ON/OFF SERVO Digital Indicating Controllers

ACD-15A.ACR-15A

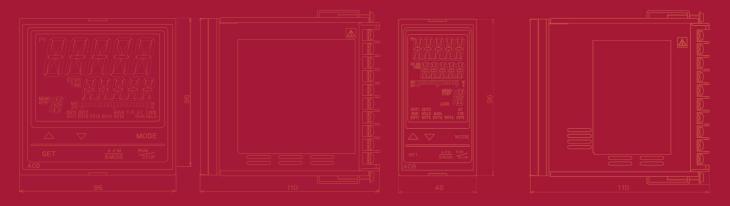
Distinguished Visibility, Control

Functionality



Simplified setting – Set frequently used settings for streamline

Easy status checking using 3-color switching



Industry leading large display

Easier viewing display

Industry Leading Large Display

Multi-Functions, Simple to Operate

Large LCD display

A specially treated large LCD display makes it easier to view even in bright light and open-air.

PV display (ACD series): 24.0 x 11.0mm (H x W)

An easily viewable bar graph

22-segment bar graph allows simultaneous PV,

Ease of viewing for manual output operation.

For the ACD-15A and ACR-15A, the motor valve opening can be checked with the bar graph.



SV, MV viewing.



JCD-33A

Digital Indicating Controllers ACD-13A, ACR-13A

ON/OFF SERVO Digital Indicating Controllers

ACD-15A, ACR-15A



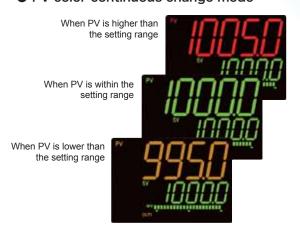


(when feedback potentiometer "Yes" is set) MV indication DV indication Scale is -5 to 105%, and In the case of zero (0) deviation, central 2 bars light increasingly to the For positive deviation, bars light increasingly right in accordance with the MV to the right. For negative deviation, bars light Increasingly to the left. (e.g.) MV 50% (e.g.) Deviation O (zero) (e.g.) MV 100% (e.g.) Negative deviation -5% 105%

Enhanced visibility

PV display color selectable from red, green and orange. Colors can be set depending on the deviation between PV and SV, so status can be checked from a distance.

PV color continuous change mode



It is easier to see the SV, PV and setting characters. as an 11-segment LCD display is used.







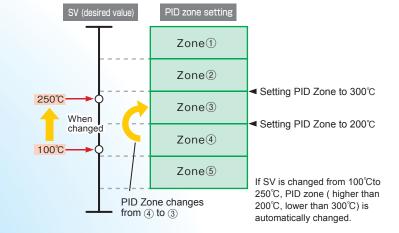
All seaments

ARW

- PV display color is selectable from 7 modes below.
- PV display: Green, Red, Orange
- Event output (any event from EVT1 to EVT5) Alarm OFF: Green, Alarm ON: Red Alarm OFF: Orange, Alarm ON: Red
- PV color changes continuously : Orange→Green→Red
- PV color changes continuously + Event output (any event from EVT1 to EVT5) ON (Red)

PID zone function: PID resetting due to SV change Unnecessary

Up to 5 groups of PID parameters can be set. When SV is changed, PID parameters are automatically changed for optimal control. (It is not necessary to reset PID after SV is changed.)



Simple operation in Simplified setting mode

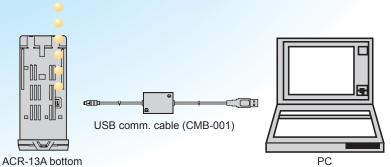
Without setting engineering items, simplified setting mode can prevent operational mistakes, and simple operations run smoothly. Basic settings and key operations now are doable via 3-key usage.



Power unnecessary if USB comm. cable used

If CMB-001 USB communication cable (sold separately) is used, a power supply for the controller is not necessary. Wiring for the Initial setting is reduced. Data logging and monitoring can be carried out via the monitoring software







Setting displays

Feedback potentiometer "Yes/No" selectable

MODE

FUN

AZM

B.MODE

SET

Selectable using the front keypad. If "Yes" is selected, feedback potentiometer position Fully Closed/Fully Open can be automatically adjusted. If "No" is selected, it is manually adjustable (only for ACD-15A, ACR-15A).

■ Model

ACD - 1 ☐ A - ☐/M ☐. ☐ ☐ ☐ W96×H96mm					
ACR-1 A-D/M D.DD			W48×H96mm		
			PID		
action 5			ON/OFF servo output PID		
A1 A			Selectable with the keypad operation (*1)		
	R		Relay contact :1a1b (ACx-15A: 1a x 2)		
Control output (OUT1)	S		Non-contact voltage(SSR drive): 12VDC ±15%		
(0011)	Α		DC current: 4 to 20mA DC		
Input	М		Multi-range (*2)		
Complements and			100 to 240V AC(Standard)		
Supply voltage	1		24V AC/DC (*3)		
		EI	Event input (*5)		
		A3	Event output (EVT1 to EVT3) (*4)(*6)(*7)		
	A5		Event output (EVT4, EVT	5)	
		W	Single-phase	Heater burnout	
		W3	3-phase	alarm (*4)(*8)	
		DR	Relay contact: 1a		
		DS	Non-contact voltage (SSR	Heating / Cooling	
			drive):12V DC±15%	control output	
Option		DA	DC current:	(OUT2) (*4)(*6)(*7)	
(Multiple options s	selectable)	DA	4 to 20mA DC		
С		RS-232C	Serial		
C5 EA1 EA2 EV1			RS-485	communication (*5)	
			4 to 20mA DC		
			0 to 20mA DC	External setting	
			0 to 1V DC	input	
		EV2	1 to 5V DC		
TA1 TV1 P		TA1	4 to 20mA DC	Transmission	
		TV1	0 to 1V DC	output	
		Insulated power output 24	4V DC (*4)(*6)(*7)		

- (*1): Alarm types (12 types and No alarm action) and status Energized/De-energized can be set by front keypad.

 (*2): Thermocouple, RTD, DC current or DC voltage is selectable by front keypad.

 (*3): For the supply voltage, 100 to 240V AC is standard.

 When ordering 24V AC/DC, enter "1" after the input code.

 (*4): Applicable to the ACD-13A, ACR-13A.

 (*5): If EI and C/C5 options are added together, Event input EVI3 and EVI4 cannot be used.

 (*6): A3, D□ and P options cannot be added together.

 (*7): If D□ and P options are added, Event output EVT2 cannot be used.

 (*8): The rated current (20A, 100A) for single phase and 3-phase is selectable by front keypad. The CT is sold separately. Not available for the DC current output type.

