

Thank you for purchasing the VJCE VJ mounting base. Please read through this manual as well as the manual for respective instruments of JUXTA VJ series mounted on the VJ mounting base for correct handling. Please keep this manual carefully after use.

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CAUTIONARY NOTES FOR SAFE USE OF THE PRODUCT



If this symbol is indicated on the product, the operator should refer to the explanation given in the user's manual in order to avoid injury or death to either themselves or other personnel, and/or damage to the instrument. The manual describes the special care the operator should exercise to avoid shock or other dangers that may result in injury or loss of life.

The following symbols are used only in this manual.



IMPORTANT

Indicates that operating the hardware or software in a particular manner may damage it or result in a system failure.



NOTE

Draws attention to information that is essential for understanding the operations and/or features of the products.

INTRODUCTION

The VJCE has been manufactured under strict quality control and thoroughly tested at the factory before shipment. When you receive it, visually inspect it for damage.

(1) Model and Suffix Codes Check

Check that the model and suffix codes for VJ mounting base and VJ series signal conditioner are as ordered.

Model suffix code	Input	Output-1	Output-2
VJCE-011	Screw terminal	Connector	Screw terminal
VJCE-012	Connector	Screw terminal	Screw terminal
VJCE-013	Screw terminal	Screw terminal	Screw terminal
VJCE-014	Screw terminal	Screw terminal	Connector

[Mountable Signal Conditioners]

Signal Conditioner Models	Product Name	VJCE -014	VJCE -013	VJCE -012	VJCE -011
VJA1	Distributor	●	●	—	●
VJA4	Distributor (Non-isolated)	●	●	—	●
VJA5	Distributor (with Square Root Extractor)	●	●	—	●
VJA7	Distributor (Multi-function)	●	●	—	●
VJB1	CT Converter (RMS)	●	●	—	●
VJB3	AC Converter (RMS)	●	●	—	●
VJC1	Loop Powered Isolator	●	●	—	●
VJD1	Tachometer Converter	●	●	—	●
VJF1	Pneumatic to Electrical Converter	●	●	—	●
VJG1	PT Converter (RMS)	●	●	—	●
VJH1	Isolator	●	●	●	●
VJH7	Isolator (Multi-function)	●	●	●	●
VJHF	Isolator (Super Speed Response Type)	●	●	●	●
VJHR	Isolator (Reverse Output Type)	●	●	●	●
VJP1	Pulse Repeater	●	●	—	●
VJP4	Pulse Rate Converter	●	●	—	●
VJP8	Pulse Rate Converter (Multi-function)	●	●	—	●
VJQ0	Analog to Pulse Converter	●	●	●	●
VJQ2	Pulse to Analog Converter	●	●	—	●
VJQ7	Analog to Pulse Converter (Multi-function)	●	●	●	●
VJQ8	Pulse to Analog Converter (Multi-function)	●	●	—	●
VJR6	RTD Converter	●	●	—	●
VJS2	Potentiometer Converter	●	●	—	●
VJS7	Potentiometer Converter (Multi-function)	●	●	—	●
VJSS	High/Low Signal Selector	●	—	—	●
VJT6	Thermocouple Converter	●	●	—	●
VJU7	Universal Temperature Converter	●	●	—	●
VJX7	Universal Computing Unit (Multi-function)	●	●	●	●
VJXS	Universal Computing Unit	●	●	●	●
VJUK	Limit Alarm for Universal Input	—	●	—	—

(2) Related User's Manual

This manual does not explain the details (handling, maintenance and the like) for signal conditioners mounted on VJCE. The lineup and User's Manual numbers of JUXTA VJ series signal conditioners are shown below.

