# Autonics



method         7 Segment LED(PV: Red, SV: Green)           PV(WXH)         5.0 X 9.5mm         7.5 X 15.0mm         6.0 X 12.0mm         7.0 X 14.0mm           RTD         DIN PT1000, Cu500 (Allowable line resistance max.50 per a wire)         To X 15.0mm         6.0 X 12.0mm         7.0 X 14.0mm           RTD         DIN PT1000, Cu500 (Allowable line resistance max.50 per a wire)         To X 14.0mm         To X 15.0mm         6.0 X 12.0mm         7.0 X 14.0mm           Ministry         To C         Incase of out of room tempeature 2025 ± 5°C; (PV ± 0.5% or ±2°C higher one) rdg ± 1 Digit         To To X 14.0mm         To X 14.0mm         To X 14.0mm           Imethod         ON/OFC control, P, PI, PD, PID control         To X 14.0mm         To X 14.0mm         To X 14.0mm           Intentod         ON/OFC control, P, PI, PD, PID control         To X 14.0mm         To X 15.0mm         To X 15.0mm           Intentol         ON/OFC control, P, PI, PD, PID control         To X 15.0mm         To X 15.0mm         To X 15.0mm           Intentol         OX 15 120.0 sec.         Treaset         OX 10 100.0%         To To X 7.0 X 16.0mm         To X 7.0 X 16.0mm           Intent(I)         OX 05 050Hz 1min.(Between input terminal and power terminal)         To X 7.0mm anglitude at frequency of 5 to 55t; To A to X.X.Z afreaset base base base for a transity for a to X.X.Z afreaset X.X.Z afreaset X.X.Z afreaset base base ba control ter		sumption .	IVIAX. SVV					
F Prvyvkrny, 1/0 A 19.001111 [9:3 A 20.01111] [7.0 X 14.00111] [7.0 X 14.01111] [7.0 X 14.011111] [7.0 X 14.01111] [7.0 X 14.011111] [7.0 X 14.01111] [7.0 X 14.011111] [7.0 X 14.0111111] [7.0 X 14.0111111] [7.0 X 14.01111111] [7.0 X 14.011111111111] [7.0 X 14.011111111111111111111111111111111111	ay me	ethod	7 Segme	omm	/: Red, SV: Green			11 0 V 00 0
RTD       DIN P11000.       CUSA ISAMIM       [UXA ISAMIM       [UXI ISAMIS OPERATION       [UXA ISAMIM       [UXA ISAMIM <td>ter</td> <td>SV(WXH)</td> <td>1.0 X 15</td> <td>.umm 5mm</td> <td>9.5 X 20.0mm</td> <td>1.0 X 14.6n</td> <td>nm nm</td> <td>7 0 X 14 0mm</td>	ter	SV(WXH)	1.0 X 15	.umm 5mm	9.5 X 20.0mm	1.0 X 14.6n	nm nm	7 0 X 14 0mm
TC       Cinit Clock, UCC, T(CC, R(PR), S(PR)         Y       TD       Based on noon temperature (270: 4 °C); (V ± 0.5% or ± °C higher one) rig ± 1 Digit         Y       TC       In case of out of noom temperature range; (PV ± 0.5% or ± °C higher one) rig ± 1 Digit         I       Relay       250VAC 3A 1a         SSR       12VDC±2V 20mA Max.       District Control, P, PI, PD, PID control         esis       1 to 100°C0.1 to 50.0°C       District Control, P, PI, PD, PID control         esis       1 to 100°C0.1 to 50.0°C       District Control, P, PI, PD, PID control         esis       1 to 100°C0.1 to 50.0°C       District Control, P, PI, PD, PID control         period(T)       0 to 9999 sec.       District Control, P, PI, PD, CID control         inter(I)       0 to 9999 sec.       District Control,			DIN PH10	00 0050		resistance may	50 ner	1.0 A 14.0100 a wire)
RTD       Reset on room temperature (227 ± 5°C): (PV ± 0.5% or ±2°C higher one) rdg ± 1 Digit         I       Relay       250VAC 3A 1a         SSR       12VDC±2V 20mA Max.         output       AL1, AL2 Relay. 250VAC 1A 1a         I       Inerthod       0NOFF control. P. Pl, PD pID control         esis       1 to 100°C/0.1 to 50.0°C         time time(D)       0.1 to 999.9°C.         time time(D)       0.1 to 100.0%         rig period       1000ms         ric AC power       2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         n       AC/CC power         2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         n       AC/CC power         2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         n       AC/CC power         2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         n       AC/CC power         2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         n       AC/CC power         2000VAC 100000       Soloo 55Hz 100000000000000000000000000000000	ł	TC	K(CA).	(IC), L(IC)	T(CC), R(PR) S	(PR)	.075 hei	a wiic <i>j</i>
M*       TC       In case of out of noom temperature range: (PV ± 0.5% or ±2°C higher one) rig ± 1Digit         I       Relay       250VAC 3A 1a         SSR       12VDC±2V 200M Max.         output       AL1, AL2 Relay: 250VAC 1A 1a         I method       ON/OFF control, P, PI, PD, PID control         eeisis       11 to 100°C/O.1 to 50.0°C         tional band(P)       0.1 to 5909 sec.         it period(T)       0.5 to 120.0 sec.         I period       0.0 to 100.0%         ing period       1000VAC 50/60Hz 1min.(Between input terminal and power terminal)         h       ACDC power         2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         n       0.75mm amplitude at frequency of 5 to 55Hz in each X, Y, Z directions for 2 hours         fe       Canord output Mechanics: Min. 5000.000 operations. Electricat Min. 300.000 operations (250/AC 1A resistive lace         ion resistance       Min. 100MA(at 50/VCC megger)         mmunuty       Square-wave noise by noise simulator(pulse width 1µs) ±2KV R-phase and S-phase         y retention       Min. 100MA(at 50/VCC megger)         Immetinet       Approx. 10 years (When using non-volatile semiconductor memory type)         Annoter       Approx. 10 years (When using non-volatile semiconductor memory type)         Annoter       Approx. 10 years (When set		RTD	Based on r	oom temperat	ure (23°C ± 5°C): (PV	. , ± 0.5% or ±1°C hiah	er one) rda	g ± 1 Digit
I       Relay       250VAC 3A 1a         ISR       12VDC2V 20m A Max.         Output       A1. AL2 Relay. 250VAC 1A 1a         I method       ON/OFF control, P, PI, PD, PID control         esis       1 to 100°C0.1 to 50.90°C         Itime(I)       0 to 9999 sec.         I period(T)       0.5 to 120.0 sec.         I reset       0.0 to 100.0%         ing period       2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         h       ACDC power         1000WAC 50/60Hz 1min.(Between input terminal and power terminal)         h       ACDC power         1000VAC 50/60Hz 1min.(Between input terminal and power terminal)         h       ACDC power         1000VAC 50/60Hz 1min.(Between input terminal and power terminal)         h       ACDC power         1000VAC 50/60Hz 1min.(Between input terminal and power terminal)         n       ACDOWC 50/60Hz 1min.(Between input terminal and power terminal)         n       ACDOWC 50/60Hz 1min.(Between input terminal and power terminal)         account detamatical Min. 5000000 gerations. Electrical Min. 300.000 operations (250/AC 1A resistive load in resistance         is Control Jupt Mechanical Min. 5000000 gerations. Electrical Min. 300.000 operations (250/AC 1A resistive load in resistance         y retention       Approx. 10 years (When using non-vol	cy <sup>⊛1</sup>	TC	In case of c	out of room ter	mperature range: (PV	± 0.5% or ±2°C high	er one) rdg	± 1Digit
SR       12VDC22V 20mA Max.         output       AL1, AL2 Relay: 250VAC 1A 1a         Inerthod       ONVOFF Control, P. Pl, PD, PID control         esis       1 to 100°C/0.1 to 50.0°C         tional band(P)       0.1 to 999.9 sc.         1 period(T)       0.5 to 120.0 sec.         i reset       0.0 to 100.0%         ing period       1000°KC 50/60Hz 1min.(Between input terminal and power terminal)         n Accover       2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         n Accover       2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         n Accover       2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         n Accover       2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         n Accover       2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         n Accover       2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         n Accover       0.075mm amplitude at frequency of 5 to 55Hz in each X, Y. Z directions for 2 hours         ie Cantrol output Mechanical: Mn. 5:00.000 operations, Electrical: Mn. 200.000 operations (250VAC 1A resetive leac         ion resistance       Miniett         munity       Square-wave noise by noise simulator(pulse with 1µs) ±2KV R-phase and S-phase         y retention       Approx. 100g       //pprox. 133g <td< th=""><td>ol</td><td>Relay</td><td>250VAC</td><td>3A 1a</td><td></td><td></td><td>-</td><td></td></td<>	ol	Relay	250VAC	3A 1a			-	
Output       AL1, AL2 Relay: 250VAC 1A 1a         I method       ON/OFF control, P, PI, PD, PID control         esis       1 to 100°C0.1 to 50.0°C         Itime(I)       0 to 9999 sec.         I period(T)       0.5 to 120.0 sec.         I reset       0.0 to 100.0%         ing period       100ms         nig period       100ms         Ac/DC power       2000VAC 50/60Hz         1000VAC 50/60Hz       trmin.(Between input terminal and power terminal)         n       0.75mm amplitude at frequency of 5 to 55Hz in each X, Y, Z directions for 2 hours         resistance       Min. 100MQ(at 500VDC megger)         mmunity       Square-wave noise by noise simulator(pulse width 1µs) ±2KV R-phase and S-phase         gr retention       Approx. 10 years (When using non-volatile semiconductor memory type)         I meneature       -10 to 50°C, Storage: -20 to 60°C         Annient       -10 to 50°C, Storage: -20 to 60°C         Annient       -20 KS or ±2°C higher one ± 1 digit         ver 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit         ver 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit         ver 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit         ver 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit         ver 200°C of		SSR	12VDC±	2V 20mA N	lax.			
Intervent       Univer Control, F, P. P. P. P. P. P. P. Control         itime(i)       0 to 9999 sec.         itime(i)       0 to 9999 sec.         iperiod(T)       0.5 to 120.0 sec.         i period(T)       0.5 to 120.0 sec.         i period(T)       0.5 to 120.0 sec.         i reset       0.0 to 100.0%         ing period       100ms         ing control output Mechanical Min. 500.0000 operations. Electrical Min. 200.000 operations (250VAC 3A resistive load toor resistance Min. 100MQ (250VAC Thresgrey in the second se	outp	out	AL1, AL2	2 Relay: 25	UVAC 1A 1a	col		
