CFA-1100 Series

CONTROLLER

Non-contact

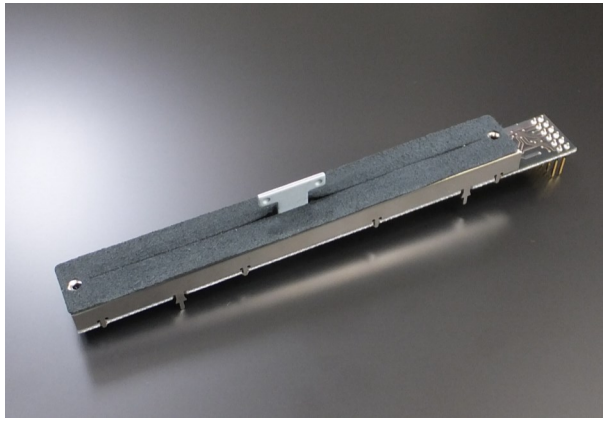
Long-term stability

Digital output

Facilitated in handling

High accuracy

Realized 10bit in 100mm stroke

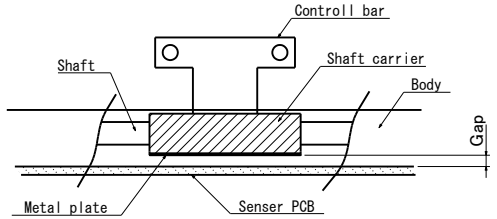


Model number

CFA-110	1	- A	D
Product type CFA-1100: 100mm	Torque **0**: Normal torque **1**: High torque *	Output **Blank**: Incremental **A**: Absolute	With Dust cover

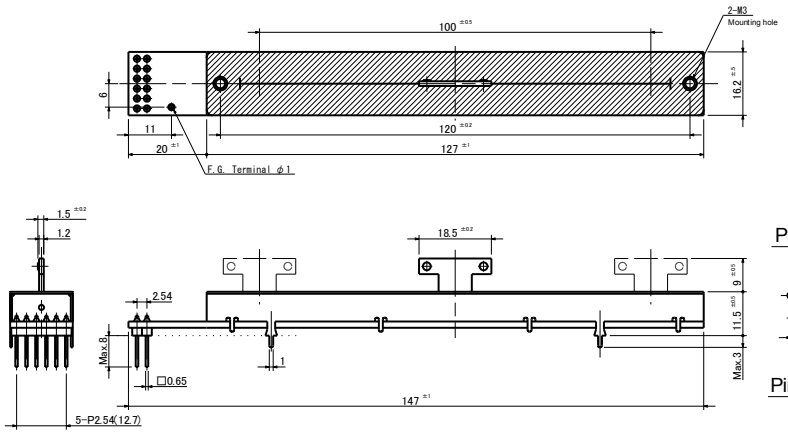
* Only high torque type with CP-2 is applicable for the vertical use.

Structure

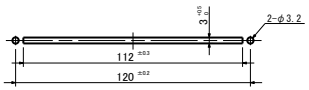


Simple structure of a sensor board and the metal plate which do not touch it each other.

Dimensions



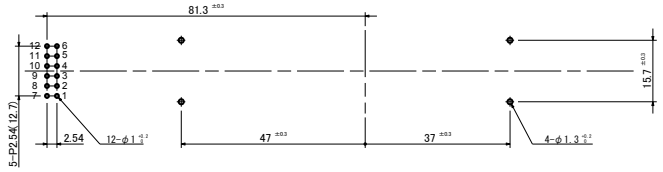
Panel cut out dimensions (1/2)



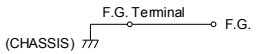
Pin assign

Pin No.	Description
1	+5V
2	GND
3	Reset
4	I2C SCL
5	I2C SDA
6	Reserve
7	Address 0
8	Address 1
9	Address 2
10	Address 3
11	Address 4
12	Address 5

P.C.Board Mounting hole detail (Viewed from mounting side)



Circuit diagram and terminations



Electrical specifications

	CFA-110x	CFA-110x-A
Sensor system	Electrostatic capacitance type sensor	
Output value	Incremental type	Absolute type
Communication system	I²C Slave	
Operating voltage	5V: ±0.25V	
Max. operating current	4mA Max.	
Resolution	10bit (0~1023)	
Output Law	1bit = 100mm/1024 (Linear)	
Bit error	±2bit	
Voltage proof	1 Min. at AC100V	
Insulation resistance	50Mohm or more at DC100V	

Mechanical specifications

	CFA-1100	CFA-1101
Stroke length	100mm±0.5mm	
Operating force	0~0.1N	0.1~0.3N
Strength of Nut-Attached	100Ncm	
Attached Parts	M3 screw (Length: Panel thickness + 3~4mm)	
Stopper strength	30N	
Push-pull strength	30N	

General specifications

	CFA-1100 Series
Temp.range	-10 to +70 deg C (Operating), -15 to +75 deg C (Storage)
Relative humidity	90%RH (No condensation)

Note

* Non-waterproof.
* Solder heat resistance: 350deg C max, 5sec max, 2 times. (Manual soldering only)
* Do not give severe shocks.
* Move to one end in Control-bar on the occasion of knob wearing, and can break into it slowly.

