Current (by contact size)	0.5 max.
Rated Voltage	AC 30V
Dielectric Withstanding Voltage	AC 250V (Contact Only)
Insulation Resistance	500MΩ min.
Contact Resistance	Plug mating : 40mΩ max. Short-circuit plug mating : 80mΩ max.
Durability	Plug mating : 1,500 cycles Short-circuit plug mating : 1,000 cycles
Operating Temperature	-40℃~+85℃(including temperature rise due to conduction)
Applicable Wire	AWG 26 twist pair cable(CAT.5e)

■ SMT mounting with Excellent Coplanarity

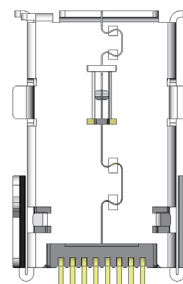


Simplified 3 point contact structure



Having sharply bent angled pins and pressing the SMT pads against the insulator provides assured contact placement

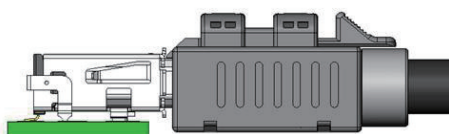
■ Solder flux scatter preventative structure



Bottom of receptacle is covered with shell to prevent solder flux from scattering into contacts

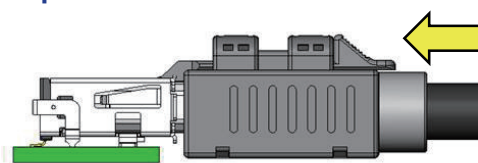
■ Easy and reliable locking operation for mating and disengagement

Mating



Push to mate lock

Desorption



Press the locking lever and pull to disengage

Rectangular Interface Connectors

USB Type-C® Connector

DX07 Series · Cable Harness with Screw Lock



Connector
Details



Features ▶

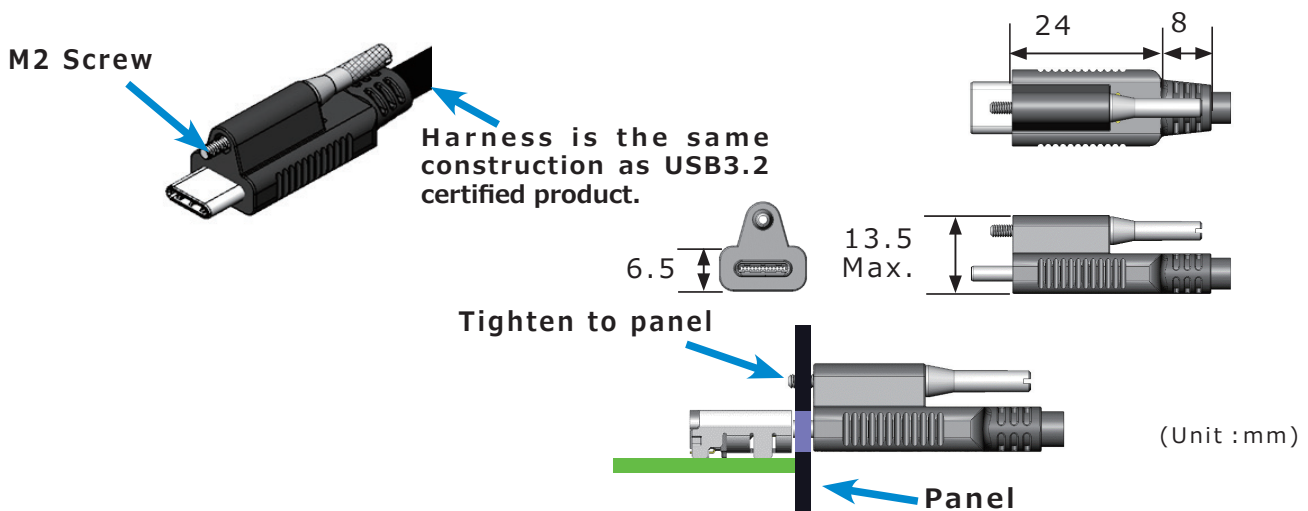
- Compliant with USB 3.2 Gen1/2 for USB Type-C Specification Release 2.0
- Compatible with USB Power Delivery
Supports 5 A max. power supply
- A screw lock specified by the USB Type-C standard is added to prevent it from coming off after mating.

General Specifications ▶

Number of Contacts	24
Compatible Signal Standard	1m : USB 3.2 Gen2 2m : USB 3.2 Gen1
Rated Current (by contact size)	1m : 5A max., 2m : 3A max.
Rated Voltage	AC 20V
Dielectric Withstanding Voltage	AC 40V
Insulation Resistance	10MΩ min.
Contact Resistance	40mΩ max.
Durability	10,000 cycles
Operating Temperature	-20°C ~ +50°C

(NOTE) This product is sold as a harness product.

■ Cable Harness with Screw Lock



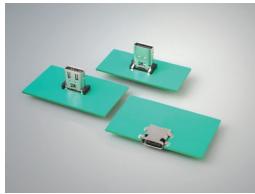
■ Wide range of USB Type-C plug connectors

In addition to the items listed in this catalog, JAE offers a wide range of product variations, including plug connectors and harness items. For more details, please contact our sales department.



Rectangular Interface Connectors

USB Type-C® Connector DX07 Series • Receptacle



Features ▶

- Compliant with Universal Serial Bus Type-C Specification Release 2.0
- Compatible with USB Power Delivery
Supports 5 A max. power supply
- Lock structure with superior durability
- Wide range of variations

General Specifications ▶

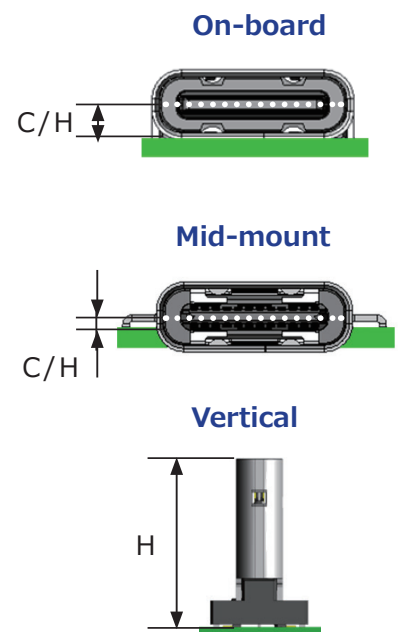
(Note) This product conforms to Release 2.0 of USB Type-C Specification. Please confirm the specifications when considering adoption.

Number of Contacts	16, 24
Rated Current (by contact size)	V BUS:DC 5Amax., GND:DC 6.25A max. V CONN:DC 1.25A max., Other:DC 0.25A max.
Rated Voltage	AC 20V
Dielectric Withstanding Voltage	AC 100V
Insulation Resistance	100MΩ min.
Contact Resistance	40mΩ max.
Durability	10,000 cycles
Operating Temperature	Right Angle: -40°C~ +85°C Vertical: -30°C~ +85°C

Wide Range of Variations

*Center height(C/H)··Height from board mounting surface to center of connector mating face

		Non-waterproof			Waterproof	
2 row SMT (24 pos.)	On-board					
	*C/H(mm)	1.57	1.57	1.57	1.5	
	Mid-mount					
	*C/H(mm)	0.47	-0.64	0.47	1.35 1.35	
	Vertical					
	H(mm)	12	10	10		
1 row SMT (16 pos.)						
*C/H(mm)		1.57				
Hybrid (24 pos.)						
*C/H(mm)		0.7	1.6	2.0	3.4	3.4

