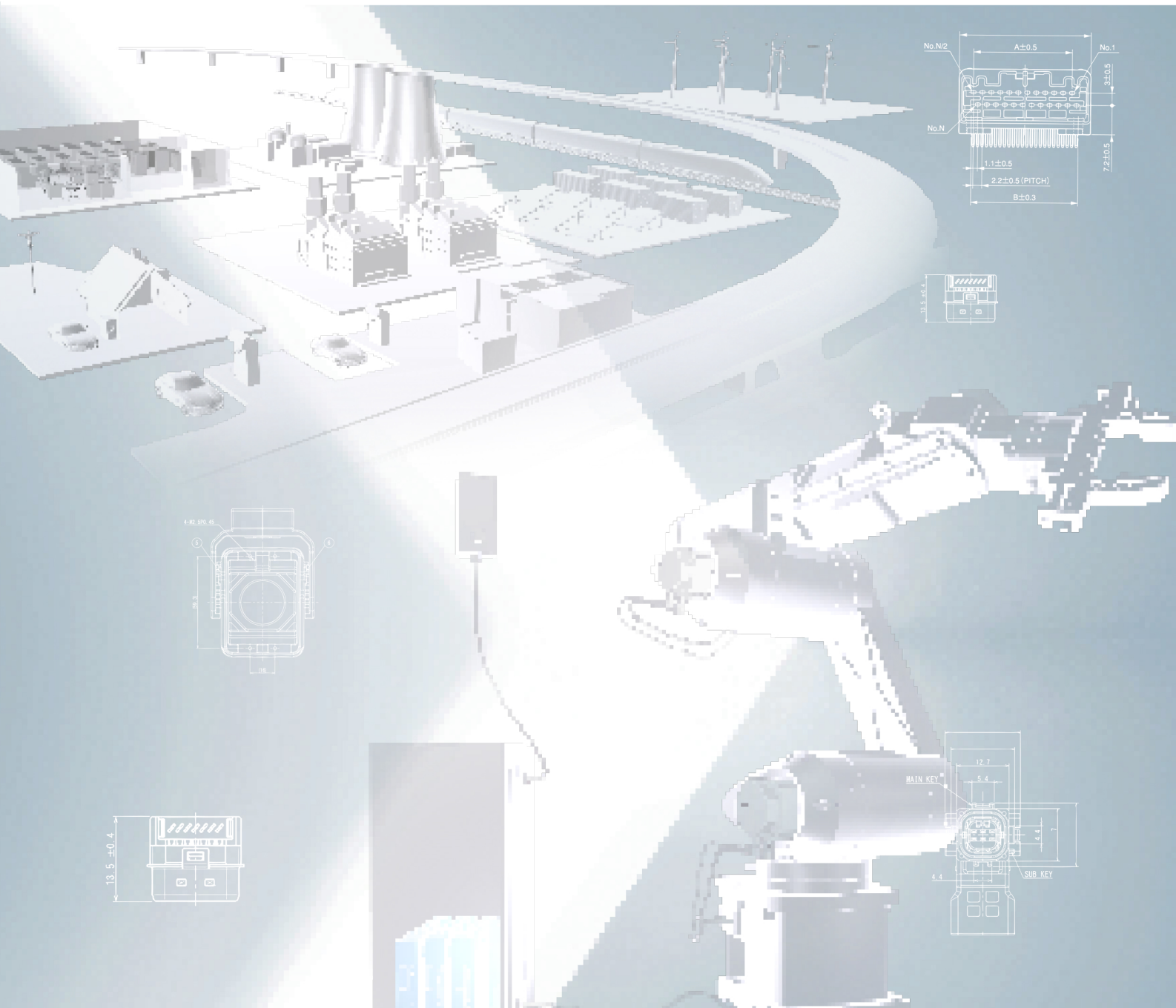
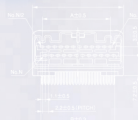


Industrial Robot and Smart Grid

Products and Applications lineup



Robots



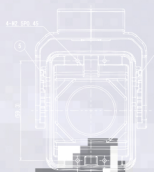
Robot 5

User Interface
Solutions
▪ Teaching Pendant

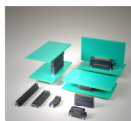


Robot 2

Small size Servomotor
▪ JN14 ▪ JN6 ▪ HB03



Speed
Float



Robot 1

Controller
▪ MA01 ▪ DF02 ▪ DZ02



Robot 3

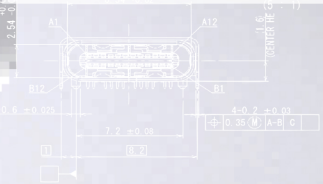
Middle / Large size
Servomotor
▪ JL10 ▪ JL04V ▪ JN1/JN2