CFA-1100 Series

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I²C specifications

	CFA-1100 Series
I²C Clock	400kbps / 100kbps / 50kbps
Slave address	0~63
General call address	Not Supported
Transfer data	MSB First
Response time	1ms or lee (I²C Clock: 400kbps)

I²C Communication behavior

	S	Slave Address							R/W	A	Data Byte								A	Data Byte							A	P
Master	S	0	SA5	SA4	SA3	SA2	SA1	SA0	1	1									0								1	P
CFA-1100										0	0	0	0	0	0	0	D9	D8	1	D7	D6	D5	D4	D3	D2	D1	D0	1	
I²C Bus	S	0	SA5	SA4	SA3	SA2	SA1	SA0	1	0	0	0	0	0	0	0	D9	D8	0	D7	D6	D5	D4	D3	D2	D1	D0	1	P

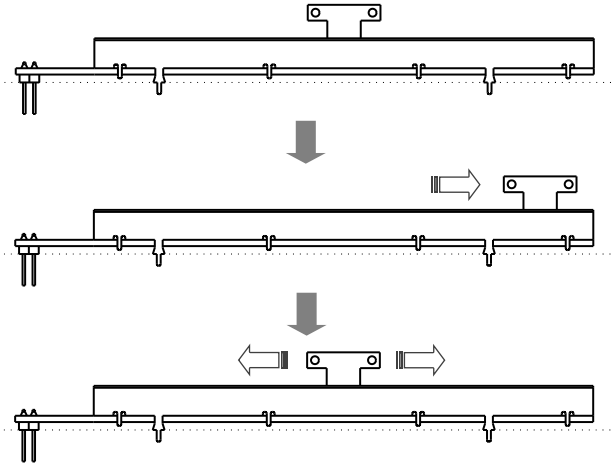
S = Start condition P = Stop condition A = Acknowledge SA = Slave address D = Output data bits

How to use (Incremental type)

1. Power ON
   Output data 0

2. Reset
   Output data 0

3. Operation start
   Output data 0~1023



1. At the time of power on, output data are 0, regardless of the position of the control bar.

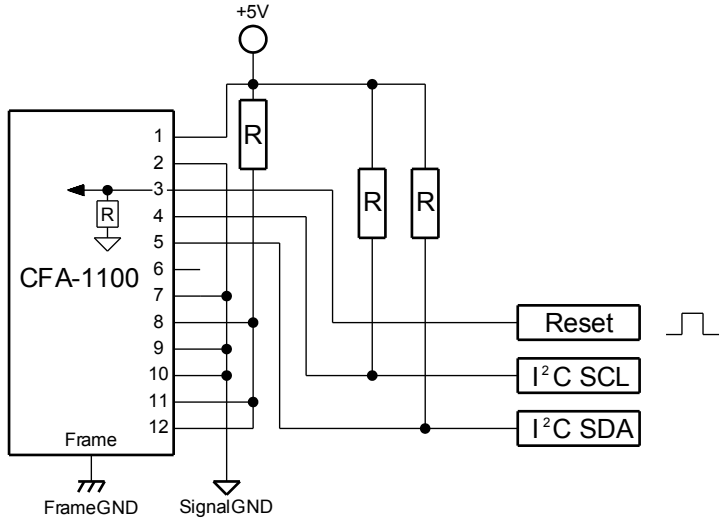
2. Resets works when the control bar is moved to the edge of the direction of the figure.

3. After reset, position data in proportion to the movement of the control bar are output.

* In power-off, the most recent position data are not retained.

Circuit example

I²C Slave address 50 [decimal]



Connect the frameGND with the frame, otherwise with the F.G. through-hole.

Pin Assign

Pin No.	Description
1	Operating voltage DC+5V
2	Ground connection
3	Active high external reset with internal pull down
4	I2C SCL
5	I2C SDA
6	Reserve
7	I2C Slave address bit0
8	I2C Slave address bit1
9	I2C Slave address bit2
10	I2C Slave address bit3
11	I2C Slave address bit4
12	I2C Slave address bit5