



Principle characteristics

- LCD on the spot display instantaneous flow, cumulative flow and temperature, pressure information
- 3 groups of 4-20mA analog signal output; Flow temperature pressure 3 alarm point function
- Support digital output, RS485
- Can monitor gas, liquid
- Unaffected by pipe static pressure
- Simple structure, no moving parts
- Easy installation, no need for on-site calibration and commissioning, no maintenance

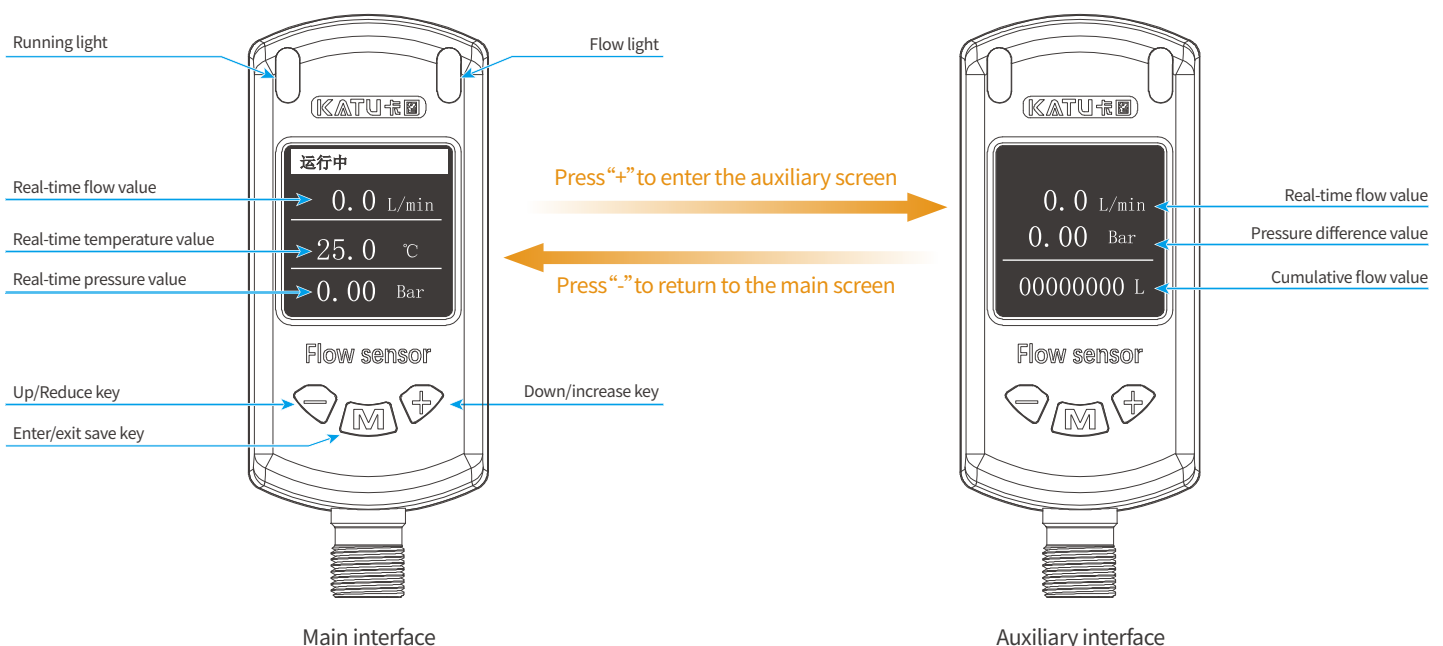
Product application

- Cooling water, circulating water, labyrinth seal, critical water flow monitoring
- Cooling, lubrication, hydraulic oil system flow monitoring
- Organic and inorganic solution flow monitoring
- Steam flow monitoring, high and low temperature measurement, can be customized
- Gas (oxygen, nitrogen, ammonia, natural gas, etc.) flow monitoring
- Frost protection, spray system, sewage protection, etc
- With fuel consumption compensation function, accurate monitoring

