

FLUEREX

WFK3000S Series

(Compact/Device Built-in Sensor Type)



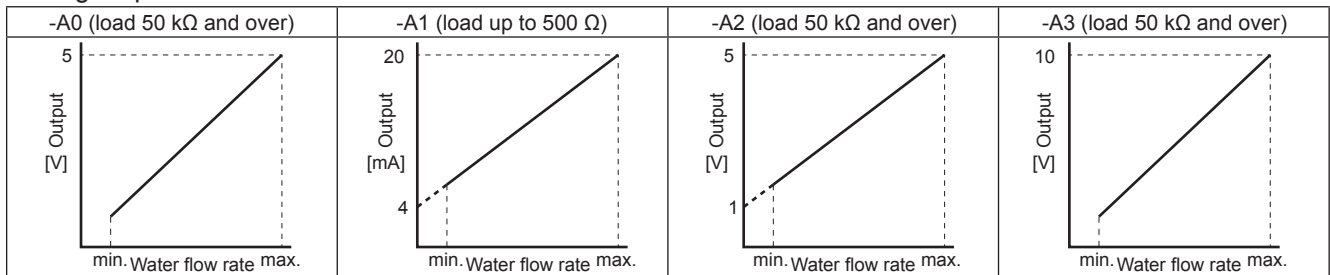
Specifications

Model No.	WFK3004S-10	WFK3004S-15	WFK3012S-10	WFK3012S-15	WFK3032S-10	WFK3032S-15	WFK3060S-20	WFK3060S-25	
Descriptions									
Flow rate measurement range L/min	0.5 to 4.0		1.5 to 12		4.0 to 32		8.0 to 60		
Port size Rc	3/8	1/2	3/8	1/2	3/8	1/2	3/4	1	
Port material	Stainless steel: SCS13								
Working conditions	Applicable fluid	Clear water, industrial water							
	Max. working pressure MPa	1.0							
	Proof pressure MPa	1.5							
	Ambient temperature °C	0 to 50 (85%RH or less)							
	Fluid temperature °C	1 to 70							
Precision	±2.5% F.S.								
Temperature characteristics	± 5% F.S. (10 to 50°C, 20°C reference)								
Pressure loss MPa	0.06 or less (at 4.0 L/min)		0.05 or less (at 12 L/min)		0.06 or less (at 32 L/min)		0.05 or less (at 60 L/min)		
Response time	1 sec (Note 1)								
Output	Display	None							
	Analog output	Standard: 0 to 5 VDC/Option: 4 to 20 mA, 1 to 5 V, 0 to 10 VDC							
Power supply voltage	12 to 24 VDC±10% (MAX 80 mA) 15 to 24 VDC for option A3								
Cable	3 m, 4-core, final diameter 4.8 mm, core wire 0.2 mm ² , insulator outer diameter 1.3 mm								
Installation	Mounting orientation	Unrestricted in vertical/horizontal orientation							
	Straight piping section	None (Note 2)						IN side 10D, OUT side 5D	
	Degree of Protection	Equivalent to IP65 (excluding the unit with optional water temperature measuring function)							
Weight g	380	410	380	410	380	410	470	510	
Bracket weight g	28 (including screws)								

Note 1: This is the time required to return to 70% of the original output after the normal flow rate (in use) is instantly dropped to 0.

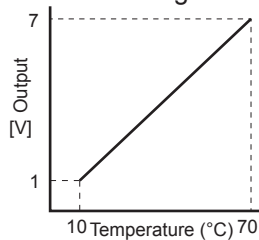
Note 2: A straight pipe (IN side 10D, OUT side 5D) should be installed to eliminate the effect of piping conditions. (D indicates the connection port diameter.)

Analog output

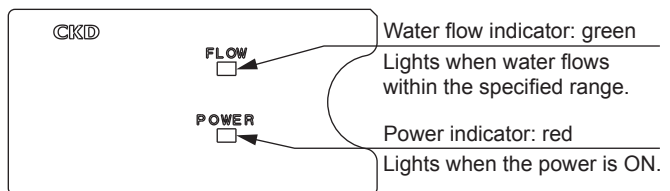


* min. is the minimum value and max. is the maximum value in the flow rate range.