■ Rated scale

Input		Scale range		Resolution
	К	-200 to 1370 °C	-328 to 2498 °F	1°C (°F)
		-200.0 to 400.0 °C	-328.0 to 752.0 °F	0.1°C (°F)
	J	-200 to 1000 ℃	-328 to 1832 °F	1°C (°F)
	R	0 to 1760 ℃	32 to 3200 °F	1°C (°F)
	S	0 to 1760 ℃	32 to 3200 °F	1°C (°F)
Thermocouple	В	0 to 1820 ℃	32 to 3308 °F	1°C (°F)
	E	-200 to 800 °C	-328 to 1472 °F	1°C (°F)
	Т	-200.0 to 400.0°C	-328.0 to 752.0 °F	0.1°C (°F)
	N	-200 to 1300 ℃	-328 to 2372 °F	1°C (°F)
	PL-II	0 to 1390 ℃	32 to 2534 °F	1°C (°F)
	C(W/Re5-26)	0 to 2315 ℃	32 to 4199 °F	1°C (°F)
	Pt100	-200.0 to 850.0°C	-328.0 to 1562.0 °F	0.1°C (°F)
		-100.0 to 100.0℃	-148.0 to 212.0 °F	0.1°C (°F)
RTD		-100.0 to 500.0 ℃	-148.0 to 932.0 °F	0.1°C (°F)
5		-200 to 850 °C	-328 to 1562 °F	1°C (°F)
	JPt100	-200.0 to 500.0°C	-328.0 to 932.0 °F	0.1°C (°F)
		-200 to 500 °C	-328 to 932 °F	1°C (°F)
DC current	4 to 20mA			
DO CUITCH	0 to 20mA			1
DC voltage	0 to 10mV			
	-10 to 10mV			
	0 to 50mV	-2000 to 10000 *1		
	0 to 100mV			
	0 to 1 V			
	0 to 5V			
	1 to 5V			
	0 to 10V			

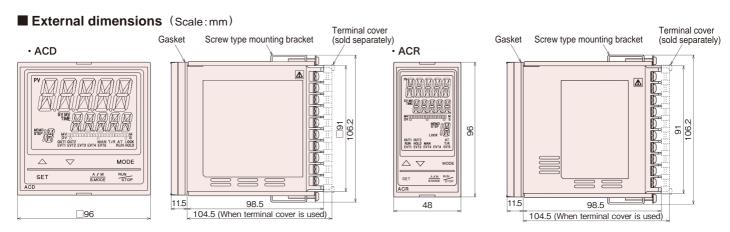
^{*1:} Decimal point place change and scaling are possible.

■ Standard specifications

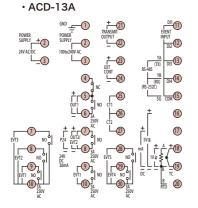
Display	PV display : 11-segment LCD 5-digit, backlight Red/Green/Orange, Character size: ACD: 24.0x11.0mm(HxW), ACR: 14.0x5.4mm(HxW) SV/MV/TIME display : 11-segment LCD 5-digit, backlight Green, Character size: ACD: 14.0x7.0mm (HxW), ACR: 10.0x4.6mm(HxW) MV/DV bar graph : 22-segment LCD bar graph, backlight Green MEMO/STEP display : 11-segment LCD 2-digit, backlight Orange, Character size: ACD: 10.0x5.0mm (HxW), ACR: 10.0x4.6mm(HxW)		
Rated input	Thermocouple: K, J, R, S, B, E, T, N, PL-II, C(W/Re5-26), External resistance, 100Ω or less (However, B input: External resistance, 40Ω or less) RTD: P1100, JPt100, 3-wire system Allowable input lead wire resistance: 10Ω or less per wire DC current: 0-20mA DC, 4-20mA DC. Input impedance: 50Ω Allowable input current, 50mA or less DC voltage: 0-10mV DC, -10-10mV DC, 0-50mV DC, 0-100mV DC, 0-1V DC: Input impedance: 1MΩ or more Allowable input voltage: 5V DC or less Allowable signal source resistance: 0-10mV DC: 20Ω or less, 0-10 DC: 2kΩ or less 0-5V DC, 1-5V DC, 0-10V DC: Input impedance: 100kΩ or more Allowable input voltage: 15V DC or less Allowable signal source resistance: 100Ω or less		
Accuracy (Setting, Indication)	Thermocouple: Within ±0.2% of each input span±1digit, However R, S input, -50 to 200°C (-58 to 392°F): Within ±6°C (12°F) B input, 0 to 300°C (0 to 572°F): Accuracy is not guaranteed. K, J, E, T, N input, less than 0°C (32°F): Within ±0.4% of input span±1digit RTD: Within ±0.1% of each input span±1digit DC current: Within ±0.2% of each input span±1digit Cold junction temperature compensation accuracy: Within ±1°C at 0 to 50°C		
Input sampling period			
Control output	ACD-13A, ACR-13A Relay contact : 1a 1b, Control capacity; 3A 250V AC (resistive load), 1A 250V AC (inductive load cosφ=0.4), Electrical life, 100,000 cycles Non-contact voltage (for SSR drive): 12V DC±15% Max. 40mA (short circuit protected) DC current : 4 to 20mA DC (Resolution 1/12000) Load resistance, Maximum 600Ω ACD-15A, ACR-15A Relay contact : 1ax2, Control capacity; 3A 250V AC (resistive load), 1A 250V AC (inductive load cosφ=0.4), Electrical life, 100,000 cycles		
FBP resolution	1/1000 (corresponds to fully open and fully closed by FBP adjustment) (ACD-15A, ACR-15A)		
Control action	PID action (with auto-tuning function), PI, PD action (with Auto/Manual reset function), P action (with Auto/Manual reset function), ON/OFF action OUT1 proportional band (P) OUT1 Integral time (I) OUT1 Derivative time (D) OUT1 proportional cycle (*1) ARW OUT1 ON/OFF action hysteresis OUT1 high limit, low limit OUT1 high limit, low limit OUT1 high limit, low limit OUT1 high limit, low limit (*2) Open output time (*2) Open/Closed output dead band (*2): ACD-15A, ACR-15A OUT1 ACD-13A, ACR-13A, (*2): ACD-15A, ACR-15A		
EVT outpu	EVT1 output Output: Relay contact 1a, Control capacity: 3A 250V AC (resistive load), 1A 250V AC (inductive load cosφ=0.4), Electrical life: 100,000 cycles EVT2 output Output: The same as EVT1 If DR/DS/DA or P option is added, EVT2 output is disabled.		

	Alarm action
	Alarm types: High limit alarm, Low limit alarm, High/Low limits alarm, High/Low limits independent, High/Low limit range,
	High/Low limit range independent, Process high alarm, Process low alarm, High limit alarm with standby,
	Low limit alarm with standby, High/Low limits with standby, High/Low limits with standby independent
	One type can be selected from 24 types (with status Energized/De-energized) and No event. (Default value: No event)
	Setting accuracy: Based on the Accuracy and Cold junction temperature compensation accuracy
	Action : ON/OFF action
	Hysteresis : Thermocouple, RTD input: 0.1 to 1000.0°C (°F)
EVT output	DC voltage, current input: 1 to 10000 (The placement of the decimal point follows the selection)
	Output : EVT output for which alarm is selected during Event output allocation
	Loop break alarm
	Setting range : Loop break alarm time: 0 to 200minutes
	Loop break alarm span: TC, RTD input; 0 to 150°C(°F), 0.0 to 150.0°C(°F)
	DC voltage, current input: 0 to 1500 (The placement of the decimal point follows the selection)
	Output : EVT output for which Loop break alarm is selected during Event output allocation.
Supply voltage	100 to 240V AC 50/60Hz(Allowable fluctuation range: 85 to 264V AC), 24V AC/DC 50/60Hz(Allowable fluctuation range: 20 to 28V AC/DC)
Power consumption	Approx. 13VA
Insulation resistance	10MΩ or more, at 500V DC
	Between power terminal and ground : 1.5kV AC for 1 minute
Dielectric strength	Between input terminal and ground : 1.5kV AC for 1 minute
	Between input terminal and power terminal : 1.5kV AC for 1 minute
Environment	Ambient temperature: 0 to 50°C Ambient humidity: 35 to 85%RH (Non-condensing) Conforms to RoHS directive.
Case Material/Color	Material: Flame-resistant resin, Color: Black
Mounting, Setting	Mounting: Flush Setting: Sheet key input
Dimensions, Weight	Dimensions: ACD: 96x96x110mm (WxHxD), ACR: 48x96x110mm (WxHxD) Weight: ACD: Approx. 460g, ACR: Approx. 330g
Attacked for attack	Sensor correction, Set value lock, Auto/Manual control, Program control function, Set value ramp function, Power failure countermeasure,
Attached functions	Self-diagnosis, Automatic cold junction temperature compensation, Burnout (overscale), Input abnormality indication, Indication range / Control range, Warm-up indication, Console communication, PV color selection, Timer function, Bar graph, PID zone function.
	Mounting brackets 1 set, Gasket (Front mounted to the unit) 1 piece
Accessories included	Instruction manual 1 copy, Communication instruction manual 1 copy (when C or C5 option is added)
	For the ACR only:
	Harness EVT5:1 piece [When Event output (A5 option) is added]
	Harness W : 1 piece [When Heater burnout alarm (W option) is added] (ACR-13A)
	Harness W : 2 pieces [When Heater burnout alarm (W3 option) is added (ACR-15A)
	Harness E : 1 piece [When External setting input (EA1, EA2, EV1, EV2 option) is added]
	Harness VT : 1 piece [When Transmission output (TA1, TV1 option) is added]
	Harness FBP : 1 piece (ACR-15A)
Accessories sold separately	Terminal cover, Heater burnout alarm (W, W3 option): 20A; CT (CTL-6S), 100A; CT (CTL-12-S36-10L1U), USB communication cable (CMB-001)
	(

