

## Contents [ [hide](#) ]

- [1 Shinko BCS2 Digital Indicating Controller](#)
- [2 Specifications](#)
- [3 Specifications](#)
- [4 Panel Cutout \(Scale: mm\)](#)
- [5 Names and Functions of the Controller](#)
- [6 Terminal Arrangement](#)
- [7 FAQs](#)
- [8 Documents / Resources](#)
  - [8.1 References](#)

# Shinko

## Shinko BCS2 Digital Indicating Controller



## Specifications

- Power supply voltage: 100 to 240 V AC 50/60Hz, Allowable fluctuation: 85 to 264 V AC
- 24 V AC/DC 50/60Hz, Allowable fluctuation: 20 to 28 V AC/DC
- Thermocouple: Within 0.2% of each input span, 1 digit. However, R, S inputs, 0 to 200 (32 to 392): Within 6 (12 ) B input, 0 to 300 (32 to 572 ): Accuracy is not guaranteed. K, J, E, T, N inputs, Less than 0 (32 ): Within 0.4% of input

## **Safety Precautions**

Be sure to read and understand the safety precautions provided in the manual before using the product to prevent accidents.

## **Caution for Mounting**

- Ensure proper mounting procedures are followed to avoid dangerous conditions or damage to the product.
- Environmental Conditions
- Make sure the instrument is used under the specified environmental conditions (IEC61010-1) to ensure safe operation.

## **Caution concerning Export Trade Control Ordinance**

Investigate end users and final use of the instrument to prevent misuse in military applications or illegal export.

## **Compliance with Safety Standards**

Handle the instrument properly to prevent injury, property damage, fire, malfunction, or electric shock.

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For detailed usage, refer to the Instruction Manual for the BCS2, BCR2, and BCD2. Please download the full Instruction Manual from the Shinko website. [https://shinko-technos.co.jp/e/ Support & Downloads Downloads Manuals](https://shinko-technos.co.jp/e/Support%20%26%20Downloads/Downloads/Manuals)

Thank you for purchasing our BCS2, BCR2, BCD2, Digital Indicating Controller. This manual contains instructions for the mounting, functions, operations and notes when operating the BCS2, BCR2, and BCD2. To ensure safe and correct use, thoroughly read and understand this manual before using this instrument. To prevent accidents arising from the misuse of this instrument, please ensure the operator receives this manual.

**Safety Precautions** (Be sure to read these precautions before using our products.) The safety precautions are classified into 2 categories: “Warning” and “Caution”.

- **Warning:** Procedures that may lead to dangerous conditions and cause death or serious injury, if not carried out properly.
- **Caution:** Procedures that may lead to dangerous conditions and cause superficial to medium injury or physical damage, or may degrade or damage the product, if not carried out properly.

### **Warning**

- To prevent an electric shock or fire, only Shinko or other qualified service personnel may handle the inner assembly.
- To prevent an electric shock, fire, or damage to the instrument, parts replacement may only be undertaken by Shinko or other qualified service personnel.

### **SAFETY PRECAUTIONS**

- To ensure safe and correct use, thoroughly read and understand this manual before using this instrument.
- This instrument is intended to be used for industrial machinery, machine tools and measuring equipment. Verify correct usage after purpose-of-use consultation with our agency or main office. (Never use this instrument for medical purposes with which human lives are involved.)

- This instrument is designed to be installed through the control panel indoors.
- External protection devices such as protective equipment against excessive temperature rise, etc., must be installed, as malfunction of this product could result in serious damage to the system or injury to personnel. Proper periodic maintenance is also required.
- This instrument must be used under the conditions and environment described in this manual. Shinko Technos Co., Ltd. does not accept liability for any injury, loss of life, or damage occurring due to the instrument being used under conditions not otherwise stated in this manual.