Water temperature measuring function (option)



Functional explanation



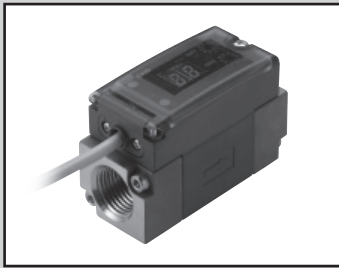
Descriptions	Values	
Specifications	Measurement temperature	10 to 70°C
	Port size	Rc3/8 (Note1)
	Temperature output (analog)	1 to 7 VDC (linear Output)
Output	Precision	±2°C (under 50°C) (Note 2) ±3°C (50°C to 70°C) (Note 3)

(Note 1) Port size is Rc3/8 only.

(Note 2) When the difference between the fluid temperature and ambient temperature is within ±10°C.

(Note 3) However, the working fluid temperature and ambient temperature difference must be within 20°C.

Also, the conditions must be within product specifications.



FLUEREX

WFK3000M Series

(Compact/Device Built-in Switch Type)



Specifications

Model No.		WFK3004M-10	WFK3004M-15	WFK3012M-10	WFK3012M-15	WFK3032M-10	WFK3032M-15	WFK3060M-20	WFK3060M-25	
Descriptions										
Flow rate measurement range	L/min	0.5 to 4.0		1.5 to 12		4.0 to 32		8.0 to 60		
Port size	Rc	3/8	1/2	3/8	1/2	3/8	1/2	3/4	1	
Port material		Stainless steel: SCS13								
Working conditions	Applicable fluid	Clear water, industrial water								
	Max. working pressure	1.0								
	Proof pressure	1.5								
	Ambient temperature	0 to 50 (85%RH or less)								
	Fluid temperature	1 to 70								
Precision		±2.5% F.S. ± 1 digit (1 digit = 0.1 L/min (less than 10 L/min), 1 L/min (10 L/min and over))								
Temperature characteristics		± 5% F.S. (10 to 50°C, 20°C reference)								
Pressure loss	MPa	0.06 or less (at 4.0 L/min)	0.05 or less (at 12 L/min)	0.06 or less (at 32 L/min)	0.05 or less (at 60 L/min)					
Response time		1 sec (Note 1)								
Output	Display	Instant flow rate 2 digit LED display								
	Switch output	Number of points	2 point transistor output (select NPN/PNP)							
		Rating	MAX. DC50mA							
		Internal voltage drop	(NPN) 2.0 V or less (PNP) 2.5 V or less							
Power supply voltage		12 to 24 VDC±10% (MAX80mA)								
Cable		3 m, 4-core, final diameter 4.8 mm, core wire 0.2 mm ² , insulator outer diameter 1.3 mm								
Installation	Mounting orientation	Unrestricted in vertical/horizontal orientation								
	Straight piping section	None (Note 2)						IN side 10D, OUT side 5D		
	Degree of protection	Equivalent to IP65								
Weight	g	380	410	380	410	380	410	470	510	
Bracket weight	g	28 (including screws)								

Note 1: When the switch output is set to 70% of the normal flow rate (used), the time until the switch output occurs after the flow rate drops instantly to 0.

Note 2: A straight pipe (IN side 10D, OUT side 5D) should be installed to eliminate the effect of piping conditions. (D indicates the connection port diameter.)

Functional explanation

• 2 digit digital display

Displays the instant flow rate.

* Less than 10L/min: Decimal number displayed
10L/min or more: Integer number displayed

• Rotary switch for output setting

Allows you to set the switch output level in 10 steps.

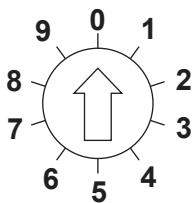
* Use a precision driver or similar tool to set the rotary switch. Be extremely careful since applying excessive force to the rotating part may result in contact failure.

* Be sure to align the arrow with the scale mark.

If it is set in a halfway point, output may become unstable.

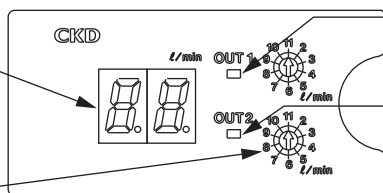
* Turn off the power before setting the switch output.

* The set flow rate will be displayed when you close the cover after the switch output setting.



