## 5.1 Operation flowchart Outline of operation procedure

[Step 2 Auxiliary func	tion Set ar	n Input type an	d Alarm type, et	c. in Auxiliary fu	unction setting	mode 2.	· · · ·		
setting mod	e 2] (1) Inj	(1) Input type: Select an input type. Refer to "Input type (character indication) and range" on p.17.							
	(2) A1	(2) A1 type: Select an alarm type. Refer to "Alarm type" on p.17. [If an alarm type except for " " is selected, items (3) to (5) will be indicated and they							
		Note: I	f an alarm type	is changed, th	he alarm set	value bec	omes 0 (0.0). Therefore it		
		i i	s necessary to	set it again.		value bee			
	(3) A1	action Energ	ized/De-energiz	zed: Select Ala	rm 1 action E	nergized o	r De-energized.		
	(4) A1	hysteresis: S	Set A1 hysteresis	i		-	-		
	(5) A1	action delay	timer: Set A1 ac	ction delay time	9.				
[Step 3 Sub setting m	ode] (6) A1	value: Set an	action point of A	A1 output in the	e Sub setting r	node.			
[Step 4 Main setting n	node] (7) SV	1: Set the SV	in the Main setti	ng mode.					
[Step 5 Run]	Turn t	he load circuit p	power ON. Contro	ol action starts s	so as to keep t	he control	target at the SV.		
Control output OFF function	or				Press the	📿 key.			
			PV/SV dis	plav mode	]◀		MV indication		
Auto/Manual control functio	n Press the C				Press the (	📿 kev			
	key for appr	ox. 1 sec.			for approx.	3 sec.			
				Ţ					
Droop the	kov Dr			n the A key		Drage the	Star annew 2 and while helding down		
Press tile	Key.	Press the $\searrow$ key while holding down the $\bigtriangleup$ key.					afor approx. 3 sec while holding dow		
[Main setting	node] [S	ub setting mod	le]			[Auxiliary	function setting mode 1]		
<b>★</b>	▲T/Auto-re	• If AT	is cancelled during	the process	1	1	• Make a collection with the $\Lambda$ $\nabla$		
SV1	Perform/Ca	ncel PID v	alues revert to pre	vious value.	Set valu	e Lock			
SV SV	PV BC SV	Selection • Auto-	reset is automatica	ally cancelled	PV	SV	keys.		
<b>↓ ↓</b>		in 4 n	ninutes.	2			• II LOCK I OF LOCK 2 IS Selected,		
SV2		$\rightarrow$			Loct	Selection	AT or Auto-reset does not work.		
PV'-, 2 SV		tional • Set th	ne value with the	$\Delta$ . $\nabla$ kevs			• Be sure to select Lock 3 when		
	band	• ON/C	)FF control when s	et to 0 or 0 0			using the Serial communication.		
	PV CT SV					$\bigcirc$			
Reverts to the PV/SV		Set value				7 			
display mode.				·····	SV hig	h limit	• Set the value with the $\wedge \nabla$ key		
	OUT2 propor	tional • Set th	ne value with the 2	$\Delta$ , $\vee$ keys.	PV 5 <i>H</i>	<sup>SV</sup> Set value			
	band	<ul> <li>Availa</li> </ul>	able when Heating	/Cooling		$\bigcirc$			
	PV P b SV	Set value contr	ol (OUT2) is addeo	1		,	I		
planation of the 📿 key 🕴	LC.	)			SV low	/ limit	• Set the value with the $\wedge \nabla$ key		
): If the O key is		Set th	he value with the /	$\setminus \nabla$ kevs	PV 51	<sup>SV</sup> Set value			