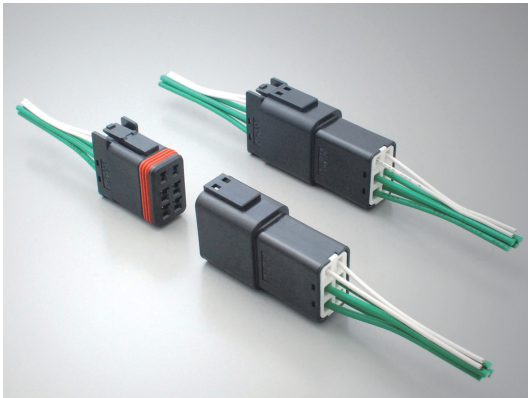


Cable Relay Connectors

Waterproof Cable-to-Cable Connector HB01 Series



Connector
Details



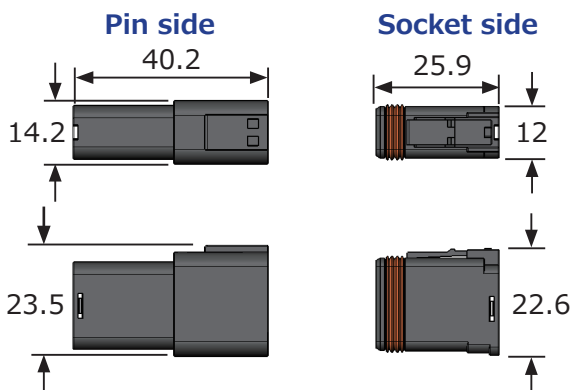
General Specifications

Number of Contacts	6 (Power 4 / Signal 2)
Rated Current (by contact size)	Power : AWG #18 / 9A max., AWG #16 / 11A max. AWG #14 / 13A max. Signal : AWG #24 / 2A max., AWG #22 / 3A max. AWG #20 / 4A max.
Rated Voltage	AC / DC 250V (Power terminal and Signal terminal have enhanced insulation structure)
Dielectric Withstanding Voltage	AC 1,500V
Insulation Resistance	5,000MΩ min.
Contact Resistance	10mΩ max.
Durability	30 cycles
Terminal Retention Strength	Power : 50N min., Signal : 30N min.
Operating Temperature	-25°C ~ +85°C
Applicable Wire	Power : AWG 19 ~ 14 (Insulation outer diameter : φ 1.6 ~ 2.8mm) Signal : AWG 24 ~ 19 (Insulation outer diameter : φ 1.1 ~ 1.8mm)

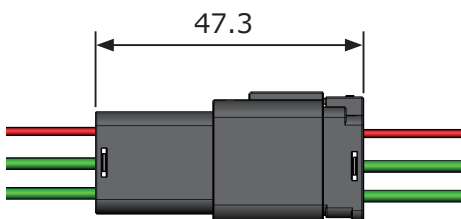
Features

- Hybrid structure that enables both power and signal
- Reliable and secure locking structure with audible and tactile click
- Compatible with a wide range of wire sizes
(Supports AWG #14 to #24 wires)

■ Compact and slim relay connector

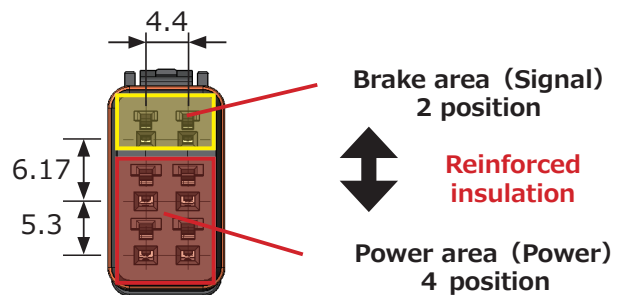


【Mated length】



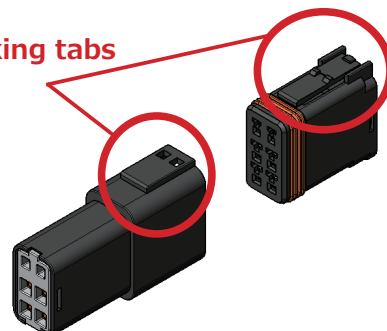
(Unit : mm)

■ Hybrid structure that enables both power and signal.



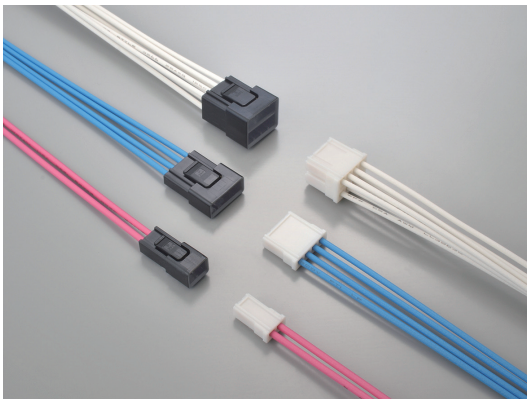
- Reliable and secure locking structure with audible and tactile click.

Mechanical locking tabs



Cable Relay Connectors

Compact Cable In-line Connector HB03 Series



General Specifications

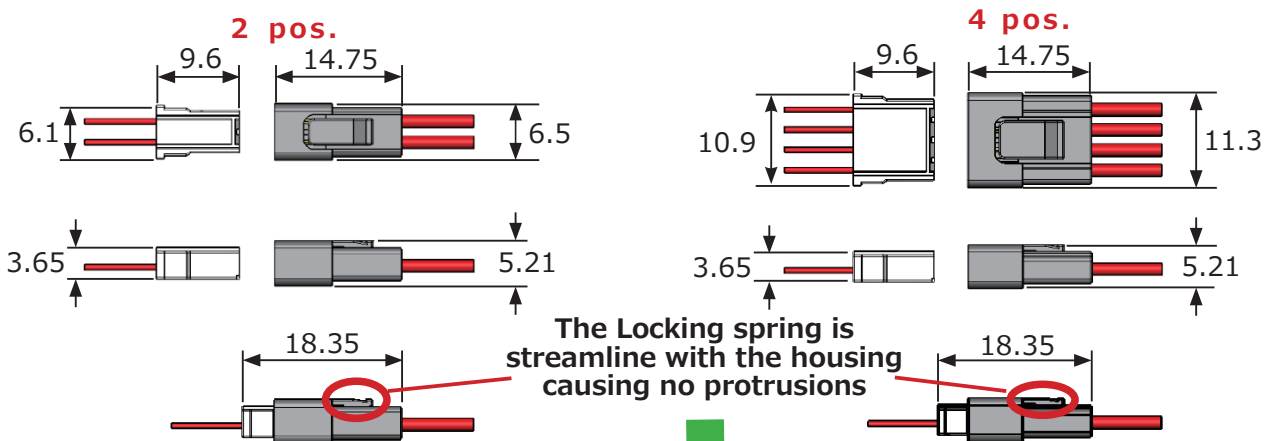
Number of Contacts	2, 4, 8
Rated Current (by contact size)	AWG #30 / #28 : 1A max. AWG #26 / #24 : 2A max.
Rated Voltage	AC 250V / DC 250V (Voltage category : II , Pollution level : 2)
Dielectric Withstanding Voltage	AC 1,500V
Insulation Resistance	1,000MΩ min.
Contact Resistance	10mΩ max.
Durability	100 cycles
Terminal Retention Strength	3 N min.
Operating Temperature	- 25°C ~ + 105°C (including temperature rise)
Applicable Wire	#28 Cont. : AWG 30 ~ 28 (Insulation outer diameter : φ0.6 ~ 1.2mm) #24 Cont. : AWG 26 ~ 24 (Insulation outer diameter : φ0.9 ~ 1.5mm)

Features

- Low-profile housing that can be threaded through tight spaces
- Secure one-touch locking with tactile click
- Easy and secure crimp termination compatible with a wide range of wire sizes (AWG #30 to #24)

Compact low-profile relay connector

(Unit : mm)



Compact and streamline housing allows for passage through narrow spaces, such as inside a robot arm.

Board-to-Board Connectors

0.635mm pitch · High-speed Transmission, Floating Board-to-board Connector

AX01 Series



Connector
Details



Features >

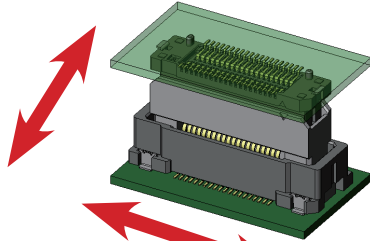
- Floating tolerance :
X direction : ± 0.5 mm, Y direction : ± 0.5 mm
- Stacking height tolerance between boards: ± 0.5 mm in Z-axis
- 8Gbps+ high-speed transmission (10GBASE-KR, equivalent to PCIe Gen3)
- Two-point contact structure ensures high contact reliability, while rolled contacts surface provides low insertion and removal forces.
- Misalignment mating guide: ± 1.0 mm in X & Y directions
- Offered in parallel and vertical mating orientations

General Specifications >

Number of Contacts	30, 40, 60, 80, 90, 100, 120, 140
Rated Current (by contact size)	0.5A max.
Rated Voltage	AC 50V
Dielectric Withstanding Voltage	AC 250V
Insulation Resistance	100 M Ω min.
Contact Resistance	50m Ω max.
Durability	100 cycles
Operating Temperature	-40 $^{\circ}$ C~+105 $^{\circ}$ C (including conduction temperature rise)