Switch output set value (L/min)

Rotary switch contact number	Model			
	WFK3004M	WFK3012M	WFK3032M	WFK3060M
1	0.6	2.0	5.0	10
2	0.7	3.0	9.0	15
3	0.8	4.0	12	20
4	0.9	5.0	14	25
5	1.0	6.0	16	30
6	1.5	7.0	18	35
7	2.0	8.0	21	40
8	2.5	9.0	24	45
9	3.0	10	27	50
0	3.5	11	30	55
Hysteresis	0.1	0.5	1.0	3.0



• Output light: green (OUT1)*

Lights when switch output is ON.

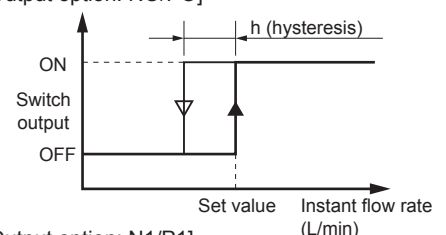
• Output light: red (OUT2)

Lights when switch output is ON.

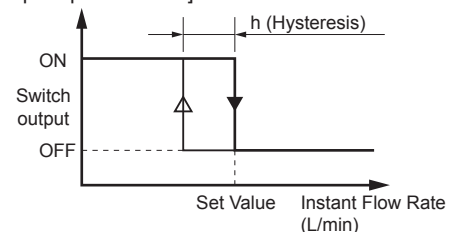
* OUT1: lead wire (black)
OUT2: lead wire (orange)

Switch output operation

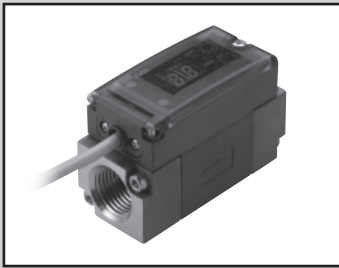
[Output option: NO/PO]



[Output option: N1/P1]



CKD



FLUEREX

WFK3000C Series

(Compact/Device Built-in Sensor & Switch Type)



Specifications

Model No.	WFK3004C-10	WFK3004C-15	WFK3012C-10	WFK3012C-15	WFK3032C-10	WFK3032C-15	WFK3060C-20	WFK3060C-25		
Descriptions										
Flow rate measurement range L/min	0.5 to 4.0		1.5 to 12		4.0 to 32		8.0 to 60			
Port size Rc	3/8	1/2	3/8	1/2	3/8	1/2	3/4	1		
Port material	Stainless steel: SCS13									
Working conditions	Applicable Fluid	Clear water, industrial water								
	Max. working pressure MPa	1.0								
	Proof pressure MPa	1.5								
	Ambient temperature °C	0 to 50 (85%RH or less)								
	Fluid temperature °C	1 to 70								
Precision	±2.5% F.S. ± 1 digit (1 digit = 0.1 L/min (less than 10 L/min), 1 L/min (10 L/min and over))									
Temperature characteristics	± 5% F.S. (10 to 50°C, 20°C reference)									
Pressure loss MPa	0.06 or less (at 4.0 L/min)	0.05 or less (at 12 L/min)	0.06 or less (at 32 L/min)	0.05 or less (at 60 L/min)						
Response time	1 sec (Note 1)									
Output	Display	Instant flow rate 2 digit LED display								
	Analog output	Standard: 0 to 5 VDC /option: 4 to 20mA, 1 to 5 V, 0 to 10 VDC								
	Switch	Number of points	1 point transistor output (select NPN/PNP)							
		Rating	MAX. DC 50 mA							
	Output	Internal voltage drop	(NPN) 2.0V ore less (PNP) 2.5V or less							
Power supply voltage	12 to 24VDC±10% (MAX 80mA) 15 to 24 VDC for option A3									
Cable	3 m, 4-core, final diameter 4.8 mm, core wire 0.2 mm ² , insulator outer diameter 1.3 mm									
Installation	Mounting orientation	Unrestricted in vertical/horizontal orientation								
	Straight piping section	None (Note 2)						IN side 10D, OUT side 5D		
	Degree of protection	Equivalent to IP65								
Weight g	380	410	380	410	380	410	470	510		
Bracket weight g	28 (including screws)									

Note 1: When the switch output is set to 70% of the normal flow rate (used), the time until the switch output occurs after the flow rate drops instantly to 0.