reased the activation is	Integral ti	me • PD c	ontrol when set to	0, and auto-		0			
ressed, the set value is	PV / SV	reset	can be performed.	o, and adto		,	I		
aved, and the controller		Set value			Sensor co	orrection	• Set the value with the $\wedge \nabla$ key		
roceeds to the next setting	<b>↓</b> ⊆	ل		A	PV ho	<sup>SV</sup> Set value			
em.	Dorivativa	Set the	ne value with the 2	$\Delta$ , $\vee$ keys.		0			
!	Derivative	Settir	ng the value to 0 di	sables the	,				
To revert to the PV/SV	PV SV	Set value funct	ion.		Communicat	ion protocol	• Make a selection with $ riangle$ , $ riangle$ key		
isplay mode press the		)			PVcnhL	SV Selection	• Not available for ロロロム indication		
$\bigcirc$ key for approx 3sec		0-1-11		$\wedge$ $\nabla$ have	i	~~~~	l		
uring setting mode The	PV C	• Set tr	he value with the 2	, ∨ keys.		$\square$			
nit will revert to the PV/SV		Set value • Availa	able for PID contro	l		· · · · · · · · · · · · · · · · · · ·			
isplay mode from any		)		A	• Set the value with the $\triangle$ , $\nabla$				
nodo	OUT1 propor	tional • Set th	• Set the value with the $\triangle$ , $\lor$ keys.		<u>''enno</u>	:'`cnno   ``Set value			
	cycle	• Not a	vailable for DC cur	rent output or		$\bigcirc$			
··-·-·	PV C SV	Set value if OU	1 1 is in ON/OFF co	ontrol		<u>.</u>	1		
		>			Communica	ation speed			
	V	tional • Sat #	ne value with the		r'en hP	<sup>SV</sup> Selection	• wake a selection with $\triangle$ , $\lor$ key		
		• Not a	• Not available if OLIT2 is in ON/OFF		· ·····	~	J		
	PV CYCIE	contra	ol			$\sim$			
	<u> </u>	Set value	-	!			• Make a selection with $\triangle$ , $\nabla$ key		
	<b>↓</b> ©	J , J			Par	ity	• Not available if and is selected		
(6)	A1 value	• Set th	he value with the $\angle$	$\Delta$ , $\vee$ keys.	PV -	<u>ev</u> /	during Communication protocol		
(8)		• Not a	vailable if	is selected	''cnYr	Selection	selection mode		
	PV <u>A</u> [	Set value during	g A1 type selection		· · · · · · · · · · · · · · · · · · ·	0			
	↓ C	>							
		Set th	ne value with the Z	∆, ∇ keys.			• Make a selection with $\land \nabla$ key		
	A2 value	• Not a	vailable if	is selected	Stop	bit	• Not available if a a a! is selector		
	PV g annu SV.	durine	g A2 type selection		PV	SV	during Communication protocol		
					<u> </u>	Selection			
		بو					selection mode		
	Heater burnou	It alarm • Set th	ne value with the 2	$\Delta$ , $ abla$ keys.		$\bigcirc$			
	• OFF when set to 0.0					<u>+</u>			
		)		'	Reverts to the PV/SV display mode.				
	▼ ~			$\sqrt{\nabla}$ keys					
		rm time • Set th	ie value with the 2	, ∨ Keys.					
	LF_1   3VS	set value   • Availa	able only when LA o	puon is added.					
		پ			Setting items with dotted lines are optional				
	<b>Loop break alarm span</b> $\cdot$ Set the value with the $\land \bigtriangledown$ keys								
	Loop break ala	rm span • Set th	he value with the 2	$\Delta$ , $\vee$ keys.					
