



Internal thread type



External thread type



Cassette type



Flange type

Principle characteristics

QKA120 electronic turbine flow sensor is another intelligent flow switch, is a compact flow sensor. It has the advantages of small size, easy setting, built-in intelligent circuit, can set the upper and lower limit of flow alarm value, support IO-Link/RS485 data communication, support temperature measurement. The real-time flow condition can be monitored remotely, the full parameters can be set arbitrarily on site, and the turbine measuring medium can be programmed arbitrarily after the flow is processed by the sensor functional circuit.

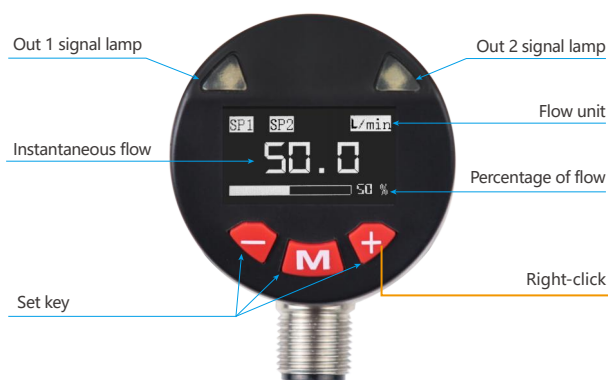
Application field

Suitable for measuring low viscosity media, such as water, diesel, gasoline. Widely used in the field of industrial automation, petroleum, chemical industry, metallurgy, scientific research and so on.

Technical parameter

◇ Measuring caliber: DN6... DN300	◇ Measuring accuracy: $\leq \pm 1.0\%$ range
◇ Supply voltage: 12... 30Vdc	◇ Temperature:
◇ Output type: switching, analog, pulse, IO-link, RS485	Medium temperature: -30... 100°C/150°C/180°C
◇ Load: Switch <200mA/analog <500mA	Ambient temperature: -10... 70°C
◇ Response time: 10ms~5s (factory default 1s)	Storage temperature: -20... 80°C
◇ Switching accuracy: $\leq \pm 0.5\%$ range	◇ Material:
◇ Current type analog output: $\leq \pm 0.5\%$ range	Case: stainless steel/engineering plastic
◇ Wiring protection: reverse phase, overload, short circuit protection	Housing: stainless steel 304
◇ Display:	Turbine: 3cr13 (Martensitic stainless steel)
Design: LCD screen	◇ Protection grade: IP67
Display range: four digits	◇ Outlet: M12x1 connector