### **Warning on Model Label**

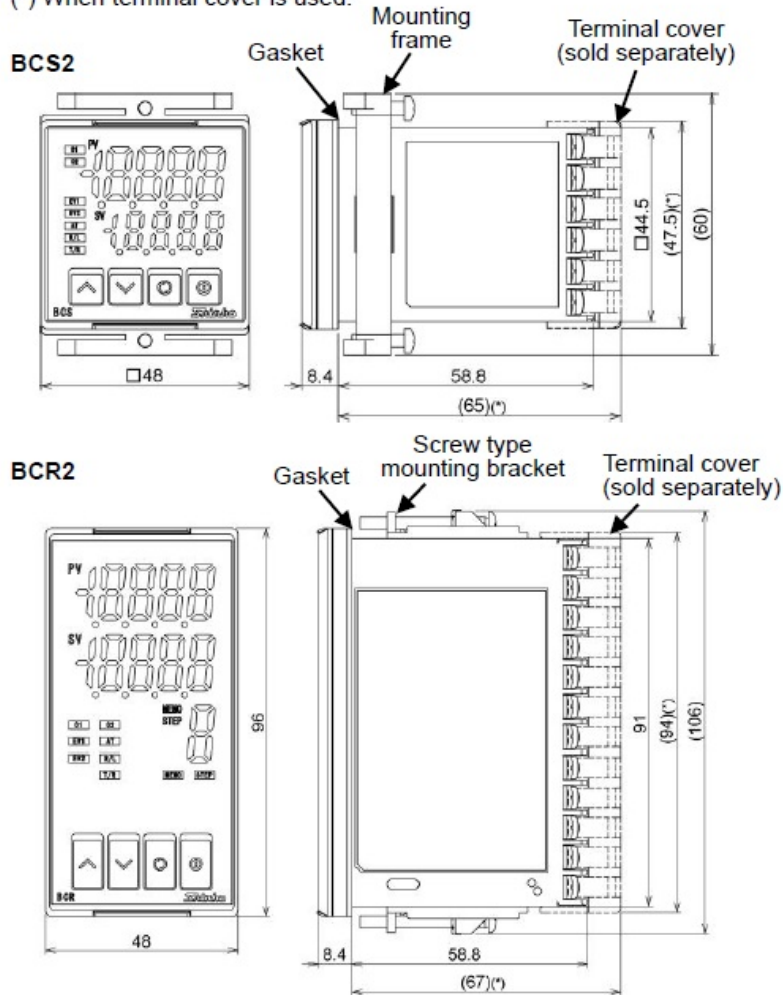
### **Caution**

- Failure to handle this instrument properly may result in minor or moderate injury or property damage due to fire, malfunction, malfunction, or electric shock. Please read this manual before using the product to ensure that you fully understand the product.

### **Specifications**

#### **Dimensions (Scale: mm)**

(\*) When terminal cover is used.



## Caution for Mounting

This instrument is intended to be used under the following environmental conditions (IEC61010-1): Overvoltage category, Pollution degree 2. Ensure the mounting location corresponds to the following conditions:

- A minimum of dust, and an absence of corrosive gases
- No flammable, explosive gases
- No mechanical vibrations or shocks
- No exposure to direct sunlight, an ambient temperature of -10 to 55 °C (No icing)
- An ambient non-condensing humidity of 35 to 85%RH (Non-condensing)
- No large capacity electromagnetic switches or cables through which a large current is flowing
- No water, oil, or chemicals, or where the vapors of these substances can come into direct contact with the unit
- Take note that the ambient temperature of this unit, not the ambient temperature of the control panel, must not exceed 55 (131 °F) if mounted through the face of a control

panel; otherwise, the life of electronic components (especially electrolytic capacitors) may be shortened.

### **Caution concerning Export Trade Control Ordinance**

- To avoid this instrument from being used as a component in, or as being utilized in the manufacture of weapons of mass destruction (i.e. military applications, military equipment, etc.), please investigate the end users and the final use of this instrument. In the case of resale, ensure that this instrument is not illegally exported.

### **Compliance with Safety Standards**

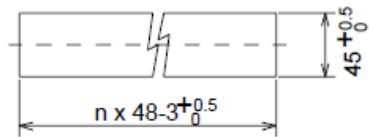
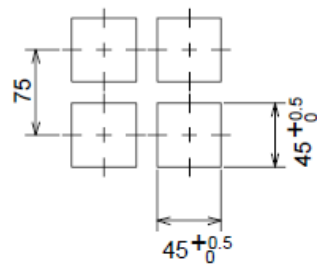
#### **Caution**

- Always install the recommended fuse described in this manual externally.
- If the instrument is used in a manner not specified by the manufacturer, the protection provided by the instrument may be impaired.
- Use a device with reinforced insulation or double insulation for the external circuit connected to this product.
- When using this product as a UL-certified product, use a power supply conforming to Class 2 or LIM for the external circuit connected to the product.

