# Digital indicating controllers

## JCM-33A


■Model name

| JCM−33A- □/□, □ □□□ | | | | JCM-330 (W72×H72×D100mm) |
|---|---|---|---|---|
| Alarm1 (A1) | A | | | Applied (Selectable by key operation) |
| Control output (OUT1) | R | | | Relay contact |
| | S | | | Non-contact voltage (for SSR drive) |
| | A | | | DC current |
| Input | | M | | Multi-range input |
| Supply voltage | | | 1 | 24V AC/DC |
| Option | | | A2 | Alarm 2 |
| | | | LA | Loop break alarm |
| | | | W (5A) | Heater burnout alarm: Rated current: 5A |
| | | | W (10A) | Heater burnout alarm: Rated current: 10A |
| | | | W (20A) | Heater burnout alarm: Rated current: 20A |
| | | | W (50A) | Heater burnout alarm: Rated current: 50A |
| | | | D□ | Control output (OUT2) (Heating/Cooling control output): DR: Relay contact |
| | | | | Control output (OUT2) (Heating/Cooling control output): DS: Non-contact voltage |
| | | | | Control output (OUT2) (Heating/Cooling control output): DA: DC current |
| | | | P24 | Isolated power output |
| | | | C5 | Serial communication (RS-485) |
| | | | BK | Color, Black |
| | | | TC | Terminal cover |
| | | | IP | Dust-proof/Drip-proof (IP54) |

Please designate the specification from the□, □□□columns.
When adding an option, enter it punctuated by comma.
- For DC current output type, option W cannot be added.
- 100 to 240V AC is standard supply voltage. However when ordering 24V AC/DC, enter "1" after the input code.

■Option combination

| | A 2 | L A | W | D□ | P 24 | C 5 | B K | T C | I P |
|---|---|---|---|---|---|---|---|---|---|
| Combination 1 | ○ | ○ | ○ | — | — | ○ | ○ | ○ | ○ |
| Combination 2 | ○ | ○ | — | ○ | — | ○ | ○ | ○ | ○ |
| Combination 3 | — | — | ○ | ○ | — | ○ | ○ | ○ | ○ |
| Combination 4 | ○ | ○ | — | — | ○ | ○ | ○ | ○ | ○ |
| Combination 5 | ○ | ○ | ○ | — | — | — | ○ | ○ | ○ |
| Combination 6 | ○ | ○ | — | ○ | — | — | ○ | ○ | ○ |
| Combination 7 | — | — | ○ | ○ | — | — | ○ | ○ | ○ |
| Combination 8 | ○ | ○ | — | — | ○ | — | ○ | ○ | ○ |

■Rated scale

| Input type | | Scale | |
|---|---|---|---|
| Thermocouple | K | −200 to 1370 ℃ | −320 to 2500 ℉ |
| | | −199.9 to 400.0 ℃ | −199.9 to 750.0 ℉ |
| | J | −200 to 1000 ℃ | −320 to 1800 ℉ |
| | R | 0 to 1760 ℃ | 0 to 3200 ℉ |
| | S | 0 to 1760 ℃ | 0 to 3200 ℉ |
| | B | 0 to 1820 ℃ | 0 to 3300 ℉ |
| | E | −200 to 800 ℃ | −320 to 1500 ℉ |
| | T | −199.9 to 400.0 ℃ | −199.9 to 750.0 ℉ |
| | N | −-200 to 1300 ℃ | −320 to 2300 ℉ |
| | PL-Ⅱ | 0 to 1390 ℃ | 0 to 2500 ℉ |
| | C (W/Re5-26) | 0 to 2315 ℃ | 0 to 4200 ℉ |
| RTD | Pt100 | −200 to 850 ℃ | −300 to 1500 ℉ |
| | | −199.9 to 850.0 ℃ | −199.9 to 999.9 ℉ |
| | JPt100 | −200 to 500 ℃ | −300 to 900 ℉ |
| | | −199.9 to 500.0 ℃ | −199.9 to 900.0 ℉ |
| DC current | 4 to 20mA DC | −1999 to 9999, −199.9 to 999.9<br>−19.99 to 99.99, −1.999 to 9.999 | |
| | 0 to 20mA DC | | |
| DC voltage | 0 to 1V DC | | |
| | 0 to 10V DC | | |
| | 1 to 5V DC | | |
| | 0 to 5V DC | | |

- For DC inputs, scaling and decimal point place change are possible.
- For DC current input, 50Ω shunt resistor (sold separately) has to be externally installed.