Model	Product Name [Document title]	User's Manual No.
VJCE	VJ Mounting Base: This manual	IM 77J01C51-01E
VJA1	Distributor	IM 77J01A01-01E
VJA4	Distributor (Non-isolated)	IM 77J01A04-01E
VJA5	Distributor (with Square Root Extractor)	IM 77J01A05-01E
VJA7	Distributor (Multi-function)	IM 77J01A07-01E
VJB1	CT Converter (RMS)	IM VJB1-01E
VJB3	AC Converter (RMS)	IM VJB3-01E
VJC1	Loop Powered Isolator	IM VJC1-01E
VJD1	Tachometer Converter	IM VJD1-01E
VJF1	Pneumatic to Electrical Converter	IM VJF1-01E
VJG1	PT Converter (RMS)	IM VJG1-01E
VJH1	Isolator	IM 77J01H01-01E
VJH7	Isolator (Multi-function)	IM 77J01H07-01E
VJHF	Isolator (Super Speed Response Type)	IM VJHF-01E
VJHR	Isolator (Reverse Output Type)	IM 77J01H12-01E
VJP1	Pulse Repeater	IM VJP1-01E
VJP4	Pulse Rate Converter	IM VJP4-01E
VJP8	Pulse Rate Converter (Multi-function)	IM 77J01P08-01E
VJQ0	Analog to Pulse Converter	IM VJQ0-01E
VJQ2	Pulse to Analog Converter (Free Range Type)	IM VJQ2-01E
VJQ7	Analog to Pulse Converter (Multi-function)	IM 77J01Q17-01E
VJQ8	Pulse to Analog Converter (Multi-function)	IM 77J01Q08-01E
VJR6	RTD Converter	IM 77J01R06-01E
VJS2	Potentiometer Converter	IM VJS2-01E
VJS7	Potentiometer Converter (Multi-function)	IM 77J01S07-01E
VJSS	High/Low Signal Selector	IM VJSS-01E
VJT6	Thermocouple Converter	IM 77J01T06-01E
VJU7	Universal Temperature Converter	IM 77J01U07-01E
VJX7	Universal Computing Unit (Multi-function)	IM 77J01X07-01E
VJXS	Universal Computing Unit	IM VJXS-01E
VJUK	Limit Alarm for Universal Input	IM 77J01U21-01E
VJ77	Parameter Setting Tool	IM 77J01J77-01E
	VJ Series Communication Function	IM 77J01J11-01E

1. PRODUCT OVERVIEW

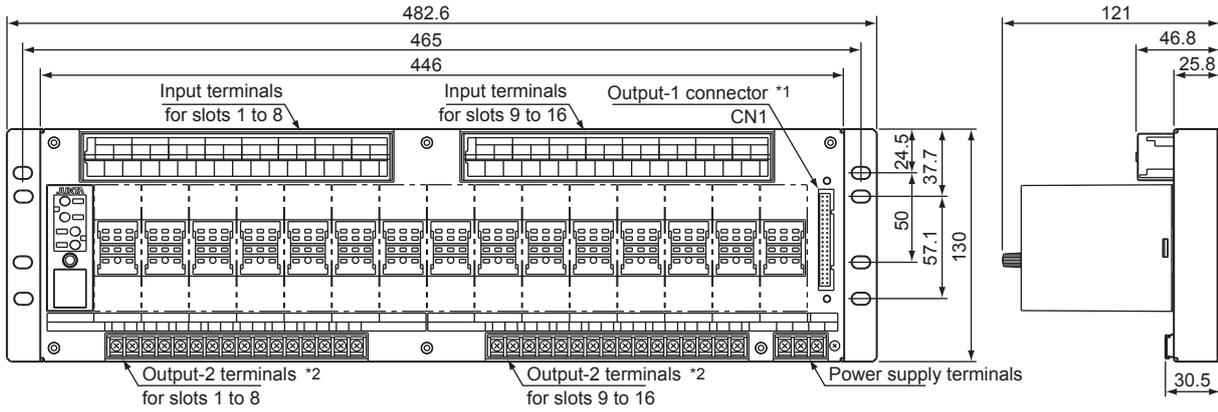
The VJCE is a horizontally installed, side-by-side multiple mounting base that complies with the standard rack-mounting dimensions specified by the JIS/EIA standards. A maximum of 16 signal conditioners of JUXTA VJ series can be mounted on VJCE.