Floating tolerance

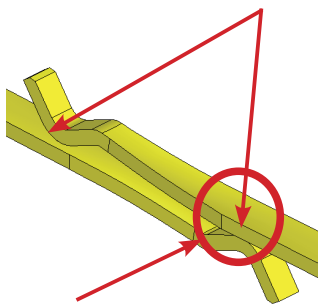
Y Direction : ± 0.5 mm



X Direction : ± 0.5 mm

High contact reliability

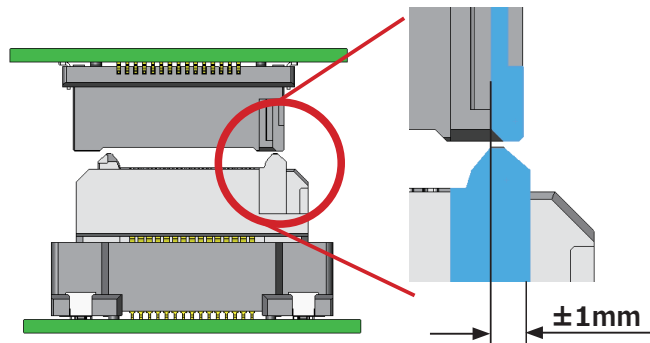
Highly reliable two-point contact structure



Roll surface of contact provides excellent contact durability and resists torsion

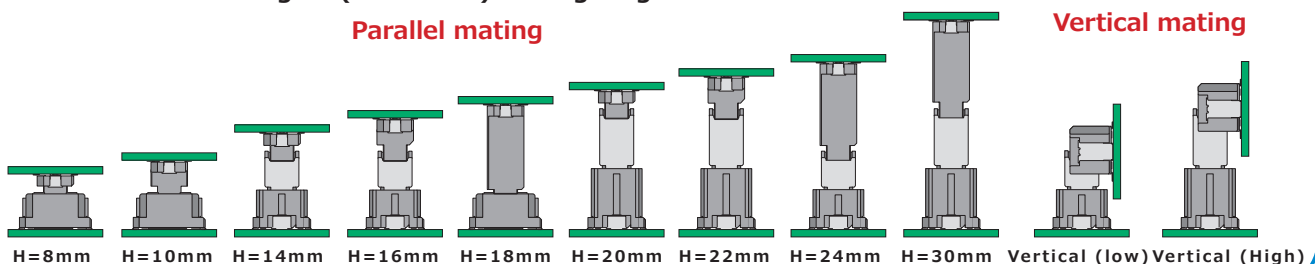
Large mating guide: ± 1.0 mm

Having a longer misalignment than connector float allows for automated mating of connectors.



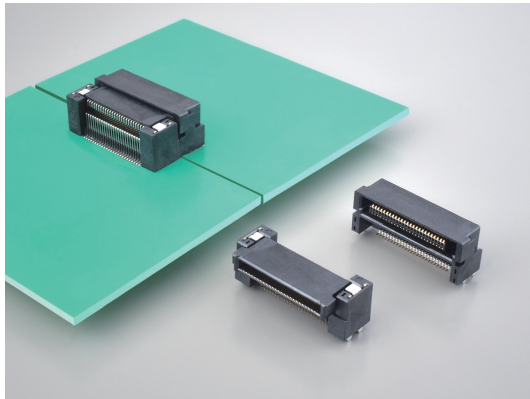
Extensive variations

9 mated stacking varying in 8mm~30mm heights, in 30~140 pin options.
Also available in 2 angled (or vertical) mating heights.



Board-to-Board Connectors

0.635mm Pitch · Horizontal Connection Floating Board-to-board Connector AX03 Series



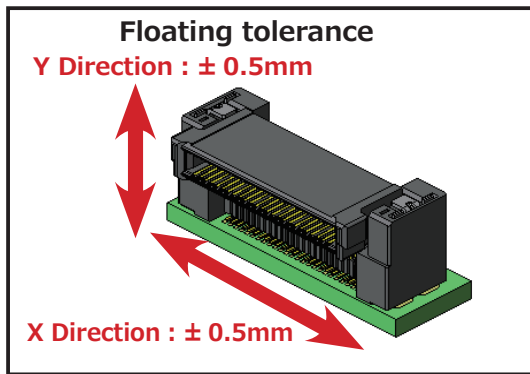
※ Not compatible with AX01 series

Features ▶

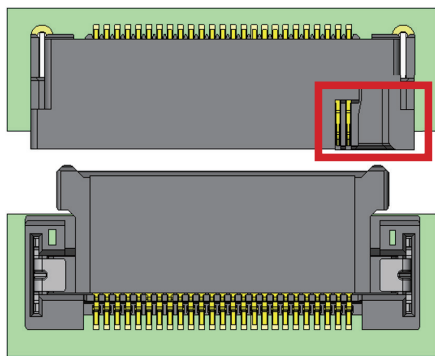
- Horizontal connection board-to-board connector
- Floating tolerance : X direction : ± 0.5 mm, Y direction : ± 0.5 mm
- Misalignment mating guide: ± 0.6 mm, Y direction: ± 0.6 mm
- Rolled contact surfaces proved low mating and unmating force

General Specifications ▶

Number of Contacts	50
Rated Current (by contact size)	0.5A max.
Rated Voltage	AC 50V
Dielectric Withstanding Voltage	AC 250V
Insulation Resistance	100MΩ min.
Contact Resistance	70 mΩ max.
Durability	100 cycles
Operating Temperature	-40°C~+105°C(including conduction temperature rise)

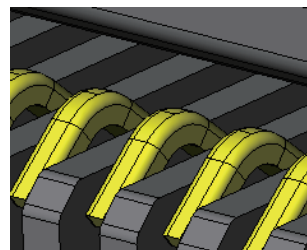


■ Misalignment Guide: ± 0.6mm



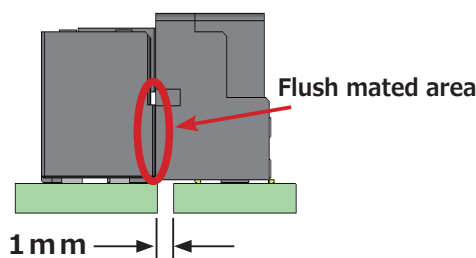
■ Rolled contact surface

Rolled contact surface provides excellent contact durability and resists torsion



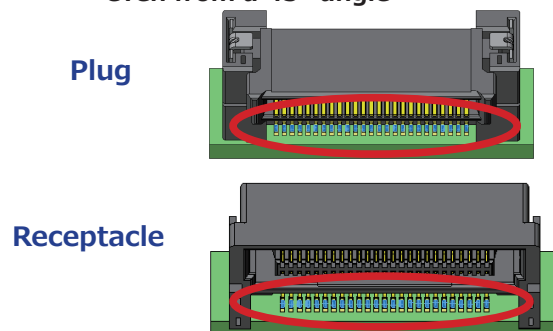
■ Flush Mating Structure

PCB distance is determined where two connector halves are mated flush



■ Clear visibility of solder connections

Visual solder confirmation is possible even from a 45° angle

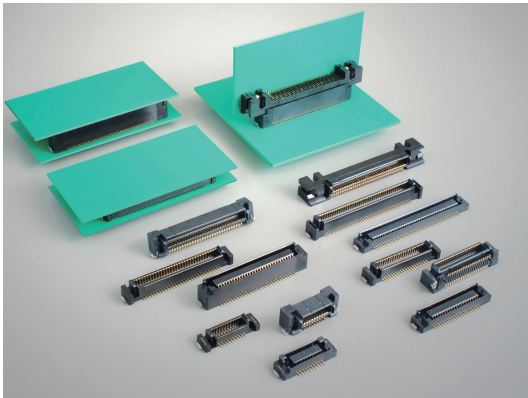


Board-to-Board Connectors

0.8mm pitch Board-to-Board Connector KX14 / KX15 Series



Connector
Details



Features >

- Parallel and vertical connection types, with 4 to 12mm stacking heights (in 1mm increments)
- Mating guide for misalignment compensation
- Ribbon type contact provides excellent contact reliability and resistant to torsion during mating