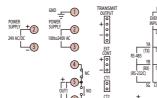
EVEN Input [EI] (Closed) or OFF (Open) status. If Set value memory function is selected: 2°, 2°, 2° and 2° will be allocated to Event Input EVI1 to EVI4 respectively, and SV1 to SV15 will be determined by each value of EVI1 to EVI4. The selected memory number is indicated on the MEMOSTEP display. AS EVT1 to EVT3 will be added using a common formula. Quiptut all be turned OV or OFF depending on the conditions selected from Event output [AS] (*) AS EVT4 and EVT5 can be added. Quiptut will be turned OV or OFF depending on the conditions selected from Event output [AS] (*) AS EVT4 and EVT5 can be added. Quiptut will be turned OV or OFF depending on the conditions selected from Event output [AS] (*) AS EVT4 and EVT5 can be added. Quiptut will be turned OV or OFF depending on the conditions selected from Event output [AS] (*) AS EVT4 and EVT5 can be added. Quiptut will be turned OV or OFF depending on the conditions selected from Event output [AS] (*) AS EVT4 and EVT5 can be added. Quiptut will be turned OV or OFF depending on the conditions selected from Event output [AS] (*) AS EVT4 and EVT5 can be added. Quiptut will be turned OV or OFF depending on the conditions selected from Event output [AS] (*) Setting range of the Conditions of the Event output [AS] (*) Setting range output [AS] (*) Setting ran	Optional spe	
ESV input [EI] ESV value memory function is selected: 2°, 2°, 2° and 2° will be allocated to Event input EVI to EVI the sepachwey, and EVI to EVI to Selected memory number is indicated on the MMOSTEP displays. I mis soption and Senial communication (C., 55 option) are added together, Event input EVI and EVI Cannot be used. Event output [A3] (*) It is soption and Senial communication (C., 55 option) are added together, Event input EVI and EVI Cannot be used. A county and EVI Cannot be used and event output (A3) (*) EVI (A3) option) is added, Heating/Cooling control (OR/DS/DA option) or insulated power output (P option) cannot be added together. Event output (A3) (*) EVI (A3) option) is added, Heating/Cooling control (OR/DS/DA) option) or insulated power output (P option) cannot be added together. Event output (A5) (*) EVI (A5) option) is added, Heating/Cooling control (OR/DS/DA) (Orthodoring to the Event output (A5) (*) EVI (A5) option) is added together. Event output (A5) (*) EVI (A5) option) is added together. Event output (A5) (*) EVI (A5) option) is added together. Event output (A5) (*) EVI (A5) option) is added together. Event output (OVI) EVI (A5) option (A5		An Event input comprises events from EVI1 to EVI4. Events selected from Event input allocation will be performed depending on the Input ON
determined by each value of EVI1 to EVI3 will be selected memory number is indicated on the MEMO/STEP display. If this option and Serial communication (C, CS option) are added together, Event input EVI3 and Evanor be used. As EVY1 to EVI3 will be added using a common terminal. Output will be turned ON or OFF depending on the conditions selected from Event (Part output (AS) and Event output (EVT input [EI]	(Closed) of Orth (Open) status. 15 Sat value memory function is selected: 2 ⁰ 2 ¹ 2 ² and 2 ³ will be allocated to Event input EVI4 to EVI4 respectively, and SVI4 to SVI4 will be
Event output [A3] (*).	LV i iliput [Lij	
Event output [A5] (*) Even output [A5] (*) Event output [A5] (*) Event output [A5] (*) E		
Event output (AS) If EVT3 (A3 option) is added, Heating/Cooling control (DRDS/DA option) or Insulated power output (P option) cannot be added togeth Event output (P option) cannot be added togeth (P option) cannot be added togeth (P option) cannot be added togeth (P option) cannot be added together, and Event output (P option) cannot be added together, and Event output (P option) cannot be added together, and Event output (P option) cannot be added together, and Event output (P option) cannot be added together, and Event output (P option) cannot be added together, and Event output (P option) cannot be added together, and Event output (P option) cannot be added together, and Event output (P option) cannot be added together, and Event output (P option) cannot be added together, and Event output (P option) cannot be added together, and Event output (P option) cannot be added together, and Event output (P option) cannot be added together. As 250V AC (Inductive load cose=0.4), Electrical life: 100,000 cycle setting argue: 10 to 20.04 for Heating control calcin: The same as a Control capacity; 3A 250V AC (resistive load), 1A 250V AC (Inductive load cose=0.4), Electrical life: 100,000 cycle leading control cannot		
Event output [A5] 8. EVT4 and EVT6 put has backed of College and	Event output [A3] (*).	
Output Relay contact 1a, Control capacity: 34 250V AC (resistive load), 14 250V AC (inductive load cosper-0.4), Electrical life: 100,000 cycles Rating - Single-phase 204, Single-phase 1004, Septeas 1004, Septea		
Rating Single-phase 20A, 3-phase 100A, 3-phase 100A (Selectable by keypad) Single-phase Detects burnout with CT1 in and CT2 input Setting range		
Setting range : 0.0 to 2.0 A for Heater related current 20A (WYQ2A) w3(2AD) (() for when set to 0.0) Setting accuracy: ±5% of the rated current 20A (WYQ2A) w3(2AD) (() for when set to 0.0) Setting accuracy: ±5% of the rated current 20A (WYQ2A) w3(2AD) (() for when set to 0.0) Setting accuracy: ±5% of the rated current 40A (WYQ2A) w3(2AD) (() for when set to 0.0) Action		
Heater burnout alarm [W, W3] (*) Setting accuracy: ±5% of he rated current 100A [W(100A) W3(100A)] (Off when set to 0.0) Setting accuracy: ±5% of he rated current Action point Set value Action point Set value Action point Set value Action point Set value Comparison Coulput Coulpu		Single-phase: Detects burnout with CT1 input 3-phase: Detects burnout with CT1 and CT2 input
Setting accuracy: ±5% of the rated current Action point : Set value Action : ONIOFF action Output : Relay control action: The same as Control output (OUT1) Cooling control action: Only in the same as Control output (OUT1) Cooling control action: Only interest in the same as Control output (OUT1) Cooling control action: Only interest in the same as those of OUT1 OUT2 integral line, CUT2 derivative time: The same as those of OUT1 OUT2 integral line, CUT2 derivative time: The same as those of OUT1 OUT2 integral line, CUT2 derivative time: The same as those of OUT1 OUT2 integral line, CUT2 derivative time: The same as those of OUT1 OUT2 proportional cycle - 11 to 1200e (1200 of 1200 of 120		
Action point Set value Action CoNUCPF action Coutput Cipel Relay contact 1a, Control capacity: 3A 250V AC (resistive load), 1A 250V AC (inductive load cosφ=0.4), Electrical life: 100,000 cycle Heating control action: The same as Control output (OUT1) Cooling control action: The same as Control output (OUT2) Coult proportional band OUT2 integral time, OUT2 derivalive time: The same as those of OUT1 OUT2 proportional band OUT2 integral time, OUT2 derivalive time: The same as those of OUT1 OUT2 proportional cycle 1 to 120see [Default PR, 03see, DS] Sace, DC current (DA); Not available] Overlap/Dead band setting range: 1 to 120see [Default PR, 03see, DS] Sace, DC current (DA); Not available] Overlap/Dead band setting range: 2 to 100 Current (DA); Not available] Overlap/Dead band setting range: 3 to 100 Current (DA); Not available] Overlap/Dead band setting range: 3 to 100 Current (DA); Not available] Overlap/Dead band setting range: 3 to 100 Current (DA); Not available] Overlap/Dead band setting range: 3 to 100 Current (DA); Not available] Overlap/Dead band setting range: 3 to 100 Current (DA); Not available] Overlap/Dead band setting range: 3 to 100 Current (DA); Not available] Overlap/Dead band setting range: 3 to 100 Current (DA); Not available] Overlap/Dead band setting range: 3 to 100 Current (DA); Not available] Overlap/Dead band setting range: 3 to 100 Current (DA); Not available] Overlap/Dead band setting range: 4 to 100 Current (DA); Not available] Overlap/Dead band setting range: 5 to 100 Current (DA); Not available] Overlap/Dead band setting range: 5 to 100 Current (DA); Not available] Overlap/Dead band setting range: 5 to 100 Current (DA); Not available] Overlap/Dead band setting range: 5 to 100 Current (DA); Not available] Overlap/Dead band setting range		
Action Couput Selegy contact 1a, Control capacity: 3A 250V AC (resistive load), 1A 250V AC (inductive load cose=0.4), Electrical life: 100,000 cycl Heating control action: The same as Control output (OUT1) Cooling control action: OUT2 proportional band COVT2 proportiona	[VV, VV3] (*)	