- Different signal conditioners of VJ series can be mixed and housed in the same mounting base.
- Signal condition of input/output is selectable out of 4 types.

2. EXTERNAL DIMENSIONS

• VJCE-011 and VJCE-014

Unit : mm

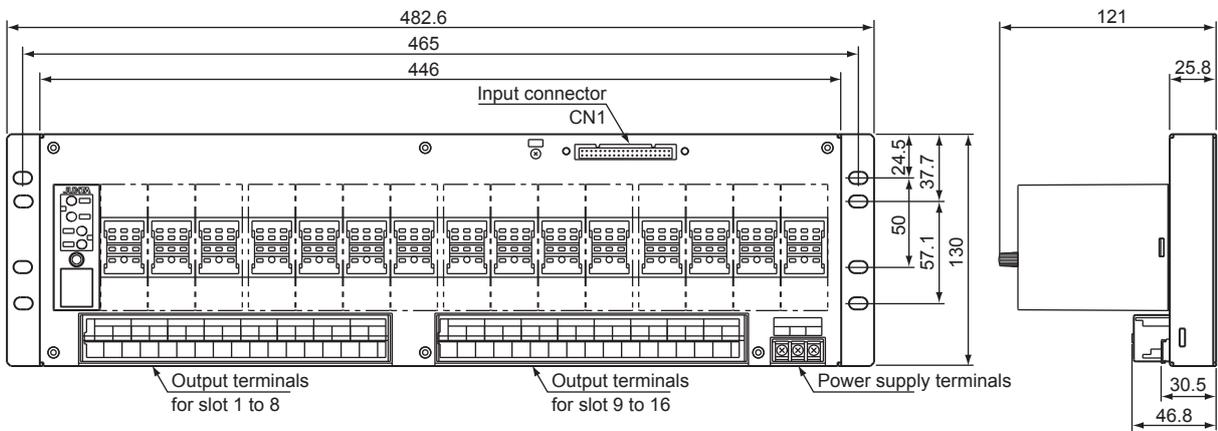


*1: Output-2 connector for VJCE-014

*2: Output-1 terminals for VJCE-014

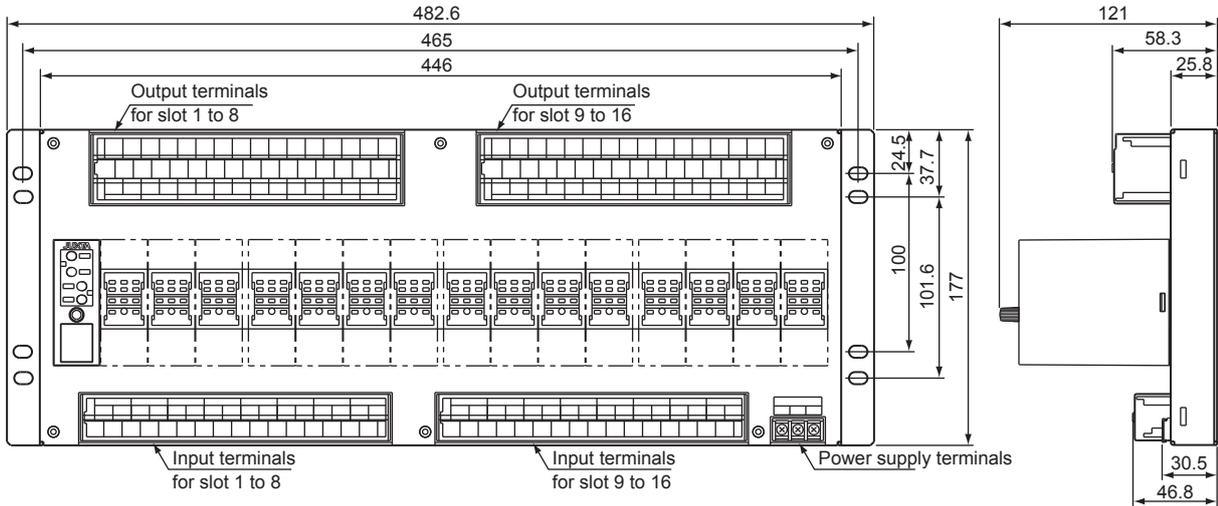
• VJCE-012

Unit : mm



• VJCE-013

Unit : mm



Normal Allowable Deviation= ± (Value of JIS B 0401-2016 tolerance grade IT18) / 2