Note 2: A straight pipe (IN side 10D, OUT side 5D) should be installed to eliminate the effect of piping conditions. (D indicates the connection port diameter.)

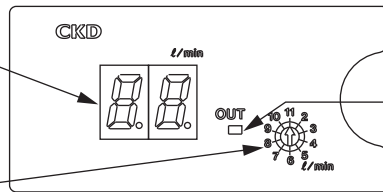
Functional explanation

• 2 digit digital display

Displays the instant flow rate.

- * Less than 10L/min: Decimal number displayed
- 10 L/min or more: Integer number displayed

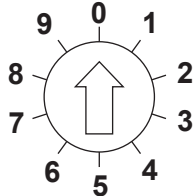
• Rotary switch for output setting



• Output light: orange (OUT2)

Lights when switch output is ON.

* OUT2: Compatible with lead wire (black).



Allows you to set the switch output level in 10 steps.

* Use a precision driver or similar tool to set the rotary switch. Be extremely careful since applying excessive force to the rotating part may result in contact failure.

* Be sure to align the arrow with the scale mark.

If it is set in a halfway point, output may become unstable.

* Turn off the power before setting the switch output.

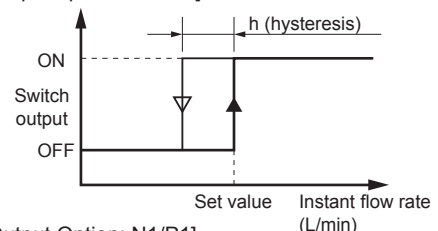
* The set flow rate will be displayed when you close the cover after the switch output setting.

Switch output setting value

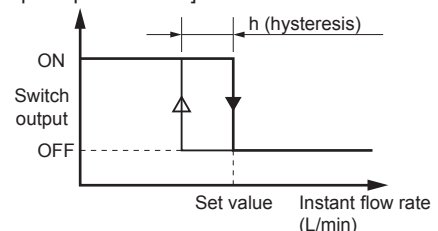
Rotary switch contact number	Model			
	WFK3004C	WFK3012C	WFK3032C	WFK3060C
1	0.6	2.0	5.0	10
2	0.7	3.0	9.0	15
3	0.8	4.0	12	20
4	0.9	5.0	14	25
5	1.0	6.0	16	30
6	1.5	7.0	18	35
7	2.0	8.0	21	40
8	2.5	9.0	24	45
9	3.0	10	27	50
0	3.5	11	30	55
Hysteresis	0.1	0.5	1.0	3.0

Switch output operation

[Output option: NO/PO]

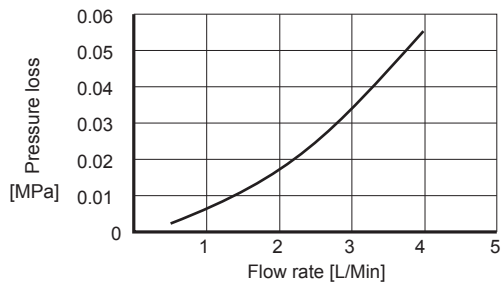


[Output Option: N1/P1]

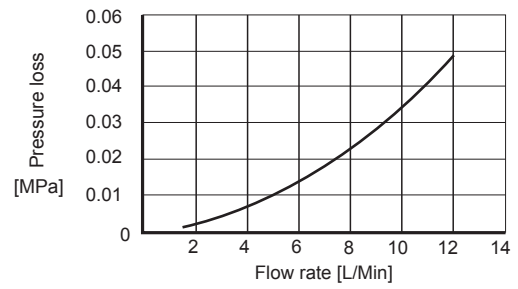


Pressure loss

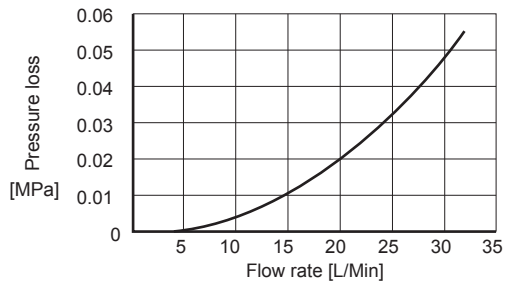
● WFK3004



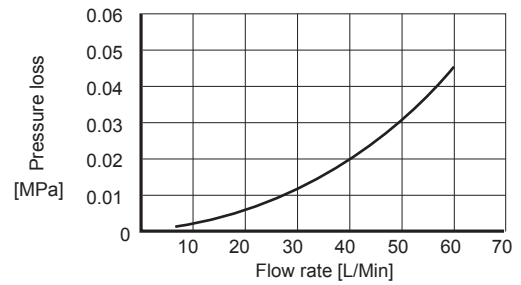
● WFK3012



● WFK3020



● WFK3060



WFK3000 Series

Model designation (set model No.)