Output 1 : Relay contact 1a, Control capacity: 3A 250 VAC (resistive load), 1A 250 VAC (inductive load cose=0.4), Electrical life: 100,000 cycle Heating control action: Cooling control action: The same as Control output (CUT) proportional band (ON/OFF action when set to 0.0) OUT2 proportional band : 0.0 to 10.0 times OUT1 proportional band (ON/OFF action when set to 0.0) OUT2 proportional band : 0.0 to 10.0 times OUT1 proportional band (ON/OFF action when set to 0.0) OUT2 proportional gover : 1 to 125ee [Default PRF, 30sec, 05; 3sec, DC current (DA); Not available] Overlap/Dead band setting range : TC. RTD input: 200.0 to 200.0 CPF). The control of the decimal point follows the selection) OUT2 oN/OFF action hystersis in the control of the decimal point follows the selection) OUT2 high limit, OUT2 low limit : 10 to 10000 (The placement of the decimal point follows the selection) OUT2 high limit, OUT2 low limit : 10 to 10000 (The placement of the decimal point follows the selection) OUT2 high limit, OUT2 low limit : 10 to 10000 (The placement of the decimal point follows the selection) OUT2 action mode : (1) Air cooling (Inear characteristic) (3) Walter cooling (20 to 100 ting (11 follows) (Not available for ON/OFF action) (Default: OUT2 low limit: 0%, OUT2 high limit; 0%, OUT2 high limit; 0%) OUtput DR: Relay contact, 1a, Control capacity: 3A 2500 (20) (I cooling (11, 5th power of the linear characteristic) (3) Walter cooling (2nd power of the linear characteristic) (2nd cooling (11 follows) (11 follows) (11 follows) (11 follows) DS: Non-contact voltage (for SSR drive) 12V DCs:15%, Max. 40mA DC (short circuit protected) DS: Non-contact voltage (for SSR drive) 12V DCs:15%, Max. 40mA DC (short circuit protected) DS: Non-contact voltage (for SSR drive) 12V DCs:15%, Max. 40mA DC (short circuit protected) This option and Cornel secondary of the SV (desired voltage), PDV values and various set values. This option and Cornel secondary of the SV (desired voltage), PDV values and various set values. Exercial communica		
Cooling control action: OUT2 proportional band OUT2 (proportional band OUT2 (proportional band OUT2 (proportional band OUT2 (proportional cycle Out2 proportional cycle Overlap/Dead band setting range: TC, RTD input: -200.0 to 200.0 to (200.0 to		
OUT2 proportional band (0.0 to 10.0 times OUT1 proportional band (0.0 N/OFF action where set to 0.0) OUT2 integral time, OUT2 derivative time: The same as those of OUT1 OUT2 proportional cycle Overlap/Dead band setting range: TC, RTD input: 2-00.0 to 200.0 C(F), DC input: 1200 to 2000 (The placement of the decimal point follows the selection) OUT2 ON/OFF action hysteress: TC, RTD input: 3-00 to 1000.0 C(F) (Default 1.0 C) OUT2 high limit, OUT2 low limit 10 to 1000.0 C(F) (Default 1.0 C) OUT2 high limit, OUT2 low limit 10 to 1000.0 C(F) (Default 1.0 C) OUT2 action mode OUT3 action mode OUT2 action mode OUT2 action mode OUT3 action mode OUT2 action mode OUT2 action mode OUT3 action mode OUT2 action mode OUT2 action mode OUT2 action mode OUT3 action mode OUT2 action mode OUT2 action mode OUT3 action mode OUT3 action mode OUT2 action mode OUT3 action mode OUT4 action mode OUT5 action action to 1000 C(F) (Default 1.0 C) (Default 1.		
OUT2 integral time, OUT2 derivative time: The same as those of OUT1 OUT2 proportional cycle 1 to 120sec [Default: DR; 30sec, DS; 3sec, DC current (DA); Not available] OUT2 proportional cycle 1 to 120sec [Default: DR; 30sec, DS; 3sec, DC current (DA); Not available] Overlap/Dead band setting range: TC, RTD input: -200.0 to 200 (The placement of the decimal point follows the selection) OUT2 ON/OFF action hystersels: TC, RTD input: 0.1 to 1000 CO("F); (Default: 1.0"C), DC UT2 high limit, DC (DC current output: -5 to 105%) (Not available for ON/OFF action) OUT2 high limit, DC (DC current output: -5 to 105%) (Not available for ON/OFF action) OUT2 action mode (1) Air cooling (linear characteristic) (2) Oil cooling (1.5th power of the linear characteristic) OUT2 action mode (1) Air cooling (linear characteristic) (2) Oil cooling (1.5th power of the linear characteristic) OUT2 high limit, OUT2 low limit; 0%, OUT2 high limit; of the linear characteristic) OUT2 high contact, 1a, Control capacity; 3A 250V AC (resistive load), 1A 250V AC (inductive load cos#=0.4), Electrical life: 100,000 cycles DS: Non-contact voltage (for SSR drive) 12V DC-115%, Max 40mA DC (stoucher olicular protected) If this option is added: Event output to option) or insulated power output (Poption) cannot be added together, and Event output This option and Console communication cannot be used together. The following operations can be carried out from the external computer. (1) Reading and setting of the SV (desired value), PID values and various set values (2) Reading of the PV (process variable) and action status (3) Function change (Communication method Synchronization protocol Number of connectable units 1 unit to 1 host computer (C), Maximum 31 units to 1 host computer (C) Synchronization method Synchronization protocol Synchronization protocol Synchronization pr		
OUT2 proportional cycle Overlap/Dead band setting range: To, RTD input-2000 to 2000 (CPCF), DC input-2000 to 2000 (CPCF), DC input-2000 to 2000 (The placement of the decimal point follows the selection) OUT2 ON/OFF action hysteresis: To, RTD input-2000 to 12000 (The placement of the decimal point follows the selection) OUT2 oN/OFF action hysteresis: To, RTD input-1 to 100000 (The placement of the decimal point follows the selection) OUT2 high limit, OUT2 low limit: 10 to 100% (DC current output-5 to 105%) (Not valiable for ON/OFF action) (Default: OUT2 low limit: 10 to 10%) (DC current output-5 to 105%) (Not valiable for ON/OFF action) (Default: OUT2 low limit: 10 to 100%) (DC current output-5 to 105%) (Not valiable for ON/OFF action) (Default: OUT2 low limit; 10 to 100%) (DC current output-5 to 105%) (Not valiable for ON/OFF action) (Default: OUT2 low limit; 10 to 100%) (DC current output-5 to 105%) (Not valiable for ON/OFF action) (Default: OUT2 low limit; 10 to 100%) (DC current output-5 to 105%) (Not valiable for ON/OFF action) (Default: OUT2 low limit; 10 to 100%) (DC current output-5 to 105%) (Not valiable for ON/OFF action) (Default: OUT2 low limit; 10 to 100%) (DC current output-6 to 105%) (Default: Air cooling) OUT2 action mode OUT2 action m		
Overlap/Dead band setting range: TC, RTD input: 200.0 to 200.0°C(°F), Default 2000 to 10 (Input: 2000 to 2000 (The placement of the decimal point follows the selection) OUT2 ON/OFF action hysteresis: TC, RTD input: 0.1 to 1000 oC(°F), (Default: 1.0°C), DC input: 1 to 1000 oC(°F), (Default: 0.0°C), DC input: 1 to 1000 oC(°F), (Default: 1.0°C), DC input: 1 to 1000 oC(°F), (Default: 0.0°C), DC incoling (Insure characteristic), (Default: A crooling), DC incoling (Insure characteristic), DC in		
Heating/Cooling control Output [DR, DS, DA] (1) OUT2 ON/OFF action hysteresis: TC, RTD input: 0.1 to 1000.0°("F) (Default: 1.0°C), Ci pout: 11 to 10000 (The placement of the decimal point follows the selection) OUT2 high limit, OUT2 low limit: 0, Colony (DC current output: 5 to 105%) (Not available for ON/OFF action) (Default: OUT2 low limit: 0%, OUT2 high limit, OUT5 low limit: 0%, OUT2 high limit, 100%) OUT2 action mode (1) Air cooling (linear characteristic) (2) cooling (1.5th power of the linear characteristic) (2) cooling (1.5th power of the linear characteristic) (Default: Air cooling) Output DR: Relay contact, 1a, Control capacity: 3A 250V AC (resistive load), 1A 250V AC (includive load cos.¢=0.4), Electrical life: 100,000 cycles DS: Non-contact voltage (for SSR drive) 12V DC4.15%, Max. 40ma DC (short circuit) protected) DA: DC current 4 to 20mA DC, Resolution (1/12000), Load resistance: Max. 600.0 If this option and Console communication or Insulated power output (P option) cannot be added together, and Event output This option and Console communication or status; 3) Function change (2) Reading of the PV (process variable) and action status; 3) Function change Communication line EIA RS-485 (C5 option), EIA RS-232C (C option) Communication method Synchronization method Synchronization method Synchronization method Synchronization method Synchronization protocol Number of connectable units: 1, 2 (Selectable by keypad) (Default: 7 bits/Even parity) Stop bit 1, 2 (Selectable by keypad) (Default: 1) Communication protocol Number of connectable units: 1, unit to 1 host computer (C), Maximum 31 units to 1 host computer (CS) Communication error detection: Parity, checksum (Shinko protocol), LRC (Modbus ASCII), CRC-16 (Modbus ARTU) Digital external setting input [EA1, EA2, EV1, EV2] Input sampling period: 250ms Converting the value (PV, SV, MV or DV) to analog signal every 125ms, outputs the value in current or voltage. (Default: PV transmission) Output sampling period: 250ms Converting the value (PV, SV, MV		