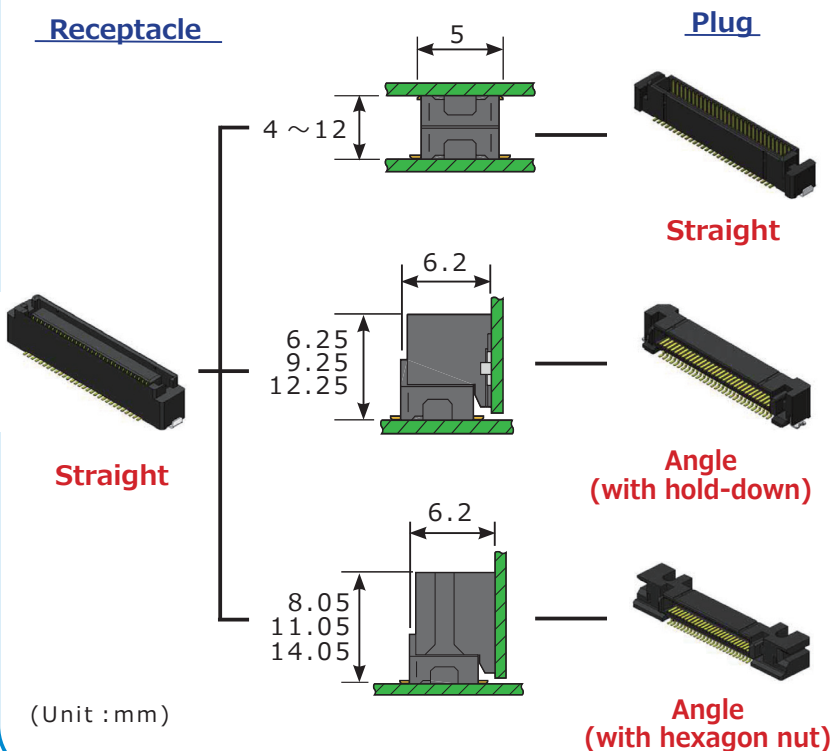
General Specifications >

Number of Contacts	20、30、40、50、60、70、80
Rated Current (by contact size)	0.5A max.
Rated Voltage	AC 200V / DC 300V
Dielectric Withstanding Voltage	AC 500V
Insulation Resistance	100MΩ min.
Contact Resistance	70mΩ max.
Operating Temperature	-40°C ~ +85°C

Wide variety of variations

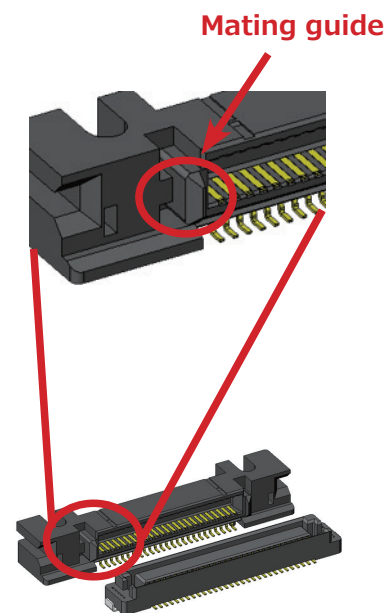
Stacking height: 4 to 12mm (in 1mm increments),
Pin count: 20-80 pins (in 10 pin increments)
Vertical board-to-board connection available

Receptacle



Mating guide

Mating guide on either side of the plug to prevent misalignment



EV Charging Connectors

EV Charging and Discharging Connector KW1 / KW02 / KW03 Series

KW1: Quick charge connector

KW02: V2H* system connector

KW03: Mid-speed charging and V2H * system connector



*V2H...Vehicle to Home

General Specifications

Connector Details

KW1(CE)

KW1(UL)

KW02

KW03

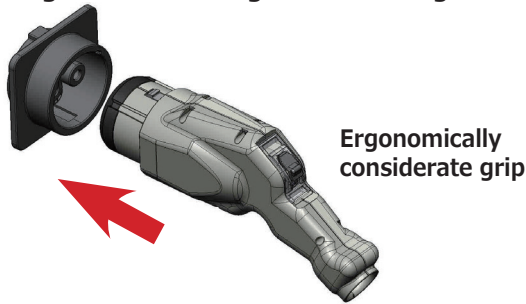
Features

- Compliant with CHAdeMO standard Ver1.2 and CHAdeMO V2H guideline Ver2.1
- UL recognized and CE compliant products (*KW02 is not UL recognized)
- Excellent operability and high reliability

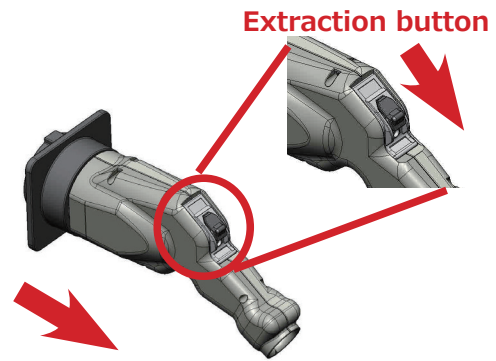
	KW1	KW02	KW03
Number of Contacts	Power : 2 / Signal : 7	Power (power supply) : 2 / Power (12V) : 2 / Signal : 6	Power (power supply) : 2 / Power (12V) : 2 / Signal : 6
Rated Current (by contact size)	Power : 125A max. / Signal : 2A max.	Power (power supply) : 25A max. / Power(12V) : 6.4A max./ Signal : 2A max.	Power (power supply) : 80A max. / Power(12V) : 6.4A max. / Signal : 2A max.
Rated Voltage	Power : DC 500V	Power : DC 450V	Power : DC 500V
Dielectric Withstanding Voltage	AC 2,200V	AC 3,000V	AC 3,000V
Insulation Resistance	100MΩ min.	100MΩ min.	100MΩ min.
Durability	10,000 times min.	10,000 times min.	10,000 times min.
Mating Force	100N max.	100N max.	100N max.
Operating Temperature	-30℃~+50℃ (CE) -30℃~+40℃ (UL)	-30℃~+50℃ (CE)	-30℃~+50℃ (CE, UL)

User-friendly

Simple single action mating and unmating



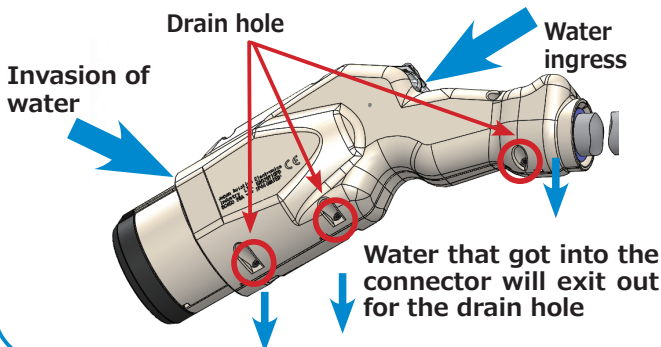
When inserting: Push to mate



When removing: Depress button and pull to disengage

Safety conscious design

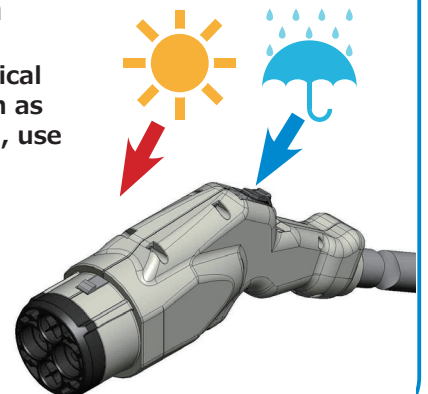
Electrically active components inside the connector are water and dust proof.



Highly reliable and environmentally conscious design

Essential mechanical components, such as locking mechanism, use stainless steel

Highly environmentally resistant materials used for body and other resin parts



EV Charging Connectors

Charging Connectors Compatible with The Type-2 CCS EV Fast Charging Standard

KW04 Series



Connector Details



Features

- Compatible with CCS type-2 fast-charging standards
- CE certified connector
(IEC62196-3 compliant, certification by : T ÖV Rheinland)
- Replaceable mating section reduces total overall cost
- Double insulation structure, of both body and internal housing, provides an extremely high safety product

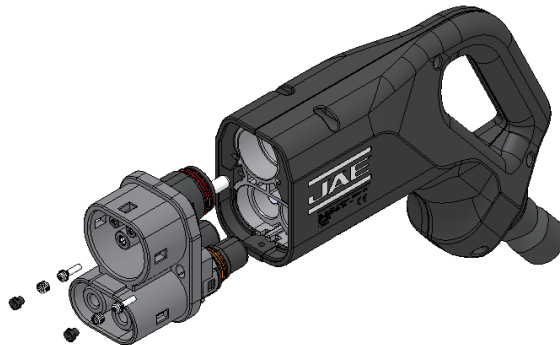
General Specifications

Number of Contacts	Power : 2、Ground : 1、Signal : 2
Rated Current (by contact size)	Power : 150A max. or 200A max., Signal : 2A max.
Rated Voltage	Power : DC 1,000V
Dielectric Withstanding Voltage	AC 3,000V
Insulation Resistance	5MΩ min.
Operating Temperature	- 30°C ~ + 50°C
Durability	10,000 times min.

