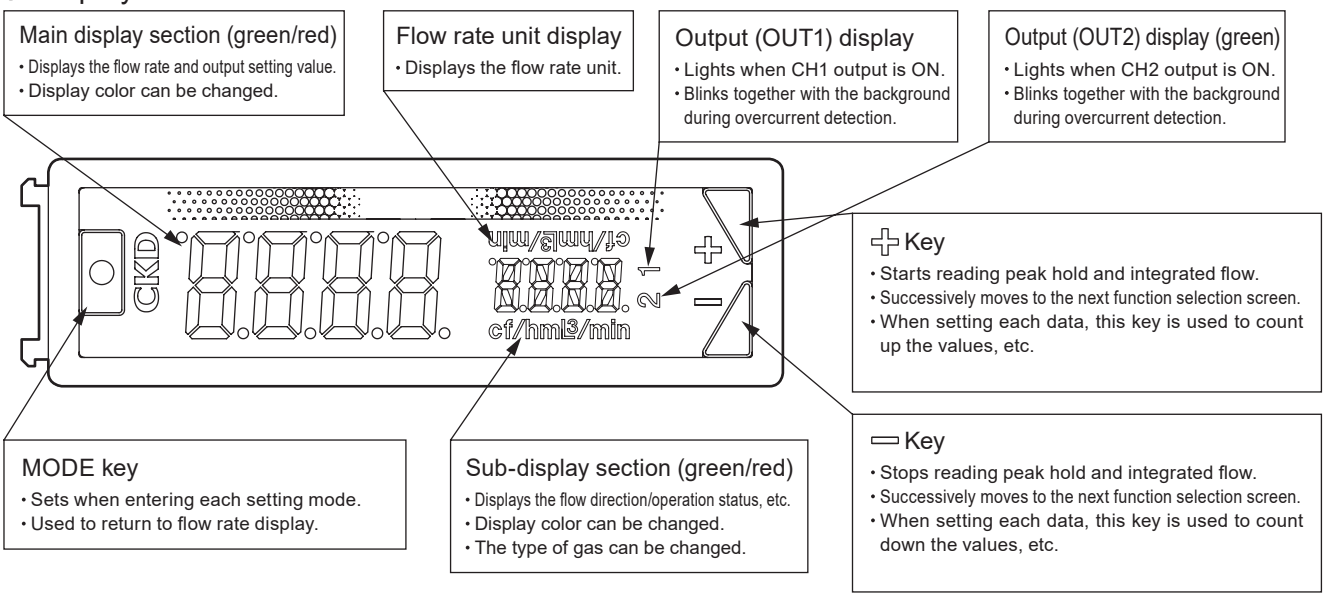
Names and functions of display/operation section (LCD display)

● Display section name



●Error code

Error code	Cause	Countermeasures
	The flow rate exceeds the flow rate display range.	Reduce the instantaneous flow rate value to within the flow rate range.
	Sensor is damaged.	Confirm that the flow rate is within the flow rate range, and turn power ON again. If the error is not resolved, a probable cause is a product failure. Replace the product. If you feel that there is an abnormality with the product, stop use and contact your CKD branch or dealer.
	The flow rate is below the lower limit of the flow rate display range.	Increase the instantaneous flow rate value to within the flow rate range.
	Sensor is damaged.	Confirm that the flow rate is within the flow rate range, and turn power ON again. If the error is not resolved, a probable cause is a product failure. Replace the product. If you feel that there is an abnormality with the product, stop use and contact your CKD branch or dealer.
	An error occurred during CPU processing.	Turn power ON again. If the error is not resolved, a probable cause is a product failure. Replace the product. If you feel that there is an abnormality with the product, stop use and contact your CKD branch or dealer.
	Exceeded the zero adjustment range.	Make sure to set the flow rate to zero, and then perform the zero adjustment.
	An error occurred during EEPROM reading or writing.	Turn power ON again. If the error is not resolved, a probable cause is a product failure. Replace the product. If you feel that there is an abnormality with the product, stop use and contact your CKD branch or dealer.
	An error occurred during memory reading or writing.	Turn power ON again. If the error is not resolved, a probable cause is a product failure. Replace the product. If you feel that there is an abnormality with the product, stop use and contact your CKD branch or dealer.
	Sensor failed.	Turn power ON again. If the error is not resolved, a probable cause is a product failure. Replace the product. If you feel that there is an abnormality with the product, stop use and contact your CKD branch or dealer.
	Settings copy failed.	Check the connection and try again.
	Button operations are locked.	Release the lock before operation.
	A password has been set.	Enter the set PIN. * Make sure not to forget your PIN number.
Blinking of output display (Switch output is not output)	The switch output's overcurrent protection circuit has operated.	Check whether load current exceeds the rating. Correctly connect, then turn the power ON again.

Names and functions of display/operation section (LCD display)

The function and various settings may be performed during normal flow rate display or after entering each mode.
The modes are also divided into Maintenance mode, SET mode, and Setting Monitor mode according to the frequency of use.

