

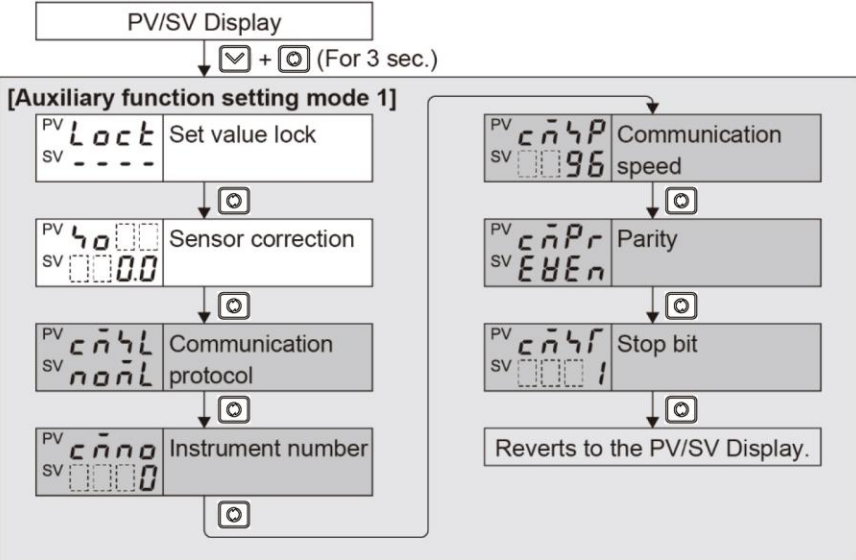
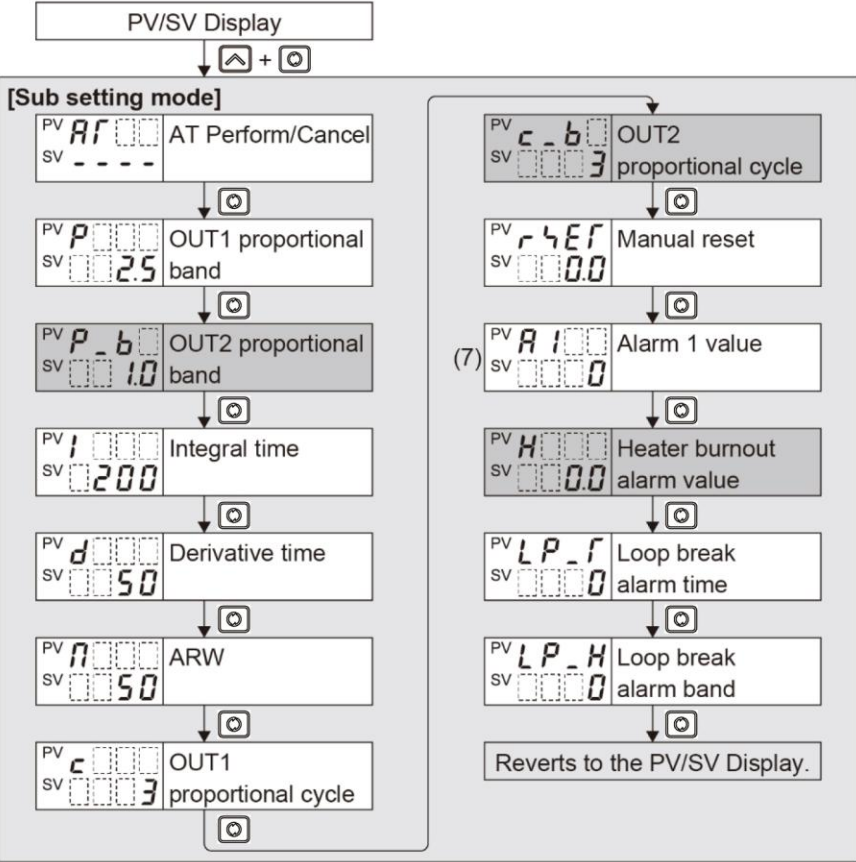
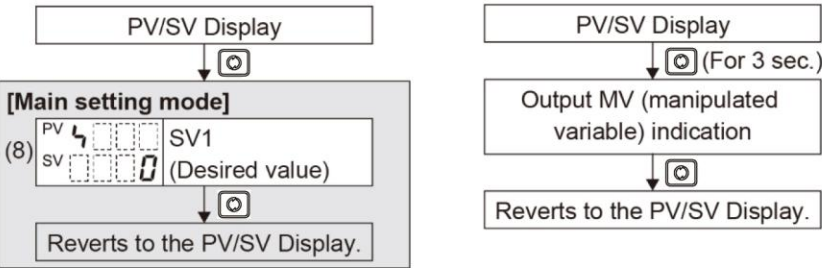
Output: Open collector, Control capacity: 0.1 A 24 V DC