esis       1 to 100 V/0.1 to 300 °         it time (I)       0 to 9999 sc.         it time (I)       0 to 9999 sc.         I time (I)       0 to 9999 sc.         I reset       0.0 to 100.0%         In geridd       100ms         I reset       0.0 to 100.0%         In geridd       100ms         I cover       2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         In ACDC power       1000Mc 50/60Hz 1min.(Between input terminal and power terminal)         In ACDC power       1000VAC 50/60Hz 1min.(Between input terminal and power terminal)         In Actor output Mechanical: Min. 500.000 operations, Electrical: Min. 200.000 operations (250VAC 1A resistive load (Aarm output Mechanical: Min. 500.000 operations, Electrical: Min. 300.000 operations (250VAC 1A resistive load (Aarm output Mechanical: Min. 500.000 operations, Electrical: Min. 300.000 operations (250VAC 1A resistive load (Aarm output Mechanical: Min. 500.000 operations, Electrical: Min. 300.000 operations (250VAC 1A resistive load (Aarm output Mechanical: Min. 500.000 operations, Electrical: Min. 300.000 operations, Electric	1 me	einod	UN/OFF	control, P,	PI, PD, PID cont	UI		
Immed(I)       0 to 9999 sec.         tive time(D)       0 to 9000 sec.         I reset       0.0 to 1000 %         ng period       100ms         tike time(D)       0.5 to 120.0 sec.         I reset       0.0 to 1000 %         ng period       100ms         tike to power       2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         th       Ac/DC power         1000VAC 50/60Hz 1min.(Between input terminal and power terminal)         th       Ac/DC power         1000VAC 50/60Hz 1min.(Between input terminal and power terminal)         th       Ac/DC power         1000VAC 50/60Hz 1min.(Between input terminal and power terminal)         th       Ac/DC power         1000VAC 50/60Hz 1min.(Between input terminal and power terminal)         transition       Submit terminal and power terminal)         transinterminal and power terminal and power terminal)	Joi8 ti∩n	al band(P)	0.1 to 00	9.9°C				
tive time(D)       0 to 9999 sec.         I period(T)       0.5 to 120.0 sec.         I reset       0.0 to 100.0%         ing period       100ms         rice       AC power         2000VAC 50/60Hz 1min.(Between input terminal and power terminal)         h       ACDC power         0.0 to 100.0%       0.5 mm anplitude at frequency of 5 to 55Hz in each X, Y, Z directions for 2 hours         fe       Control output         Mechanical: Min. 5000.000 operations, Electrical: Min. 200.000 operations (250VAC 1A resistive load toor resistance         min. 100MQ(at 500VDC megger)         mmunity       Square-wave noise by noise simulator(pulse width 1µs) ±2KV R-phase and S-phase         y retention       Approx. 10 years (When using non-volatile semiconductor memory type)         mminity       35 to 85%RH.         eight       Approx. 100g       Approx. 133g       Approx. 124g       Approx. 179g         display accuracy       i case of oron temperature (23°C ± 5°C)       i case of oron temperature rage       elow 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit         ver 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit       i case of oron temperature rage         elow 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit       i case of out forom temperature rage         elow 200°C of thermocouple R,	al tim	ne(I)	0 to 999	9 sec.				
I period(T)       0.5 to 120.0 sec.         i reset       0.0 to 100.0%         ing period       100ms         ing period       5000VAC 50/60Hz 1min.(Between input terminal and power terminal)         ing period       Min.5000.000 operations.(Elockation Min. 300.000 operations (250VAC 1A resistive load in the solution of the solution in the solutin the solutin in the solution in the solution in the	tive	time(D)	0 to 9999	9 sec.				
I reset       0.0 to 100.0%         ing period       100ms         ing period       100ms         ing period       1000xC 50/60Hz 1min.(Between input terminal and power terminal)         ing period       0.075mm amplitude at frequency of 5 to 55Hz in each X, Y, Z directions for 2 hours         ing period       0.075mm amplitude at frequency of 5 to 55Hz in each X, Y, Z directions for 2 hours         ing period       0.075mm amplitude at frequency of 5 to 55Hz in each X, Y, Z directions for 2 hours         ing period       ActroCopwer         ing period       1000VAC 50/60Hz 1min.(Between input terminal and power terminal)         ing period       0.75mm amplitude at frequency of 5 to 55Hz in each X, Y, Z directions for 2 hours         ing period       Approx. 10 years (When using non-volatile semiconductor memory type)         instructure       Approx. 10 years (When using non-volatile semiconductor memory type)         instructure       Approx. 10 years (When using non-volatile semiconductor memory type)         instructure       Approx. 10 years (When using non-volatile semiconductor memory type)         instructure       Approx. 10 gears (When using non-volatile semiconductor memory type)         instructure       Approx. 10 gears (When using non-volatile semiconductor memory type)         instructure       Approx. 10 gears (When using non-volatile semiconductor memory type)         instructur	l pe	riod(T)	0.5 to 12	20.0 sec.				
Ing period       100ms         ric       AC power       2000VAC 50/60Hz 1min. (Between input terminal and power terminal)         h       AC/DC power       1000VAC 50/60Hz 1min. (Between input terminal and power terminal)         on       0.75mm amplitude at frequency of 5 to 55Hz in each X, Y, Z directions for 2 hours         fe       Control output Mechanicat Min. 500000 operations, Electrical: Min. 200.000 operations (250VAC 1A resistive load Alarm output Mechanicat Min. 500000 operations, Electrical: Min. 300.000 operations (250VAC 1A resistive load for resistance         fe       Control output Mechanicat Min. 500000 operations, Electrical: Min. 300.000 operations (250VAC 1A resistive load for resistance         familient       Mechanicat Min. 500000 operations (250VAC 1A resistive load for resistance         in resistance       Min. 100MQ(at 500VDC megger)         immunity       Square-wave noise by noise simulator(pulse width 1µs) ±2KV R-phase and S-phase yr etertion         Approx. 10 years (When using non-volatile semiconductor memory type)         immedity       35 to 85%RH, Storage: 35 to 85%RH         aight       Approx. 100g       Approx. 133g       Approx. 124g       Approx. 179g         display accuracy       case of out of noom temperature (23°C ± 5°C)       Isomocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit       Isomocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit         ver 200°C of thermocouple R, S is PV ± 0.5% or ±6°C higher one ± 1 digit	l res	set	0.0 to 10	0.0%				
Inc. power       2000VAC 50/60H2 1min. (Between input terminal and power terminal)         th       AC/DC power       1000VAC 50/60H2 1min. (Between input terminal and power terminal)         on       0.75mm amplitude at frequency of 5 to 55Hz in each X, Y, Z directions for 2 hours         fe       Control output Mechanical: Min. 5.000.000 operations, Electrical: Min. 300.000 operations (250VAC 3A resistive load larm output Mechanical: Min. 5.000.000 operations, Electrical: Min. 300.000 operations (250VAC 1A resistive load load larm output Mechanical: Min. 5.000.000 operations, Electrical: Min. 300.000 operations (250VAC 1A resistive load load load load load load load load	ing p	period	100ms	2 50/0011	Amin (D-t)	and targets 1	ما ام	kaunalD
Process parts       Toported barbon is timin (between input tertiminal and power tertiminal)         0.75mm amplitude at frequency of to 55Hz in each X, Y, Z directions for 2 hours         [e]       Control output         Mechanical: Min. 5,000,000 operations, Electrical: Min. 300,000 operations (250VAC 3A resistive load ion resistance         minulity       Square-wave noise by noise simulator(pulse width 1µs) ±2KV R-phase and S-phase         y retention       Approx. 10 years (When using non-volatile semiconductor memory type)         Ambient       10 to 50°C, Storage: -20 to 60°C         Ambient       -10 to 50°C, Storage: -20 to 60°C         Ambient       35 to 85%RH, Storage: 35 to 85%RH         elight       Approx. 100g       Approx. 133g       Approx. 124g       Approx. 179g         display accuracy       case of noom temperature (23°C ± 5°C)       elow 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit       case of noom temperature range         elow 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit       case of out of room temperature range         elow 200°C of thermocouple R, S is PV ± 0.5% or ±6°C higher one ± 1 digit       case of out of room temperature range         elow 200°C of thermocouple R, S is PV ± 0.5% or ±6°C higher one ± 1 digit       10 to 50°C storage C, signer one ± 1 digit         trace of thermocouple R, S is PV ± 0.5% or ±6°C higher one ± 1 digit       10 to 50°C storage C, signer C, signer C,	tric th	AC/DC power	2000VA	2 50/60HZ	1min.(Between in	put terminal and	d power	terminal)
in Control output       Mechanical: Min. 5:00:000 operations, Electrical: Min. 200:000 operations (250VAC 3A resistive load operations, Electrical: Min. 300:000 operations (250VAC 1A resistive load ion resistance         in resistance       Min. 100MΩ(at 500VDC megger)         immunity       Square-wave noise by noise simulator(pulse width 1µs) ±2KV R-phase and S-phase y retention         Approx. 10 years (When using non-volatile semiconductor memory type)       Anbient         Ambient       -10 to 50°C, Storage: -20 to 60°C         Control output       Approx. 133g       Approx. 124g       Approx. 179g         display accuracy       -20 to 5% or ±2°C higher one ± 1 digit       ver 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit         ver 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit       ver 200°C of thermocouple R, S is PV ± 0.5% or ±5°C higher one ± 1 digit         DCU50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit       -200°C of thermocouple R, S is PV ± 1.0% or ±6°C higher one ± 1 digit         Ver 200°C of thermocouple R, S is PV ± 1.0% or ±6°C higher one ± 1 digit       -200°C of thermocouple R, S is PV ± 0.5% or ±0°C higher one ± 1 digit         DCU50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit	on		0.75mm	amplitude s	at frequency of 5 to	55Hz in each X	. Y. Z dir	ections for 2 hr
Alarm output       Mechanical: Min. 5.000.000 operations, Electrical: Min. 300,000 operations (250VAC 1A resistive load ion resistance         ion resistance       Min. 100MQ(at 500VDC megger)         immunity       Square-wave noise by noise simulator(pulse width 1µs) ±2KV R-phase and S-phase y retention         Approx. 10 years (When using non-volatile semiconductor memory type)         Ambient       -10 to 50°C, Storage: -20 to 60°C         Ambient       -10 to 50°C, Storage: 35 to 85%RH         eight       Approx. 109       Approx. 133g       Approx. 124g       Approx. 179g         display accuracy       case of room temperature (23°C ± 5°C)       elow 200°C of thermocouple R, S is FV ± 0.5% or ±2°C higher one ± 1 digit         evalue 200°C of thermocouple R, S is FV ± 0.5% or ±2°C higher one ± 1 digit       elow 200°C of thermocouple R, S is FV ± 1.0% or ±6°C higher one ± 1 digit         mment resistance is rated at no freezing or condensation.	ie	Control outpu	t Mechanica	I: Min. 5,000,0	00 operations, Electric	al: Min. 200,000 ope	rations (2	50VAC 3A resistive