■ Replaceable mating section

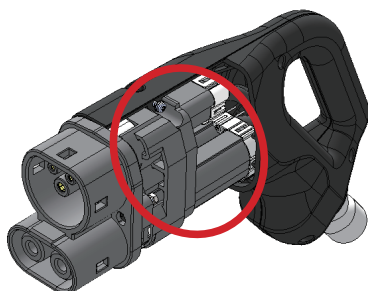
Easy and quick replacement of a full contact loaded mating section

Electric shock prevention structure that considers safety during replacement



■ Safety conscious design

Waterproof protection of the electrically active components inside the connector to prevent short circuit even if the body should be damaged.



■ Highly reliable and environmentally conscious design

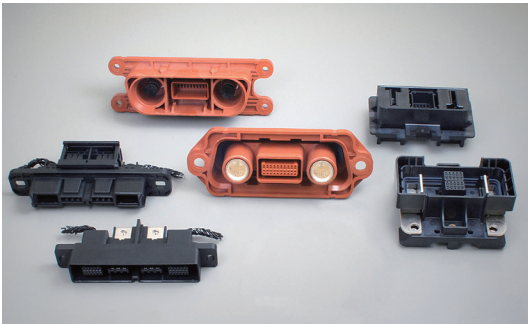
Highly environmentally resistant materials used for body and other resin parts



High Current Docking Connectors

Large Current Rack & Panel Connectors

DW1 / DW2 / DW3 Series



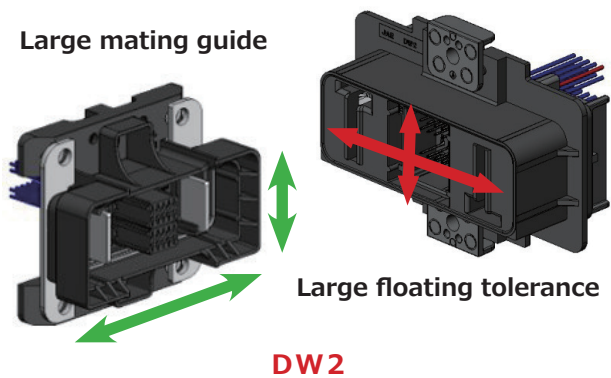
Features ▶

- Hybrid design with large current and signal lines are embedded into a single connector.
- Docking connection makes for a very efficient implementation and replacement of the connectors
- The hybrid type DW Series are UL recognized products
- DW1 : 500A capable
DW2 : 200A capable
DW3 : 150A capable

General Specifications ▶

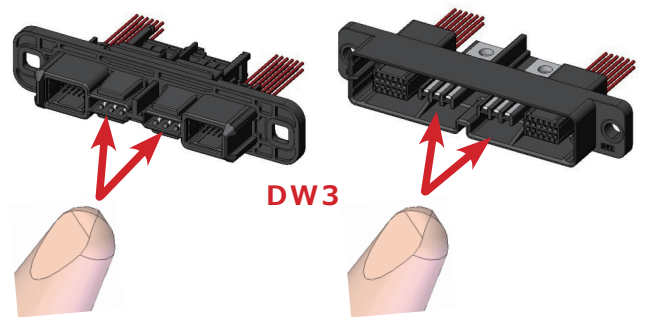
	DW1	DW2	DW3
Number of Contacts	Power: 2 / Signal : 20	Power : 2 / Signal : 20	Power : 2 / Signal : 24
Rated Current (by contact size)	Power : 500A max. / Signal : 2A max.	Power : 200A max. / Signal : 2A max.	Power : 150A max. / Signal : 2A max.
Rated Voltage	Power : DC 600V / Signal : AC 100V	Power : DC 600V / Signal : AC 100V	Power : DC 600V / Signal : AC 100V
Dielectric Withstanding Voltage	Power:DC 1,800V / Signal :AC 300V	Power : DC 3,000V / Signal : AC 300V	Power : DC 3,000V / Signal : AC 300V
Insulation Resistance	Power -Signal contact : 5,000MΩ min. Signal-Signal contact : 100MΩ min.	Power -Signal contact : 5,000MΩ min. Signal-Signal contact : 100MΩ min.	Power -Signal contact : 5,000MΩ min. Signal-Signal contact : 100MΩ min.
Durability	20 cycles	100 cycles	100 cycles
Operating Temperature	-40℃~+95℃	-25℃~+115℃	-25℃~+105℃
Applicable Wire	—	Signal : AWG 22 Outer diameter φ 1.5mm	Signal : AWG 22 Outer diameter φ 1.5mm

■ Floating mechanism



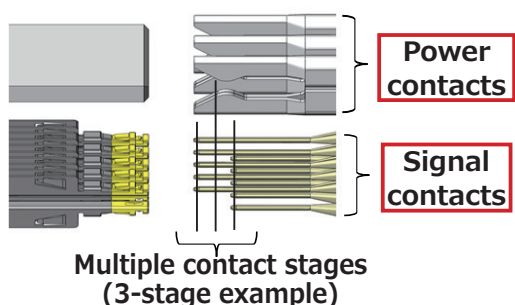
■ Electric shock prevention

Finger safe design will prevent being able to touch the terminals during operation



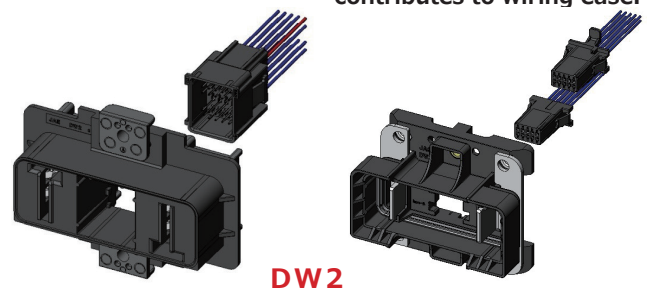
■ Sequential connection of Signal contacts

Signal contacts of different lengths can be selected



■ Detachable signal housing

Removable signal housing contributes to wiring ease.



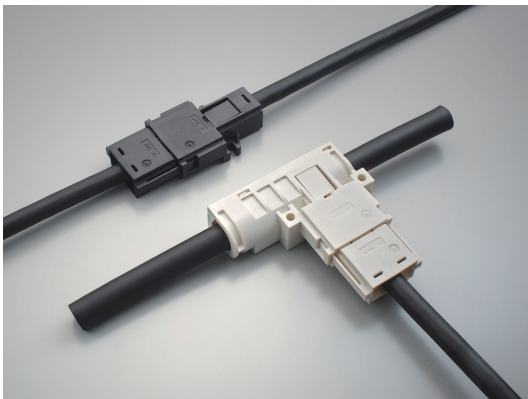
High Current Docking Connectors

High-current Relay Connector

DW05 Series



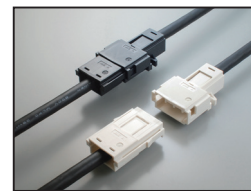
Connector
Details



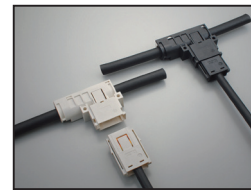
Features >

- Contributes to the safety during high-current cable connection work
- Crimp contact termination contributes to ease of in-field operation
- Supports series connection and branch connection
- Keying and colored to prevent mis-mating and short-circuit during operation
- A structure that prevents a short circuit even if the worker does the wrong work

Series connection type



Branch connection type

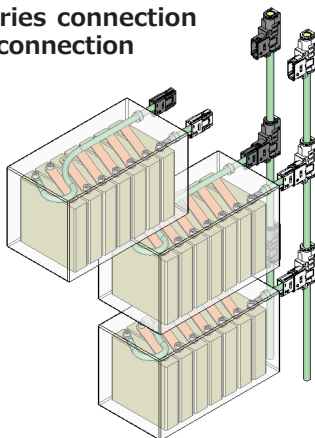


General Specifications >

Number of Contacts	1
Rated Current	AC 150A max., DC 150A max. (Temperature rise: 40 deg. C max.)
Operating Temperature	-40°C ~ +85°C
Applicable Wire	Straight : 14 ~ 42mm ² : AWG 6, 4, 2 (Outer diameter / 13.0 mm max.) Right angle : 38 ~ 60mm ² / AWG 1, 1/0 (Outer diameter / 16.0 mm max.)

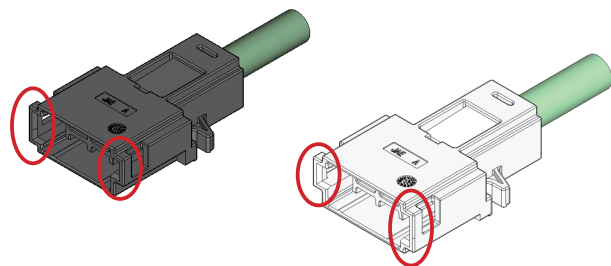
■ Supports various connection types

Supports series connection and branch connection



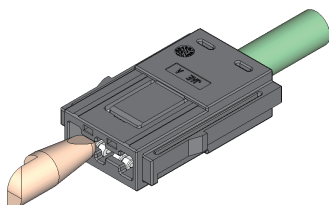
■ Mis-mating prevention

Connectors are keyed and colored to prevent mis-mating when using multiple connectors.