Panel diagram



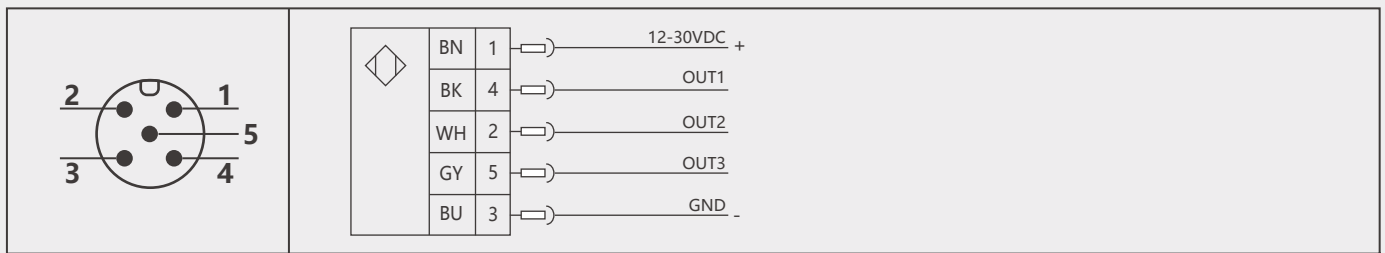
Main interface



Auxiliary interface

Electronic turbine flow sensor QKA120

Wiring diagram

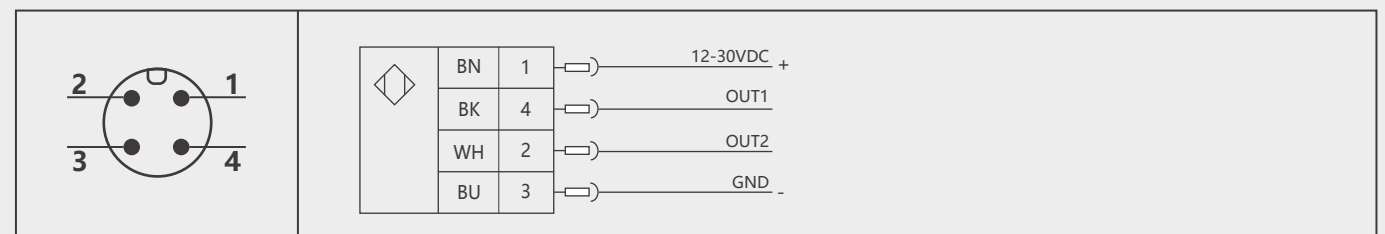


A3: Two switches + one analog

colour	stitch	instructions	Colour	stitch	instructions	Colour	stitch	instructions
BN	1	power supply (+)	BU	3	power supply (-)	GY	5 (OUT3)	Flow: 4-20mA (factory default) Flow: 1-5v Flow : 0-10v
BK	4 (OUT1)	Flow switch PNP (Factory default) Flow switch NPN Linear pulse (full scale 100Hz) Original pulse Quantitative pulse (full scale *0.1)	WH	2 (OUT2)	Flow switch PNP (Factory default) Flow switch NPN			

AR: RS485 communication/analog

colour	stitch	instructions	colour	stitch	instructions	colour	stitch	instructions
BN	1	power supply (+)	BU	3	power supply (-)	GY	5 (OUT3)	Flow: 4-20mA (factory default) Flow: 1-5v Flow : 0-10v
BK	4 (OUT1)	RS485(B)	WH	2 (OUT2)	RS485(A)			



SA: Switch/pulse/frequency /IO-Link/ analog

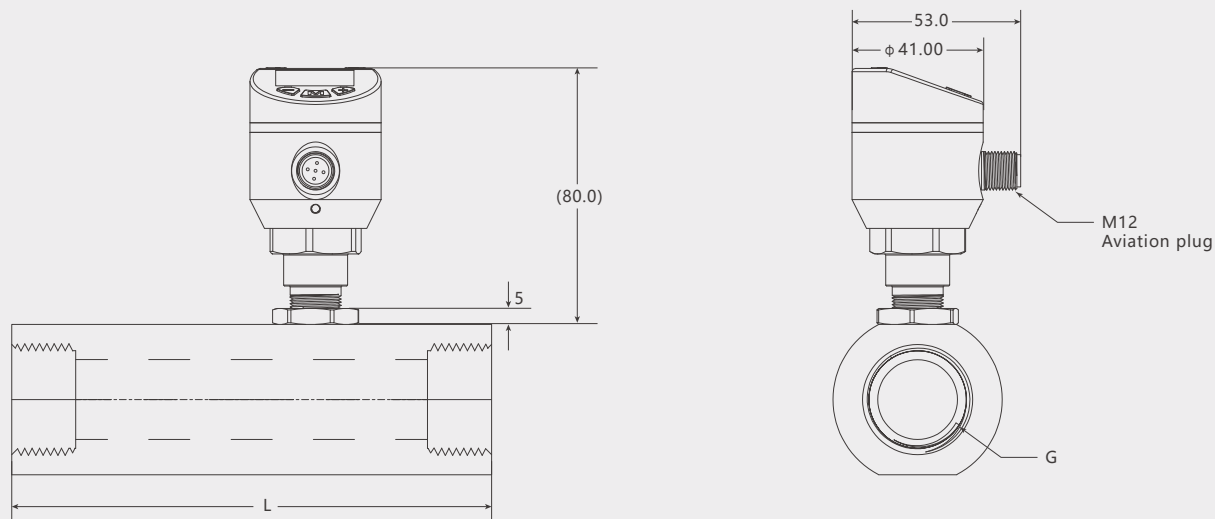
colour	stitch	instructions	colour	stitch	instructions
BN	1	power supply (+)	BU	3	power supply (-)
BK	4 (OUT1)	Flow switch PNP (Factory default) Flow switch NPN Linear pulse (full scale 100Hz) Original pulse Quantitative pulse (full scale *0.1) IO-Link	WH	2 (OUT2)	Flow: 4-20mA (factory default) Flow: 1-5v Flow : 0-10v

AT: Analog quantity (flow/temperature)

colour	stitch	instructions	colour	stitch	instructions
BN	1	power supply (+)	BU	3	power supply (-)
BK	4 (OUT1)	Temperature: 4-20mA (factory default) Temperature: 1-5v Temperature: 0-10v	WH	2 (OUT2)	Flow: 4-20mA (factory default) Flow: 1-5v Flow : 0-10v