MOTOR CONTROL

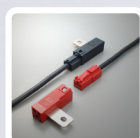


Robot 4

Interface
▪ KN01 ▪ KN02 ▪ HB01 ▪ JB10 ▪ JB12



Smart Grid



Smart Grid 2

High-current Equipment

▪ DW4 ▪ DW05 ▪ DW07 ▪ DW11



Smart Grid 3

Manufacturing Equipment

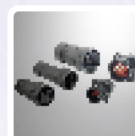
▪ MX34 ▪ MX23A ▪ MX80 ▪ MX81



Smart Grid 1

Battery System

▪ DW1 ▪ DW2 ▪ DW3



Smart Grid 5

Railway

▪ JK06 ▪ JK11



Smart Grid 4

Electric Vehicles

▪ KW1C ▪ KW02C ▪ KW07C
▪ KW11

Corporate Data



Outline of company

Company Name :

Japan Aviation Electronics
Industry, Limited

Establishment of Business :

August 20, 1953

Head Office :

21-1, Dogenzaka 1-chome, Shibuya-ku,
Tokyo 150-0043, Japan

Capital :

¥10.69 billion

Stock Exchange Listing :

Tokyo Stock Exchange, Prime Market

Activities :

Manufacturing and sales of connectors,
user interface solutions, and aerospace
and related electronics

List of ISO Quality Certifications

Connector Div.:

ISO 9001 : 2015 JQA-QMA11894

IATF 16949 : 2016 JQA-AU0386

User Interface Solutions Div.:

ISO 9001 : 2015 JQA-0413

Aerospace Div.:

ISO 9001 : 2015 JQA-0335

JIS Q 9100 : 2016 JQA-AS0005

Corporate
Website



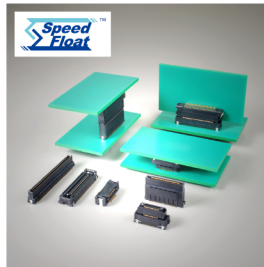
Connector
Website



Robot 1



Controller



MA01



High-Speed Transmission, Floating Board to Board Connector

- Two-point contact structure ensures high contact reliability
- 8 Gbps+ high-speed transmission (10GBASE-KR and PCIe Gen3 equivalent)
- Floating tolerance: ± 0.5 mm in both X & Y directions

of Contacts : 30, 40, 60, 80, 90, 100, 120, 140 pos.

Rated Current : 0.5A

Rated Voltage : 50 VAC



DF02



Light Weight Realized with Resin -made Hood Half-pitch (1.27mm) Interface Connector

- Dual use specifications with one-touch lock and screw-lock.
- Shorter harness working time with an original design.

of Contacts : 14, 20, 26, 36, 50 pos.

Rated Current : 0.5A/pos.

Rated Voltage : 250 VAC



DZ02



1.27mm Pitch Compact I/O Connector for Safety Equipment Connection of Industrial Applications

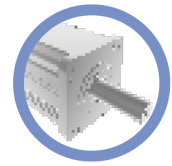
- Lock structure with superior vibration resistance.
- Safety connectors, Compliant with IEC61076-3-122 (TYPE-I)

of Contacts : 8 pos. (2 rows x 4 pos.)

Rated Current : 0.5 A/pos.

Rated Voltage : 30 VAC

Robot 2



Small Size Servomotor



JN14



All-plastic, Low-profile, Waterproof Connector for Compact Servomotors

- All-plastic, light-weight and low-cost connector
- Earth contact and metal body are grounded by screw(4pos)
- Waterproof conforming to IP67

of Contacts : 4 pos. (for power), 2 pos. (for brakes),
9 pos. (for encoders)

Rated Current : 4 pos. : 7 A/pos. max., 2 pos. : 1 A/pos. max.,
9 pos. : 1 A/pos. max.

Rated Voltage : 4 pos.: 240 VAC, 2 pos.: 100 VAC, 9 pos.: 100 VAC



JN6



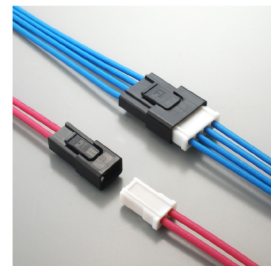
Low Profile Small Waterproof Connector for Mold-in to Small Servomotor

- All plastic, Lightweight, Low cost
- Waterproof conforming to IP67

of Contacts : 4 pos. (for power), 2 pos. (for brakes),
7 pos. (for encoders)

Rated Current : 4 pos. : 7 A/pos. max., 2 pos. : 1 A/pos. max.,
7 pos. : 1 A/pos. max.