Key Operation Flowchart

● Basic Operation Procedure

Set the input type, Alarm 1 type and SV1 (desired value), following the procedure below. Setting item numbers (1), (2), (3), (4), (5), (6), (7) and (8) are indicated on the flowchart.

[Step 1] Operation before RUN	Turn the load circuit power OFF, and turn the power to the DCL-33A ON.
[Step 2] Auxiliary function setting mode 2	Select an input type and Alarm 1 type, etc. in Auxiliary function setting mode 2. (1) Select an input type in [Input type]. (2) Select Alarm 1 type in [Alarm 1 type]. If any Alarm 1 type except (----) is selected, (3) to (6) will be indicated. Set them if necessary. Note: If Alarm 1 type is changed, the Alarm 1 value will default to 0 (0.0). Therefore, set the alarm value again. (3) Select either Energized or De-energized in [Alarm 1 Energized/De-energized]. (4) Select either Holding or Not holding in [Alarm 1 HOLD function]. (5) Set Alarm 1 hysteresis in [Alarm 1 hysteresis]. (6) Set Alarm 1 delay time in [Alarm 1 delay time]. (7) Set Alarm 1 value in [Alarm 1 value]. (8) Set SV1 (desired value) in [SV1 (desired value)].
[Step 3] Sub setting mode	
[Step 4] Main setting mode	
[Step 5] RUN	Turn the load circuit power ON. Control action starts so as to keep the control target at SV1 (desired value).