Technical parameter

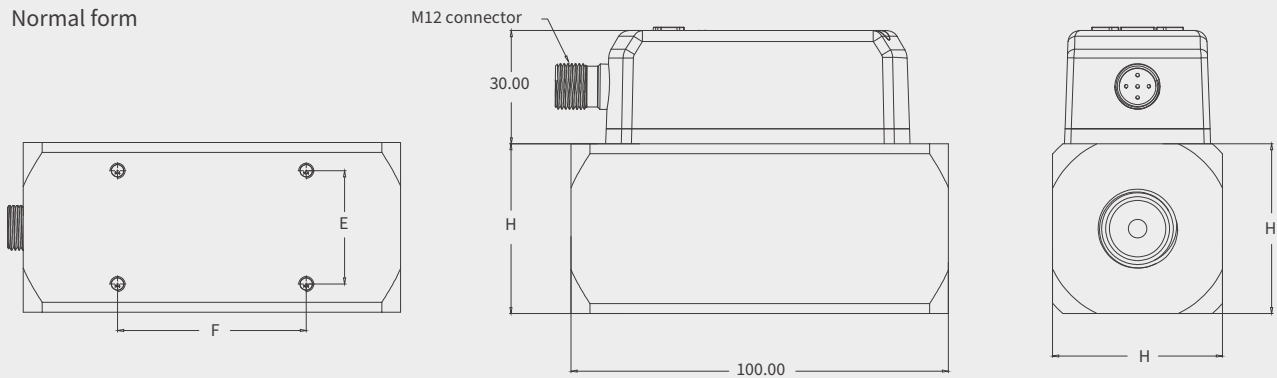
◇Flow range:	Liquid: 0.4 - 25,000 L/min, depending on the pipe size. For specific standard flow rates, please refer to the flow range table. Gas: Calculated based on specific application.		
◇Signal output:	Three-wire 4-20mA, having a linear relationship with flow/pressure/temperature. Users can set the range within their own range, with a maximum of 500Ω.		
◇Accuracy:	<±2%F.S (flow) , <±0.5%F.S (pressure) , <±1°C (temperature)		
◇Pressure range:	0-1.0Mpa	◇ Ambient temperature:	-10...65°C
◇Temperature range:	-20...80°C	◇ Medium temperature:	-20...80°C (High temperature customization -40...350°C)
◇Repeatability:	< 2%, actual flow rate	◇ Process connection:	Threaded type: G1/2 - G2
◇Contact material:	Alumina/SUS304 (Stainless Steel)		Flange connection: DN15 - DN250 (GB9119-2000)
◇Pressure rating:	1.0 MPa (customized at 1.6 MPa or 2.5 MPa for high pressure)	◇Power Supply:	18-30VDC
◇Digital display:	1.44 TFT color display screen		

Panel diagram

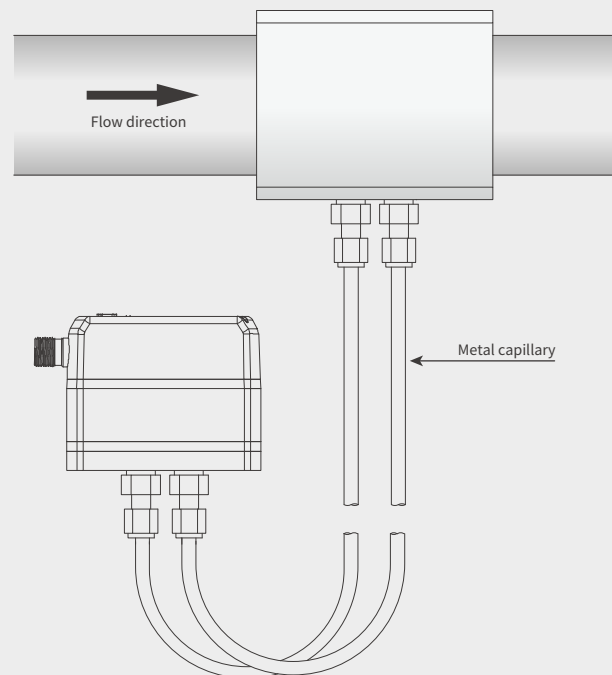
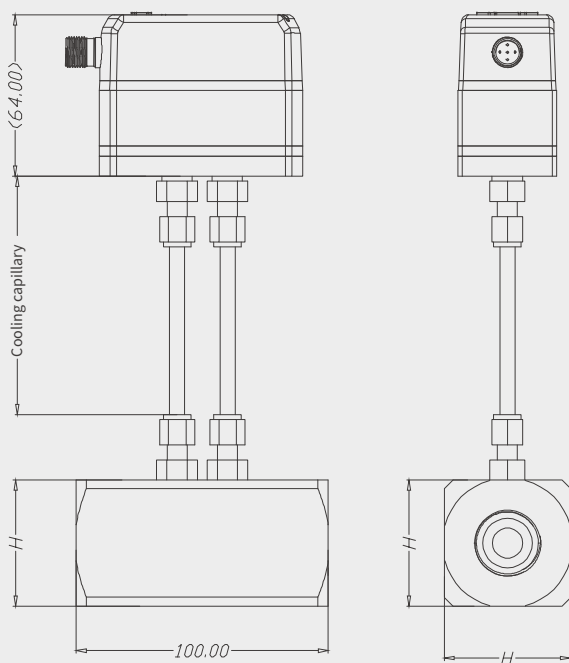