Rated Voltage : 4 pos.: 200 VAC, 2 pos.: 100 VAC, 7 pos.: 100 VAC



HB03



Cable to Cable Small Connector for Industrial Machinery

- Enables to put through the narrow space such as inside robot arm

of Contacts : 2, 4, 8pos.

Rated Current :

Contact size: #28, Wire size (AWG): #30, #28, Current value: 1 A

Contact size: #24, Wire size (AWG): #26, #24, Current value: 2 A

Contact size: #22, Wire size (AWG): #22, Current value: 3 A

Rated Voltage : 250 VAC, 250 VDC



Middle / Large Size Servomotor



JL10



Both Screw Mating and One-Touch Locking Feasible Waterproof Circular Connectors Based on MIL-DTL-5015

- Compatible with both one-touch lock mating and MIL specification screw mating
- One-touch lock mating with easy operability and good vibration resistance
- Waterproof conforming to IP67
- UL recognized and TÜV approved product.

of Contacts : 4, 9, 17, 19, 22, 37 pos.
Rated Current and Voltage:

#16 : 13A, 100VAC #12 : 23A, 500VAC(2 / II), 250VAC(3 / III)
#8 : 46A/57A, 500VAC(2 / II), 250VAC(3 / III)
#4 : 80A, 500VAC(2 / II), 250VAC(3 / III)



JL04V



Screw Mating Waterproof Circular Connectors Based on MIL-DTL-5015

- Compatible MIL specification screw mating
- Plug is available in straight, angle and individual type
- Waterproof conforming to IP67
- UL recognized and TÜV approved product.

of Contacts : 3, 4, 6, 7, 8, 9, 18, 20, 22 pos.
Rated Current and Voltage : #8 : 46A / 57A, 500VAC(2 / II), 250VAC(3 / III)
#12 : 23A, 500VAC(2 / II), 250VAC(3 / III)
#16 : 13A, 100VAC



JN1/JN2



Waterproof One-touch Lock Small Circular Connector

- Easy and secure mating with push-and-twist type one-touch lock mechanism
- Waterproof conforming to IP67

of Contacts : 4, 10 pos.
Rated Current and Voltage :
4 pos: 5 A / pin (#20 size contact), 200 VACr.m.s.
10 pos: 3 A / pin (#22 size contact), 200 VACr.m.s.



Interface



KN01



Waterproof Rectangular Connector for Industrial Equipment

- Light and easy operation of the lever locking
- Combined power and signal transmission by the insert shield

of Contacts : M Size : Power / #16 X 16 pos.
Signal / #20 X 16 pos. #20 X 14 pos.(With shield)
L Size : Power / #12 X 12 pos.
Signal / #20 X 18 pos., #22 X 50 pos.,
#20 X 18 pos.(With shield)

Rated Current and Voltage
#12 : 23A, 250VAC, #16 : 16A, 250VAC, #20 : 3A, 24VDC
#22 Round Cont. : 2A, 24VDC, #22 Square Cont. : 3A, 24VDC



KN02

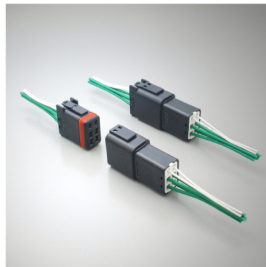


All-Plastic, One-Touch Lock Rectangular Connector

- EMI shielded by metal shield and metalized plastic
- Easy one-touch lock structure

of Contacts,
Type-A : Main : 8 (Power) / 4 (Signal), Inner : 16 (Signal)
Type-B : Main : 24 (Power/Signal) / 6 (Power/Signal),
Inner : 16 (Power / Signal)

Rated Current : Power : 13 A, Signal : 4 A, Power / Signal : 2 A



HB01



Cable to Cable Waterproof Connector for Industrial Machinery

- Easy harnessing by loose wire relay connector
- Power and signal hybrid type with enhanced insulation
- Waterproof conforming to IP67

of Contacts : 6 pos. (4 Power, 2 Signal)
Rated Current and Voltage : Power : 13A (AWG14), 250VAC,
Signal : 4A (AWG20), 250VAC
Applicable cable : Power : AWG18-14
Signal : AWG24-28



User Interface Solutions



Teaching pendant



Operation terminal for robot applications

- Easy to use touch panel operation (Multi-touch compatible)
- Lightweight and easy to hold design
- Structural design that achieves high robustness and maintainability
 - Dustproof, Waterproof, Oilproof
 - Drop impact resistance
 - Easy to replace maintenance parts
- OS embedding(Linux, Windows) and other software development
- Power saving