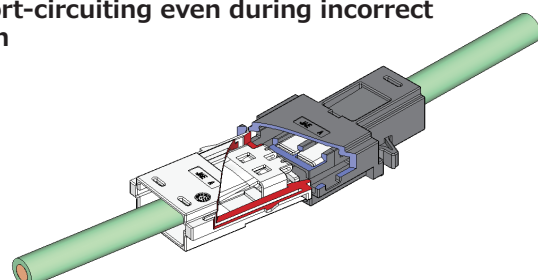
■ Electric shock prevention

Finger safe design will prevent being able to touch the terminals during operation



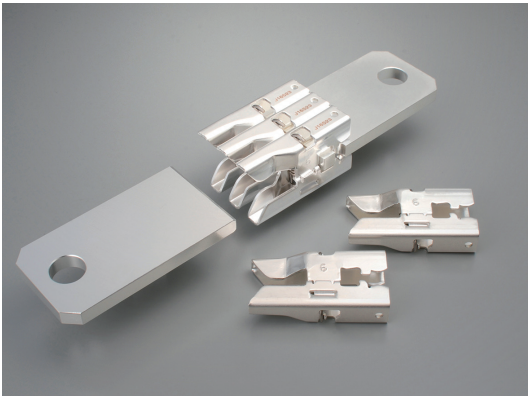
■ Safety conscious short circuit prevention

Safety structure that prevents terminals from short-circuiting even during incorrect operation



High Current Docking Connectors

High-Current Busbar Connector DW07 Series



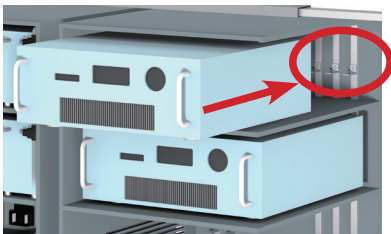
Features ▶

- Bus bar to bus bar docking connection
- High-current connections to suit application requirements
- Original structure that can be easily attached and detached without using tools.

General Specifications ▶

Number of Contacts	1
Rated Current	130 ~ 685A (Note)
Durability	100 cycles
Operating Temperature	- 25°C ~ + 105°C
Applicable Busbar	JIS H 3140 Silver plating

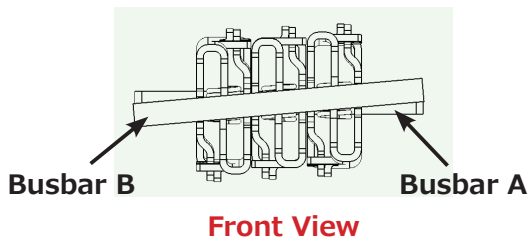
NOTE :The above values are for reference only. Values will depend on operating conditions.



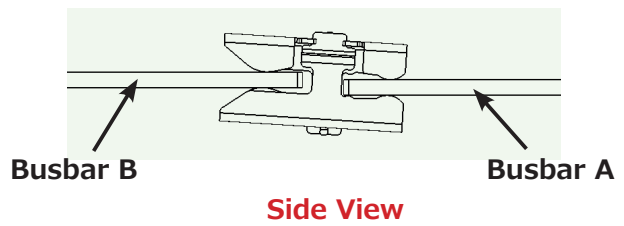
Optimal for bus bar docking connection

■ Connector float to absorb mating errors

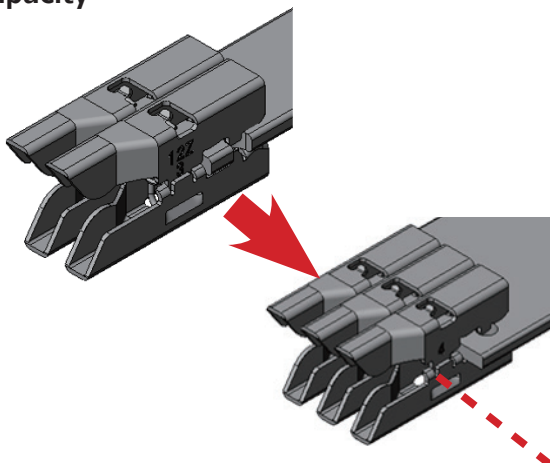
Absorbs rotation deviation



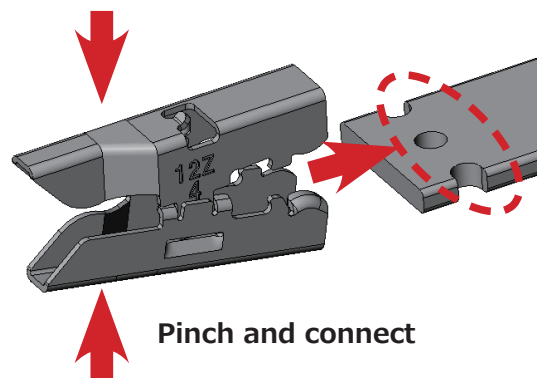
Absorbs height deviation



■ Scalable solution to meet required current capacity



■ Easy mounting on bus bar without using screws



Railway Sub-floor Connectors

VG95234 Qualified Waterproof Circular Connector JK06 Series



Connector
Details



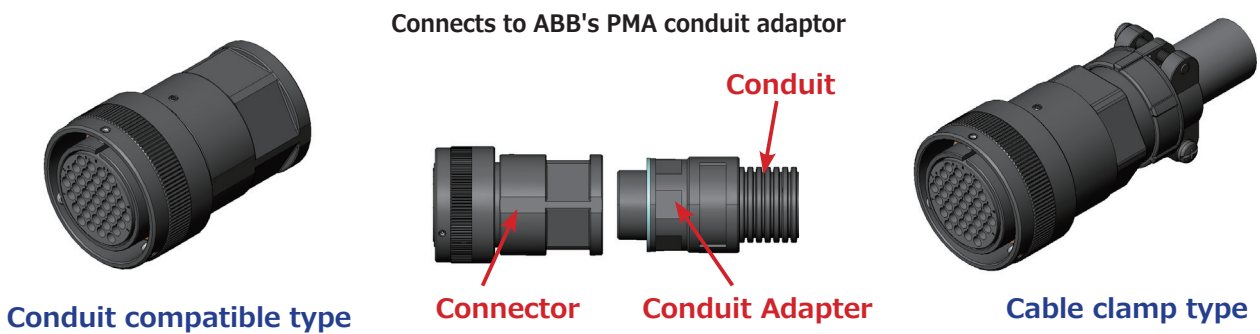
General Specifications

Number of Contacts	3, 4, 6, 7, 10, 19, 37, 48
Rated Current (by contact size)	13A max. (#16 Cont.) 46A max. (#8 Cont.) 80A max. (#4 Cont.)
Rated Voltage	AC / DC 220V
Dielectric Withstanding Voltage	AC 2,550V
Insulation Resistance	5,000MΩ min.
Contact Resistance	2.5mΩ max. (#16 Cont.) 0.9mΩ max. (#8 Cont.) 0.5mΩ max. (#4 Cont.)
Operating Temperature	-40°C ~ +100°C
Applicable Wire	AWG 22 ~ 12 (#16 Cont.) AWG 12 ~ 8 (#8 Cont.) AWG 10 ~ 4 (#4 Cont.)

Features

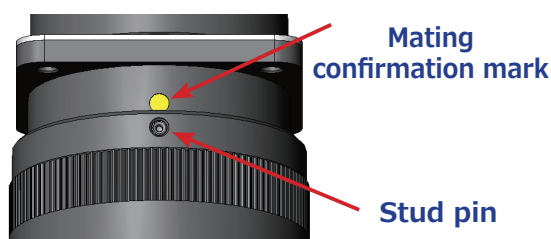
- VG95234 standard compliant and will inter-mate with same standard circular connectors
- One-touch bayonet locking structure
- Functions and performance correspond to a wide range of railway vehicle standards such as EN45545-2 (2013), French and British standards.
- Compatible with conduit

- There are two types of plugs, "conduit compatible type" and "cable clamp type".