3. INSTALLATION OF VJCE

The VJCE can be installed horizontally on 19 inches rack complies with JIS/EIA standards, or horizontally on the wall. Under the conditions mentioned in Article 3.2, a maximum of 5 mounting bases can be installed on one side of the cabinet.

3.1 Environmental Conditions

3.1.1 Ambient temperature and humidity

Ambient temperature and humidity during operation of the instruments would be as follows:

Temperature: 0 to 50°C, Humidity: 5 to 90% RH

3.1.2 Vibration condition

Vibration of installation place would be less than 2m/s² at 10 to 150Hz

3.1.3 Air purification degree

Air dirty is desirous to be less than 0.2mg/m³. Also, corrosive gas such as hydrogen sulfide, sulfurous acid gas, chlorine and conductive dust such as iron and carbon are desirous to be as little as possible.

(Note) Permissible limit of hydrogen sulfide (H₂S) and sulfurous acid gas (SO₂) would be as standard of JEIDA-29 (1979) CLASS S1*.

JEIDA: Japan Electronic Industrial Development Association JEIDA-29 (1979) CLASS S1

H₂S: 0.01ppm or less, SO₂: 0.05ppm or less (Ambient temperature: 25°C ± 5°C, ambient humidity: 40 to 80%RH)

3.2 Condition of Installation



NOTE

1. Secure space for top and bottom to avoid heating.

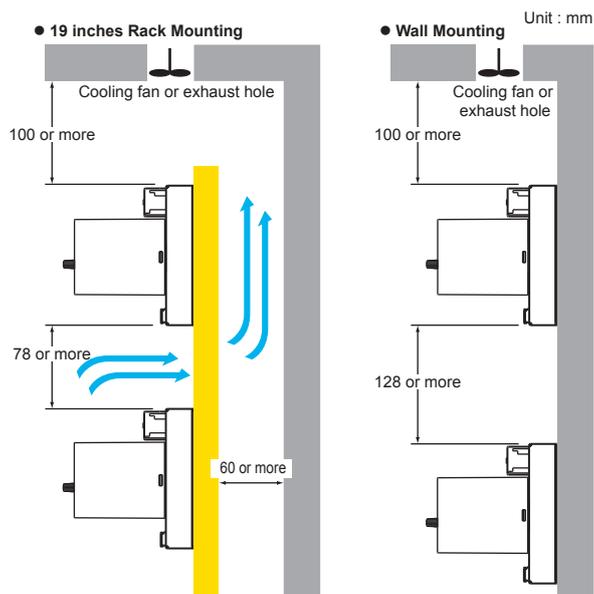
- Apart more than 100 mm from the floor board.
- Apart more than 100 mm from panel top and make air exhaust hole or set cooling fan at panel upper.
- If wall stands at back in case of rack mounting, apart more than 60mm from the wall for ventilation.

2. Take enough space for front and side faces so as not to interfere wiring, piping and maintenance area.

3. In case storing in cabinet, air cooling is compulsorily required to prevent from raise of temperature.

4. Do not install it on the heating materials.

5. In case of installing the VJCE one above another to up and down direction, take installation space as shown in the figure on the right. (78 mm for rack mounting, 128 mm for wall mounting)



3.3 Installation

3.3.1 Installation of VJCE

Use four (4) M5 screws for installation.