JB10



All-Plastic, Waterproof One-touch Lock Circular Connector

- Easy and sure mating with push-and-twist type one-touch lock mechanism
- Waterproof conforming to IP67
- EMI shielding with built-in shielded parts.

of Contacts : 26 pos.
Rated Current : 1A
Rated Voltage : 100VAC
Mating Cycles : 500 times



JB12



Compact Waterproof Ethernet Connectors for Industry

- Compact, waterproof jam nut type in-line connector
- Allows for highly-reliable shielded connections, as well as flexible connection of shielded wires of various thicknesses
- An expanded crimp termination range for X-code, AWG #22 to #30

of Contacts : X-code : 8 contacts, D-code : 4 contacts
Rated Current : X-code : 0.5 A / contact, D-code : 4 A / contact
Rated Voltage : X-code : 48 V AC/DC, D-code : 250 V AC/DC



Battery System



DW1



Rack and panel connector with 2 contacts for high-current (500A)

- Power supply compatible with cable connection
- Floating Amount : $\pm 2.75\text{mm}$

of Contacts, Rated Current and Voltage
Power : 2 pos., 500A, 600VDC
Signal : 20 pos., 2A, 100VAC



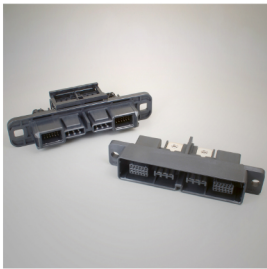
DW2



Rack and Panel Connector with 2 Contacts for High-Current (200A)

- Conection of receptacle side power supply can be made at once using the bus bar
- Floating Amount : $\pm 2.75\text{mm}$

of Contacts, Rated Current and Voltage
Power : 2 pos., 200A, 600VDC
Signal : 20 pos., 2A, 100VAC



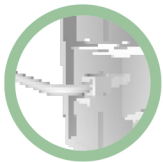
DW3



Rack and panel Connector with 2 Contacts for High-Current (150A)

- Low-profile, compact, possible to be equipped on a 19 inch 1U rack
- Floating Amount : $\pm 2.0\text{mm}$

of Contacts, Rated Current and Voltage
Power : 2 pos., 150A, 600VDC
Signal : 24 pos., 2A, 100VAC



High-Current Equipment



DW4



1 pin connector compatible with 100A connection with cable

- Mechanical lock

of Contacts : 1 pos.
Rated Current : 100A
Rated Voltage : 600VDC
Mating Cycles : 50 times



DW05



1 pin Connector Compatible with 150A Connection with Cable

- Termination: Crimp termination considering on-site assembly

of Contacts : 1 pos.
Rated Current : 150A
Mating Cycles : 100 times



DW07



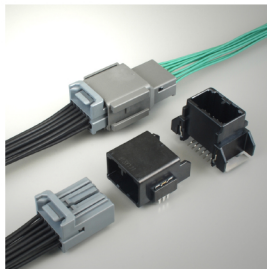
Easily Connect Power Busbars in High-Current Equipment

- Floating connection and Flexible current amount
- Connector attaches easily with one hand, clipping onto mating holes in the busbar

Applicable busbar : JIS H 3140 Silver plating
Rated Current : Please look at the JAE Website
Mating Cycles : 100 times



Manufacturing Equipment



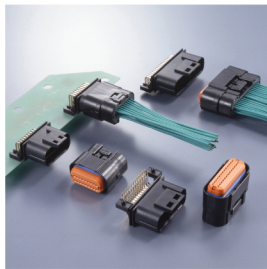
MX34



Compact/ High-Density Non-Waterproof Automotive Connectors

- Board-to-cable type, in-line type
- Mechanical lock system ensures reliable mating

of Contacts
1 row : 3, 5, 7 pos.
2 rows : 8, 12, 16, 20, 24, 28, 32, 36, 40 pos.



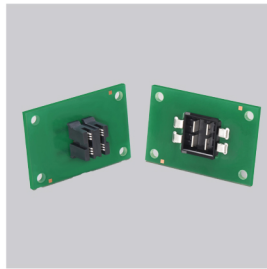
MX23A



Compact type, Waterproof, Board-to-Cable Application Connectors

- Full water proof grommet is used for socket contact crimping area in order to reduce size

of Contacts : 12, 18, 26, 34, 36, 40 pos.
Rated Current : 3A
Dielectric withstanding voltage : 1000VAC



DW11



Floating Board to Board Power Connector

- Mechanism incorporating unique floating structure
- Floating tolerance of 0.8mm in X and Y directions

of Contacts : 4 pos.
Rated Current : 20 A DC
Rated Voltage : 250 V DC
Connector Mating & Withdrawal Force : Mating force : 90 N MAX.
Withdrawal force : 10 N MIN.