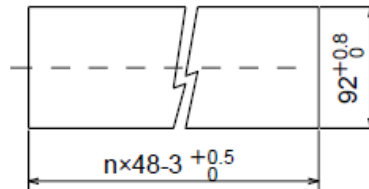
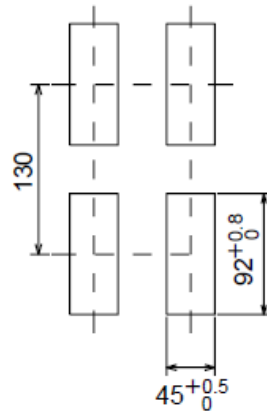
### **Panel Cutout (Scale: mm)**

#### **Caution**

If horizontal close mounting is used for the unit, IP66 specification (Drip-proof/ Dust-proof) may be compromised, and all warranties will be invalidated.

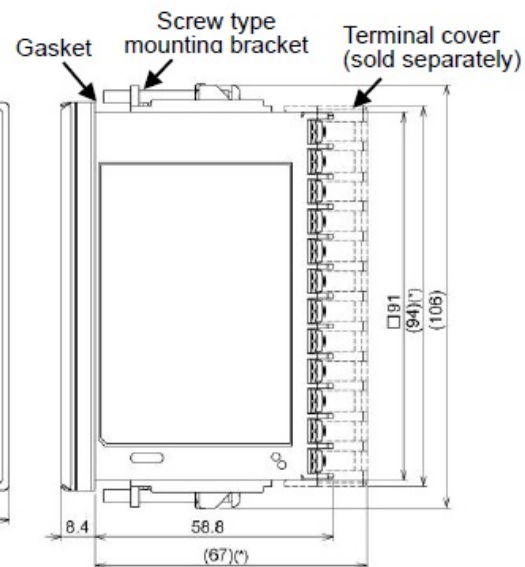
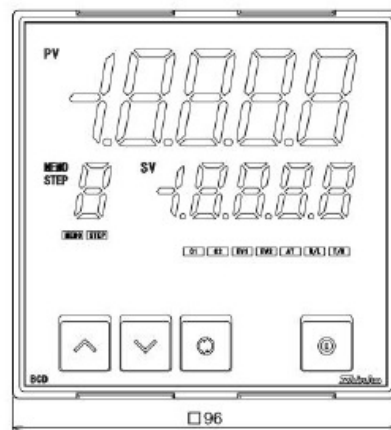


Horizontal close mounting  
n: Number of units mounted



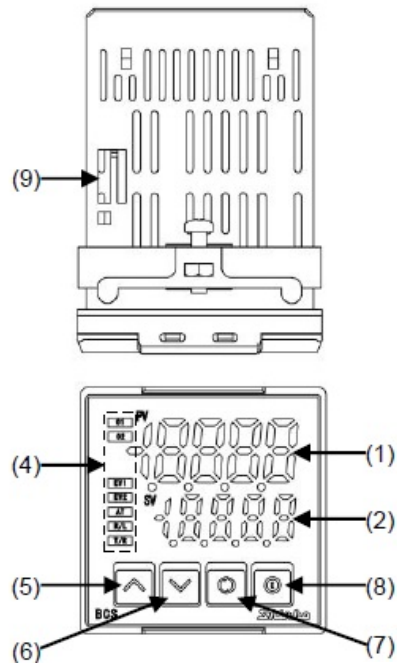
Horizontal close mounting  
n: Number of units mounted

BCD2

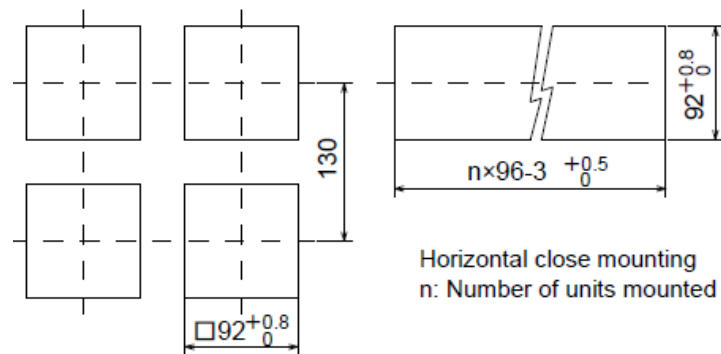
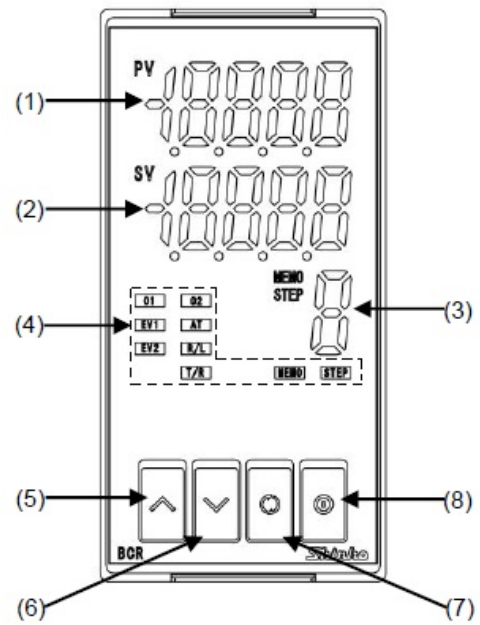