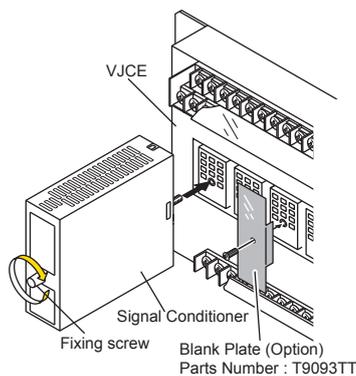
3.3.2 Installation of signal conditioners

Connect the pin on the back of the signal conditioner to the VJCE connector as shown in the figure on the right. Then tighten the fixing screw on the front of the signal conditioner.



NOTE

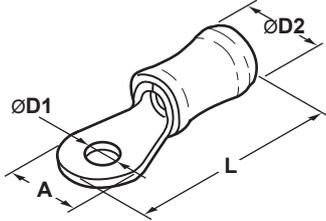
Insert and pull out the signal conditioner vertically to VJCE. Inserting and pulling it out slantwise may make the pin bent and cause a failure such as a bad contact.



4. EXTERNAL WIRING

4.1 Field Side Wiring and Wiring of Power Supply and Ground

Flexible twisted cable and good contact of durable round crimp-on terminals are recommended to use.



Cross sectional area	Screw	ØD1 Hole dia. (mm)	A Terminal out dia. (mm)	L Terminal length (mm)	ØD2 Insulation coating (mm)
0.75 mm ² 0.9 mm ² 1.25 mm ² 2.0 mm ²	M3.5	3.7 or more	6.9 or less	About 19	3.2 or more

4.1.1 Signal cable

Nominal cross-sectional area of conductor: 0.75 to 2 mm²

Example of suitable cable: Vinyl code (VSF) twisted cable (JIS C3306)

4.1.2 Power cable

Nominal cross-sectional area of conductor: 1.25 to 2 mm²

Example of suitable cable: 600V vinyl code (IV) twisted cable (JIS C3307), Vinyl insulated cable (KIV) (JIS C3316)

4.1.3 Ground cable

Nominal cross-sectional area of conductor: 2 mm²

Example of suitable cable: 600 V vinyl code (IV) twisted cable (JIS C3307), Vinyl insulated cable (KIV) (JIS C3316)

4.2 Field Side Input/Output Terminals, Piping and System Side Wiring

Assignment of Input/Output Terminals on and after page 7 shows relation between VJCE field side input/output terminals and signal conditioner input/output signal at the terminals. (Refer to the terminal assignment that matches the model suffix code of the VJCE used.) Field side input/output terminals are M3.5 screws. Exclusive cable is used for connection between VJCE and VM1, PM1 cards. Connect input air pressure signal of VJF1 to connecting hole of front face of signal conditioner directly. Connect power and ground cables to power terminals of VJCE. Power would internally be distributed to respective signal conditioners.



WARNING

It is recommended that CT protector (CTG-5) be attached to the current input terminals connected to the secondary side of the CT when mousing VJB1 (CT transmitter) on VJCE. Since a high potential develops over the secondary side, the CT may burn and break if you unplug the VJB1 from the VJCE while the VJB1 is turned on and it has no CT protector.



IMPORTANT

- Ensure the followings before turning on the power. Use of signal conditioners of VJ series ignoring the specifications may cause overheating or damage to VJCE-01A and signal conditioners.
 - Power supply voltage and input signal value applied to VJCE-01A and signal conditioners should meet the required specifications.
 - The external wiring to the terminals is as specifications.
- Do not operate the product in the presence of flammable or explosive gases or vapors. To do so is highly dangerous.
- Many semi-conductor integrated circuit parts are used for signal conditioners. Take care of static electricity trouble at the maintenance or change of setting for the signal conditioners.
- The grounding resistance must be 100 Ω (JIS Class D grounding). The length and thickness of the grounding cable should be as short and thick as possible. Directly connect the lead from the ground terminal of the product to the ground. Do not carry out daisy-chained inter-ground terminal wiring.