ion resistance Min. 100MΩ(at 500VDC megger) immunity Square-wave noise by noise simulator(pulse width 1µs) ±2KV R-phase and S-phase y retention Approx. 10 years (When using non-volatile semiconductor memory type) Anbient -10 to 50°C, Storage: -20 to 60°C Ambient 35 to 85%RH, Storage: 35 to 85%RH eight Approx. 100g Approx. 133g Approx. 124g Approx. 179g display accuracy lease of room temperature (23°C ± 5°C) elow 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit ver 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit rease of room temperature range elow 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit ver 200°C of thermocouple R, S is PV ± 0.5% or ±6°C higher one ± 1 digit rease of out of room temperature range elow 200°C of thermocouple R, S is PV ± 0.5% or ±6°C higher one ± 1 digit ver 200°C of thermocouple R, S is PV ± 0.5% or ±6°C higher one ± 1 digit trase of out of room temperature range elow 200°C of thermocouple R, S is PV ± 0.5% or ±6°C higher one ± 1 digit TD CU50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit nmment resistance is rated at no freezing or condensation. <b>Artts description</b> <b>1</b> NUN mode: Present temperature (PV) display (Red) 1) RUN mode: Present temperature (SV) display 2) Parameter setting mode: Parameter display 2) Parameter setting mode: Parameter setting value display 2) OUT: When control output ON, this lamp turns ON. During SSRP control output Vp i in CVCLE/PHASE control Aliamp flashes by every 1 sec during operating auto tunin 5. <b>20</b> key Used when entering into parameter, and saving setting value 6. Adjustment Used when entering into set value change mode, digit moving and digit up/down. 7. Digital input key	· ·	Alarm outpu	t Mechanica	l: Min. 5,000,0	00 operations, Electric	al: Min. 300,000 ope	erations (2	50VAC 1A resistive
mmunity       Square-wave noise by noise simulator(pulse width 1µs) ±2KV R-phase and S-phase y retention         Approx. 10 years (When using non-volatile semiconductor memory type)         Ambient Itemperature       -10 to 50°C, Storage: -20 to 60°C         Ambient humidity       35 to 85%RH, Storage: 35 to 85%RH         aight       Approx. 100g       Approx. 133g       Approx. 124g       Approx. 179g         display accuracy       case of orom temperature (23°C ± 5°C)       Bight       Approx. 100 g       Approx. 12°G       Approx. 179g         display accuracy       case of out of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit       Case of out of room temperature range         slow 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit       case of out of room temperature range       Cuoo°C of thermocouple R, S is PV ± 1.0% or ±6°C higher one ± 1 digit         PC U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit       Parameter seting mode: Parameter display         PC U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit       1) RUN mode: Present temperature (PV) display (Breen)         11 Al2       Parameter setting mode: Parameter display         2) Parameter setting mode: Parameter display       2) Parameter setting mode: Parameter setting value display         11 Al2       Parameter setting mode: Parameter setting value display         2) Parameter setting moutput ON, this lamp turus ON.         11 Al2	on	resistance	Min. 100	MΩ(at 500	VDC megger)			
y retention Approx. 10 years (When using non-volatile semiconductor memory type) Ambient Temperature 10 to 50°C, Storage: -20 to 60°C Ambient humidity 35 to 85%RH, Storage: 35 to 85%RH eight Approx. 100g Approx. 133g Approx. 124g Approx. 179g display accuracy case of room temperature (23°C ± 5°C) elow 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit ver 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit case of out of room temperature range slow 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit case of out of room temperature range slow 200°C of thermocouple R, S is PV ± 0.5% or ±6°C higher one ± 1 digit TD CU50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit TD CU50Ω	mm	unity	Square-w	ave noise b	y noise simulator(p	ulse width 1µs) ±	2KV R-p	hase and S-pha
Image: Temperature       -10 to 50°C, Storage: -20 to 60°C         Ambient       Approx. 100g       Approx. 133g       Approx. 124g       Approx. 179g         display accuracy       case of room temperature (23°C ± 5°C)       elow 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit       ever 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit         ver 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit       ever 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit         case of out of noon temperature range       slow 200°C of thermocouple R, S is PV ± 0.5% or ±6°C higher one ± 1 digit       moment resistance is rated at no freezing or condensation.         INTES description         I Present temperature (PV) display (Red)         INUM mode: Present temperature (PV) display         INTES description         I Present temperature (PV) display (Red)         INUM mode: Present temperature (PV) display         INUM mode: Present temperature (SV) display         INTES description         I Present temperature (SV) display (Red)         INUM mode: Present temperature (SV) display         INUM mode: Set set memeter setting value display         INUM mode: Set set temperature (SV) display         INUM mode: Set set temperature (SV)	y re	tention	Approx.	10 years (\	When using non-w	olatile semicon	ductor n	nemory type)
Ambient humidity       35 to 85%RH, Storage: 35 to 85%RH         eight       Approx. 100g       Approx. 133g       Approx. 124g       Approx. 179g         display accuracy       case of room temperature (23°C ± 5°C)       elow 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit       ever 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit         errocouple L (IC), RTD CU50Ω is PV ± 0.5% or ±2°C higher one ± 1 digit       ever 200°C of thermocouple R, S is PV ± 1.0% or ±6°C higher one ± 1 digit         ever 200°C of thermocouple R, S is PV ± 0.5% or ±5°C higher one ± 1 digit       ever 200°C of thermocouple R, S is PV ± 0.5% or ±5°C higher one ± 1 digit         noment resistance is rated at no freezing or condensation.       nment resistance is rated at no freezing or condensation.         NTES       description         1       Present temperature (PV) display (Red)         1       Num ode: Present temperature (PV) display         2       Parameter setting mode: Parameter setting value display         2       Parameter setting mode: Parameter setting value display         1       Num ode: Set temperature (SV) display         2       Parameter setting mode: Parameter setting value display         3       Control/Alarm output display lamp         1       Num och: Set value change mode, digit moving and digit up/down.         7       OUT: When control output type in CYCLIEPHASE con		Temperature	-10 to 50	°C, Storage	: -20 to 60°C			
Process         Approx. 133g         Approx. 124g         Approx. 179g           display accuracy         case of room temperature (23°C ± 5°C)         elow 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit         ever 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit           ver 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit         case of out of room temperature range         elow 200°C of thermocouple R, S is PV ± 0.5% or ±5°C higher one ± 1 digit           ever 200°C of thermocouple R, S is PV ± 0.5% or ±5°C higher one ± 1 digit         indicate the second	Ì	Ambient	35 to 85	%RH, Stor	age: 35 to 85%RI	1		
<ul> <li>display accuracy</li> <li>case of room temperature (23°C ± 5°C)</li> <li>slow 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit</li> <li>ver 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit</li> <li>case of out of room temperature range</li> <li>slow 200°C of thermocouple R, S is PV ± 0.5% or ±2°C higher one ± 1 digit</li> <li>ver 200°C of thermocouple R, S is PV ± 0.5% or ±5°C higher one ± 1 digit</li> <li>ver 200°C of thermocouple R, S is PV ± 0.5% or ±5°C higher one ± 1 digit</li> <li>ver 200°C of thermocouple R, S is PV ± 0.5% or ±5°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±3°C higher one ± 1 digit</li> <li>to U50Ω is PV ± 0.5% or ±10 digit</li> <li>to U50Ω is PV ± 0.5% or ±10 digit</li> <li>to U50Ω is PV ± 0.5% or ±10 digit</li> <li>to U50Ω is PV ± 0.5% or ±10 digit</li> <li>to U50Ω is PV ± 0.5% or ±10 digit</li> <li>to U10 more more oreal oreal</li></ul>	eigh	t	Approx.	100g	Approx. 133g	Approx. 124	4g	Approx. 179a
<ul> <li>case of room temperature (23°C ± 5°C)</li> <li>elow 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit sermocouple L (IC), RTD CU50Ω is PV ± 0.5% or ±2°C higher one ± 1 digit on the thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit to the case of out of room temperature range</li> <li>elow 200°C of thermocouple R, S is PV ± 0.5% or ±3°C higher one ± 1 digit to the case of out of room temperature range</li> <li>elow 200°C of thermocouple R, S is PV ± 0.5% or ±6°C higher one ± 1 digit to the case of out of room temperature range</li> <li>elow 200°C of thermocouple R, S is PV ± 0.5% or ±6°C higher one ± 1 digit to the case of out of room temperature resistance is rated at no freezing or condensation.</li> <li>arts description</li> <li><b>1. Present temperature (PV) display (Red)</b> <ul> <li>1) RUN mode: Present temperature (PV) display</li> <li>2) Parameter setting mode: Parameter setting value display</li> <li>2) Parameter setting mode: Parameter setting value display</li> <li>2) Parameter setting mode: Parameter setting value display</li> <li>3. Control/Alarm output display lamp</li> <li>1) AL1/AL2: When AL1, AL2 alarm output ON, this lamp turns ON.</li> <li>2) OUT: When control output type in CYCLE/PHASE control, this lamp turns ON whon MV is over 3.0%.</li> <li>4. Auto tuning lamp</li> <li>AT lamp flashes by every 1 sec during operating auto tunin to RUN mode, moving parameter, and saving setting value</li> <li>6. Adjustment</li> <li>Used when entering into set value change mode, digit moving and digit up/down.</li> <li>7. Digital input key</li> </ul></li></ul>	dis	play accura	acv					
	elov Ver TD onm	200°C of tr CU50Ω is I ent resista s desc	PV ± 0.5% nce is rate	d at no free	gher one ± 1 digit ezing or condensa	ation.		- 0