■Input For the input type, refer to the "Rated scale".
Thermocouple: External resistance, 100Ω or less
(However, for B input, external resistance, 40Ω or less)
RTD : 3-wire system (Resistance per wire: 10Ω or less)
DC current : Input impedance, 50Ω (Connect 50Ω shunt resistor between input terminals)
Allowable input current, 50mA or less (when using 50Ω shunt resistor)
DC voltage : Input impedance, 1MΩ or greater (for input 0 to 1V DC)
Input impedance, 100kΩ or greater (for inputs 0 to 10V DC, 1 to 5V DC, 0 to 5V DC)

■Accuracy (Setting, Indication)
Thermocouple: Within ±0.2% of each input span ±1digit, or within ±2℃(4℉), whichever is greater
However , R, S inputs, 0 to 200℃(400℉): Within ±6℃(12℉)
B input, 0 to 300℃(600℉): Accuracy is not guaranteed.
K, J, E, T, N inputs, less than 0℃ (32℉): Within 0.4% of each input span ±1digit
RTD : Within ±0.1% of each input span±1digit, or within ±1℃ (2℉), whichever is greater
DC current, DC voltage: Within ±0.2% of each input span±1digit

■Input sampling period 0.25 seconds

■Control output Relay contact: 1a1b 3A 250V AC (resistive load),
1A 250V AC (inductive load cos $\phi$ =0.4)
Electric life: 100,000 times
Non-contact voltage: 12 $^{+3}_{-0}$V DC Max. 40mA (short-circuit protected)
DC current: 4 to 20mA DC Load resistance: Max. 550Ω

■Control action PID, PI, PD, P, ON/OFF

■Alarm 1 (A1) Alarm action and Energized/Deenergized can be selected by keypad operation.
- No alarm action
- High limit alarm (deviation setting), Low limit alarm (deviation setting), High limit alarm with standby (deviation setting), Low limit alarm with standby (deviation setting)
  Setting range: −(Input span) to input span
- High/Low limits alarm (deviation setting), High/Low limit range alarm (deviation setting), High/Low limits alarm with standby (deviation setting)
  Setting range: 0 to input span
- Process high alarm, Process low alarm
  Setting range: Input range low limit value to input range high limit value
- When input has a decimal point, the negative minimum value is −199.9 and the positive maximum value is 999.9.
- For DC current or voltage inputs, input span is the same as the input range scaling span.
- For DC inputs, input range low limit (high limit) value is the same as input range scaling low limit (high limit) value.

Action: ON/OFF action
Output: Relay contact 1a, 3A 250V AC (resistive load),
1A 250V AC(inductive load cos $\phi$ =0.4)
Electric life: 100,000 times

■Supply voltage 100 to 240V AC 50/60Hz, 24V AC/DC 50/60Hz
Allowable voltage fluctuation range: 85 to 264V AC, 20 to 28V AC/DC

■Power consumption Approx. 8VA

■Ambient temperature 0 to 50℃

■Ambient humidity 35 to 85%RH (Non-condensing)

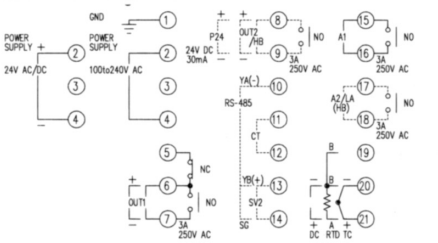
■Mounting method Screw type mounting bracket
Mountable panel thickness: Within 1 to 15mm

■Weight Approx. 300g

■Attached function Sensor correction, Setting value lock, Power failure countermeasure, Self-diagnosis, Automatic cold junction temperature compensation (for thermocouple only), Sensor burnout alarm, Input burnout

■Option Refer to the "Model name".

■Terminal arrangement

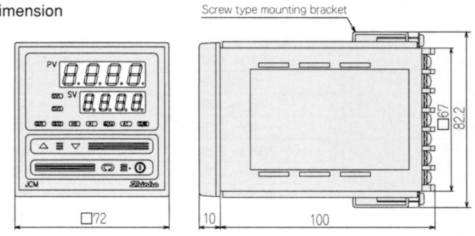



- R/□ : Relay contact output
- S/□ : Non-contact voltage output
- A/□ : DC current output
- A1 : Alarm 1 (A1)
- A2 : Alarm 2 (A2)
- CT : CT input
- OUT1 : Control output 1 (Heating output)
- OUT2 : Control output 2 (Cooling output)
- LA : Loop break alarm output

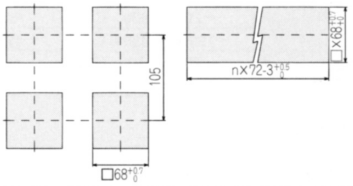
- HB: Heater burnout alarm output
- RS-485: Serial communication (C5)
- P24: Isolated power output

[Dotted lines show options.]

■External dimension




■Panel cutout




- This catalog is as of Apr. 2021, and specifications are subject to change without notice.
- If you have any inquiries, please consult us or our agency.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