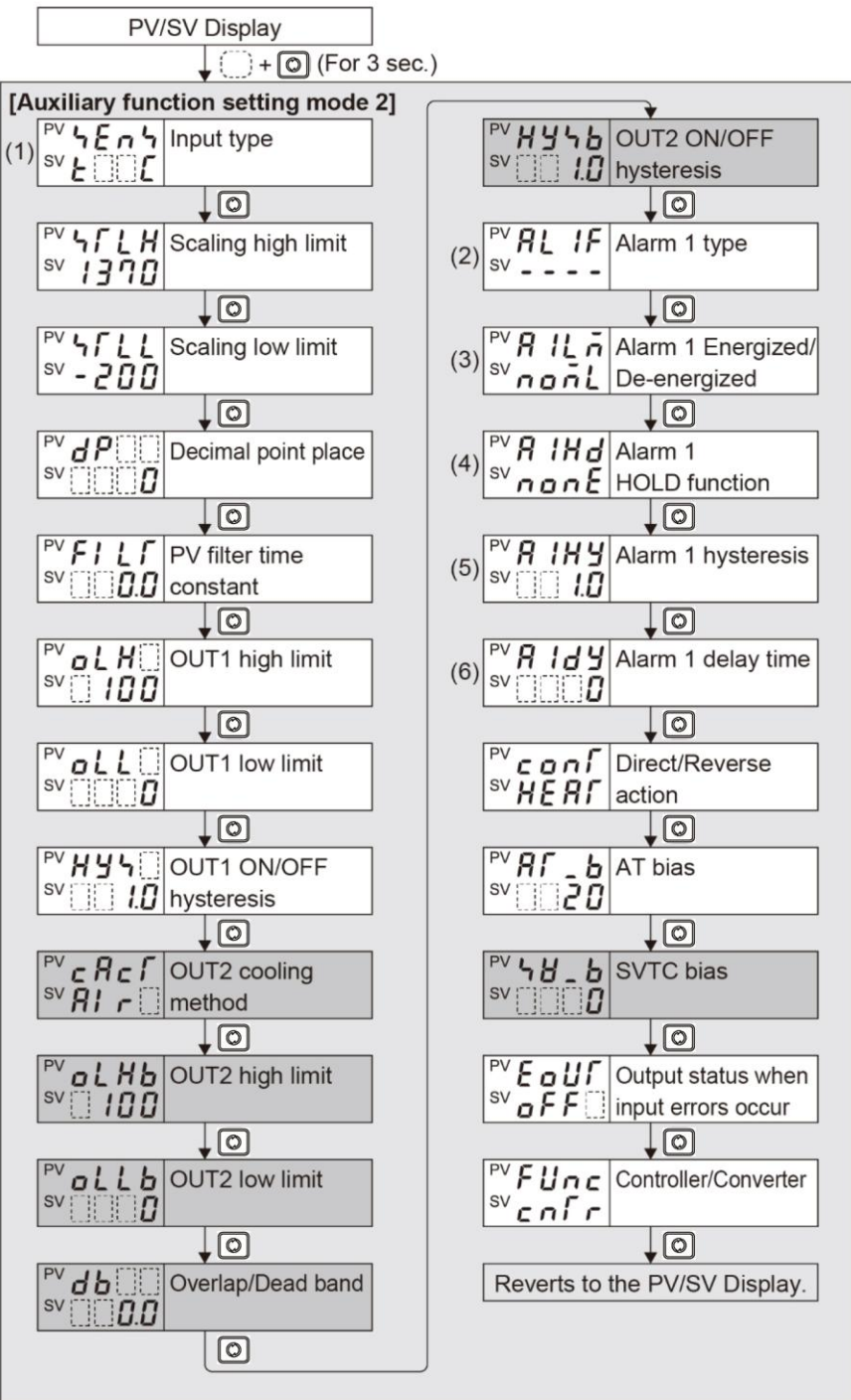


● Alarm Type

High limit alarm	The alarm action is \pm deviation setting from the SV. The alarm is activated if the input value reaches the high limit set value.
Low limit alarm	The alarm action is \pm deviation setting from the SV. The alarm is activated if the input value drops below the low limit set value.
High/Low limits alarm	Combines High limit and Low limit alarm actions. When input value reaches the high limit set value or drops below the low limit set value, the alarm is activated.
High/Low limit range alarm	When input value is between the low limit and high limit set values, the alarm is activated.
Process 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.
High/Low limits independent	High limit and low limit set values can be set respectively. The alarm is activated when the input value exceeds the high limit set value or drops below the low limit set value.
High/Low limit range independent	High limit and low limit set values can be set respectively. The alarm is activated when the input value is between the low limit and high limit set values.
High limit with standby, Low limit with standby, H/L limits with standby, H/L limits with standby independent	After the power supply to the instrument 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 the input is in the alarm action range. (If the controller is allowed to keep running, the standby function will be released once the input exceeds the alarm action point.)

● About Setting Item

- Upper left : PV Display: Indicates setting characters. Lower left: SV Display: Indicates the factory default.
- Right side : Indicates the setting item.
- : This setting item is optional, and appears only when the option is ordered.