		s desc	PV ± 0.5% nce is rate	n F °C Sv Autonics	<ol> <li>Present tem         <ol> <li>Present tem                 <ol> <li>Present tem</li></ol></li></ol></li></ol>	ation. perature (PV) di Present temper setting mode: Pr ture (SV) display ture (SV) display ture (SV) display ture (SV) display when AL1, AL2 ai n control output ( RP control output ( RP control output ( s lamp turns ON lamp ters by every 1 se ntering into set vi ligit up/down. key S keys for 3 sec. alarm output rese unit (°C/°F) indi ent temperature to	splay (Rr rameter (Green, c(SV) di rameter y lamp larm outp type in ( vyben i	ed) V) display display splay setting value dis but ON, this lamp amp turns ON. CYCLE/PHASE is over 3.0%. operating auto tu ting group, retur saving setting va nge mode, digit te the set functio uning) in digital i
		s desc	PV ± 0.5% nce is rate	d temp	<ol> <li>Present tem         <ol> <li>Present tem             <ol> <li>Present tem                  <ol> <li>PRUN mode</li> <li>Parameter</li> </ol> </li> </ol></li> <li>Set tempera         <ol> <li>Parameter</li> </ol> </li> <li>Set tempera         <ol> <li>Parameter</li> <li>Set tempera</li></ol></li></ol></li></ol>	ation. perature (PV) di Present temper setting mode: Pr ture (SV) display ture (SV) display ture (SV) display ture (SV) display ture (SV) display ture (SV) display moutput display When AL1, AL2 al n control output ( s lamp turns ON lamp ters by every 1 se ntering into set vi ligit up/down. key S keys for 3 sec. alarm output rese unit (°C/°F) indi ent temperature to Inge	splay (Rr rameter y (Green, e (SV) di arameter y lamp larm outp type in (n y lamp larm outp type in (n type in (n type in (n type) to (n) type in (n)	ed) V) display display splay setting value dis- but ON, this lamp amp turns ON. CYCLE/PHASE is over 3.0%. operating auto tu ting group, retur saving setting va- nge mode, digit te the set function uning) in digital i
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ensor Display Temperature range(°C) Temperature range(°F) K(CA) <u><i>L</i></u> [ <i>R</i> ] K(CA) <u><i>L</i></u> [ <i>R</i> ] <i>L</i> [ <i>R</i> ] <i></i>	ALL / MOL	s desc s	PV ± 0.5% nce is rate	d temp	Present tem     1, Present tem     1) RUN modd     2) Parameter     2. Set tempera     1) RUN modd     2) Parameter     3. Control/Alar     1) AL1/AL2: 1     turns ON.     7 2) OUT: Whe     During SS     control, thi     4. Auto tuning     AT lamp flash     5. ■ key     Used when e     to RUN modd     6. Adjustment     Used when e     moving and c     7. Digital input     Press 😒 + [2]     (RUN/STOP,     key [dl - Ł].     8. Temperature     It shows curr      Derature rae	perature (PV) dii: 2 risent temper setting mode: P2 m output display 2: Set temperatur setting mode: P2 m output display 2: Set temperatur setting mode: P2 m output display 2: Set temperatur setting mode: P2 m output display 2: Set temperature setting mode: P2 m output display 1: Set temperature 1: Set temperature 2: Set temperature 1: Set tempe	splay (R/ rature (P) r (Green e (SV) di arameter y lamp larm out; type in ( when MV c during i meter set teter, and : type in ( when MV c during i meter set teter, and : to operal alue char to operal t, auto to cator unit.	ed) V) display display splay setting value dis but ON, this lamp amp turns ON. CYCLE/PHASE <i>i</i> is over 3.0%. operating auto tu ting group, retur saving setting va nge mode, digit te the set function uning) in digital i rature range(°F) -58 to 2192
Bisplay         Temperature range(°C)         Temperature range(°F)           K(CA) $\frac{\ell \subseteq R H}{\ell \subseteq R L}$ -50 to 1200         -58 to 2192           Image: the second s	N49	s desc s	PV ± 0.5% nce is rate	d temp Display UCRH	Present tem     1) RUN modd     2) Parameter     2) Parameter     3. Control/Alar     2) OUT: Whe     During SS     control, thi     4. Auto tuning     AT lamp flast     5. Skey     Used when e     to RUN modd     6. Adjustment     Used when e     to RUN modd     7. Digital input     Press S + E     (RUN/STOP,     key [d+ - E].     8. Temperature     It shows curr      Derature ra	perature (PV) dii: 2 risent temper setting mode: Pa setting mode: Pa m output display 2: Set temperatur setting mode: Pa m output display When AL1, AL2 ai no control output of RP control output of RP control output of RP control output of removing parament ntering into parament ntering into parament ntering into set va igit up/down. key Si keys for 3 sec. alarm output reserve unit (°C/°F) india ent temperature of temperature of temper	splay (R( rarameter (Green e e (SV) di di rarameter y lamp and the set type in C when MV c during di type in C when MV c during di the set the set t	ed) V) display display splay setting value dis but ON, this lamp amp turns ON. CYCLE/PHASE / is over 3.0%. operating auto tu ting group, retur saving setting va nge mode, digit te the set function uning) in digital i rature range("F) -58 to 2192 8.0 to 999.9 -22 to 4472
Bisplay         Temperature range(°C)         Temperature range(°F)           K(CA) $\frac{\ell' \Box R H}{\ell' \Box R L}$ -50 to 1200         -58 to 2192           J(IC) $\frac{JI \Box H}{\ell' \Box R}$ -50.0 to 999.9         -58.0 to 999.9		s desc s desc s t sens or k	PV ± 0.5% nce is rate criptio	d temp Display ECRH ECRH ECRH ECRH ECRH	<ol> <li>Present tem         <ol> <li>Present tem                 <ol> <li>RUN modd</li> <li>Parameter</li> <li>Set tempera</li></ol></li></ol></li></ol>	the second seco	splay (R( rature (P) rarameter (Green e) sameter y lamp arameter y lamp and the type in ( when MV c during i type in ( when MV c during i type in ( when MV c during i type in ( when MV c during i to operal alue char to operal alue char to operal to operal	ed) V) display display splay setting value dis but ON, this lamp amp turns ON. CYCLE/PHASE / is over 3.0%. operating auto tu ting group, retur saving setting va- nge mode, digit te the set function uning) in digital i rature range('F) -58 to 2192 8.0 to 999.9 -22 to 1472 -20 to 200.0
Ensor         Display         Temperature range(°C)         Temperature range(°F)           K(CA) $\frac{\ell \subseteq RH}{\ell \subseteq RL}$ -50 to 1200         -58 to 2192           J(IC) $\frac{J \models CH}{J \models L}$ -50.0 to 999.9         -58.0 to 999.9           J(IC) $\frac{J \models CH}{J \models L}$ -30 to 800.0         -22 to 1999.9	PU PU PU PU PU	t sens	PV ± 0.5% nce is rate	d temp Display ECRH ECRH ECRH ECRH ECRH	<ol> <li>Present tem         <ol> <li>Present tem                 <ol> <li>Present tem</li></ol></li></ol></li></ol>	tighter one ± ation. perature (PV) di: perature (V) display ture (SV) display ture (SV) display ture (SV) display ture (SV) display ture (SV) display When AL1, AL2 al n control output display When AL1, AL2 al n control output G RP control output s lamp turns ON 1 lamp les by every 1 se ntering into set va ligit up/down. key S keys for 3 sec. alarm output ress ev unit (°C/°F) indi ent temperature to Inge ture range(°C) 50 to 1200 0 to 890.0 0 to 800.0 0	splay (R, rature (P) arameter (Green, e (SV) di arameter y lanp arameter y lan	ed) V) display display splay setting value dis but ON, this lamy amp turns ON. YCLE/PHASE V is over 3.0%. operating auto tu ting group, retur saving setting va- nge mode, digit te the set function uning) in digital i rature range(°F) 58 to 2192 8.0 to 999.9 -22 to 1472 2.0 to 999.9
Bissor         Display         Temperature range(°C)         Temperature range(°F)           K(CA) $\frac{\ell  \ell  R  H}{\ell  \ell  R  L}$ -50 to 1200         -58 to 2192           J(IC) $\frac{J  l  L  H}{J  l  L}$ -50.0 to 999.9         -58.0 to 999.9           J(IC) $\frac{J  l  L  H}{J  l  L}$ -30.0 to 800.0         -22 to 1472           L(IC) $L  L  H$ -40 to 800         -40 to 1472	ALLI A	200° Contractor cutore of the cutor s descent s desc	PV ± 0.5% nce is rate	d temp Display UCA SV F C SV SV C SV C SV C SV C SV C SV C SV C	Present tem     1. Present tem     1. Present tem     1. RUN mode     2. Parameter     2. Set tempera     1. RUN mode     2. Parameter     3. Control/Alar     2. 1) AL1/AL2:     1. TAL1/AL2:     1. TAL1/AL2:     1. Trms ON.     7 2) OUT: Whe     During SS     control, thi     4. Auto tuning     AT lamp flast     5.  key     Used when e     to RUN mode     6. Adjustment     Used when e     to RUN mode     6. Adjustment     Used when e     to RUN mode     7. Digital input     Press	the second seco	splay (Rr rameter y (Green, e (SV) di arameter y lamp larm outp type in ( y lamp larm outp type in ( s larm outp t	ed) V) display display splay setting value dis- but ON, this lamp amp turns ON. CYCLE/PHASE is over 3.0%. operating auto tu ting group, retur saving setting va- nge mode, digit te the set function uning) in digital i rature range("F) -58 to 2192 8.0 to 999.9 -22 to 1472 2.0 to 999.9 -40 to 1472 2.0 to 999.9 -40 to 1472 2.0 to 999.9 -40 to 1472 -58 to 2192 -58 to 2192 -59 to 1472 -50 to 999.9 -40 to 1472 -50 to 200 -50 to 200
End of the second se	ALI /	t sens	PV ± 0.5% nce is rate	d temp Display Unclude d temp Display Unclude d temp	1. Present tem     1) RUN mode     2) Parameter     2. Set tempera     1) RUN mode     2) Parameter     2. Set tempera     1) RUN mode     3. Control/Alar     2) DUT: Whe     During SS     control, thi     4. Auto tuning     AT lamp flast     5.  key     Used when e     to RUN mode     6. Adjustment     Used when e     moving and c     7. Digital input     Press ≥ + [2]     (RUN/STOP,     key [dt - ±].     8. Temperature     It shows curr  Derature ra	tingher one ± ation. perature (PV) disi persent temper- setting mode: Pa moutput display e: Set temperatur setting mode: Pa moutput display e: Set temperatur setting mode: Pa moutput display ther AL1, AL2 al n control output C RP control output C RP control output S and pures DN - lamp les by every 1 se ntering into parare e, moving parame hering into set va- ligit up/down. key Skeys for 3 sec. alarm output resid key e unit (°C/°F) indi ent temperature to Intege ure range(°C) io to 1200 0 to 800 0 to 800.0 10 to 800.0 10 to 800.0 10 to 800.0 10 to 90.0 10 to 90.	splay (R/ rature (P) y (Green (SV) di arameter y (Green (SV) di arameter y lamp larm out; y lamp larm out; l	ed) V) display display splay setting value dis but ON, this lamp amp turns ON. CYCLE/PHASE is over 3.0%. operating auto tu ting group, retur saving setting va nge mode, digit te the set function uning) in digital i rature range("F) -58 to 2192 8.0 to 999.9 -22 to 1472 2.0 to 999.9 -40 to 1472 -40 to 999.9