● Sensor type

WFK **3** **012** S- **10** - **A0** **T** **B**

A Shape

B Flow rate range

C Port size

D Analog output

E Water temperature measuring function

F Bracket

[Example of model designation]

WFK3004S-10-A0

- A** Shape: Compact, device built-in
- B** Flow rate range: 0.5 to 4 L/min
- C** Port size: Rc3/8
- D** Analog output: 0 to 5 VDC
- E** Water temperature measuring function: None
- F** Bracket: None

Code	Descriptions				
A Shape					
3	Compact, device built-in				
B Flow rate range					
004	0.5 to 4.0L/min				
012	1.5 to 12L/min				
032	4.0 to 32L/min				
060	8.0 to 60L/min				
C Port size					
	Flow rate range	004	012	032	060
10	Rc3/8	●	●	●	—
15	Rc1/2	●	●	●	—
20	Rc3/4	—	—	—	●
25	Rc1	—	—	—	●
D Analog output					
A0	0 to 5 VDC (Note 1)				
A1	4 to 20 mA DC (not available when "T" with water temperature measuring function is selected.)				
A2	1 to 5 VDC (Note 1)				
A3	0 to 10 VDC (Note 1)				
E Water temperature measuring function					
Blank	None				
T	With water temperature measuring function				
F Bracket					
Blank	None				
B	With bracket (including fixing screws)				

Note 1: If you select "T" with a water measurement function, only the port size "10" and analog output "A0, A2, A3" can be selected.
 Note 2: Contact CKD for G thread/NPT thread.

● Switch type

WFK **3** **012** M- **10** - **N0** **B**

A Shape

B Flow rate range

C Port size

D Alarm output

E Bracket

[Example of model designation]

WFK3012M-15-N1B

- A** Shape: Compact, device built-in
- B** Flow rate range: 1.5 to 12 L/min
- C** Port size: Rc1/2
- D** Alarm output: NPN2 point (b contact)
- E** Bracket: Attached

Code	Descriptions				
A Shape					
3	Compact, device built-in				
B Flow rate range					
004	0.5 to 4.0L/min				
012	1.5 to 12L/min				
032	4.0 to 32L/min				
060	8.0 to 60L/min				
C Port size					
	Flow rate range	004	012	032	060
10	Rc3/8	●	●	●	—
15	Rc1/2	●	●	●	—
20	Rc3/4	—	—	—	●
25	Rc1	—	—	—	●
D Alarm output					
N0	NPN transistor output, 2 points (a contact)				
N1	NPN transistor output, 2 points (b contact)				
P0	PNP transistor output, 2 points (a contact)				
P1	PNP transistor output, 2 points (b contact)				
E Bracket					
Blank	None				
B	With bracket (including set screws)				

Note 1: Contact CKD for G thread/NPT thread.

Model designation

- Sensor/switch type

WFK **3** **004** **C-** **10** - **A0** **N0** **B**

A Shape

B Flow rate range

C Port size

D Analog output

E Alarm Output

F Bracket

[Example of model designation]

WFK3004C-10-A0N0B

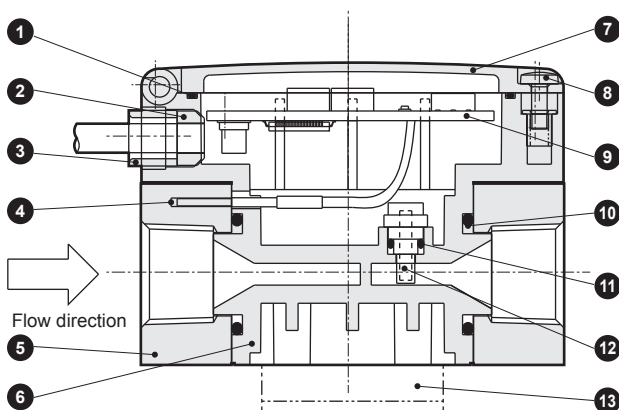
- A** Shape: Compact, device built-in
- B** Flow rate range: 0.5 to 4 L/min
- C** Port size: Rc3/8
- D** Analog output: 0 to 5 VDC
- E** Alarm output: NPN1 point (a contact)
- F** Bracket: Attached