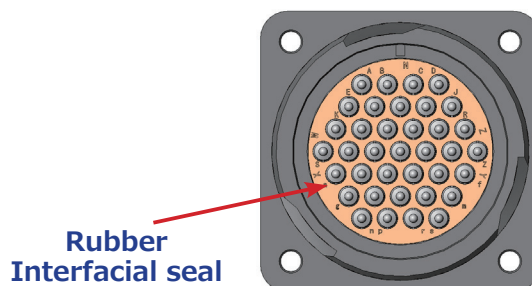
- Superior mating reliability

Able to visually ensure proper mating when Mating confirmation mark and stud pin line up



- High withstand voltage

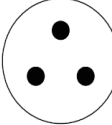
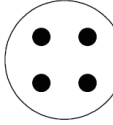
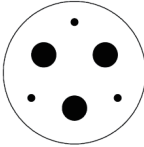
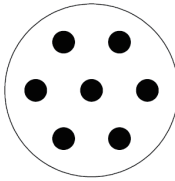
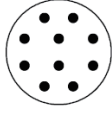
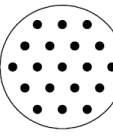
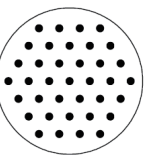
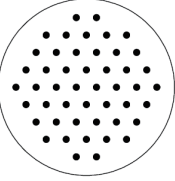
The receptacle's rubber interfacial seal adhering to the plug's mate face allows for withstanding high-voltages



Railway Sub-floor Connectors

VG95234 Qualified Waterproof Circular Connector JK06 Series

■ Contact arrangement

Arrangement	22-2	22-22	28-22	Original Arrangement
Contact arrangement (View of pin insert from mating side)				
Size x Number of Contacts	#8 x 3 pos.	#4 x 3 pos.	#8 x 4 pos.	#4 x 7 pos.
Rated Current	46A	80A	46A	80A
Dielectric Withstanding Voltage	2,550V	2,550V	2,550V	2,550V
Arrangement	18-1	22-14	28-21	36-10
Contact arrangement (View of pin insert from mating side)				
Size x Number of Contacts	#16 x 10 pos.	#16 x 19 pos.	#16 x 37 pos.	#16 x 48 pos.
Rated Current	13A	13A	13A	13A
Dielectric Withstanding Voltage	2,550V	2,550V	2,550V	2,550V

Railway Sub-floor Connectors

VG95234 Qualified Waterproof Circular Connector JK06 Series • Ethernet



Connector
Details



General Specifications

Number of Contacts	20 (For Cat.5)、4 (For Cat.6A)
Rated Current (by contact size)	13A max. (For Cat.5、 #16) 5A max.(For Cat.6A、 Ethernet internal contacts)
Rated Voltage	AC / DC 220V
Dielectric Withstanding Voltage	AC 1,550V (For Cat.5) AC 500V (For Cat.6A)
Insulation Resistance	5,000MΩ min. (For Cat.5) 1,000MΩ min. (For Cat.6A)
Contact Resistance	2.5mΩ max. (For Cat.5) 4.5mΩ max. (For Cat.6A)
Operating Temperature	-40℃ ~ +100℃
Applicable Wire	Cat.5 : Cat.5 electric wire • Quad cable Cat.6A : Cat.6A electric wire • four Pair cable

Features

- One-touch bayonet locking structure
- Connector shell compliant to VG95234 circular connector standard
- Compliant with Cat.5 and Cat.6A network communication standards
- Compliant with railroad fire protection standards (EN45545-2 and NFPA130)

Compliant with Cat.5 and Cat.6A network communication standards

Cat.5 configuration

Panel Mount Receptacle

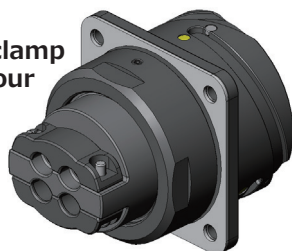


Conduit Compatible Plug



A unique contact arrangement and simple assembly using #16 crimp contacts to support CAT.5 data transmission

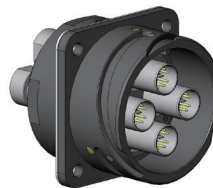
Back of connector is equipped with a cable clamp to securely retain the four transmission cables



Rear of panel mount receptacle

Cat.6A configuration

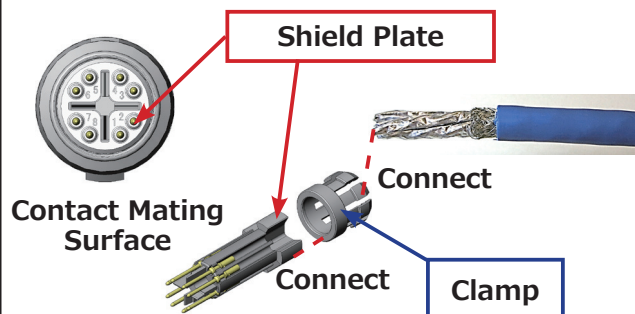
Panel Mount Receptacle



Conduit Compatible Plug



Equipped with contacts for Gigabit Ethernet transmission (Cat.6A) Shield plates inside the contact bundle prevents transmission crosstalk



General Railway and High-current Railway Motor Connectors

High-current railway motor connector JK11 Series



Features ▶

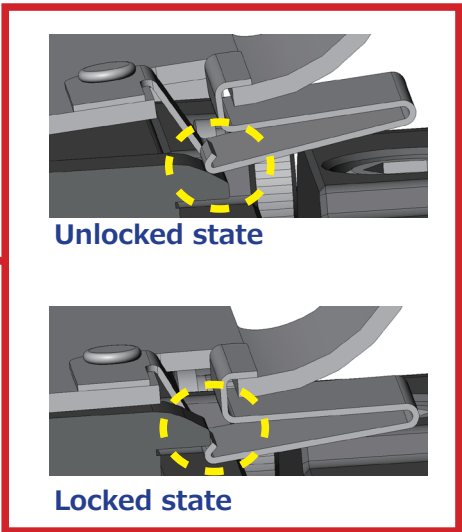
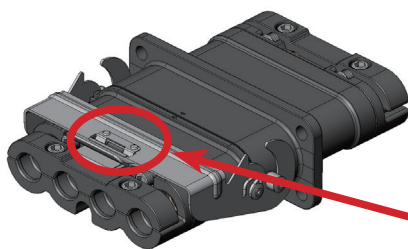
- Equipped with 4x #0 contacts for high-current
- Lever mating system with locking mechanism to prevent accidental unmating
- Space-saving low-profile shell
- Compliant with railroad fire protection standards (EN45545-2 and NFPA130)

General Specifications ▶

Number of Contacts	4
Rated Current (by contact size)	150A max.
Dielectric Withstanding Voltage	AC 6000V
Insulation Resistance	5,000MΩ min.
Contact Resistance	DC 150A, 21mV max.
Operating Temperature	-55°C ~ +85°C
Applicable Wire	38mm ² / 14mm ²

■ Lever mating system with locking mechanism to prevent accidental unmating

Lever operated smooth mating and disengagement. Single motion mating lock prevents connector from disengaging even in high-vibration condition.



■ Low-profile shell

Low-profile shell with lever mating structure provides easy connector engagement in narrow spaces.



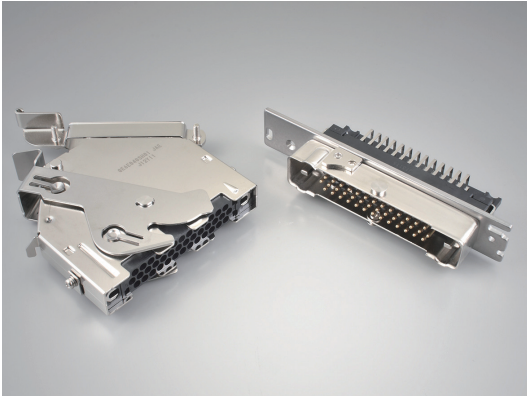
JK11 disengagement operation
(Pinch the lock while pushing the lever down to disengage)

Railway and On-board Connectors

Rectangular Interface Connector QE6 Series



Connector
Details



Features

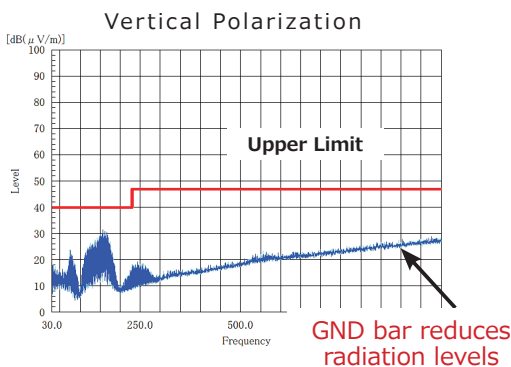
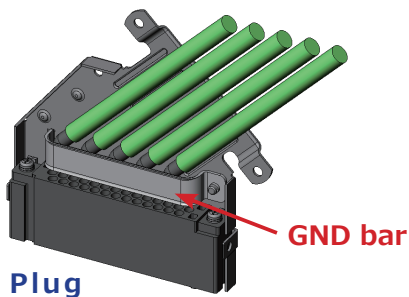
- Space-saving compact low-profile connector
- Mountable on a 3U4HP size card compatible with a 19-inch sub rack
- Lever structure mating
- Provides EMI suppression type
- Cat.5 Ethernet transmission capable