## Names and Functions of the Controller

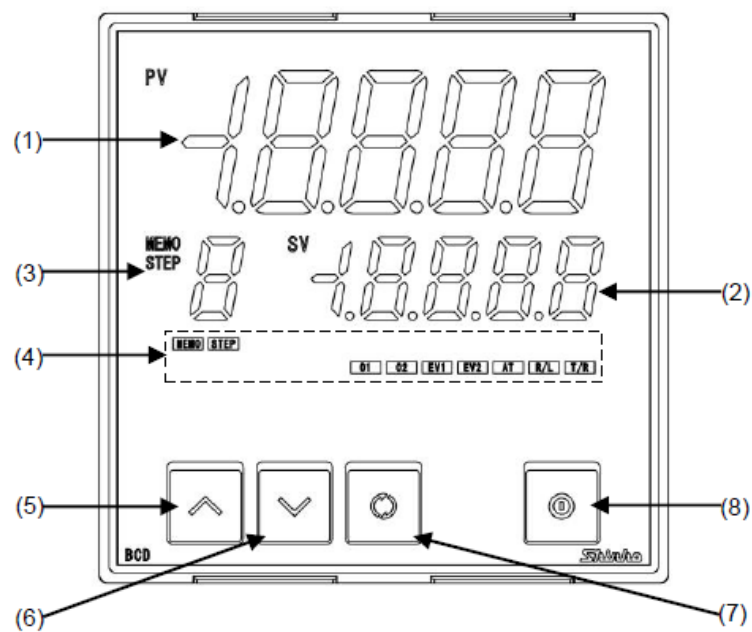
BCS2



BCR2



BCD2





(1)	PV Display	Indicates the PV (process variable) or setting characters in setting mode.
(2)	SV Display	Indicates the SV (desired value) or set data in setting mode. In Monitor mode, indicates MV (manipulated variable), remaining time (Program control), step number (Program control) (*), or Set value memory number (Fixed value control) (*).  (*) For BCS2 only
(3)	MEMO/STEP Display	Indicates the Set value memory number or step number (Program control). (For BCR2, BCD2)

## Keys, Connector

( 5 )	UP key	Increases the numeric value. If this key is pressed for 1 second during Program control, the unit proceeds to the next step. (Advanced function)
( 6 )	DOWN key	Decreases the numeric value.
( 7 )	MODE key	Selects a setting mode and registers the set data. If the MODE key is pressed in RUN mode for 3 seconds, the unit moves to Monitor mode.

( 8 )	OUT/ OFF key	<p>By pressing this key for 1 sec, one of the following items selected in [OUT /OFF key function] is indicated.</p> <ul style="list-style-type: none"> <li>• Control output OFF function: Turns control output ON or OFF.</li> <li>• Auto/Manual control: Switches the Auto/Manual control.</li> <li>• Program control: Starts or stops the Program control.</li> </ul>
( 9 )	Console connector	<p>By connecting to the tool cable (CMD-001, sold separately), the following operations can be conducted from an external computer using the Console software SWC-BCx01M.</p> <ul style="list-style-type: none"> <li>• Reading and setting of SV, PID, and various set values</li> <li>• Reading of PV and action status</li> <li>• Function change. (Console connector is located on the top of the BCS2, BCR2, and BCD2 cases.)</li> </ul>