DC input: 1 to 10000 (The placement of the decimal point follows the selection) Output [DR, DS, DA] (1) Output [DR, DS, DA] (1) Output [DR, DS, DA] (2) Output DR: Relay contact, 1a, Control capacity: 3 a 250 AC (resistive load), 14 250 AC (inductive load cosφ=0.4), Electrical life: 100,000 cycles DS: Non-contact voltage (for SSR drive) 12V DC+15%, Max. 40mA DC (short circuit protected) DA: DC current 4 to 20mA DC. Resolution (1/12000), Load resistance: Max. 8000 If this option is addect: Event output (A3 option) or insulated power output (P option) cannot be added together, and Event output (B) option and Console communication cannot be used together. The following operations can be carried out from the external computer. (1) Reading and setting of the 8V (desired value). PID values and various set values (2) Reading of the PV (process variable) and action status (3) Function change (2) Reading of the PV (process variable) and action status (3) Function change (2) Reading of the PV (process variable) and action status (3) Function change (3) Reading of the PV (process variable) and action status (3) Function change (3) Reading of the PV (process variable) and action status (3) Function change (3) Reading of the PV (process variable) and action status (3) Function change (4) Reading of the PV (process variable) and action status (3) Function change (5) Go (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)		
Output [DR, DS, DA] (*) OUT2 high limit, OUT2 low limit OUT2 color mode (i) Air cooling (linear characteristic) (2) Oil cooling (1.5th power of the linear characteristic) (3) Water cooling (2nd power of the linear characteristic) (Default: Air cooling) Output DR: Relay contact, 1a, Control capacity; 3A 250V AC (inductive load cose,=0.4), Electrical life: 100,000 cycles DS: Non-contact voltage (for SSR drive) 12V DC:15%, Max. 40mA DC (short circuit protected) DA: DC current 4 to 20mA DC. Resolution (1/12000), Load resistance: Max. 6000 If this option and Console communication (1/12000), Load resistance: Max. 6000 If this option and Console communication cannot be used together. The following operations can be carried out from the external computer. (1) Reading and setting of the SV (desired value), PID values and various set values (2) Reading of the PV (process variable) and action status (3) Function change Communication method Synchronization external communication method Synchronization (2) Function change Communication method Synchronization with the start-stop synchronization (2) Function change Communication method Synchronization (2) Function change Communication protocol Shinko protocol/Modbus ASCI (Selectable by keypad) (Default: 7 bits/Even parity) Stop bit : 1, 2 (Selectable by keypad) (Default: 9000bs) Data bit/Parity : 7, 8/ Even. Odd and No parity (Selectable by keypad) (Default: Shinko protocol) Number of connectable units : 1 unit to 1 host computer (C) Maximum 31 units to 1 host computer (C5) Communication error detection: Parity, checksum (Shinko protocolo), LRC (Modbus ASCI), CRC-16 (Modbus RTU) Digital external setting input (EAT, EA2, EV1, EV2) External setting input (EAT, EA2, EV1, EV2) External setting input (EAT, EA2, EV1, EV2) Input impedance : EA1, EA2: 50mA (EA1 option), to 50 (EV2 option) Lovering the value (PV, SV, MV or DV) to analog signal every 125ms, outputs the value i	Heating/Cooling control	
(Default: OUT2 low limit; 0%, OUT2 high limit: 100%) OUT2 action mode (1) Air cooling (linear characteristic) (2) Oit cooling (1 sth power of the linear characteristic) (3) Water cooling (2nd power of the linear characteristic) (Default: Air cooling) Output DR: Relay contact, 1a, Control capacity: 3A 250V AC (resistive load), 1A 250V AC (inductive load cosφ=0.4), Electrical life: 100,000 cycles DS: Non-contact voltage (for SSR drive) 12V DC±15%, Max. 40mA DC (short circuit protected) DB: DC current 4 to 20mA DC, Resolution (1/12000), Load resistance: Max. 9000 If this option is added: Event output (A3 option) or insulated power output (P option) cannot be added together, and Event output EVT2 cannot be used. This option and Console communication cannot be used together. The following operations can be carried out from the external computer. (1) Reading and setting of the SV (desired value), PID values and various set values (2) Reading of the PV (process variable) and action status (3) Function change Communication line EIA RS-485 (CS option), EIA RS-232C (C option) Communication method Synchronization method : Start-stop synchronization Communication speed : 9600, 19200, 34400ps Selectable by keypad (Default: 9600bps) Data bit/Parity : 7, 8/ Even, Odd and No parity (Selectable by keypad) (Default: 7 bits/Even parity) Stop bit : 1, 2 (Selectable by keypad) (Default: 7 bits/Even parity) Stop bit : 1, 2 (Selectable by keypad) (Default: 7 bits/Even parity) External setting input External s		
OUT2 action mode	(*)	
Output DR: Relay contact, 1a, Control capacity: 3A 250V AC (resistive load), 1A 250V AC (inductive load cosφ=0.4), Electrical life: 100,000 cycles DS: Non-contact voltage (for SSR drive) 12V Dc.15%, Max. 40D C (short circuit protected) DA: DC current 4 to 20mA DC, Resolution (1/12000), Load resistance: Max. 600Ω If this option is added: Event output (A3 option) or Insulated power output (P option) cannot be added together, and Event output (BD). For any the used. This option and Console communication cannot be used together. The following operations can be carried out from the external computer. (1) Reading and setting of the SV (desired value), PID values and various set values (2) Reading of the PV (process variable) and action status (3) Function change Communication line		
DS: Non-contact voltage (for SSR drive) 12V DC±15%, Max. 40mA DC (c short circuit protected) DA: DC current 4 to 20mA DC, Resolution (1/12/000), Load resistance: Max. 6000 If this option is added: Event output (A3 option) or Insulated power output (P option) cannot be added together, and Event output EVT2 cannot be used. This option and Console communication cannot be used together. The following operations can be carried out from the external computer. (1) Reading and setting of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change Communication line ENAIS-495 (C5 option), EIA RS-232C (C option) (Communication method Synchronization method Synchronization speed 9800, 19200, 38400bps Selectable by keypad (Default: 9600bps) (Default: 7 bits/Even parity) (Default: 8 bits/Parity Stop bit Stop		
DA: DC current 4 to 20mA DC, Resolution (1/12000), Load resistance: Max. 600Ω If this option is added: Event output (A3 option) or Insulated power output (P option) cannot be added together, and Event output (EVT2 cannot be used.) This option and Console communication cannot be used together. The following operations can be carried out from the external computer. (1) Reading and setting of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Reading of the EV (process variable) and action status (3) Function change (2) Public value (Process variable) and action status (3) Function change (2) Reading value (Process variable) and action status (3) Function change (2) Reading value (Process variable) and action status (3) Function change (2) Reading value (Process variable) and action status (3) Public value (Process value (Proce		
If this option is added: Event output (A3 option) or Insulated power output (P option) cannot be added together, and Event output EVT2 cannot be used. This option and Console communication cannot be used together. The following operations can be carried out from the external computer. (1) Reading of the PV (process variable) and action status (3) Function change Communication in the ELARS-485 (C5 option), ELARS-232C (C option) Communication method Synchronization method Synchronization speed Jata bit/Parity Stop bit Stop synchronization (Communication protocol Number of connectable units: 1 unit to 1 host computer (C, Maximum 31 units to 1 host computer (C5) Communication error detection: Parity, checksum (Shinko protocol), LRC (Modbus ASCII/Modbus ASCII/Modbus ASCII/Modbus RTU) Digital external setting Receives digital set values from Shinko programmable controllers (PC-900, PCD-33A with SVTC option). External setting input External setting input External setting input Setting signal		
