CONNECTOR

MB-0385-1

Nov.2022

All-plastic Low-profile Waterproof Connectors

JN13 Series

RoHS Compliant

JAE has developed the JN13 Series, an all-plastic, low-profile connector that is ideal for compact servomotors with metal housings. By combining the power and signals for the brake in a single connector, it allows for space saving and a reduction in the number of cables.

Robots and machine tools are constantly being designed to be smaller and more functional and the space allocated for connectors on servo motors are becoming less and less. There is also a demand for fewer cables to be used in these servo motors. In response to these design requirements the JN13 Series reduced the number of connectors and cables by combining 6 positions (3 power, 1 ground, 2 brake) into a single connector. Reinforced insulation is provided between the power and brake signal lines so they can be used safely in a single connector.

Applications

Industrial equipment, such as servo motors, machine tools, robots, communication equipment and other various applications.

Features

■ An all-plastic connector to reduce weight and cost.
■ Low-profile screw-fastened mating method for secure mating, withstanding vibration and creating a reliable seal.
■ IP67 rated waterproof structure in mated condition.
■ The 6-postion connector combines power and brake with reinforced insulation.
■Screw for mating doubles as ground connection to the metal servo motor housing.
■ Crimp termination contacts.
■Plug hood with 180 ° selectable cable exit orientation based on application requirement.

General Specifications

Item	Specification		
Position Count	6		9
Usage	Power supply + ground	Brake	Encoder
Pin Assignment	4（Pin No.1～4）	2（Pin No.5～6）	9（Pin No.1～9）
Rated Current	7.4A max. (per contact)	1.2A max. (per contact)	1A max. (per contact)
Rated Voltage	400VAC max.(With UL) 230VAC max. (With TUV) (OVER VOLTAGE CATEGORY: Ⅱ) (POLLUTION DEGREE:2)	30VDC max. (OVER VOLTAGE CATEGORY: Ⅱ) (POLLUTION DEGREE:2)	100VAC max. (OVER VOLTAGE CATEGORY: Ⅱ) (POLLUTION DEGREE:2)
Dielectric Withstanding Voltage	1500VAC, 1 minute	500VAC, 1 minute	500VAC, 1 minute
Insulation Resistance	1000MΩ min.	100MΩ min.	100MΩ min.
Applicable Wire Size	AWG #18～#22	AWG #18～#22	AWG #22～#28
Cable Outer Diameter	ø8.15±0.35 / ø8.95±0.35		ø7±0.25
Ingress Protection	IP67 (in mated condition)		
Operating Temperature	-40°C～+125°C （Including temperature rise）		
Durability	100-cycles		
Certification	TUV, UL		

Materials and Finishes

Receptacles

Part Number	Components	Material / Finish
JN13CJ06PN1	Pin contact	Copper Alloy / Gold Plating
	Ground contact	Copper Alloy / Gold Plating
	Insulator	Synthetic resin
	Screw	Stainless steel
JN13CD09PN1	Pin contact	Copper Alloy / Gold Plating
	Insulator	Synthetic resin

Plugs

Part Number	Components	Material / Finish
JN13FJ06SN1 JN13FJ06SN2 JN13FJ06SN3 JN13FJ06SN4 JN13FD09SN1 JN13FD09SN2	Socket Contact	Copper Alloy / Gold Plating
	Insulator	Synthetic resin
	Hood	Synthetic resin
	Gland nut	Synthetic resin
	Cable clamp	Synthetic resin
	Gasket	Synthetic rubber
	Bushing	Synthetic rubber
	Spring	Stainless steel
	Screw	Stainless steel

Ordering Information

JN13 F J 06 S N ※

- JN13 — Series
- F — Connector type
  C：Panel mount receptacle
  F：Angle plug
- J — Shell size
- 06 — No. of Contacts
- S — Contact type
  P：Crimp pin
  S：Crimp socket
- N — Position angle
  N： Normal
- ※ — Modification code

Connector Part Numbers

Number of Contacts	Part Number	Connector Type	Drawing Number	Cable Direction	Termination
6	JN13FJ06SN1	Angle Plug	SJ117360	Standard Type	Crimp (Socket Contact)
	JN13FJ06SN2	Angle Plug	SJ117361		
	JN13FJ06SN3	Angle Plug	SJ121268	Flip Type	
	JN13FJ06SN4	Angle Plug	SJ121269		
	JN13CJ06PN1	Receptacle	SJ117359	—	Crimp (Pin Contact)
9	JN13FD09SN1	Angle Plug	SJ117363	Standard Type	Crimp (Socket Contact)
	JN13FD09SN2	Angle Plug	SJ121270	Flip Type	
	JN13CD09PN1	Receptacle	SJ117362	—	Crimp (Pin Contact)