	Loop break ala	rm span • Set th Set value • Availa	The value with the $2 \\ able only when LA or A$	, ∨ keys. ption is added.		and they	appear only when the options are		
	Loop break ala <sup>PV</sup> L P _ H   <sup>SV</sup> S	rm span • Set th Set value • Availa	ne value with the 2 able only when LA o	$\Delta$ , $\bigtriangledown$ keys. ption is added.		and they added.	appear only when the options ar		

$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Input type (character indication) and range								
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	<i>E</i> □□ <i>L</i> : K –200 to 1370℃	<i>EF</i> .: K −320 to 2500°F							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	<i>上</i>	<i>上F</i> 199.9 to 750.0°F							
r $L$ : R       0 to 1760°C $r$ $F$ : R       0 to 3200°F $L$ : S       0 to 1760°C $r$ $F$ : S       0 to 3200°F $L$ : B       0 to 1820°C $F$ : B       0 to 3300°F $L$ : E $-200$ to 800°C $F$ : E $-320$ to 1500°F $r$ $L$ : E $-200$ to 130°C $F$ : E $-320$ to 2300°F $r$ $L$ : N $-200$ to 130°C $r$ $F$ : N $-320$ to 2300°F $r$ $L$ : N $-200$ to 130°C $r$ $F$ : N $-320$ to 2300°F $r$ $L$ : PL-II       0 to 1390°C $PL ZF$ : PL-II       0 to 2500°F $r$ $L$ : Pt-II       0 to 2315°C $c$ $F$ : C(W/Re5-26)       0 to 4200°F $PT$ $L$ : Pt100 $-199.9$ to 500.0°C $PT$ $F$ : Pt100 $-199.9$ to 999.9°F $JPT$ $L$ : Pt100 $-200$ to 850°C $PT$ $F$ : Pt100 $-300$ to 1500°F $JPT$ $L$ : Pt100 $-200$ to 50°C $JPT$ $F$ : Pt100 $-300$ to 90.0°F $JPT$ $L$ : Pt100 $-200$ to 50°C $JPT$ $F$ : Pt100 $-300$ to 90.0°F	∠: J200 to 1000°C	<i>∟</i> _: J320 to 1800°F							
$S = \begin{bmatrix} L:S & 0 \text{ to } 1760°C \\ L:B & 0 \text{ to } 1820°C \\ L:E & -200 \text{ to } 800°C \\ E & F:E & 0 \text{ to } 3300°F \\ F:E & -320 \text{ to } 1500°F \\ F:E & -320 \text{ to } 2300°F \\ F:E & -320 \text{ to } 2300°F \\ F:E & -320 \text{ to } 2300°F \\ F:E & -200 \text{ to } 1300°C \\ F:F:E & -320 \text{ to } 2300°F \\ F:E & -320 \text{ to } 230°F \\ F:E & -320 \text{ to } 300 \text{ to } 199.9°F \\ F:E & -320 \text{ to } 300 \text{ to } 199.9°F \\ F:E & -320 \text{ to } 300 \text{ to } 1500°F \\ F:E & -300 \text{ to } 1999 \text{ to } 9999 \\ F:E & -300 \text{ to } 50°C \\ F:E & -300 \text{ to } 50$	r ⊆: R 0 to 1760°C	R 0 to 3200°F							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	נייב : S 0 to 1760°C	∽: S 0 to 3200 F							
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	<u>ה</u> :B 0 to 1820℃	b: B 0 to 3300 F							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$E = -200 \text{ to } 800^{\circ}\text{C}$	EE							
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$i = \frac{1}{2}$ : I = -199.9 to 400.0°C	<i>i</i>							
$F \subseteq E \subseteq$ $P \subseteq P \subseteq$	n = 1	-320 to $2300$ F							
$\begin{array}{c} c \sqcup L: C(W/Re5-26) & 0 \text{ to } 2315^{\circ} C & \Box L: F: C(W/Re5-26) & 0 \text{ to } 4200^{\circ} F\\ FT \ L: Pt100 \ -199.9 \text{ to } 850.0^{\circ} C & FT \ F: Pt100 \ -199.9 \text{ to } 999.9^{\circ} F\\ JFT \ L: Pt100 \ -199.9 \text{ to } 500.0^{\circ} C & JFT \ F: JPt100 \ -300 \text{ to } 1500^{\circ} F\\ JFT \ L: Pt100 \ -200 \text{ to } 850^{\circ} C & JFT \ F: JPt100 \ -300 \text{ to } 1500^{\circ} F\\ JFT \ L: JPt100 \ -200 \text{ to } 500^{\circ} C & JFT \ F: JPt100 \ -300 \text{ to } 900^{\circ} F\\ JFT \ L: JPt100 \ -200 \text{ to } 500^{\circ} C & JFT \ F: JPt100 \ -300 \text{ to } 900^{\circ} F\\ JFT \ L: JPt100 \ -200 \text{ to } 