General Specifications

Number of Contacts	40
Rated Current (by contact size)	5A max.
Dielectric Withstanding Voltage	AC 1,500V
Insulation Resistance	5,000MΩ min.
Contact Resistance	5mΩ max.
Operating Temperature	- 55°C ~ + 85° C
Applicable Wire	AWG 22 ~ 14

Enhanced EMI suppression

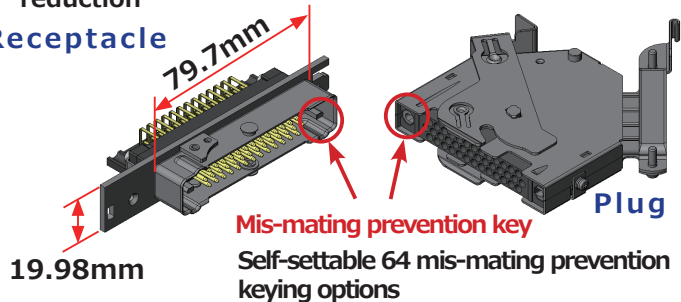
Proper continuity from the plug's grounding bar through connector shell and lever to the receptacle while ensuring optimal shielding can be expected.



Compact and low-profile

QE6's reduced size and thickness of traditional QE Series, which has been implemented into railway equipment for several years, offers 50% footprint reduction

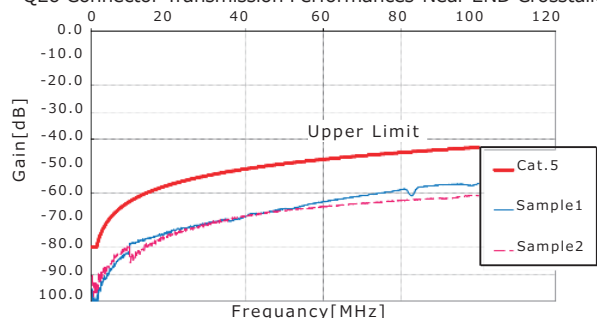
Receptacle



Supports Ethernet transmission

100BASE-TX and 1000BASE-T Ethernet transmissions are possible through use of applicable cabling and proper mounting

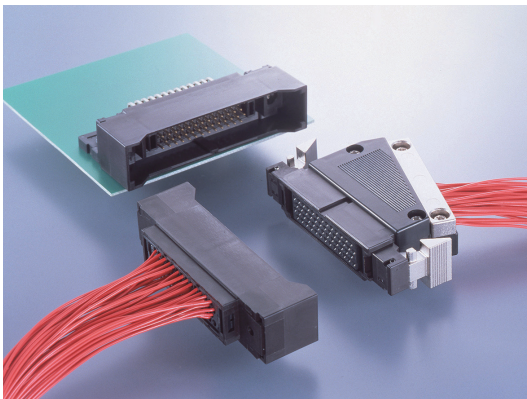
QE6 Connector Transmission Performances-Near END Crosstalk



Railway and On-board Connectors

Lightweight, high-density, rectangular interface connector

QX Series



Features ▶

- Compact, lightweight shell, high-density mounting
- One-touch lever mating
- Minimal space needed for mounting

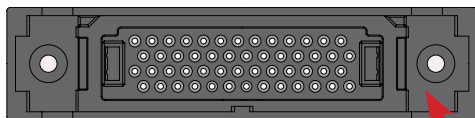
General Specifications ▶

Number of Contacts	52
Rated Current (by contact size)	5A max.
Rated Voltage	AC 330V / DC 450V
Dielectric Withstanding Voltage	AC 1,500V
Insulation Resistance	1,000MΩ min.
Contact Resistance	20mΩ max.
Operating Temperature	-55°C ~ +85°C
Applicable Wire	AWG 28 ~ 18

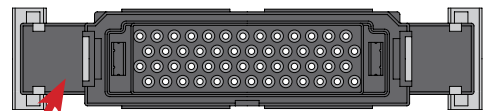
■ Compact, high-density mounting

A 3.18mm pitch 52 staggered pin arrangement, compact high-density design offered in adjacent mating

Receptacle (Pin insert)



Plug (Socket insert)

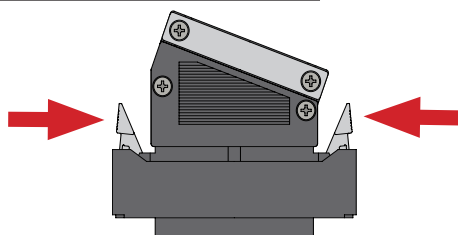


Weight reduction by using a synthetic resin shell

■ Lever mating

A lever with an eject mechanism on the plug side enables smooth removal with a one touch.

Connector disengagement

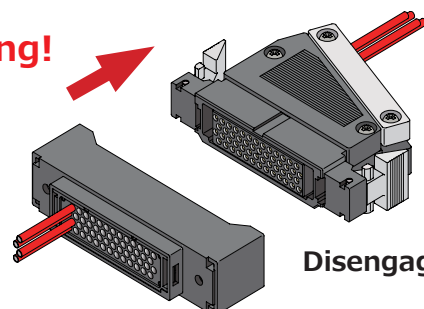


Push levers inward



Unlock

Clicking!



Disengagement

Before placing an order

- ① The values specified in this catalogue are only for reference. The products and specifications are subject to change without notice. Contact our sales staff for further information before considering or ordering any of our products. For purchase, a product specification must be agreed upon.
- ② Users are requested to provide protection circuits and redundancy circuits to ensure safety of the equipment, and sufficiently review the suitability of JAE's products to the equipment.
- ③ The products presented in this catalogue are designed for the uses recommended below. We strongly suggest you contact our sales staff when considering use of any of the products in any other way than the recommended applications or for a specific use that requires an extremely high reliability.

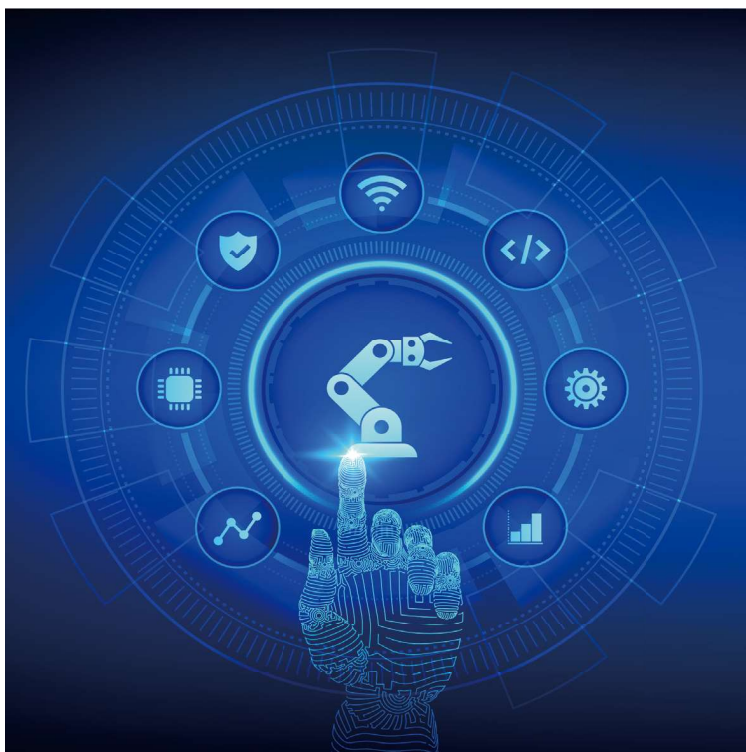
(1) Applications that require consultation:

- (i) Please contact us if you are considering use involving a quality assurance program that you specify or that is peculiar to the industry, such as:
 - Automotive electrical components, train control, telecommunications devices (mainline), traffic light control, electric power, combustion control, fire prevention or security systems, disaster prevention equipment, etc.
- (ii) We may separately give you our support with a quality assurance program that you specify, when you think of a use such as:
 - Aviation or space equipment, submarine repeaters, nuclear power control systems, medical equipment for life support, etc

(2) Recommended applications include:

Computers, office appliances, telecommunications devices (terminals, mobile units), measuring equipment, audiovisual equipment, home electric appliances, factory automation equipment, etc.

Industrial Connectors Selection Guides



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