Contact Part Numbers

Number of Contacts	Type	States	Contact Part Number	Drawing Number	Applicable Wire Size
6	Socket	Reel (3,500pcs)	JN-18S-C1B-A1-3500	SJ118276	AWG#18、#22
	Pin	Reel (3,500pcs)	ST-KN4-P1-C1B-3500	SJ116430	AWG #18、#20
			ST-KN4-P1-C2B-3500	SJ116431	AWG #22
9	Socket	Reel (10,000pcs)	JN-24S-C1B-B1-10000	SJ118274	AWG#22～26
	P*in*	Reel (10,000pcs)	JN-24P-C2B-B1-10000	SJ118903	AWG#28

Note. Crimp contact is sold separately

Applicable Wire

Number of Contacts	Connector	Applicable Wire Size			Remarks
		Applicable Wire Size	Insulation Outer Diameter	Cable Outer Diameter	
6	JN13FJ06SN1 JN13FJ06SN3	AWG #18 #22	#18：ø2.1 #22：ø1.6	ø8.15±0.35	Cabtyre cable
	JN13FJ06SN2 JN13FJ06SN4			ø8.95±0.35	
	JN13CJ06PN1	AWG #18, #20	ø1.65～2.2	—	Discrete Wire
		AWG #22	ø1.1～1.7		
9	JN13FD09SN1 JN13FD09SN2	AWG #22～ #26	ø0.8～1.4	ø7±0.25	Cabtyre cable
	JN13CD09PN1	AWG #28	ø0.7～1.0	—	Discrete Wire

Applicable Tool

Semi Automatic Crimp Applicator

Number of Contacts	Type	Contact Part Number	Applicable Wire Size	Tool Part Number	Manual
6	Socket	JN-18S-C1B-A1-3500	AWG #18, #22	3502-JN11-2	T703526
	Pin	ST-KN4-P1-C1B-3500	AWG #18, #20	3502-TMH5B-2B	T703431
		ST-KN4-P1-C2B-3500	AWG #22		
9	Socket	JN-24S-C1B-B1-10000	AWG #22～26	350-LY1-2	T703138
	Pin	JN-24P-C2B-B1-10000	AWG #28	350-LY1-2	T703138

Hand Crimp Tool

Number of Contacts	Type	Contact Part Number	Applicable Wire Size	Tool Part Number	Manual
6	Socket	JN-18S-C1B-A1-3500	AWG #18、#22	CT170-14-JN13	T700432
	Pin	ST-KN4-P1-C1B-3500	AWG #18、#20	CT170-20-KN4	T700369
		ST-KN4-P1-C2B-3500	AWG #22		
9	Socket	JN-24S-C1B-B1-10000	AWG #22～26	CT150-4-LY1	T700132
	Pin	JN-24P-C2B-B1-10000	AWG #28	CT150-4-JN13	T700433

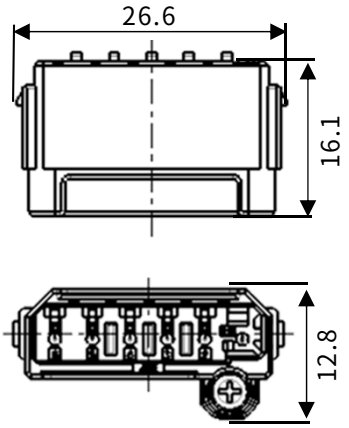
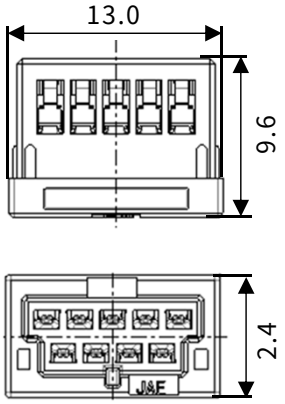
Technical Documents

Specifications	JACS-50124
Handling Manual	JAHL-50124

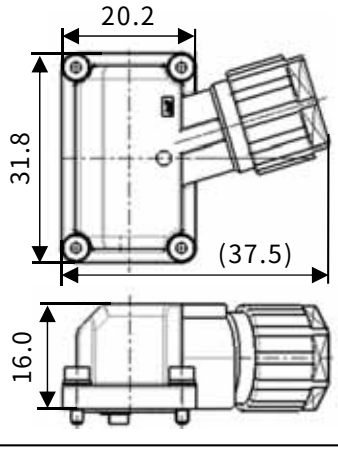
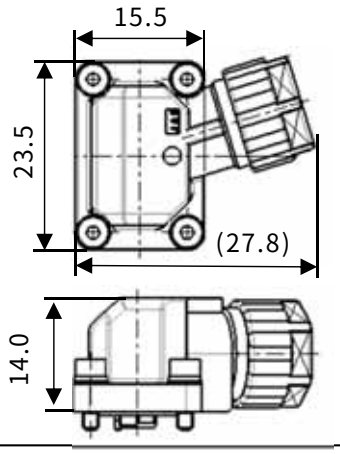
Outer Dimensions

Receptacles

(mm)

JN13CJ06PN1	JN13CD09PN1
	

Plugs

JN13FJ06SN＊	JN13FD09SN＊
	

Notice:

1. The values specified in this brochure are only for reference. The products and their 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 brochure 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.

Japan Aviation Electronics Industry, Limited

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