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	ALLI	t sens	PV ± 0.5% nce is rate	d temp Display UI CL LI CL ECCH	Present tem     1, Present tem     1) RUN modd     2) Parameter     2. Set tempera     1) RUN modd     2) Parameter     3. Control/Alar     1) AL1/AL2: 1     turns ON.     7 2) OUT: Whe     During SS     control, thi     4. Auto tuning     AT lamp flash     5. Skey     Used when e     to RUN modd     6. Adjustment     Used when e     moving and c     7. Digital input     Press SP + E     (RUN/STOP,     key [d1 - E].     8. Temperature     It shows curr      Derature ra	perature (PV) dii: internet setting mode: P2 setting mode: P2 moutput display is: Set temperatur setting mode: P2 moutput display is: Set temperatur temperatures is: Set temperatures setting into parare intering into parare intering into parare intering into parare is: Set temperatures setting (°C/°F) indi ent temperature temperatures is: Setting (°C) is: Display display is: Setting (°C) is: Setting (°C) is: Display is: Setting (°C) is: Sett	splay (R( rature (P) (Green e (SV) di arameter y lamp larm outp type in ( when MV c during ( meter set eter, and et alue char to operal at, auto to cator init.	ed) V) display display splay setting value dis but ON, this lamp amp turns ON. CYCLE/PHASE <i>i</i> is over 3.0%. operating auto tu ting group, retur saving setting va nge mode, digit te the set function uning) in digital i rature range(°F) -58 to 2192 8.0 to 999.9 -20 to 1472 -20 to 999.9 -40 to 1472 -40 to 999.9 -58 to 752 0.0 to 75
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	PU PU PU PU PU PU PU PU PU PU PU PU PU	t sens or uple	PV ± 0.5% nce is rate	d temp Display U CRH U CH U CL E CCH E CCL C	I. Present tem     1) RUN modd     2) Parameter     2. Set tempera     1) RUN modd     2) Parameter     3. Control/Alar     2) Alarameter     3. Control/Alar     2) OUT: Whe     During SS     control, thi     4. Auto tuning     AT lamp flast     5. Set     key     Used when e     to RUN modd     6. Adjustment     Used when e     to RUN modd     6. Adjustment     Used when e     to RUN modd     7. Digital input     Press Pi + E     (RUN/STOP,     key [gl - 1].     8. Temperature     Temperat	perature (PV) di: 2 resent temper setting mode: P2 setting mode: P2 m output display 2: Set temperatur setting mode: P2 m output display When AL1, AL2 ai no control output G RP control out	splay (R( rameter (Green e (SV) di armeter y lamp and the set type in ( when MV c during of when MV c during of when MV c during of the set tet, and the c during of tet, and tet, and the c during of tet, and tet, and tet, and tet, and tet, and tet, and tet, and tet, and tet, and tet, and	ed) V) display display splay setting value dis but ON, this lamp amp turns ON. CYCLE/PHASE / is over 3.0%. operating auto tu ting group, retur saving setting va- nge mode, digit te the set function uning) in digital i rature range("F) -58 to 2192 8.0 to 999.9 -22 to 1472 -40 to 999.9 -24 to 1472 -40 to 999.9 -58 to 752 8.0 to 752.0 0 to 752.0 -59 to 752.0 -50 to 752
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	PU PU PU PU PU PU PU	t sens	PV ± 0.5% nce is rate	d temp Display UCA Display UCA UCA UCA UCA UCA UCA UCA UCA	I. Present tem     1) RUN modd     2) Parameter     2. Set tempera     1) RUN modd     2) Parameter     2. Out: When     During SS     control/IAIar     1) ALI/AL2:     1) ALI/AL2:     1) AUN modd     3. Control/Alar     2. (1) ALI/AL2:     1) RUN modd     3. Control/Alar     2. (1) ALI/AL2:     1) RUN modd     3. Control/Alar     1) AUN modd     4. Auto tuning     AT lamp flash     5. Set key     Used when e     to RUN mode     6. Adjustment     Used when e     moving and c     7. Digital input     Press Pi # [6     (RUN/STOP,     key [d+ -1].     8. Temperature     It shows curr  Defrature ra	the result of the set	splay (R/ rarature (P) rarameter y lamp arameter y lamp neter set ter, and : alue char to operal alue char to operal tatuto tu cator nit.	ed) V) display display splay setting value dis but ON, this lamy amp turns ON. CYCLE/PHASE V is over 3.0%. operating auto tu ting group, retur saving setting va- nge mode, digit te the set function uning) in digital i rature range('F) -58 to 2192 8.0 to 999.9 -22 to 1472 2.0 to 999.9 -22 to 1472 4.0 to 999.9 -58 to 752 8.0 to 752.0 3.2 to 3092
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		t sens	PV ± 0.5% nce is rate	d temp Prove P	<ol> <li>Present tem         <ol> <li>Present tem                 <ol> <li>Present tem</li></ol></li></ol></li></ol>	perature (PV) dii ation. Present temper setting mode: Pa ture (SV) display ture (SV) display ture (SV) display ture (SV) display ture (SV) display When AL1, AL2 al n control output display When AL1, AL2 al n control output G RP control output s lamp urms ON 1 lamp ters by every 1 se ntering into parare ntering into parare ntering into set va ligit up/down. key S keys for 3 sec. alarm output ress es unit (°C/°F) indi ent temperature to Inge ure range(°C) 50 to 1200 .0 to 890.0 .0 to 890.0 .0 to 800.0 .0 to 800.0 .0 to 800.0 .0 to 400.0 .0 to 400.0 .0 to 1700 .0 t	splay (R, market replay (R, market replay) (R, market replay) (R replay (SV) of a rameter y (Green, e (SV) of a rameter y (Green, e (SV) of a rameter y (Green, and the replacement of a rameter set ter, and term output of a rameter set ter, and term output of a rameter set term output of a ramet	ed) V) display display splay setting value dis but ON, this lamy amp turns ON. SYCLE/PHASE V is over 3.0%. operating auto tu ting group, retur saving setting va- nge mode, digit te the set function uning) in digital i rature range("F) 58 to 2192 8.0 to 999.9 -22 to 1472 2.0 to 999.9 -22 to 1472 2.0 to 999.9 -40 to 1472 -40 to 999.9 -40 to 1472 -40 to 999.9 -22 to 1472 2.0 to 399.2 -22 to 3092 32 to 3092 32 to 3092
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	ALI / MOL	200° Contractions entresista s desce s contractions or uple t s contractions contra	PV ± 0.5% nce is rate	d temp PPV F C SV F C SV F C C SV SV SV SV SV SV SV SV SV SV	1. Present tem     1) RUN mode     2) Parameter     2. Set tempera     1) RUN mode     2) Parameter     2. Set tempera     1) RUN mode     3. Control/Alar     2 1) AL1/AL2: \     turns ON.     7 2) OUT: Whe     During SS     control, thi     4. Auto tuning     AT lamp flast     5. ■ key     Used when e     to RUN mode     6. Adjustment     Used when e     moving and c     7. Digital input     Press ⊠ + [2         (RUN/STOP,         key [dt - ±].     8. Temperature         I shows curr  Derature ra          Temperature         Temperature         Temperature         -50	tinglief one ± ation. perature (PV) disi persent temper- setting mode: Pa moutput display e: Set temperatur setting mode: Pa moutput display e: Set temperatur setting mode: Pa moutput display ther AL1, AL2 al n control output C RP control output C RP control output S amp urms ON lamp tering into parare e, moving parame hering into set va ligit up/down. key S keys for 3 sec. alarm output resid key e unit (°C/°F) indi ent temperature to temperature	splay (Rr (P) rameter eperiod (C) (Green, e) (SV) di arameter (y (Green, e) (SV) di arameter (y (Green, e) (SV) di arameter (y lamp) larm outp: type in (n (SV) di arameter sett y type in (n (SV) di arameter sett y lamp) arameter sett y lamp (arameter sett y lamp) arameter sett y lamp) arameter sett y lamp (arameter sett y lamp) arameter sett y lamp)	ed) V) display display splay setting value dis- but ON, this lamp amp turns ON. CYCLE/PHASE is over 3.0%. operating auto tu ting group, retur saving setting va- nge mode, digit rature range('F) -58 to 2192 8.0 to 999.9 -22 to 1472 2.0 to 999.9 -23 to 3092 32 to 3092 148 to 752 0 to 752 0 to 752 0 to 552 0 to 752 0 to 552 0 to 552
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	PPU Provide the second se	t sens	PV ± 0.5% nce is rate	d temp	I. Present tem     1) RUN mode     2) Parameter     2. Set tempera     1) RUN mode     2) Parameter     2. Set tempera     1) RUN mode     2) Parameter     3. Control/Alar     1) AL1/AL2: \     turns ON.     7 2) OUT: Whe     During SS     control, thi     4. Auto tunning     AT lamp flash     5. Skey     Used when e     to RUN mode     6. Adjustment     Used when e     moving and C     7. Digital input     Press 📡 + [2]     (RUN/STOP,     key [dt - Ł].     8. Temperature     It shows curre	perature (PV) dii: ation. perature (PV) dii: present temper setting mode: P2 m output display e: Set temperatur setting mode: P2 m output display e: Set temperatur setting mode: P2 m output display e: Set temperatur setting mode: P2 m output display e: Note AL1, AL2 al n control output C RP control output C RP control output S and pures ON-1 lamp tering into parare e, moving parame htering into set vi- igit up/down. key Steys for 3 sec. alarm output reso e, moving parame temperature to temperature to tempe	splay (R rature (P) (Green (SV) di arameter (Green (SV) di type in ( vyhen MV c during i meter set ter, and i alue char to operal alue char to operal to ope	ed) V) display display splay setting value dis but ON, this lamp amp turns ON. CYCLE/PHASE is over 3.0%. operating auto tu tring group, retur saving setting va- nge mode, digit rature range(°F) 58 to 2192 8.0 to 999.9 -22 to 1472 2.0 to 999.9 -22 to 1472 2.0 to 999.9 -22 to 1472 2.0 to 999.9 -20 to 1472 -40 to 999.9 -58 to 752 8.0 to 752.0 32 to 3092 148 to 752. 8.0 to 752.0 58 to 275.0 58 to 275.0 5
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	art Contraction of the second se	t sens	PV ± 0.5% nce is rate	d temp P P P P C C C C C C C C C C C C C	I. Present tem     1) RUN modd     2) Parameter     2. Set tempera     1) RUN modd     2) Parameter     3. Control/Alar     2) Alarameter     3. Control/Alar     1) AL1/AL2: 1     turns ON.     7 2) OUT: Whe     During SS     control, thi     4. Auto tuning     AT lamp flash     5. Skey     Used when e     to RUN mode     6. Adjustment     Used when e     moving and c     7. Digital input     Press S + E     (RUN/STOP,     key [d1 - E].     8. Temperature     It shows curr      Derature ra	perature (PV) dii: 2 trion. perature (PV) dii: 2 Present temper 3 setting mode: P2 m output display 2: Set temperatur 3 setting mode: P2 m output display 2: Set temperatur 3 setting mode: P2 m output display 2: Set temperature 3 setting mode: P2 m output display 2: Set temperature 1 amp 1 sets by every 1 se 1 setting 1 setting	splay (R/ rature (P) (Green e (SV) di arameter y lamp arameter y lamp arameter	ed) V) display display splay setting value dis but ON, this lamp amp turns ON. CYCLE/PHASE <i>i</i> is over 3.0%. operating auto tu ting group, retur saving setting va- nge mode, digit te the set function uning) in digital i rature range(°F) -58 to 2192 8.0 to 999.9 -40 to 1472 -20 to 999.9 -40 to 1472 -40 to 999.9 -58 to 752 8.0 to 752.0 -58 to 752 8.0 to 752.0 -58 to 752 8.0 to 752.0 -58 to 752. 8.0 to 752.0 -58 to 752.