500^{\circ} C & JFT \ F: JPt100 \ -300 \text{ to } 900^{\circ} F\\ JFT \ L: JPt100 \ -200 \text{ to } 500^{\circ} C & JFT \ F: JPt100 \ -300 \text{ to } 900^{\circ} F\\ JFT \ L: JPt100 \ -200 \text{ to } 500^{\circ} C & JFT \ F: JPt100 \ -300 \text{ to } 900^{\circ} F\\ JFT \ L: JPt100 \ -200 \text{ to } 500^{\circ} C & JFT \ F: JPt100 \ -300 \text{ to } 900^{\circ} F\\ JFT \ L: JPt100 \ -200 \text{ to } 500^{\circ} C \ JFT \ F: JPt100 \ -300 \text{ to } 900^{\circ} F\\ JFT \ L: JPt100 \ -200 \text{ to } 500^{\circ} C \ JFT \ F: JPt100 \ -300 \text{ to } 900^{\circ} F\\ JFT \ L: JPt100 \ -300 \text{ to } 900^{\circ} F\\ JFT \ L: JPt100 \ -300 \text{ to } 900^{\circ} F\\ JFT \ L: JPt100 \ -300 \text{ to } 900^{\circ} F\\ JFT \ L: JPt100 \ -300 \text{ to } 900^{\circ} F\\ JFT \ L: JPt100 \ -300 \text{ to } 900^{\circ} F\\ JFT \ L: JPT \ JFT \ JTT \ JTT$	PLEL: PL-II 0 to 1390 C	FLEF: PL-II 0 to 2500 F							
PI       .L: Pt100       -199.9 to 850.0°C       PI       .F: Pt100       -199.9 to 909.9°F         JPI   .	C.L.L. C(W/Re5-26) 0 to 2315°C	⊂ F : C(W/Re5-26) 0 to 4200 F							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	H: Pt100199.9 to 850.0℃	<i>FLF</i> : Pt100 –199.9 to 999.9°F							
PI       L: Pt100       -200 to 850°C       PI       F: Pt100       -300 to 1500°F         JPI       L: JPt100       -200 to 500°C       JPI       F: JPt100       -300 to 900°F         JPI       L: JPt100       -200 to 500°C       JPI       F: JPt100       -300 to 900°F         JPI       L: D       100 to 200 A DC       -1999 to 9999       -300 to 900°F       -300 to 900°F         JPI       L: D       to to 1V DC       -1999 to 9999       -1000 to 9099       -300 to 9099         JPI       L: D       to to 5V DC       -1999 to 9999       -1000 to 9099       -1000 to 9099	:: JPt100199.9 to 500.0℃	<i>با ₽۲.</i> Ε: JPt100 –199.9 to 900.0°F							
JPF L: JPt100       -200 to 500°C       JPF F: JPt100       -300 to 900°F         YZUH: 4 to 20mA DC       -1999 to 9999       JZUH: 4 to 20mA DC       -1999 to 9999         UIII: 0 to 1V DC       -1999 to 9999       JZUH: 0 to 5V DC       -1999 to 9999         UIII: 5H: 0 to 5V DC       -1999 to 9999       JZUH: 1 to 5V DC       -1999 to 9999	<i>H</i> <sup>1</sup> ∠: Pt100 –200 to 850°C	<i>₽°,</i> <sup>−</sup> <i>□F</i> : Pt100 –300 to 1500°F							
YZUR: 4 to 20mA DC       -1999 to 9999         DZR: 0 to 20mA DC       -1999 to 9999         U       IB: 0 to 1V DC       -1999 to 9999         U       5B: 0 to 5V DC       -1999 to 9999         U       5B: 0 to 5V DC       -1999 to 9999	<i>↓P</i> / <sup>-</sup> <i>L</i> : JPt100 –200 to 500°C	<i>山戸「F</i> : JPt100 –300 to 900°F							
□ □ □ □ □         □ □         □ □         □	닉근디뮤: 4 to 20mA DC –1999 to 9999								
□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□	020R: 0 to 20mA DC -1999 to 9999								
□ 5 H: 0 to 5V DC -1999 to 9999	$\Box = IB$ : 0 to 1V DC -1999 to 99	999							
(5) + 1 to 5) (DC 1999 to 9999	G = 5 H: 0 to 5V DC -1999 to 99	999							
1									
□ I□B: 0 to 10V DC -1999 to 9999	□ I□ H: 0 to 10V DC -1999 to 99	999							

	•	Press the $rac{1}{2}$ the $\Delta$ key	abla key for approx. 3 sec while holding down				
	[Auxiliary function setting mode 2]						
(1)	Input	type	• Make a selection with the $\wedge \nabla$ keys				
('')	PV 5675	<sup>SV</sup> Selection	• Default value: $E \square C$				
		$\Box$					
	Scaling h	nigh limit	• Set the value with the $\triangle$ , $\nabla$ keys.				