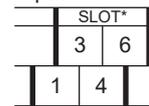
5. ASSIGNMENT OF INPUT/OUTPUT TERMINALS AND POWER SUPPLY TERMINALS

5.1 Assignment of Input/Output Terminals

• VJCE-011

Mountable Signal Conditioners	Input Terminal				Output-2 Terminal	
	1	3	4	6	2	5
VJH1, VJH7, VJHF, VJHR, VJQ0, VJQ7 VJXS, VJX7	+	-	Do not use	Do not use	+	-
VJH1/C, VJH1/HC	+	-				
VJC1 (*1)	Channel-1		Channel-2		Channel-2	
	+	-	+	-	+	-
VJT6 VJU7 (TC or mV input)	+	-		Do not use	+	-
VJR6 VJU7 (RTD input)	A	B	B	Do not use	+	-
VJS2, VJS7	100%	CENTER	0%	Do not use	+	-
VJA1 VJA5 VJA7	PS+	-	COM	Do not use	+	-
	Do not use					
	Do not use					
	Do not use					
VJA4 (*1)	Channel-1		Channel-2		Channel-2	
	PS+	-	PS+	-	+	-
VJB1	A	±	Do not use	Do not use	Do not use	Do not use
VJG1	V	±	Do not use	Do not use	Do not use	Do not use
VJB3	A/V	±	Do not use	Do not use	+	-
VJD1	V	±	Do not use	Do not use	+	-
VJP1	Non-voltage contact / Voltage contact	Do not use	+	-	+	-
VJP4	Internally powered current pulse (two-wire system)	PS+	+	-		
VJP8						
VJQ2 (*2)	Internally powered voltage pulse (three-wire system)	PS+	+	-		
VJQ8						
VJSS	+	-	+	-	+	-
VJF1	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use
	Input through one-touch fitting Ø6 of the VJF1.					

Input Terminals



Output-2 Terminals



*** in the figure above denote a slot number. Slots are numbered from 1 to 16, beginning with the leftmost slot, when viewed from the VJCE front.

CN1

Connector's Pin Assignment

CN1		Pin No.	Slot No.
40	39	40	1 +
		39	-
38	37	38	2 +
		37	-
36	35	36	3 +
		35	-
34	33	34	4 +
		33	-
32	31	32	5 +
		31	-
30	29	30	6 +
		29	-
28	27	28	7 +
		27	-
26	25	26	8 +
		25	-
24	23	24	9 +
		23	-
22	21	22	10 +
		21	-
20	19	20	11 +
		19	-
18	17	18	12 +
		17	-
16	15	16	13 +
		15	-
14	13	14	14 +
		13	-
12	11	12	15 +
		11	-
10	09	10	16 +
		09	-
08	07	08	-
		07	-
06	05	06	-
		05	-
04	03	04	-
		03	-
02	01	02	-
		01	-

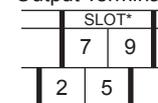
Note: The figure represents the connector when viewed from the connector cable.

• VJCE-012

Mountable Signal Conditioners	Output-1 Terminal		Output-2 Terminal	
	7	9	2	5
VJH1, VJH7, VJHF, VJHR, VJQ0 VJQ7, VJXS, VJX7, VJHK	+	-	+	-

CN1 connector's pin assignment is same as VJCE-011.

Output Terminals

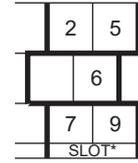


*** in the figure on the left denotes a slot number. Slots are numbered from 1 to 16, beginning with the leftmost slot, when viewed from the VJCE front.