TCN4S

TCN4M

Max. 5VA(100-240VAC 50/60Hz, 24VAC 50/60Hz)

TCN4H



Parameter Input sensor Temperature unit Input correction Input digital filter SV low-limit value SV high-limit value Control output operation	Display	Description Setting range: Refer to 'Input sensor and temperature range'. #If changing input sensor, Su, In-b, H-Su, L-Su, AL I, AL2, LbRE, LbBb, barmeter values are initialized.
Input sensor Temperature unit Input correction Input digital filter SV low-limit value SV high-limit value Control output operation	1 n-t Unit 1 n-b	Security lange, Relief to input sensor and température range. #if changing input sensor, Su, In - Su, L - Su, AL 1, AL2, LbRL, IL-BL, normater values are initialized.
Temperature unit Input correction Input digital filter SV low-limit value SV high-limit value Control output	Unit In-b	LbBb parameter values are initialized
Temperature unit Input correction Input digital filter SV low-limit value SV high-limit value Control output operation	Uni E I n - 6	
Input correction Input digital filter SV low-limit value SV high-limit value Control output constrol output	1 n-b	ο [ + + ο F %If changing temperature unit, 5υ, I ∩ - b, H - 5υ, L - 5υ, AL I, AL 2, L b AL, L b Ab, parameter values are initialized.
Input digital filter SV low-limit value SV high-limit value Control output		Setting range: -999 to 999°C/°F
SV low-limit value SV high-limit value Control output	ñRu.F	Setting range: 0.1 to 120.0 sec.
SV high-limit value Control output	L-5u	Setting range: Within the rated temperature range by input sensor[ $L - 5_u \leq (H - 5_u - 1Digit)$ ] When changing SV lower limit value, if SV < $L_2 \leq < < < < < < < < < < < < <.$
Control output	H-5u	when changing SV higher limit value, if SV $\geq L \leq J_{2}$ , SV is initialized as $L \leq J_{2}$ . Setting range: Within the rated temperature range by input sensor[ $H \leq J_{2} \geq (L \leq J_{2} + 1Digit)$ ] When changing SV higher limit value, if SV $\geq H \leq J_{2}$ , SV is initialized as $H \leq J_{2}$ .
operation	o-F£	HERL ++ Cool
Control type	[-ād	Pid ++ onoF
Control output type	oUt	When changing control type, בהסט, dl - צ' are initialized as off.
SSRP output method	55r.ñ	SEnd ++ EYEL ++ PHRS *It is displayed when selecting control output [oUE] as [55r]. It is not
Control cycle	Ł	aisplayed for AC/DC power model (TCN4_F2ZR). Setting range: 0.5 to120.0 sec. In case of Relay output[r L IJ] of control output[o UL], it is set as 20.0 sec. In case of SSR output[55r] of that, it is set as 2.0 sec. Wit is not displayed when SSRP output[55r a] method is set as CVCL_PHR5.
AL1 alarm operation mode	AL - 1	$\dot{\beta}_{1}\dot{\beta}_{1}\dot{\beta}_{2} \leftrightarrow \dot{\beta}_{1}\dot{\beta}_{1}\dot{\beta}_{1} \leftrightarrow \dot{\beta}_{1}\dot{\beta}_{2}\dot{\beta}_{2} \leftrightarrow \dot{\beta}_{1}\dot{\beta}_{2}\dot{\beta}_{2} \leftrightarrow \dot{\beta}_{1}\dot{\beta}_{2}$
AL2 alarm	RL - 2	Ho (J)( ++
operation mode		For more details refer to  Functions 6. Alarm. Back: Flashes, Gray: Fixed When changing AL1, AL2 alarm operation mode, AL1, AL2 alarm temperature value are initialized.
Alarm output hysteresis	RH32	Setting range: Refer to Functions 4. Alarm output hysteresis. #it is not displayed when AL1, AL2 alarm operation mode [RL - 1, RL - 2] is set as [Ra0 _ SAB _ LB ]
LBA monitoring time	LЬЯ.Ŀ	Setting range: 0 to 999 sec., '0' is set, loop break alarm function is OFF. *It is displayed when AL1, AL2 alarm operation mode $[R_L - I, R_L - 2]$ is set
LBA monitoring	L Ь Я.Ь	Setting range: 0 to 999(0.0 to 999.9)°C/°F, '0' is set, loop break alarm function is OFF. #It is displayed when AL1, AL2 alarm operation mode [RL - 1, RL - 2] is set
		as L b A . L and L b A . L is not '0'. StoP ↔ AL.r E ↔ At ↔ oFF
Digital input key	di - F	Press 🖾 + 🖄 keys for 3 sec. and it executes the set function. For more information, refer to 🔳 Functions 5. Digital input key.
Control output		Setting range 0.0 to 100.0%
MV in case of input break error	Er.ñu	Only 0.0, 100% are displayed when ON/OFF control. #When changing PID control ↔ ON/OFF control, if MV is below 100.0%, it is initialized as 0.0%.
Lock setting	LoC	oFF ↔ LoEI ↔ LoE2 ↔ LoE3 LoE : Locks parameter 2 group, LoE2: Locks parameter 1, 2 group LoE3: Locks parameter 1, 2 group and SV setting group *Parameter setting values are still possible to check while Lock mode is ON.
3. Parameter 1 gr	oup 🗊	New: Moves parameter and saves the set. Kev: Moves digit. Sor kev: Change the set
Parameter	Display	
AL1 alarm temp.	RLI	Setting range: Deviation alarm(-F.S to F.S), Absolute value alarm(temperature range) In case alarm operation mode IRL - 1, RL - 21 of Parameter 2 group R5R /
AL2 alarm temp.	RL 2	SERU/LERD, no parameters is displayed.
Auto tuning Proportional band	HE P	Setting range: 0.1 to 999.9°C/°F
Integral time	1	Setting range: 0 to 9999 sec. Integral operation is OFF when set value is "0".
Derivative time	а	Setting range: 0 to 9999 sec. Derivative operation is OFF when set value is "0".
Manual reset	rESE	It is displayed in P/PD control.
	445	UCAR, JI CH, LI CH, ECCH, rPr, 5rP, dPEH, CUSH: 1 to 100°C/°F UCRH, JI CH, LI CL, ECCL, dPEL, CUSL: 0.1 to 50.0°C/°F UCRL, JI CL, LI CL, ECCL, dPEL, CUSL: 0.1 to 50.0°C/°F

### unctions tuning [RE]



m				T1-	hun alamaa udal t	a laaliidahadha Meereese taa taa			
·	<u>H</u>	<u>- I.H</u>	Alarn	I here are n alarm ope	e two alarms which operate eration and alarm option.	e individually. You can set combined			
tion	۱ <u> </u>		optio	n Use digita	al input key(set as RL r E) ( ease alarm operation	or turn OFF power and re-start this			
arm	Nam	ation	Alarm o	neration		Description			
0	-		-	peration		No alarm output			
ī I.🗆	Devi high limit alarr	ation - n	Alarm (Devia OFF SV 100°C	tion)temperature: 10°C H ON PV 110°C	Alarm (Deviation)temperature: -10°C OFF H ON PV 90°C SV 100°	If deviation between PV and SV as high-limit is higher than set value of deviation temperature, the alarm output will be ON.			
ā 2.0	Devi Iow- alarr	ation -limit n	Alarm (Devia ON H PV 90°C	tion)temperature: 10°C ↓ OFF C SV 100°C	Alarm (Deviation)temperature: -10°C	If deviation between PV and SV as low-limit is higher than set value of deviation temperature, the alarm output will be ON.			
ñ 3.0	Devi high -lim alarr	ation /low nit m	Alarm (Devia ON PV 90°C	tion)temperature: 10°C	H ON	If deviation between PV and SV as high/low-limit is higher than set value of deviation temperature, the alarm output will be OFF			
ñ 4. 🗆	Devia high/l limit r	ition ow- everse	Alarm (Devia OFF ↓ H	tion)temperature: 10°C	H OFF	If PV is equal to or higher than the absolute value of alarm temperature, the output will be ON			
ñ 5.🗆	Abso value limit alarn	olute e high n	Alarm (Absoli OFF H PV 90'	•C SV 100°C	Alarm (Absolute)temperature: 110°C	If PV is equal to or higher than the absolute value of alarm temperature, the output will be ON.			
ñ 6.🗆	Abso valu limit aları	olute e low m	Alarm (Absoli	Ute)temperature: 90°C	Alarm (Absolute)temperature: 110°C	If PV is equal to or lower than the absolute value of alarm temperature, the output will be ON.			
ьR.🗆	Senso alarm	or break	-			It will be ON when it detects sensor disconnection.			
<i>ь R.</i> □	Loop	break	_			It will be ON when it detects loop			
I: Alar	l <sup>alarm</sup> m out	tput hv	steresis	9895]		ргеак.			
larm	opeti	ion	נ	•					
tion		Name		Description	Indition alarm output is ON	If it is a clear alarm condition			
<u>,</u> R		Standa	rd alarm	alarm output is O	FF.	. In it is a cicar didi ili curiulilori,			
Д.Ь		Alarm I	atch	If it is an alarm co	ondition, alarm output is ON	and maintains ON status.			
		Standh		First alarm condit	ion is ignored and from sec	ond alarm condition, standard alarm			
0.0		standby sequence 1		operates. When power is supplied and it is an alarm condition, this first alarm condition is ignored and from the second alarm condition, standard alarm operates.					