This option and Console communication cannot be used together. The following operations can be carried out from the external computer. (1) Reading and setting of the SV (desired value), PID values and various set values (2) Reading of the PV (process variable) and action status (3) Function change Communication line Communication method Synchronization method Synchronization method Synchronization method Synchronization method Synchronization protocol Communication speed 39600, 19200, 38400bps Selectable by keypad (Default: 9600bps) Data bit/Parity 17, 8/ Even, Odd and No parity (Selectable by keypad) (Default: 7 bits/Even parity) Stop bit 1, 2 (Selectable by keypad) (Default: 7 bits/Even parity) Stop bit 1, 2 (Selectable by keypad) (Default: 1) Communication error detection: Parity, checksum (Shinko protocol/Modbus ASCIII/Modbus RTU (Selectable by keypad) (Default: Shinko protocol/Modbus ASCIII, CRC-016 (Modbus RTU)) Digital external setting If this option and Event input (EI option) are added together, Event input EVI3 and EVI4 cannot be used. SV adds external analog signal to remote bias value. Setting signal External setting input [EA1, EA2, EV1, EV2] Insulated power output If this option is added: Event output (A3 option) or Heating /Cooling control (DR/DS/DA option) cannot be added together, and		
(1) Reading and setting of the SV (desired value), PID values and various set values (2) Reading of the PV (process variable) and action status (3) Function change Communication line		
(2) Reading of the PV (process variable) and action status (3) Function change Communication line Communication method Synchronization method Synchronization method Synchronization method Synchronization method Synchronization method Synchronization speed Communication speed Communication speed Communication speed Data bit/Parity Stop bit Sto		
Communication line Communication line Communication line Communication method Synchronization method Communication speed Data bit/Parity : 7, 8f Even, Odd and No parity (Selectable by keypad) (Default: 9600bps) Data bit/Parity : 7, 8f Even, Odd and No parity (Selectable by keypad) (Default: 7 bits/Even parity) Stop bit : 1, 2 (Selectable by keypad) (Default: 1) Communication protocol : Shinko protocol/Modbus ASCII/Modbus RTU (Selectable by keypad) (Default: Shinko protocol) Number of connectable units : 1 unit to 1 host computer (C,0, Maximum 31 units to 1 host computer (C5) Communication error detection: Parity, checksum (Shinko protocol), LRC (Modbus ASCII), CRC-16 (Modbus RTU) Digital external setting input [It is option and Event input (El option) are added together, Event input EVI3 and EVI4 cannot be used. SV adds external analog signal to remote bias value. SV adds external analog signal to remote bias value. Setting signal : DC current: 4 to 2DmA (EA1 option), 0 to 20mA (EA2 option) DC voltage: 0 to 1V (EV1 option), 1 to 5V (EV2 option) Allowable input is ampling period: 250ms Transmission output [TA1, TV1] Transmission output [TA1, TV1] Transmission output [TA1, 4 to 20mA DC (load resistance, Max. 500Ω), TV1: 0 to 1V DC (load resistance, Min. 100kΩ) Output accuracy : Within ±0.3% of Transmission output span Insulated power output [P] (*) If this option is added to current is 30mA DC) Ripple voltage : Within ±0.0mA DC (when load current is 30mA DC) Ripple voltage : Within ±0.0mA DC (when load current is 30mA DC) Ripple voltage : Within ±0.0mA DC (when load current is 30mA DC) Ripple voltage : Within ±0.0mA DC (when load current is 30mA DC) Ripple voltage : Within ±0.0mA DC (when load current is 30mA DC) Ripple voltage		
Communication method Synchronization method Synchronization method Synchronization method Synchronization method Synchronization Half-duplex communication Synchronization Half-duplex communication Synchronization Half-duplex Communication speed Synchronization Synchronization Communication speed Synchronization Potocol Synchronization Potocol Stop bit Stop bit Stop bit Stop bit Stop bit Shinko protocol/Modbus ASCII/Modbus RTU (Selectable by keypad) (Default: 7 bits/Even parity) Stop bit Shinko protocol/Modbus ASCII/Modbus RTU (Selectable by keypad) (Default: Shinko protocol) Number of connectable units 1 unit to 1 host computer (C), Maximum 31 units to 1 host computer (C5) Communication error detection: Parity, checksum (Shinko protocol), LRC (Modbus ASCII), CRC-16 (Modbus RTU) Digital external setting Receives digital set values from Shinko programmable controllers (PC-900, PCD-33A with SVTC option). External setting input External setting Receives digital set values from Shinko programmable controllers (PC-900, PCD-33A with SVTC option). Sv adds external analog signal to remote bias value. Setting signal DC current: 4 to 20mA (EA1 option), 0 to 20mA (EA2 option) DC voltage: 0 to 1V (EV1 option), 1 to 5V (EV2 option) DC voltage: 0 to 1V (EV1 option), 1 to 5V (EV2 option) DC voltage: 0 to 1V (EV1 option), 1 to 5V DC or less, EV2: 10V DC or less Input impedance EA1, EA2: 50mA DC or less, EV1: 5V DC or less, EV2: 10V DC or less EA1, EA2: 50mA D		
Serial communication Communication Communication Speed 19600, 19200, 38400bps Selectable by keypad (Default: 9600bps) Communication speed 1,2 (Selectable by keypad) (Default: 7) Stop bit 1,2 (Selectable by keypad) (Default: 1) Communication protocol Number of connectable units 1 unit to 1 host computer (C), Maximum 31 units to 1 host computer (C5) Communication error detection: Parity, checksum (Shinko protocol), LRC (Modbus ASCII), CRC-16 (Modbus RTU) Digital external setting Receives digital set values from Shinko programmable controllers (PC-900, PCD-33A with SVTC option). If this option and Event input (EI option) are added together, Event input EVI3 and EVI4 cannot be used. SV adds external analog signal to remote bias value. Setting signal DC current: 4 to 20mA (EA1 option), 0 to 20mA (EA2 option) DC voltage: 0 to 1V (EV1 option), 1 to 5V (EV2 option) Allowable input impedance EA1, EA2; 50mA DC or less, EV1: 5V DC or less, EV2: 10V DC or less Input impedance EA1, EA2; 50ms DC or less, EV1: EV2: 100kΩ Converting the value (PV, SV, MV or DV) to analog signal every 125ms, outputs the value in current or voltage. (Default: PV transmission) Output accuracy Within ±0.3% of Transmission output pan Output voltage 24±3V DC (when load current is 30mA DC) Ripple voltage Within ±0.3% of Transmission output (A3 option) or Heating /Cooling control (DR/DS/DA option) cannot be added together, and		
Data bit/Parity Stop bit		
Stop bit : 1, 2 (Selectable by keypad) (Default: 1) Communication protocol : Shinko protocol/Modbus ASCII/Modbus RTU (Selectable by keypad) (Default: Shinko protocol) Number of connectable units : 1 unit to 1 host computer (C), Maximum 31 units to 1 host computer (C5) Communication error detection: Parity, checksum (Shinko protocol), LRC (Modbus ASCII), CRC-16 (Modbus RTU) Digital external setting : Receives digital set values from Shinko programmable controllers (PC-900, PCD-33A with SVTC option). If this option and Event input (EI option) are added together, Event input EVI3 and EVI4 cannot be used. SV adds external analog signal to remote bias value. Setting signal : DC current: 4 to 20mA (EA1 option), 0 to 20mA (EA2 option)		
Communication protocol : Shinko protocol/Modbus ASCII/Modbus RTU (Selectable by keypad) (Default: Shinko protocol) Number of connectable units : 1 unit to 1 host computer (C5) Communication error detection: Parity, checksum (Shinko protocol), LRC (Modbus ASCII), CRC-16 (Modbus RTU) Digital external setting : Receives digital set values from Shinko programmable controllers (PC-900, PCD-33A with SVTC option). If this option and Event input (El option) are added together, Event input EVI3 and EVI4 cannot be used. SV adds external analog signal to remote bias value. Setting signal : DC current: 4 to 20mA (EA1 option), 0 to 20mA (EA2 option)	[6, 65]	
Communication error detection: Parity, checksum (Shinko protocol), LRC (Modbus ASCII), CRC-16 (Modbus RTU) Digital external setting : Receives digital set values from Shinko programmable controllers (PC-900, PCD-33A with SVTC option). If this option and Event input (EI option) are added together, Event input EVI3 and EVI4 cannot be used. SV adds external analog signal to remote bias value. Setting signal : DC current: 4 to 20mA (EA1 option), 0 to 20mA (EA2 option)		