● Character Indication

AT Perform/Cancel	Input Type	C/F	C(W/Re5-26)	0 - 4200°F	HL	H/L limits alarm	cnbf	Converter	SV Rise/Fall rate start type	
AT Cancel	K	-200 - 1370°C	Pt100	-199.9 - 999.9°F	Li	H/L limit range	000	Event input DI allocation (*3)	44f	SV start
AT Perform	K	-199.9 - 400.0°C	JPt100	-199.9 - 900.0°F	Ad	Process high alarm	000	No event	44f	PV start
Set value lock	J	-200 - 1000°C	Pt100	-300 - 1500°F	rAd	Process low alarm	001	Set value memory	001	Control output OUT1/EVT
Unlock	R	0 - 1760°C	JPt100	-300 - 900°F	HAd	High limit with standby	002	Control ON/OFF	002	OUT1
Loc 1	S	0 - 1760°C	4-20 mA	-199.9 - 999.9(*1)	LAd	Low limit with standby	003	Direct/Reverse action	003	EVT
Loc 2	B	0 - 1820°C	0-20 mA	-199.9 - 999.9(*1)	HL	H/L limits with standby	004	Preset output 1 ON/OFF	004	Heater burnout alarm output Enabled/Disabled
Loc 3	E	-200 - 800°C	0-1 V	-199.9 - 999.9	HL	H/L limits independent	005	Preset output 2 ON/OFF	005	Disabled
Communication protocol	T	-199.9 - 400.0°C	0-5 V	-199.9 - 999.9	Li	H/L limit range independent alarm	006	Auto/Manual control	006	Enabled
Shinko protocol	N	-200 - 1300°C	1-5 V	-199.9 - 999.9	HL	H/L limits with standby independent alarm	007	Integral action Holding	007	Loop break alarm output Enabled/Disabled
Modbus ASCII mode	PL-II	0 - 1390°C	0-10 V	-199.9 - 999.9	HL	H/L limits with standby independent alarm	008	Set value memory	008	Disabled
Modbus RTU mode	C(W/Re5-26)	0 - 2315°C	4-20 mA	-199.9 - 999.9(*2)	HL	H/L limits with standby independent alarm	009	Control ON/OFF	009	Enabled
Shinko protocol (Block Read/Write)	Pt100	-199.9 - 850.0°C	0-20 mA	-199.9 - 999.9(*2)	A1 - A4 Energized/De-energized	010	Direct/Reverse action	010	A1 - A4 output Enabled/Disabled	
Modbus ASCII mode (Block Read/Write)	JPt100	-199.9 - 500.0°C	Decimal point place		cnbf	Energized	011	Preset output 1 ON/OFF	011	Disabled
Modbus RTU mode (Block Read/Write)	Pt100	-200 - 850°C	No decimal point		rEbf	De-energized	012	Preset output 2 ON/OFF	012	Enabled
Communication speed	JPt100	-200 - 500°C	1 digit after point		A1 - A4 HOLD function		013	Auto/Manual control	013	SUB-MODE key function
2400 bps	K	-320 - 2500°F	2 digits after point		Hold	Holding	014	Integral action Holding	014	Control output OFF
4800 bps	J	-199.9 - 750.0°F	3 digits after point		HEbf	Reverse action	015	Auto/Manual control	015	Auto/Manual control
9600 bps	R	-320 - 1800°F	OUT2 cooling method		cool	Direct action	016	Auto/Manual control	016	Alarm HOLD cancel
19200 bps	S	0 - 3200°F	Air cooling		Output status when input errors occur		017	Auto/Manual control	017	Auto/Manual control after power ON
38400 bps	B	0 - 3300°F	Oil cooling		off	Output OFF	018	Auto/Manual control	018	Automatic control
Parity	E	-320 - 1500°F	Water cooling		on	Output ON	019	Auto/Manual control	019	Manual control
No parity	T	-199.9 - 750.0°F	A1 - A4 type		Controller/Converter		020	Auto/Manual control	020	
Even	N	-320 - 2300°F	No alarm action		cnfr	Controller	021	Auto/Manual control	021	
Odd	PL-II	0 - 2500°F	High limit alarm				022	Auto/Manual control	022	
			Low limit alarm				023	Auto/Manual control	023	

● Key Operation

- Press and hold the key and key (in that order).
- (For 3 sec): Press and hold the key and key (in that order) together for approx. 3 seconds.
- (For 3 sec): Press and hold the key and key (in that order) together for approx. 3 seconds.
- (For 3 sec): Press and hold the key and key (in that order) together for approx. 3 seconds.
- Set or select each item with the or key, and register the value with the key.
- If the key is pressed, the unit proceeds to the next item, illustrated by an arrow.
- To revert to the PV/SV Display, press the key for approx. 3 seconds in any mode.