<b>_</b> .d	-	Alarm I and sta sequer	atch andby nce 1	If it is an alarm co When power is su ignored and from	polition, it operates both ala upplied and it is an alarm co the second alarm condition	Irm latch and standby sequence. Indition, this first alarm condition is , alarm latch operates.			
ΠF		Standb	v	First alarm condit	ion is ignored and from sec				
		sequer	nce 2	operates. When r output does not tu	e-applied standby sequence urn ON. After clearing alarm	ond alarm condition, standard alarm e and if it is alarm condition, alarm o condition, standard alarm operates.			
		Alarm I and sta sequer	atch andby nce 2	operates. When r output does not tu Basic operation is only by power ON When re-applied not turn ON. After	e-applied standby sequence urn ON. After clearing alarm same as alarm latch and s I/OFF, but also alarm setting standby sequence and if it clearing alarm condition, a	ond alarm condition, standard alarm e and if it is alarm condition, alarm i condition, standard alarm operates. tandby sequence1. It operates not g value, or alarm option changing. s alarm condition, alarm output does larm latch operates.			
in F condition c	on of r ion of I mode r brea nction ed duri sing a <b>break</b> ks cor ), whe	Alarm I and sta sequer re-appli temper e. <b>ak alar</b> that alar ing tem larm out alarm throl loo	ince 2 latch andby nce 2 ed standt ied standt rature, ala m arm outpu perature utput cont (LBA) op and ou ol output	operates. When r output does not th Basic operation is only by power ON When re-applied not turn ON. After yo sequence for sta yo sequence for yo sequence for sta yo sequence for yo yo yo yo yo yo yo yo yo	e-applied standby sequence urn ON. After clearing alarm a same as alarm latch and s (JOFF, but also alarm setting standby sequence and if i i clearing alarm condition, a undby sequence 1, alarm latc andby sequence 2, alarm latc L 1, RL 2) or alarm operation sensor is not connected or an check whether the senso be between standard alarm [5 paperature change of the sub or cooling control) and PV is	ond alarm condition, standard alarm e and if it is alarm condition, alarm is condition, standard alarm operates. standby sequence1. It operates not g value, or alarm option changing. is alarm condition, alarm output does larm latch operates. th and standby sequence 1: Power ON ch and standby sequence 2: Power ON, (RL - 1, RL - 2), switching STOP mode when sensor's disconnection is or is connected with buzzer or other 55 B.R.A] or alarm latch [5 b.R.b]. opect. For heating control(cooling s not increased over than LBA			
Gonditic Con	on of r ion of r ng set r brea nction d duri sing a preak ks con pon bar on bar	Alarm I and sta sequer re-appli re-appli temper e. <b>ak alar</b> that alar ing tem larm ou alarm ou alarm ou alarm ou on contr nd [L b P V is n	ince 2 latch andby nce 2 ed standt rature, ala m arm outpu perature utput cont (LBA) p and ou ol output 7.6 ] durin of decrea	operates. When r output does not tu Basic operation is only by power ON When re-applied not turn ON. After y sequence for sta arm temperature (R tu will be ON when controlling. You cc act. It is selectable tputs alarm by ter MV is 100%(0% fi g LBA monitoring sed below than Lf	e-applied standby sequence um ON. After clearing alarm is same as alarm latch and is same as alarm latch and is indby sequence and if it is clearing alarm condition, a andby sequence 1, alarm latch andby sequence 2, alarm latch L 1, RL 2) or alarm operation as sensor is not connected or an check whether the sensor between standard alarm [5] perature change of the sub or cooling control) and PV is time [L b R. b], or when con	ond alarm condition, standard alarm e and if it is alarm condition, alarm condition, standard alarm operates. tandby sequence1. It operates not g value, or alarm option changing. s alarm condition, alarm output does larm latch operates. th and standby sequence 1: Power ON ch and standby sequence 2: Power ON, ( $RL - 1, RL - 2$ ), switching STOP mode when sensor's disconnection is in is connected with buzzer or other 5 b R. R] or alarm latch [5 b R. b]. updet. For heating control(cooling s not increased over than LBA trol output MV is 0%(100% for cooling during LBA monitoring time (b B R L).			
Condition Condit	on of it ion of a model of the sing a oreak ks con- bar on bar on ba on bar on bar on ba on bar on bar on bar on bar on b	Alarm I and sta sequer re-appli tempele. ak alar that ala ing tem larm ou alarm othrol loo alarm nd [L b F PV is n turns (	ince 2 latch andby nce 2 ed standt ied standt rature, ala m arm outpu perature perature tput cont (LBA) up and ou ol output 7.b ] durir ot decrea DN.	operates. When r output does not tu Basic operation is only by power ON When re-applied not turn ON. After y sequence for sta arm temperature (R tu will be ON when controlling. You cc act. It is selectable tputs alarm by tem MV is 100%(0% fi g LBA monitoring sed below than LB	e-applied standby sequence um ON. After clearing alarm is same as alarm latch and is standby sequence and if it i clearing alarm condition, a indby sequence 1, alarm latc andby sequence 2, alarm latt L 1, RL 2) or alarm operation asensor is not connected or an check whether the sensor between standard alarm [2] mperature change of the sub or cooling control) and PV is time [L $bR$ , $b$ ] or when con BA detection band [L $bR$ , $b$ ]	ond alarm condition, standard alarm e and if it is alarm condition, alarm condition, standard alarm operates. tandby sequence1. It operates not g value, or alarm option changing, s alarm condition, alarm output does larm latch operates. th and standby sequence 1: Power ON ch and standby sequence 2: Power ON, (RL - 1, RL - 2), switching STOP mode when sensor's disconnection is the is connected with buzzer or other 5 b R. R] or alarm latch [5 b R. b]. opect. For heating control(cooling s not increased over than LBA trol output MV is 0%(100% for cooling during LBA monitoring time [ $L b R. b$ ].			
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i F Condititi changii o RUN o RUN o RUN o RUN e ensoi he fun etecte ontrol) etectio etectio ontrol) etectio etectio etectio ontrol) etectio	on of r ion of r ion of r ng set indian d duri sing a preak ks corr ), whe on bar orreak ks corr ), whe on bar orreak SV	Alarm I Alarm I Alarm I Alarm I Alarm I re-appli tempel e. <b>ak alar</b> that ala ing tem larm ou <b>alarm</b> throl loo n contr LEA Monitorin P' P' EAAtor	ice 2 latch andby ice 2 ed standt ied standt rature, ala m arm outpu perature itput cont (LBA) p and ou ol output 7.b] durir ot decrea DN.	operates. When r output does not tu Basic operation is only by power ON When re-applied not turn ON. After by sequence for sta arm temperature (R tt will be ON when controlling. You cc act. It is selectable tputs alarm by tem MV is 100%(0% fi ng LBA monitoring used below than Lf	e-applied standby sequence um ON. After clearing alarm same as alarm latch and s same as alarm latch and s (VOFF, but also alarm setting standby sequence and if it i clearing alarm condition, a undby sequence 1, alarm latc t (l, RL 2) or alarm operation sensor is not connected or an check whether the senso a between standard alarm [5 operature change of the sub or cooling control) and PV is time [L bA. b], or when con BA detection band [L b R.b.]	ond alarm condition, standard alarm e and if it is alarm condition, alarm condition, standard alarm operates. tandby sequence 1. It operates not g value, or alarm option changing, s alarm condition, alarm output does larm latch operates. th and standby sequence 1: Power ON ch and standby sequence 2: Power ON ch and standby sequence 1: Power ON ch and standby sequence 1: Power ON ch and standby sequence 1: Power ON ch and standby sequence 2: Power ON ch and standby sequence 1: Power ON ch and			
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#### Manual reset[rESE]