Dimension drawing (mm) — Pipe threaded connection

Normal form

High temperature type (KT03: $\leq 200^{\circ}\text{C}$ /KT10: $\leq 350^{\circ}\text{C}$)

Installation diagram



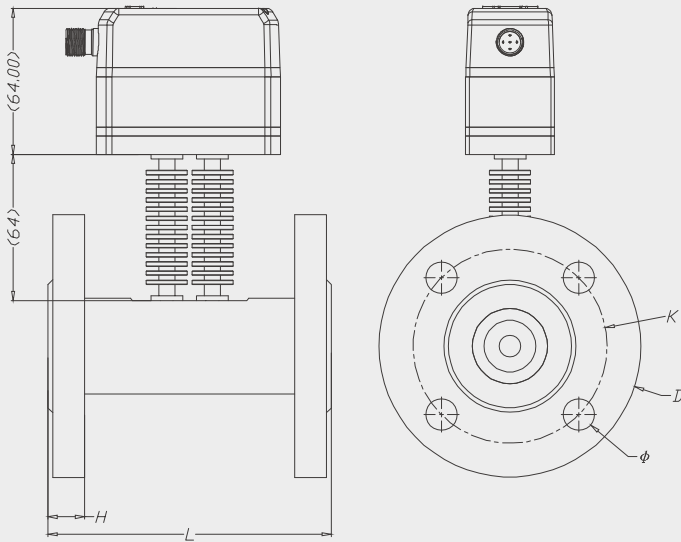
Measuring diameter (DN)	Process connection (G)	Body height (H)	Fixed method (EX F)
DN 15	1/2 "	45	35X50
DN20	3/4 "	50	40X50
DN25	1 "	55	45X50
DN32	1-1/4 "	65	55X50
DN40	1-1/2 "	70	60X50
DN50	2 "	80	70X50

*Installation requirements: the length of the straight pipe section in the front is 5XDN, and the length of the straight pipe section in the rear is 10XDN.

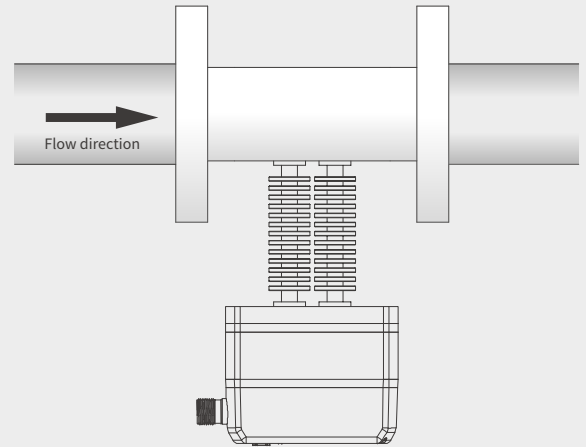
*Measured pipe diameter $\geq$ DN65 diameter, all use the national standard flange connection, the length of the front and rear straight pipe sections are both 200mm.