Electric Vehicles



MX80



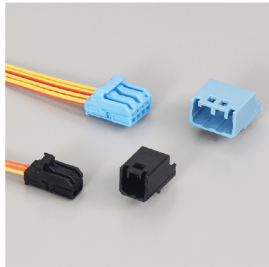
Compact Waterproof Automotive In-line Connector

- ISO/JASO/EWCAP/VDA standard 0.64 mm tab size
- IPX7 ingress protection rated (4 positions also available in IPX9K)

of Contacts : 2, 3, 4 and 6 positions (6 positions is socket only)

Rated Current : 0.13 mm² 2pos : 4.2A 3pos : 3.7A 4pos : 3.6A
0.35 mm² 2pos : 7.1A 3pos : 6.4A 4pos : 5.8A
1.0 mm² 2pos : 10.3A 3pos : 10.0A 4pos : 9.5A

Dielectric Withstanding Voltage : AC 500 V



MX81



Unsealed Compact Automotive Connector

- ISO/JASO/EWCAP/VDA standard 0.64 mm tab size
- Socket contacts are the same as those of sealed MX80 Series

of Contacts : 2, 4

Rated Current : 0.13 mm² 2 pos. : 4.5 A 4 pos. : 4.1 A
0.35 mm² 2 pos. : 6.7 A 4 pos. : 5.5 A
1.0 mm² 2 pos. : 9.7 A 4 pos. : 8.5 A

Dielectric Withstanding Voltage : AC 500 V



KW1C



UL/ c UL/JCS

Quick Charging / Charging and Discharging system Connector for EV

- Compliant with CHAdeMO specifications Ver.2.0
- Product lineup : UL Certified Model and CE Certified Model

of Contacts : Power : 2 pos., 12V Power : 1 pos., Signal : 6 pos.

Rated Current : Power : 150 A max. (Note), 12V Power : 6.4 A, Signal : 2 A

(Note) 125 A :-30 deg. C to +50 deg. C
135 A :-30 deg. C to +45 deg. C
150 A :-30 deg. C to +40 deg. C



KW02C



JCS



UL/ c UL

Charging and Discharging System Connector for EV

- Compliant with CHAdeMO specifications Ver.2.0
- Lightweight and highly reliable design.

of Contacts : Power : 2 pos., 12V Power: 1 pos., Signal : 6 pos.

Rated Current : Power : 37 A max. (Note), 12V Power : 6.4 A, Signal : 2 A

(Note) 30A : -30 deg.C to +50 deg.C
37A : -30 deg.C to +40 deg.C



KW07C



Charging Connectors for Electric Vehicles

- Compliant with CHAdeMO standard
- UL and cUL recognized products
- High - strength design, yet compact and light weight
- Compatible with DC quick chargers with a rated output of 150kW

of Contacts : Power: 2 pos Signal: 7 pos

Rated Current : Power: 200 A¹ Signal: 2 A

¹ Please contact us if higher current than the rated current is required



KW11



Charging Connectors Compatible with the CCS Type-1 EV Fast Charging Standard

- Compatible with the fast-charging standard CCS Type-1
- UL and cUL recognized products
- The strength of the latch is enhanced with a metal core reinforcement
- Safety design with waterproof protection of live parts inside the connector

of Contacts : Power : 2 pos., Protective Earth : 1 pos., Signal : 2 pos.,

Rated Current : Power : 150 A / 200 A (Products with rated currents of 150 A and 200 A are available)

Signal : 2A



Railway



JK06



MIL-DTL-5015 Type Bayonet Connector

- Electro-mechanical & Environment design compliant to meet VG95234 standard
- Interchangeable with MIL-DTL-5015 standard
- IP67 rated at mated condition

of Contacts : 3, 4, 6, 7, 10, 19, 37, 48 pos.

Dielectric withstanding voltage : AC 2550 Vr.m.s.



JK11



High-Current Waterproof Connector for Railway Vehicles

- Flat layout and Lower-profile rectangular design saves space over conventional circular connector solutions.
- The lever mating system offers smooth mating and unmating operation.
- IP67 rated in mated condition
- Able to rearrange the insulator to customize wiring sequence. Free order of pin numbers by reassemble the insulator (EN45545-2, NFPA130)

of Contacts : 4 pos.

Rated Current : 150 A (Wire Size: 38 mm²), 60 A (Wire Size: 14 mm²)

Dielectric withstanding voltage : AC 6000 Vr.m.s.

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- 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.
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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.