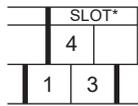
● VJCE-013

Mountable Signal Conditioners		Input Terminal			Output-1 Terminal		Output-2 Terminal							
		1	3	4	7	9	2	5	6					
VJH1, VJH7, VJHF, VJHR, VJQ0, VJQ7 VJXS, VJX7, VJHK, VJUK-1		+	-	Do not use	+	-	+	-	Do not use					
VJH1/C, VJH1/HC														
VJC1 (*1)		Channel-1			Channel-1		Do not use	Do not use	Do not use					
VJT6 VJU7 (TC or mV input) VJTK, VJUK-3		+	-	Do not use	+	-	+	-	Do not use					
VJR6 VJU7 (RTD input) VJRK, VJUK-3		A	B	B	+	-	+	-	Do not use					
VJS2 VJS7 VJSK		100%	CENTER	0%	+	-	+	-	Do not use					
VJA1 VJA5 VJA7 VJAK VJUK-2		PS+	-	COM	+	-	+	-	Do not use					
When using internal power supply														
When using external power supply		Do not use												
When used as an isolator		Do not use												
VJA4 (*1)		Channel-1			Channel-1		Do not use	Do not use	Do not use					
		+	-	Do not use	+	-	Do not use	Do not use	Do not use					
VJB1		A	±	Do not use	+	-	Do not use	Do not use	Do not use					
VJG1		V	±	Do not use	+	-	Do not use	Do not use	Do not use					
VJB3		A/V	±	Do not use	+	-	+	-	Do not use					
VJD1		V	±	Do not use	+	-	+	-	Do not use					
VJP1 VJP4, VJP8 VJQ2 (*2) VJQ8, VJQK		Non-voltage contact / Voltage contact	Do not use	+	+	-	+	-	Do not use					
Internally powered current pulse (two-wire system)		PS+	+	-										
Internally powered voltage pulse (three-wire system)		PS+	+	-										
VJF1		Do not use	Do not use	Do not use	+	-	Do not use	Do not use	Do not use					
Input through one-touch fitting Ø6 of the VJF1.														
When output-2 is communication output.		Regarding input, refer to the above model by model.			+	-	B (+)	A (-)	COM					
When output-2 is alarm output.					AL1	COM	AL2							
VJAK, VJHK, VJMK, VJQK, VJRK VJSK, VJTK, VJUK									Do not use					

Output Terminals



Input Terminals



*** in the figure above denote a slot number. Slots are numbered from 1 to 16, beginning with the leftmost slot, when viewed from the VJCE front.

*1: Only 1-channel type of VJC1 and VJA4 are mountable on VJCE base.

*2: VJQ2 is a single output type. Do not use the output-2 terminal.

*3: When receiving current input (current pulse), external shunt resistor (receiving resistor) is required.

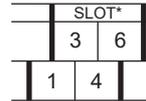
*4: For VJR6 (style 3.0 or later) and VJU7, the wiring resistance of input terminals "1" and "3" must be the same. For VJR6 (style 2.0 or earlier), the wiring resistance of input terminals "1" and "4" must be the same.

● VJCE-014

Mountable Signal Conditioners	Input Terminal				Output-1 Terminal		
	1	3	4	6	7	9	
VJH1, VJH7, VJHF, VJHR, VJQ0, VJQ7 VJXS, VJX7	+	-	Do not use	Do not use	+	-	
VJH1/C, VJH1/HC	+	-					
VJC1 (*1)	Channel-1		Do not use	Do not use	Channel-1		
	+	-			+	-	
VJT6 VJU7 (TC or mV input)	+	-		Do not use	+	-	
VJR6 VJU7 (RTD input)	A	B	B	Do not use	+	-	
VJS2, VJS7	100%	CENTER	0%	Do not use	+	-	
VJA1 VJA5 VJA7	PS+	-	COM	Do not use	+	-	
	When using internal power supply						
	When using external power supply						
VJA4 (*1)	Channel-1		Do not use	Do not use	Channel-1		
	+	-			+	-	
VJB1	A	±	Do not use	Do not use	+	-	
VJG1	V	±	Do not use	Do not use	+	-	
VJB3	A/V	±	Do not use	Do not use	+	-	
VJD1	V	±	Do not use	Do not use	+	-	
VJP1	Non-voltage contact / Voltage contact	Do not use	+	-	Do not use	+	-
VJP4 VJP8	Internally powered current pulse (two-wire system)	PS+	+	-			
VJQ2 VJQ8	Internally powered voltage pulse (three-wire system)	PS+	+	-			
VJSS		+	-	+	-	+	-
VJF1	Do not use	Do not use	Do not use	Do not use	+	-	