● Normal operation (RUN mode)

Item	Explanation	Default setting
Instantaneous flow rate display	Displays the instantaneous flow rate.	Display (measurement)
Peak hold function	Max. and min. values for the flow rate within a set interval are displayed.	Hidden (Stopped)
CO_2 discharge rate display	By setting the power, discharge pressure, and flow rate of the compressor, as well as the power ↔CO_2 conversion coefficient, you can learn how much CO_2 is being discharged. (reference value obtained by calculation) Available only when the gas type is set to air.	Hidden (Stopped)
Accumulated flow display	The accumulated flow can be displayed. The switch output function includes a function to turn the switch ON/OFF at a level higher than the recommended cumulative value, and an integrated pulse function to output the pulse at a set cumulative value.	Non-display (measurement)

● SET mode

No.	Item	Explanation	Default setting
F.01	Selection of CH1 operation	Select the CH1 feature. Switch output operation and integrated pulse settings can be set.	No switch output
F.02	Selection of CH2 operation	Select the CH2 setting. Select whether to use CH2 as a switch output, or to use as an external input (integrated value reset/auto reference).	No switch output
F.03	Integrating function settings	You can choose to acquire integrating flow values consecutively or at set times. You can also choose to keep the data or not.	Continuous acquisition: Data hold OFF
F.04	Sub-screen display setting	Set the sub-display section's display method. The display can be switched to "flow direction", "reference state", "gas type", or "numbering display".	Flow direction
F.05	Display color setting	Set the display color. (red, green) The color for a normal display and for switch output ON can be set.	At normal: Green At switch ON: Red
F.06	Flow rate direction setting (Bi-directional only)	Setting the flow direction. Setting available for bi-directional, one-sided forward direction or one-sided reverse direction.	Bi-direction
F.07	Display inversion function	The LCD display can be vertically inverted.	Standard display
F.08	Reference state setting	Select from the standard state or reference state. Standard condition (ANR): Converted into volumetric flow rate at 20°C1, barometric pressure 65%RH (For gas types other than air: 20°C, 1 barometric pressure, 0% RH) Reference state (NOR): Converted into volumetric flow rate at 0°C1, barometric pressure 0%RH	ANR
F.09	Unit setting (For overseas only)	The units can be set. Can be selected from L/min, cf/h (cf/min).	Domestic model: L/min Overseas model: L/min
F.10	Display cycle setting	The digital display refresh cycle can be set in three stages from 0.25sec to 1sec. If the display flickers, it may be improved by setting a longer display refresh cycle.	0.5 sec
F.11	Analog output Setting response time	Set the response time. The response can be set in seven steps from 0.05sec to 1.50sec. Chattering and mis-operation caused by sudden flow rate changes or noise are prevented.	0.05 sec
F.12	Numbering setting	You can set the numbering.	0000
F.13	Gas switching	The measured gas can be switched. (Model with full scale flow rate of 200 L/min or below) (The gas type cannot be switched on an oxygen type.)	Air
F.14	Setting ECO mode	An ECO mode can be set. If the buttons are not operated for approx. one minute, the eco mode will activate and turn OFF the display's backlight. Current consumption can be reduced with this mode.	OFF
F.15	CO_2 discharge rate calculation setting	The CO_2 discharge calculation can be set. Please set the power, discharge pressure, flow rate, and CO_2 conversion factor of your compressor.	• POWER: 0.20 KW • Pressure: 0.10 MPa • Flow rate: 100 L/min • Conversion factor: 0.000 kg (CO_2)/kwh
F.16	Lock setting	You can set the key lock method and the PIN code method. Use selectively depending on the working environment.	OFF
F.17	Peak hold setting	You can choose to acquire peak bottom values consecutively or at set times. You can also choose to keep the data or not.	Continuous acquisition: Data hold OFF

● Maintenance mode

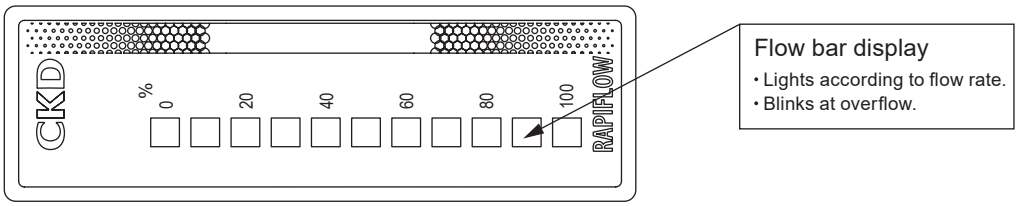
No.	Item	Explanation	Default setting
F.91	Forced output function	Use this function to forcibly turn the switch output ON and confirm the wiring connection or initial operation of the input device.	-
F.92	Zero adjustment	The zero point deviation is compensated.	Adjust value: 000
F.93	Copy function setting	Set values can be copied if the model supports copying between two FSM3's. (Copying is only possible between products with the same model No.)	-
F.99	Reset function	Returns the settings to the default settings.	-