	PV 55LH	SV Set value	Available for DC current, DC voltage input				
		$\bigcirc$	, <b>,</b> ,				
	· · · · · ·	¥					
	Scaling	low limit	• Set the value with the $\triangle$ , $\lor$ keys.				
	1° 57 E E	Set value	Available for DC current, DC voltage input				
	Decimal p	oint place	• Make a selection with the $\triangle$ , $\nabla$ keys.				
	PV dP	<sup>SV</sup> Selection	Available for DC current, DC voltage input				
	L	0	1				
		• 					
	PV filter tin	ne constant	• Set the value with the $ riangle$ , $ extsf{V}$ keys.				
	PVFILF	<sup>SV</sup> Set value					
		$\bigcirc$					
		<b>7</b>					
			• Set the value with the $ \Delta, \forall$ keys.				
		Set value	• Not available for ON/OFF control				
	OUT1 lo	ow limit	• Set the value with the $\triangle$ , $\nabla$ keys.				
	PV oll	SV Set value	Not available for ON/OFF control				
		Q					
	↓ OUT1 ON/OFF		A 57				
	hvste	eresis	• Set the value with the $ riangle$ , $ imes$ keys.				
	PVHHH	SV Set value	<ul> <li>Available only for ON/OFF control</li> </ul>				
		$\bigcirc$					
	OUT2 act	ion mode	• Make a selection with the $\wedge \nabla$ keys				
	PV - g - C	sv Selection	• Available when Heat/Cool control (OLIT2) is added				
	<u> </u>						
	OUT2 hi	igh limit	• Set the value with the $ riangle$ , $ extsf{V}$ keys.				
	₽V ol Hb	<sup>SV</sup> Set value	<ul> <li>Available when Heat/Cool control (OUT2) is added</li> </ul>				
		$\Box \bigcirc$					
	011721/	 ow limit	• Set the value with the $\wedge \nabla$ keys				
	PV _ / / _	SV Set volue	• Available when Heat/Cool control (OLIT2) is added				
		Q					
	*						
	Overlap/Dead band		• Set the value with the $ riangle$ , $ imes$ keys.				
	PV d'b	<sup>SV</sup> Set value	<ul> <li>Available when Heat/Cool control (OUT2) is added</li> </ul>				
	••••••	$\bigcirc$					
		•	<b></b>				
	OUT2 ON/OFF		• Set the value with the $ riangle$ , $ imes$ keys.				
	hyste	eresis	Available when Heat/Cool control (OUT2) is added				
	PV 8955	SV Set value					
		$\bigcirc$					

## Alarm type

- Here is activated if the input value reaches the high limit set value.
- L (Low limit alarm): The alarm action is the ±deviation setting from the SV. The alarm is activated if the input value goes under the low limit set value.
- HL (High/Low limits alarm): Combines High limit and Low limit alarm actions. When input value reaches high limit set value or goes under the low limit set value, the alarm is activated.
- $\bar{\omega}' \subset (\text{High/Low limit range alarm})$ : When input value is between the high limit set value and low limit set value, the alarm is activated.
- <sup>お</sup> トロロ (Process high alarm), 「おりロ (Process low alarm): Within the scale range of the controller, alarm action points can be set at random and if the input reaches the randomly set action point, the alarm is activated.
- Here L (High limit alarm with standby), L (Low limit alarm with standby),

 $HL \square \tilde{\omega}$  (High/Low limits alarm with standby):

After the power to the controller is turned on, even if the input enters the alarm action range, the alarm is not activated. If SV is changed while the controller is running, the alarm is not activated even if input is in the alarm action range. (If the controller is allowed to keep running, once the input exceeds the alarm action point, the standby function will be released.)