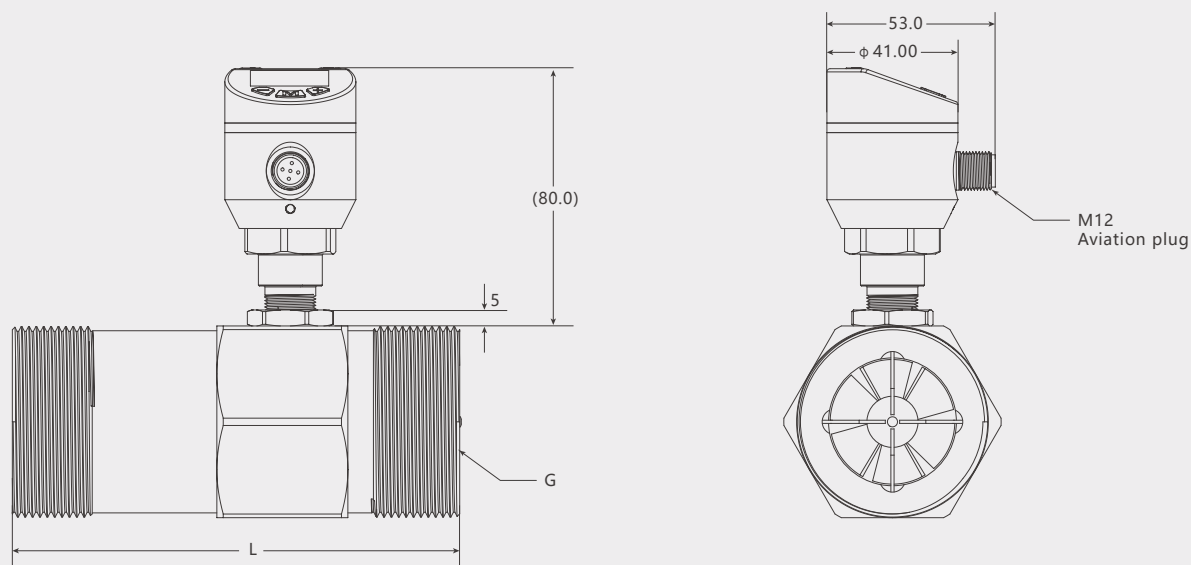
Size drawing (mm)

■ Internal thread connection



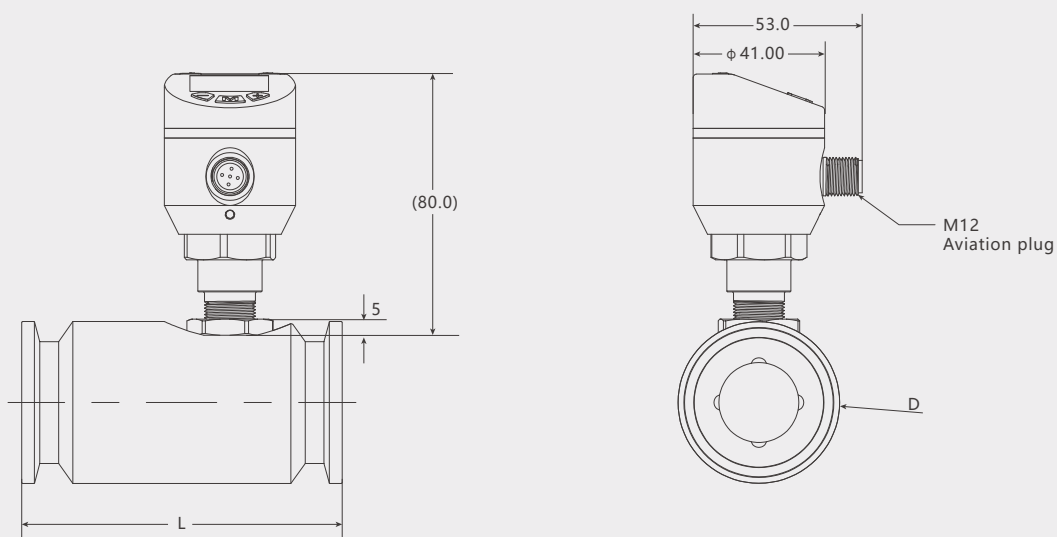
Sealing method: It is recommended to use card sleeve type ED sealing joint