Code	Descriptions				
A Shape					
3	Compact, device built-in				
B Flow rate range					
004	0.5 to 4.0L/min				
012	1.5 to 12L/min				
032	4.0 to 32L/min				
060	8.0 to 60L/min				
C Port size					
	Flow rate range	004	012	032	060
10	Rc3/8	●	●	●	—
15	Rc1/2	●	●	●	—
20	Rc3/4	—	—	—	●
25	Rc1	—	—	—	●
D Analog output					
A0	0 to 5 VDC				
A1	4 to 20 mADC				
A2	1 to 5 VDC				
A3	0 to 10 VDC				
E Alarm output					
N0	NPN transistor output, 1 point (a contact)				
N1	NPN transistor output, 1 point (b contact)				
P0	PNP transistor output, 1 point (a contact)				
P1	PNP transistor output, 1 point (b contact)				
F Bracket					
Blank	None				
B	With bracket (including fixing screws)				

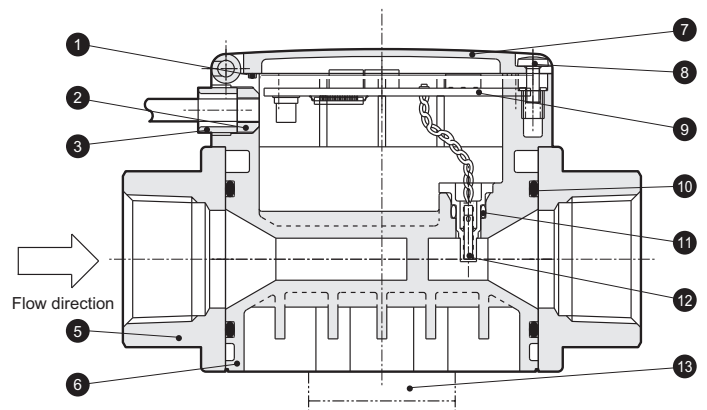
Note 1: Contact CKD for G thread/NPT thread.

Internal Structure and Parts List

- WFK3004□, WFK3012□, WFK3032□



- WFK3060□



This cannot be disassembled

No.	Parts name	Material	Quantity	No.	Parts name	Material	Quantity
1	Cover packing	NBR	1	8	Screw for cover		1
2	Cable packing	NBR	1	9	Electric component section		1
3	Cable gland	PPS resin	1	10	O-ring	NBR	2
4	Temperature sensor (option)	Thermistor	(1)	11	O-ring	NBR	1
5	Attachment	SCS13	2	12	Karman's Vortex Detection Sensor	PPS resin (interior: piezoceramic)	1
6	Body	PPS resin	1	13	Bracket (option)	Steel	(1)
7	Cover	PC resin	1			Zinc plating	