When selecting P/PD control mode, certain temperature difference exists even after PV reaches stable status because heater's rising and falling time is inconsistent due to thermal characteristics of controlled objects, such as

heat capacity, heater capacity, This temperature difference is called offset and manual reset In E5b1 function is to set/correct offset.

When PV and SV are equal, reset value is 50.0%. After control is stable. PV is lower than SV, reset value is over 50.0% or PV is higher than SV, reset value is below 50.0%

![](_page_1_Figure_8.jpeg)

. Input correction [i n - b] Controller itself does not have errors but there may be error by external input temperature sensor. This function is for correcting this error.

Ex) If actual temperature is  $80^{\circ}$ C but controller displays 78°C, set input correction value [ $i_{0}$  -  $b_{1}$  as '002' and controller displays 80°C.

\*As the result of input correction, if current temperature value (PV) is over each temperature range of input sensor, it displays 'HHHH' or 'LLLL'.

### Input digital filter[nRuF]

If current temperature (PV) is fluctuating repeatedly by rapid change of input signal, it reflects to MV and stable control is impossible. Therefore, digital filter function stabilizes current temperature value. For example, set input digital filter value as 0.4 sec, and it applies digital filter to input values during 0.4 sec and displays this values. Current temperature may be different by actual input value 0. Error

Display	Description	Troubleshooting
oPEn	Flashes if input sensor is disconnected or sensor is not connected.	Check input sensor state.
нннн	Flashes if measured sensor input is higher than temperature range.	When input is within the rated
LLLL	Flashes if mesured sensor input is lower than temperature range	temperature range, this display disappears.

### Factory default

	Parameter		Factory default
ting group	SV setting	-	0
	AL1 alarm temperature	AL I	1250
	AL2 alarm temperature	RL2	1250
	Auto tuning	RE	oFF
eter 1	Proportional band	Ρ	10.0
	Integral time	1	0
	Derivative time	d	0
	Manual reset	rESt	50.0
	Hysteresis	H 4 5	2
	Input sensor	In-E	Y C R
	Temperature unit	Unit	٥٢
	Input correction	1 n-b	0
	Input digital filter	ñ Ru.F	0.1
	SV low-limit value	L - Su	- 50
	SV high-limit value	H-5u	1500
	Control output operation	0-FL	HERE
	Control type	[-ād	PId
	Control output type	oUt	~L'A
eter 2	SSRP output method	55r.ñ	Stad
	Control cycle	E	20.0
	AL1 alarm operation mode	RL - 1	Rក (R
	AL2 alarm operation mode	RL-2	Rā 2.R
	Alarm output hysteresis	RHYS	00 I
	LBA monitoring time	L & R.E	0000
	LBA detection band	L 6 R.6	002
	Digital input key	di - Ľ	StoP
	Control output MV in case of input break error	Er.ñu	0.0
	Lock setting	LoC	oFF

#### Caution for using

The connection wire of this unit should be separated from the power line and high voltage line in order to prevent from inductive noise.

For crimp terminal, select following shaped terminal (M3).

Max. 5.8mm		Max. 5.8mm			

Please install power switch or circuit-breaker in order to cut power supply off. Install power switch or circuit-breaker to supply or cut off the power. Switch or circuit-breaker should be installed near by users for convenient control.

Do not use this product as Volt-meter or Ampere-meter, this is a temperature controller.

In case of using RTD sensor, 3 wire type must be used. If you need to extend the line, 3 wires must be used with the same thickness as the line. It might cause the deviation of temperature if the resistance of line is different. In case of making power line and input signal line closely, line filter for noise protection should be installed

at power line and input signal line should be shielded. Keep away from the high frequency instruments.(High frequency welding machine & sewing machine, large capacity SCR controller)

②Altitude Max. 2000m.

When supplying measuring input, if 'HHHH' or 'LLLL' is displayed, measuring input may have problem

Turn off the power and check the line. D. Installation environment

11 shall be used indoor

③Pollution Degree 2.
 ④Installation Category II.
 K It may cause malfunction if above instructions are not followed.

## Major product

Proximity sensors Area sensors Door/Door side sensors Counters Rotary encoders Autonics Corporatio Photoelectric sensor Fiber optic sensors
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 Timers http://www.autonics.com Satisfiable Partner For Factory Automation AD QUARTERS Display units -5, Yongdang-dong, Yangsan-si, Gyeongnam, 626-847 Power controllers Sensor controllers Panel meters Korea BVCHRSEAS SALES : Bidg, 402 3rd FL, Bucheon Techno Park, 193, Yakdae-c Wonmi-gu, Bucheon-si, Gyeonggi-do, 420-734, Korea TEL:82-32-610-2730 / FAX:82-32-329-0728 E-mail : sele@autonic.com Graphic/Logic panels Temperature controllers Field network devices eon Techno Park, 193. Yakdae-dono Switching power supplies Temperature/Humidity transducers Tachometer/Pulse(Rate) meters nail : sales@autonic Stepping motors/drivers/motion controllers Laser marking system(CO<sub>2</sub>, Nd:YAG) Laser welding/soldering system The proposal of a product improvement and development : product@autonics.com

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