Shinko

Digital Temperature Indicating Controllers

BCS1

Indicating Controller

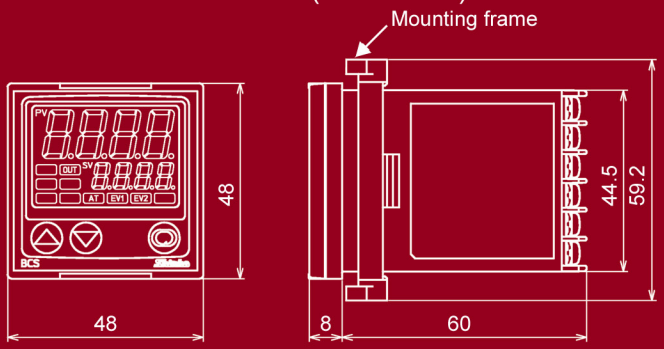
Cost-Efficient Controller

ISO9001

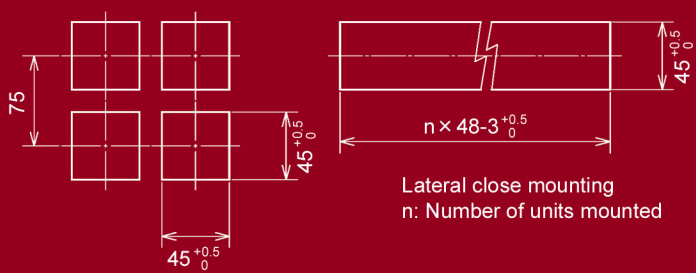
ISO14001 (HQ only)

(Slightly bigger than actual size)

External Dimensions (Scale: mm)

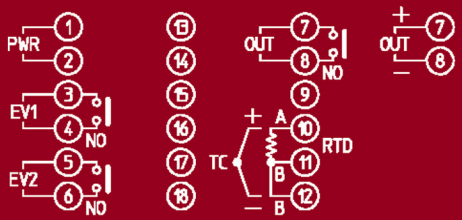


Panel Cutout (Scale: mm)



Lateral close mounting
n: Number of units mounted

Terminal Arrangement



PWR: Power supply 100 to 240 V AC
EV1 : Event 1 (A1) output (optional)
EV2 : Event 2 (A2) output (optional)
OUT : Control output
TC : Thermocouple input
RTD : Resistance temperature detector input

Rated Input Range

Input		Input Range		Resolution
M00	K	-200 to 1370 ℃	-320 to 2500 ℉	1 ℃ (℉)
	J	-200 to 1000 ℃	-320 to 1800 ℉	1 ℃ (℉)
	Pt100	-199.9 to 850.0 ℃	-199.9 to 999.9 ℉	0.1 ℃ (℉)
M01	R	0 to 1760 ℃	-0 to 3200 ℉	1 ℃ (℉)
	S	0 to 1760 ℃	-0 to 3200 ℉	1 ℃ (℉)
	T	-199.9 to 400.0 ℃	-199.9 to 750.0 ℉	0.1 ℃ (℉)

■ Model

		BCS1	R	-	0	0	M00	-	0	0
Series	BCS1	BCS1								
Control output (OUT)	Relay contact		R							
	Non-contact voltage		S							
Supply voltage	100 to 240 V AC					0				
Input	Thermocouple (K, J), RTD (Pt100), Multi-input						M00			
	Thermocouple (R, S, T), Multi-input						M01			
Event output (Optional)	No alarm output								0	
	2-points alarm output								2	
Drip-proof/ Dust-proof (Optional)	Unavailable									0
	Available									1

■ Standard Specifications

Input	Thermocouple: K, J, R, S, T External resistance: 100 Ω or less RTD: Pt100 3-wire type, Allowable input lead wire resistance: 10 Ω or less per wire
Accuracy (Setting, Indication)	Thermocouple: Within ±0.3% of each input span ±1 digit. Less than 0℃ (32℉): Within ±0.4% of each input span ±1 digit However, R, S inputs, 0 to 200℃ (400℉): Within ±8℃ (16℉) RTD: Within ±0.2% of each input span ±1 digit
Input Sampling Period	500 ms
Control Output	Relay contact: 1a Control capacity: 3 A 250 V AC (resistive load) 1 A 250 V AC (inductive load cosϕ =0.4) Electrical life: 100, 000 cycles Non-contact voltage (for SSR drive): 10^{+3}_{0} V DC Max. 20 mA DC
Control Action	• PID control (with auto-tuning) • PI control: When derivative time is set to 0. • PD control (with auto-reset): When integral time is set to 0. • P control (with auto-reset): When derivative and integral times are set to 0. • ON/OFF control: When proportional band is set to 0. OUT proportional band (P): 0 to 1000℃ or 2000℉ (Factory default: 10℃) (ON/OFF control when set to 0.) For the input with a decimal point: 0.0 to 999.9℃ or 0.0 to 999.9℉ (ON/OFF control when set to 0.0.) Integral time (I): 0 to 1000 sec (OFF when set to 0.) (Factory default: 200 seconds) Derivative time (D): 0 to 300 sec (OFF when set to 0.) (Factory default: 50 seconds) OUT proportional cycle: 1 to 120 sec (Factory default: Relay contact: 30 sec, Non-contact voltage: 3 sec) ARW: 0 to 100% (Factory default: 50%) ON/OFF hysteresis: 0.1 to 100.0℃ (℉) (Factory default: 1.0℃) Output high limit, low limit: 0 to 100% (Not available for ON/OFF control.) (Factory default: Output low limit: 0%, Output high limit: 100%)
Supply Voltage	100 to 240 V AC 50/60 Hz
Allowable Voltage Fluctuation Range	85 to 264 V AC
Power Consumption	Approx. 7 VA
Insulation Resistance	10 MΩ or more, at 500 V DC
Electric Strength	Input terminal - Power terminal: 1.5 kV AC for 1 minute, Output terminal - Power terminal: 1.5 kV AC for 1 minute
Environment	Ambient temperature: 0 to 50℃ (32 to 122℉) Ambient humidity: 35 to 85%RH (non-condensing)
Material	Case: Flame-resistant resin (Color: Black) Front panel: Membrane sheet
Mounting	Flush
Dimensions, Weight	W48 x H48 x D68 (Internal depth from surface of control panel: 60) mm Weight: Approx. 120 g
Attached Functions	Sensor correction, Set value lock, LED indication, Power failure countermeasure, Self-diagnosis, Automatic cold junction temperature compensation, Burnout (overscale), Indication range, Control range, Warm-up indication
Options	Event output (2-points alarm output): Relay contact 1a, Control capacity: 3 A 250 V AC (resistive load) Electrical life: 100,000 cycles Drip-proof/Dust-proof (IP65 only for the front panel)
Accessories Included	Mounting frame 1 piece, Instruction manual 1 copy, Gasket 1 piece (When the Drip-proof/Dust-proof option is added.)
Accessories Sold Separately	Terminal cover

SAFETY PRECAUTIONS

- To ensure safe and correct use, thoroughly read and understand the manual before using this instrument.
- This instrument is intended to be used for industrial machinery, machine tools and measuring equipment. Verify correct usage after consulting purpose of use with our agency or main office. (Never use this instrument for medical purposes with which human lives are involved.)
- External protection devices such as protection 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. Also proper periodic maintenance is required.
- This instrument must be used under the conditions and environment described in the 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.

Caution with respect to 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.

· This catalog is as of March 2013 and its contents are subject to change without notice.
· Photos used in this catalog do not show unit in operating status.
· If you have any inquiries, please consult us or our agency.

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