● Setting monitor mode

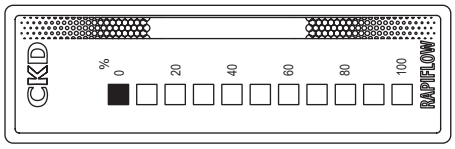
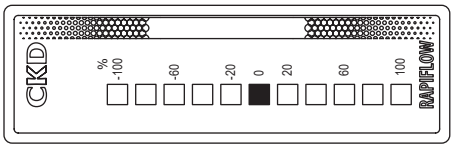
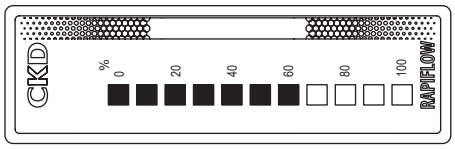
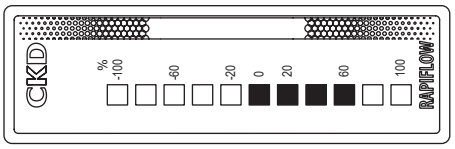
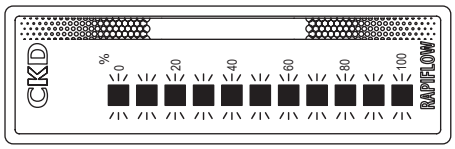
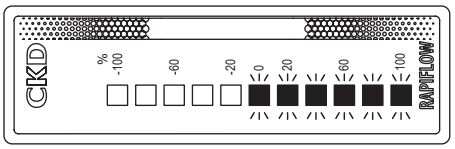
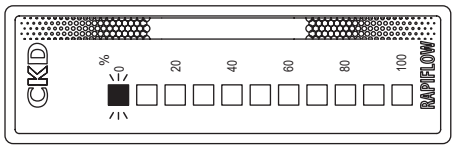
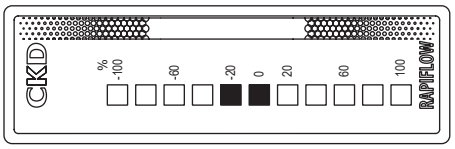
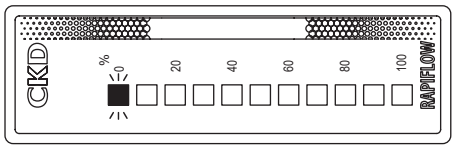
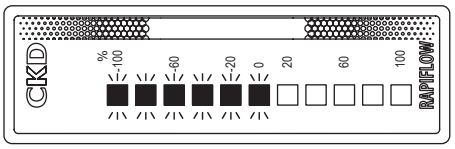
Item	Explanation	Default setting
Settings monitor function	SET mode setting details can be checked. (Setting details cannot be edited.)	-

Names and functions of display/operation section (bar display type)

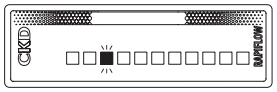
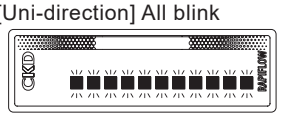
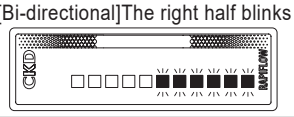
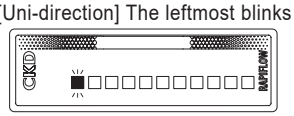
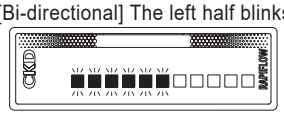
● Display section name



[Display example] Displayed is for FSM3-B101□□□□□□□.

Flow rate	Uni-direction	Bi-directional
0%		
+60% (Forward direction)		
+110% (Forward direction) Blinks at overflow. * + 110%F.S. or more Blinks		
-10% (Reverse direction)		
-110% (Reverse direction)		

●Error code

Error code	Cause	Countermeasures
The third from left blinks 	An error occurred during memory reading or writing.	Turn power ON again.If the error is not resolved, a probable cause is a product failure. Replace the product. If you feel that there is an abnormality with the product, stop use and contact your CKD branch or dealer.
[Uni-direction] All blink 	The flow rate exceeds the flow rate display range.	Reduce the instantaneous flow rate value to within the flow rate range.
[Bi-directional]The right half blinks 	Sensor failure	Confirm that the flow rate is within the flow rate range, and turn power ON again.If the error is not resolved, a probable cause is a product failure. Replace the product.If you feel that there is an abnormality with the product, stop use and contact your CKD branch or dealer.
[Uni-direction] The leftmost blinks 	The flow rate is below the lower limit of the flow rate display range.	Increase the instantaneous flow rate value to within the flow rate range.
[Bi-directional] The left half blinks 	Sensor failure	Confirm that the flow rate is within the flow rate range, and turn power ON again.If the error is not resolved, a probable cause is a product failure. Replace the product. If you feel that there is an abnormality with the product, stop use and contact your CKD branch or dealer.