Digital external setting Receives digital set values from Shinko programmable controllers (PC-900, PCD-33A with SVTC option).		
If this option and Event input (El option) are added together, Event input EVI3 and EVI4 cannot be used. SV adds external analog signal to remote bias value. Setting signal DC current: 4 to 20mA (EA1 option), 0 to 20mA (EA2 option) DC voltage: 0 to 1V (EV1 option), 1 to 5V (EV2 option) Allowable input inp		
SV adds external analog signal to remote bias value. Setting signal : DC current: 4 to 20mA (EA1 option), 0 to 20mA (EA2 option) DC voltage: 0 to 1V (EV1 option), 1 to 5V (EV2 option) Allowable input impedance : EA1, EA2: 50mA DC or less, EV1: 5V DC or less, EV2: 10V DC or less Input impedance : EA1, EA2: 50Ω, EV1, EV2: 100kΩ Input sampling period : 250ms Converting the value (PV, SV, MV or DV) to analog signal every 125ms, outputs the value in current or voltage. (Default: PV transmission) Outputs Transmission output low limit value (4mA DC or 0V DC) if Transmission output high limit and low limit value are the same. Resolution : 1/1/2000 Output : TA1: 4 to 20mA DC (load resistance, Max. 500Ω), TV1: 0 to 1V DC (load resistance, Min. 100kΩ) Output voltage : 24±3V DC (when load current is 30mA DC) Ripple voltage : Within ±0.3% of Transmission output is 30mA DC) Insulated power output [P] (*) SV adds external analog signal to remote bias value. Setting signal : DC current: 4 to 20mA (EA1 option), ot 5V (EV2 option) Converting the value incurrent or voltage. (Default: PV transmission) Outputs Transmission output low limit value (4mA DC or 0V DC) if Transmission output high limit and low limit value are the same. Resolution : 1/12000 Output voltage : 24±3V DC (when load current is 30mA DC) Ripple voltage : 24±3V DC (when load current is 30mA DC) Max. load current: 30mA DC If this option is added: Event output (A3 option) or Heating /Cooling control (DR/DS/DA option) cannot be added together, and		
Setting signal DC current: 4 to 20mA (EA1 option), 0 to 20mA (EA2 option) DC voltage: 0 to 1V (EV1 option), 1 to 5V (EV2 option) Allowable input input impedance i EA1, EA2: 50mA DC or less, EV1: 5V DC or less, EV2: 10V DC or less Input impedance i EA1, EA2: 50mA DC or less, EV2: 10V DC or less, EV2: 10V DC or less Input impedance i EA1, EA2: 50mA DC or less, EV2: 10V DC or less Input impedance i EA1, EA2: 50mA DC or less, EV2: 10V DC or less Input impedance i EA1, EA2: 50mA DC or less, EV2: 10V DC or less Input impedance i EA1, EA2: 50mA DC (load resistance, MID input acurent) Insulated power output [P] (*) Setting signal DC voltage i DC voltage i DC voltage. (DC1 or less) Insulated power output [P] (*) Setting signal i DC current: 4 to 20mA (EA1 option), 0 to 50mA (EA2 option) In Sol to 5V (EV2 option) In Sol		
[EA1, EA2, EV1, EV2] Allowable input Input Impedance Input impedance Input impedance Input impedance Input sampling period: 250ms Converting the value (PV, SV, MV or DV) to analog signal every 125ms, outputs the value in current or voltage. (Default: PV transmission) Outputs Transmission output low limit value (4mA DC or 0V DC) if Transmission output high limit and low limit value are the same. Resolution : 1/1/2000 Output : TA1: 4 to 20mA DC (load resistance, Max. 500Ω), TV1: 0 to 1V DC (load resistance, Min. 100kΩ) Output accuracy : Within ±0.3% of Transmission output span Output voltage : 24±3V DC (when load current is 30mA DC) Ripple voltage : Within 20mV DC (when load current is 30mA DC) Max. load current: 30mA DC If this option is added: Event output (A3 option) or Heating /Cooling control (DR/DS/DA option) cannot be added together, and		
Input impedance : EA1, EA2: 50Ω, EV1, EV2: 100kΩ Input sampling period: 250ms Converting the value (PV, SV, MV or DV) to analog signal every 125ms, outputs the value in current or voltage. (Default: PV transmission) Outputs Transmission output low limit value (4mA DC or 0V DC) if Transmission output high limit and low limit value are the same. Resolution : 1/12000 Output : TA1: 4 to 20mA DC (load resistance, Max. 500Ω), TV1: 0 to 1V DC (load resistance, Min. 100kΩ) Output accuracy : Within ±0.3% of Transmission output span Output voltage : 24±3V DC (when load current is 30mA DC) Ripple voltage : Within 200mV DC (when load current is 30mA DC) Max. load current: 30mA DC If this option is added: Event output (A3 option) or Heating /Cooling control (DR/DS/DA option) cannot be added together, and		
Input sampling period : 250ms Converting the value (PV, SV, MV or DV) to analog signal every 125ms, outputs the value in current or voltage. (Default: PV transmission) Outputs Transmission output low limit value (4mA DC or 0V DC) if Transmission output high limit and low limit value are the same. Resolution : 1/12000 Output : TA1: 4 to 20mA DC (load resistance, Max. 500Ω), TV1: 0 to 1V DC (load resistance, Min. 100kΩ) Output accuracy : Within ±0.3% of Transmission output span Output voltage : 24±3V DC (when load current is 30mA DC) Ripple voltage : Within 200mV DC (when load current is 30mA DC) Max. load current: 30mA DC If this option is added: Event output (A3 option) or Heating /Cooling control (DR/DS/DA option) cannot be added together, and	[EA1, EA2, EV1, EV2]	
Converting the value (PV, SV, MV or DV) to analog signal every 125ms, outputs the value in current or voltage. (Default: PV transmission) Outputs Transmission output low limit value (4mA DC or 0V DC) if Transmission output high limit and low limit value are the same. Resolution : 1/12000 Output : TA1: 4 to 20mA DC (load resistance, Max. 500Ω), TV1: 0 to 1V DC (load resistance, Min. 100kΩ) Output accuracy : Within ±0.3% of Transmission output span Output voltage : 24±3V DC (when load current is 30mA DC) Ripple voltage : Within 200mV DC (when load current is 30mA DC) Max. load current: 30mA DC If this option is added: Event output (A3 option) or Heating /Cooling control (DR/DS/DA option) cannot be added together, and		
Resolution Output (TA1, TV1) Resolution Output in TA1: 4 to 20mA DC (load resistance, Max. 500Ω), TV1: 0 to 1V DC (load resistance, Min. 100kΩ) Output accuracy : Within ±0.3% of Transmission output span Output voltage : 24±3V DC (when load current is 30mA DC) Ripple voltage : Within 200mV DC (when load current is 30mA DC) Ripple voltage : Within 200mV DC (when load current is 30mA DC) Max. load current: 30mA DC If this option is added: Event output (A3 option) or Heating /Cooling control (DR/DS/DA option) cannot be added together, and		
TA1, TV1 Resolution TA1: 4 to 20mA DC (load resistance, Max. 500Ω), TV1: 0 to 1V DC (load resistance, Min. 100kΩ) Output accuracy : Within ±0.3% of Transmission output span Output voltage : 24±3V DC (when load current is 30mA DC) Ripple voltage : Within 200mV DC (when load current is 30mA DC) Max. load current: 30mA DC If this option is added: Event output (A3 option) or Heating /Cooling control (DR/DS/DA option) cannot be added together, and		Outputs Transmission output low limit value (4mA DC or 0V DC) if Transmission output high limit and low limit value are the same.
Output accuracy: Within ±0.3% of Transmission output span Output voltage: 24±3V DC (when load current is 30mA DC) Ripple voltage: Within ±0.00mV DC (when load current is 30mA DC) Ripple voltage: Within ±0.00mV DC (when load current is 30mA DC) Max. load current: 30mA DC If this option is added: Event output (A3 option) or Heating /Cooling control (DR/DS/DA option) cannot be added together, and		
Output voltage : 24±3V DC (when load current is 30mA DC) Ripple voltage : Within 200mV DC (when load current is 30mA DC) Max. load current: 30mA DC If this option is added: Event output (A3 option) or Heating /Cooling control (DR/DS/DA option) cannot be added together, and		
Insulated power output [P] (*) Ripple voltage : Within 200mV DC (when load current is 30mA DC) Max. load current: 30mA DC If this option is added: Event output (A3 option) or Heating /Cooling control (DR/DS/DA option) cannot be added together, and		
Max. load current: 30mA DC If this option is added: Event output (A3 option) or Heating /Cooling control (DR/DS/DA option) cannot be added together, and		
if this option is added: Event output (A3 option) or Heating (Cooling Control (DR/D3/DA option) cannot be added together, and		Max. load current: 30mA DC
	L' 1 ()	
Event output EVT2 cannot be used.		Event output EV12 cannot be used.