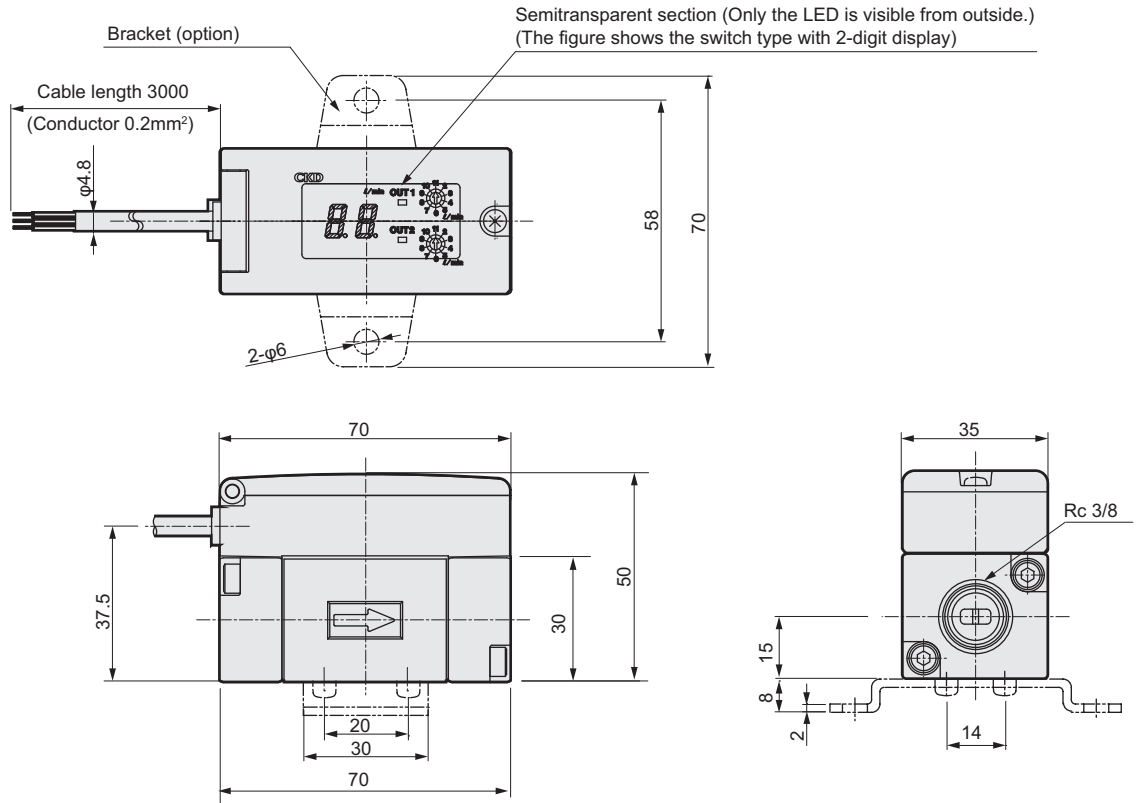
* Liquid contacting parts are (5), (6), (10), (11) and (12).