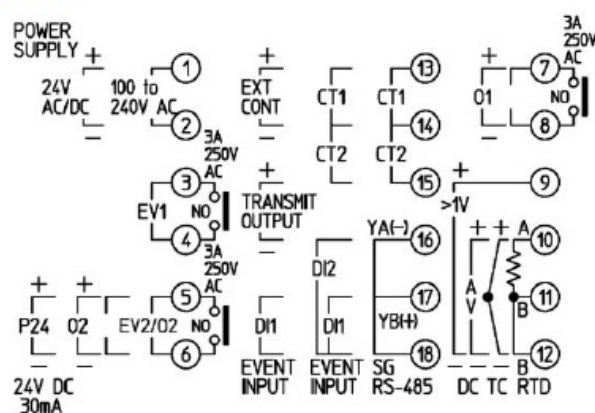
## Action Indicators

(4)	O1	Lit when control output OUT1 is ON. For the direct current output type, flashes corresponding to the MV occur in 1125-ms cycles.
	O2	<p>Lit when control output OUT2 (EV2, DS, DA, or EV2+D□ option) is ON.</p> <p>For the direct current output type, flashes corresponding to the MV occur in 125-ms cycles.</p>
	EV1	Lit when Event output 1 is ON.
	EV2	Lit when Event output 2 (EV2 or EV2+D□ option) is ON.
	AT	Flashes while AT or Auto-reset is performing.
	R/L	Lit while in Remote action (EIT option).

T/R	Lit during Serial communication (C5W or C5 option), TX (transmitting) output.
MEM O	Lit when the Set value memory number is indicated. (For BCR2, BCD2)
STEP	Lit when Step number (Program control) is indicated. (For BCR2, BCD2)

## Terminal Arrangement

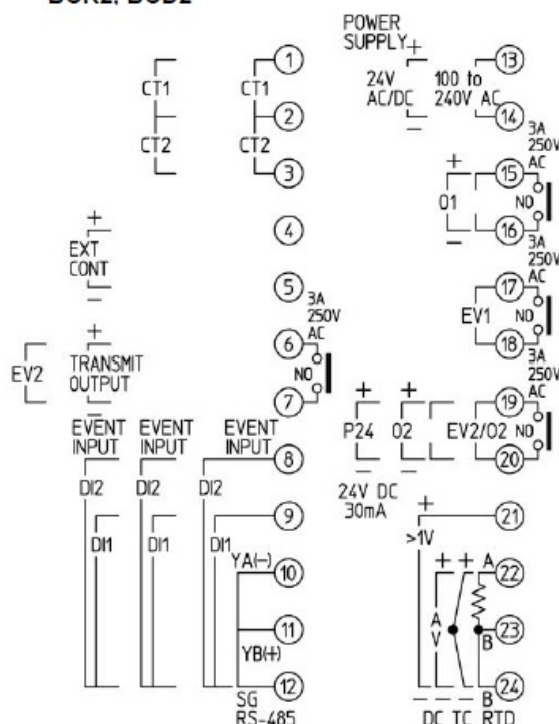
**BCS2**



### Caution

Do not pull or bend the lead wire on the terminal side when wiring or after wiring, as it could cause malfunction.

**BCR2, BCD2**



POWER SUPPLY	Supply voltage 100 to 240 V AC or 24V AC/DC (For 24V DC, ensure polarity is correct.)
EV1	Event output EV1
EV2	Event output EV2 (EV2, EV2+D□ options)
O2	Control output OUT2 (EV2, DS, DA, EV2+D□ options)
P24	24 V DC Insulated power output (P24 option)

O1	Control output OUT1
TC	Thermocouple input
RTD	RTD input
DC	DC voltage, current input
CT1	CT input 1 (C5W, EIW, W options)
CT2	CT input 2 (C5W, EIW, W options)
RS-485	Serial communication RS-485 (C5W, C5 options)
EVENT INPUT	<p>Event input DI1 (C5W, EIW, EIT, EI options) (C5W: For BCR2, BC D2)</p> <p>Event input DI2 (C5W, EIW, EIT, EI options) (C5W, EIT: For BCR2, BCD2)</p>
EXT CONT	External setting input (EIT option)
TRANSMIT OUTPUT	Transmission output (EIT option)

[illegible]


## FAQs

**Q: Where can I find the full Instruction Manual for the BCS2, BCR2, and BCD2?**

A: You can download the full Instruction Manual from the Shinko website at

<https://shinko-technos.co.jp/e/Support&Downloads> section under Manuals.

## Documents / Resources

 [Shinko BCS2 Digital Indicating Controller \[pdf\]](#) Instruction Manual  
BCS2, BCR2, BCD2, BCS2 Digital Indicating Controller, BCS2, Digital Indicating Controller, Indicating Controller, Controller

## References

- [User Manual](#)

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