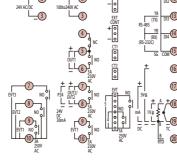
■ Terminal arrangement

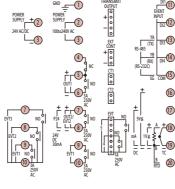


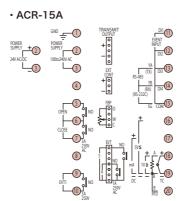
· ACD-15A



· ACR-13A

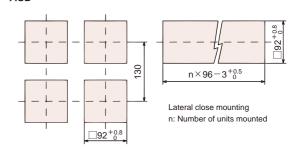




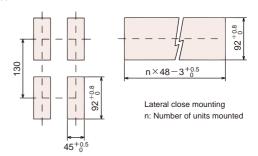


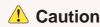
■ Panel cutout (Scale:mm)

· ACD



· ACR



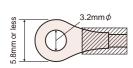


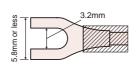
If lateral close mounting is used for the controller, IP66 specification (Dust-proof/Drip-proof) may be compromised, and all warranties will be invalidated.

■ Solderless terminal

Use a solderless terminal with an insulation sleeve in which the M3 screw fits. The torque should be 0.63N·m.

1 12 (2)







- This controller does not have a built-in power switch, circuit breaker or fuse. It is necessary to install them near the controller.
- · For a 24V AC/DC power source, do not confuse polarity when using direct current (DC).



- 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. 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.
- This catalog is as of August 2009 and its contents are subject to change without notice.

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 menufacture 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.