■ External thread connection



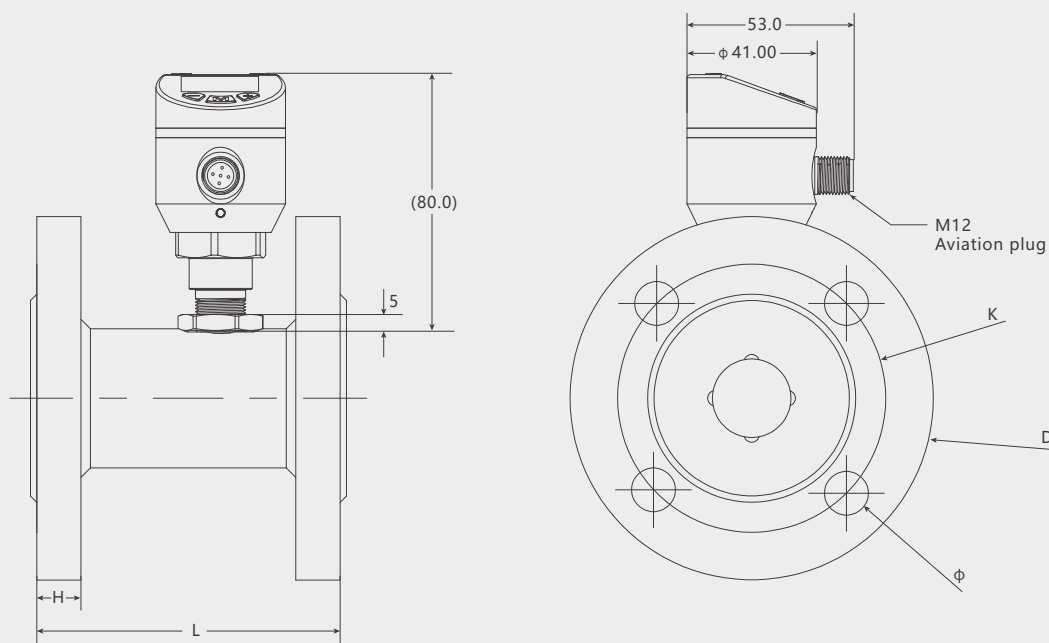
Sealing method: Flat gasket is recommended

■ Clamp connection



Sealing method: chuck type sealing gasket

■ Flange connection



Sealing method: flange type sealing gasket

Size table

Nominal diameter DN(mm)	Flange connection (1.6MPa)						external thread		Internal thread		Clamp connection	
	Flange outside diameter D	Distance between centers K	aperture ϕ	Hole number N	thickness H	Body length L		Process connection	Body length L	Process connection G	Outside diameter of chuck D	Body length L
						Straight pipe	No straight pipe section					
6						345	65	G1/2	80	1/2	50.5	50
10						345	65	G1/2	80	1/2	50.5	50
12	95	65	14	4	14	65		G3/4	80	1/2	50.5	50
15	95	65	14	4	14	75		G1(33.2)	110	1/2	50.5	75
20	105	75	14	4	16	85		G1(33.2)	115	3/4	50.5	85
25	115	85	14	4	16	100		G1-1/4(41.9)	140	1	50.5	100
32	140	100	18	4	18	120		G1-1/2(47.8)	172	1-1/4	50.5	120
40	150	110	18	4	18	140		G2(59.6)	185	1-1/2	64	140
50	165	125	18	4	20	150		G2-1/2(75.1)	200	2	78	150
65	185	145	18	8	20	175		G3	235	2-1/2	91	175
80	200	160	18	8	20	200			260	3	106	200
100	220	180	18	8	22	220					119	220
125	250	210	18	8	22	250						
150	285	240	22	8	24	300						
200	340	295	22	12	26	360						
250	400	355	26	12	28	400						
300	460	410	26	12	32	500						