WFK3000 Series

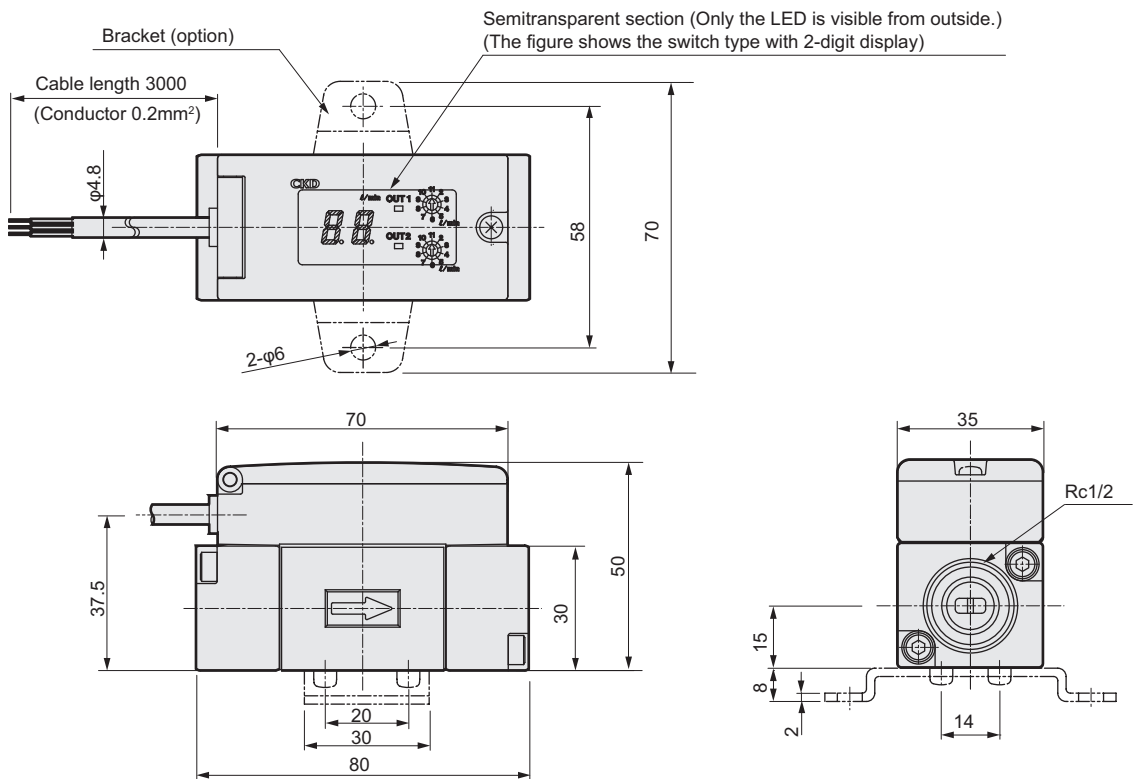
Dimensions

- WFK3004□, WFK3012□, WFK3032□

• Port size: 10 (Rc3/8)



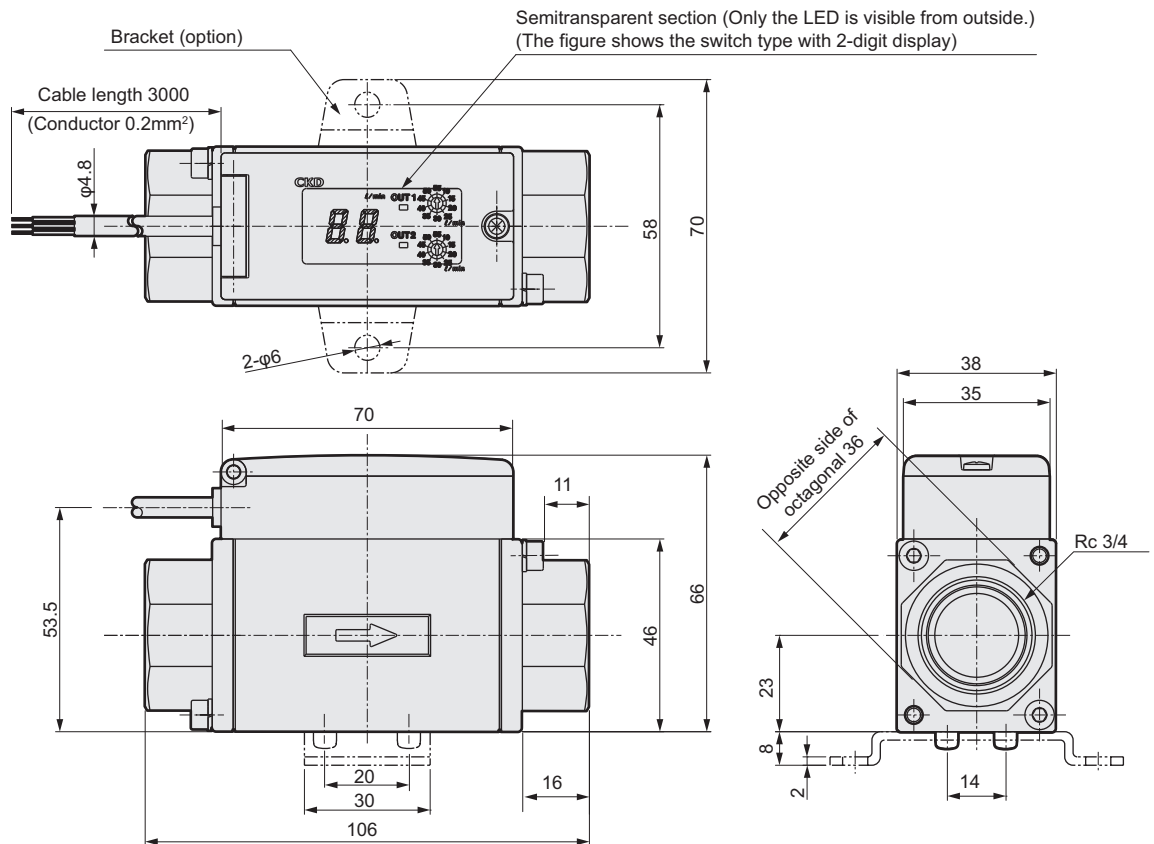
• Port size: 15 (Rc1/2)



Dimensions

● WFK3060□

- Port size: 20 (Rc3/4)



- Port size: 25 (Rc1)