*1: Only 1-channel type of VJC1 and VJA4 are mountable on VJCE base.
 *2: When receiving current input (current pulse), external shunt resistor (receiving resistor) is required.
 *3: For VJR6 (style 3.0 or later) and VJU7, the wiring resistance of input terminals "1" and "3" must be the same.
 For VJR6 (style 2.0 or earlier), the wiring resistance of input terminals "1" and "4" must be the same.

Input Terminals



Output-1 Terminals



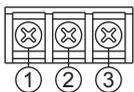
*** in the figure above denote a slot number. Slots are numbered from 1 to 16, beginning with the leftmost slot, when viewed from the VJCE front.

CN1
Connector's Pin Assignment

CN1		Pin No.	Slot No.
40	39	40	1 +
		39	-
38	37	38	2 +
		37	-
36	35	36	3 +
		35	-
34	33	34	4 +
		33	-
32	31	32	5 +
		31	-
30	29	30	6 +
		29	-
28	27	28	7 +
		27	-
26	25	26	8 +
		25	-
24	23	24	9 +
		23	-
22	21	22	10 +
		21	-
20	19	20	11 +
		19	-
18	17	18	12 +
		17	-
16	15	16	13 +
		15	-
14	13	14	14 +
		13	-
12	11	12	15 +
		11	-
10	09	10	16 +
		09	-
08	07	08	/
		07	/
06	05	06	/
		05	/
04	03	04	/
		03	/
02	01	02	/
		01	/

Note: The figure represents the connector when viewed from the connector cable.

5.2 Assignment of Power Supply Terminals



Terminal Number	Signal Symbol
①	SUPPLY L (+)
②	SUPPLY N (-)
③	GND



CAUTION

Ensure that the power supply voltage for VJCE-01A matches that for the signal conditioner to be mounted on VJCE-01A. Supply of different power supply voltage may damage VJCE-01A and signal conditioners.

6. CALIBRATION

Refer to the User's Manual of respective signal conditioner for how to calibrate and for the equipment required for calibration.

6.1 Items to Check before Power on

- Supply power rating is 12 to 36 V DC or 85 to 264 V AC / DC.
- Wiring of signal cables
- Installation, ambient temperature, humidity, dust, vibration

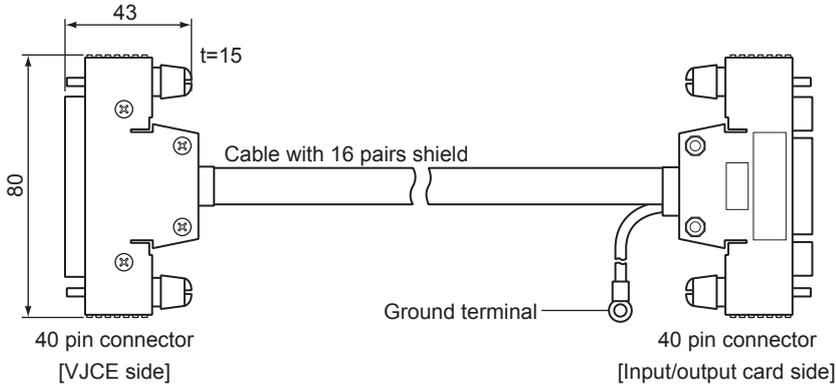
Please power on after checking the above items.

The VJCE would be in operational status upon power on. However, 10 to 15 minutes are required to satisfy its specifications and performance

6.2 Connection of Calibration Equipment

When Output-1 or Output-2 is connector, prepare KS2 cable and TE-16 terminal block.

KS2 cable



TE-16 Terminal Block