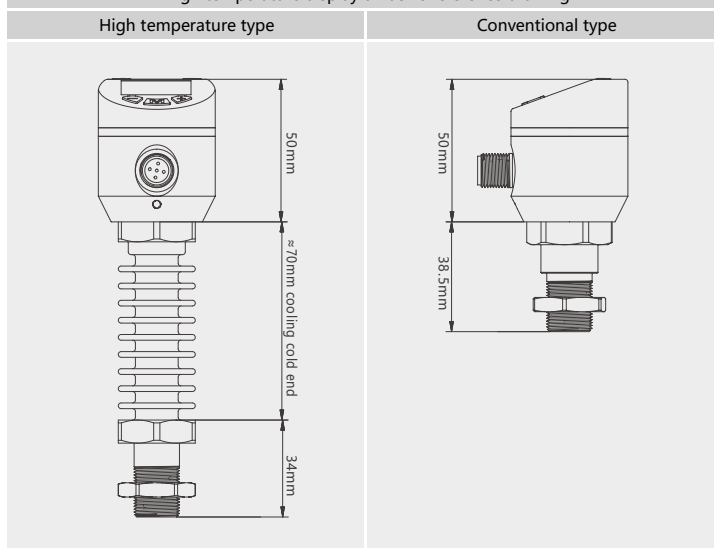
Range range table

Nominal diameter DN(mm)	Flow range (m³/h)		Nominal pressure PN(MPa)	Maximum pressure loss (MPa)
	lower limit	Upper limit		
6	Anti-interference type 0.04	0.6	6.3 16 25 40*	0.05
10	0.2 (Anti-interference type 0.06)	1.2		
12	0.4 (Anti-interference type 0.06)	4		0.035
15	0.6 (Anti-interference type 0.12)	6		
20	0.8 (Anti-interference type 0.25)	8		
25	1 (Anti-interference type 0.36)	10		
32	1.5	15		
40	2	20	2.5	0.025
50	4	40		
65	8	80		
80	10	100		
100	20	222		
125	25	250		
150	40	400	1.6	
200	80	800		
250	120	1200		
300	180	1800	1.6	

Selection list

QKA120-	015	DC	A3	M	-	-	expatiate
QKA120-							FM120 turbine flowmeter
	006						Measuring caliber DN6
	006B						Measuring caliber DN6(with straight pipe section)
	010						Measuring caliber DN10
	010B						Measuring caliber DN10(with straight pipe section)
	012						Measuring caliber DN12
	015						Measuring caliber DN15
	020						Measuring caliber DN20
	025						Measuring caliber DN25
	032						Measuring caliber DN32
	040						Measuring caliber DN40
	050						Measuring caliber DN50
	065						Measuring caliber DN65
	080						Measuring caliber DN80
	100						Measuring caliber DN100
	125						Measuring caliber DN125
	150						Measuring caliber DN150
	200						Measuring caliber DN200
	250						Measuring caliber DN250
	300						Measuring caliber DN300
		DC					DC24V±20% power supply
			A3				Two way switch/pulse/frequency + analog
			SA				Switch/pulse/frequency /IO-Link+ analog
			AT				Analog quantity (flow/temperature)
			AR				RS485 communication + analog
				M			External thread connection (for ≤DN50)
				K			Internal thread connection (for ≤DN50)
				F			Flanged joint
				H			Sanitary clamp connection (for ≤DN100)
					-		Non-anti-interference type (display unit detachable)
					G		Anti-interference type (available caliber ≤DN50, display unit disassembly prohibited)
						-	Conventional type (medium temperature: ≤100°C)
						H	High temperature type (medium temperature: ≤150°C)
						H1	Ultra-high temperature type (medium temperature: ≤180 °C, must choose non-anti-interference type, instrument installation position from the power frequency source >500mm)

High temperature display unit size reference drawing



Optional accessories - Electrical accessories (M12-5Pin: Factory default ZL05-PC02G)

name	Outline drawing/dimension drawing (unit :mm)	material	Model number	Shielded wire	M12*1-4Pin/5Pin self-connector/Dimensions (Unit:mm)	Model number
M12*1-5Pin (2m cable)		PUR	ZL05-PU02G	-P		GL04 (4 Pin connector)
M12*1-5Pin (5m cable)			ZL05-PU05G			GL05 (4 Pin connector)
M12*1-5Pin (10m cable)			ZL05-PU010G			
		PVC	ZL05-PC02G			WL04 (4 Pin connector)
			ZL05-PC05G			
			ZL05-PC010G			WL05 (5 Pin connector)
M12*1-5Pin (2m cable)		PUR	ZL05-PU02W			
M12*1-5Pin (5m cable)			ZL05-PU05W			
M12*1-5Pin (10m cable)			ZL05-PU010W			
		PVC	ZL05-PC02W			
			ZL05-PC05W			
			ZL05-PC010W			

(M12-4Pin: ZL04-PC02G)

name	Outline drawing/dimension drawing (unit :mm)	material	Model number	Shielded wire
M12*1-4Pin (2m cable)		PUR	ZL04-PU02G	-P
M12*1-4Pin (5m cable)			ZL04-PU05G	
M12*1-4Pin (10m cable)			ZL04-PU010G	
		PVC	ZL04-PC02G	
			ZL04-PC05G	
			ZL04-PC010G	
M12*1-4Pin (2m cable)		PUR	ZL04-PU02W	
M12*1-4Pin (5m cable)			ZL04-PU05W	
M12*1-4Pin (10m cable)			ZL04-PU010W	
		PVC	ZL04-PC02W	
			ZL04-PC05W	
			ZL04-PC010W	