Dimension drawing (mm) — Flange connection

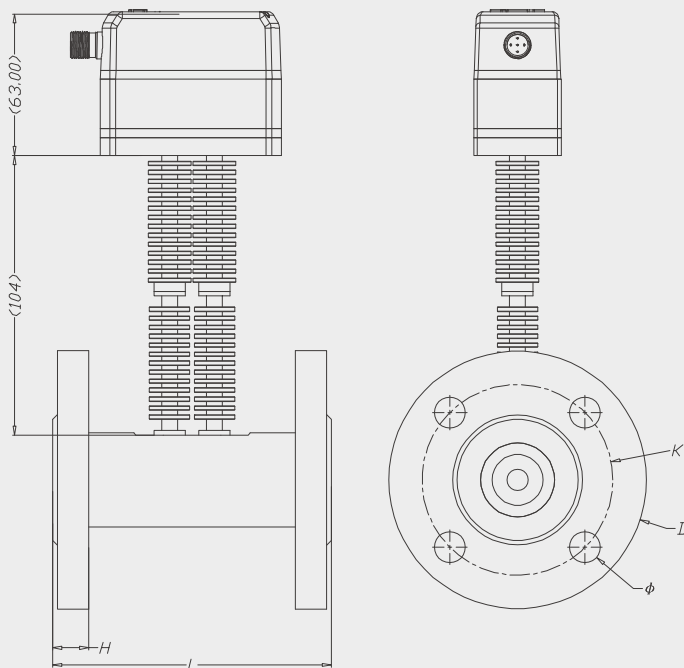
≤200°C High temperature type



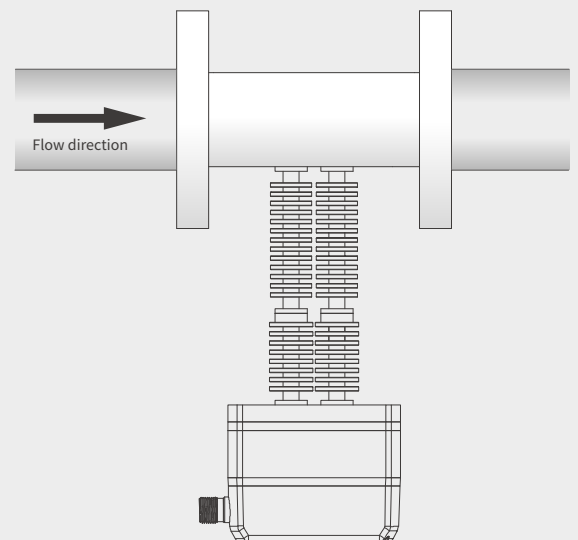
Installation diagram

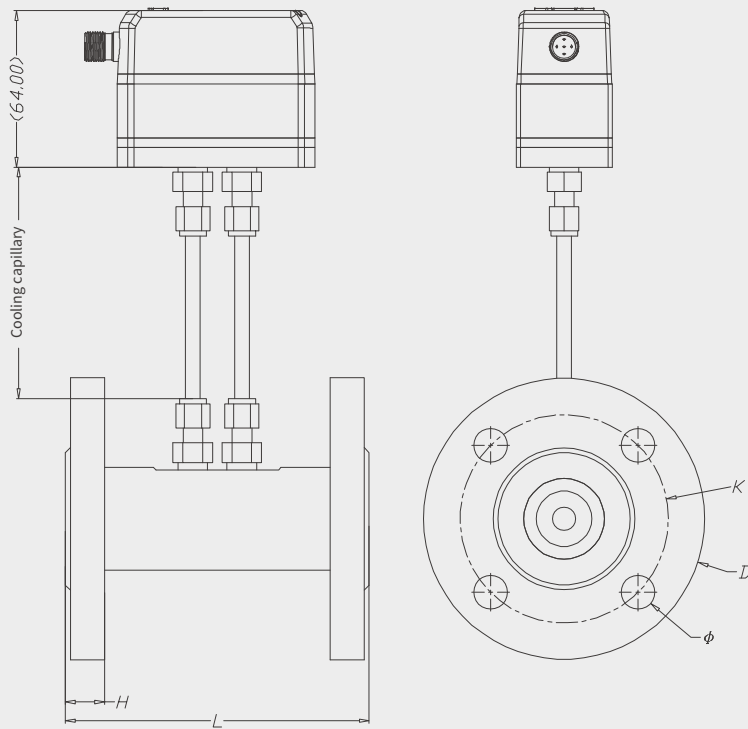


>200°C High temperature type

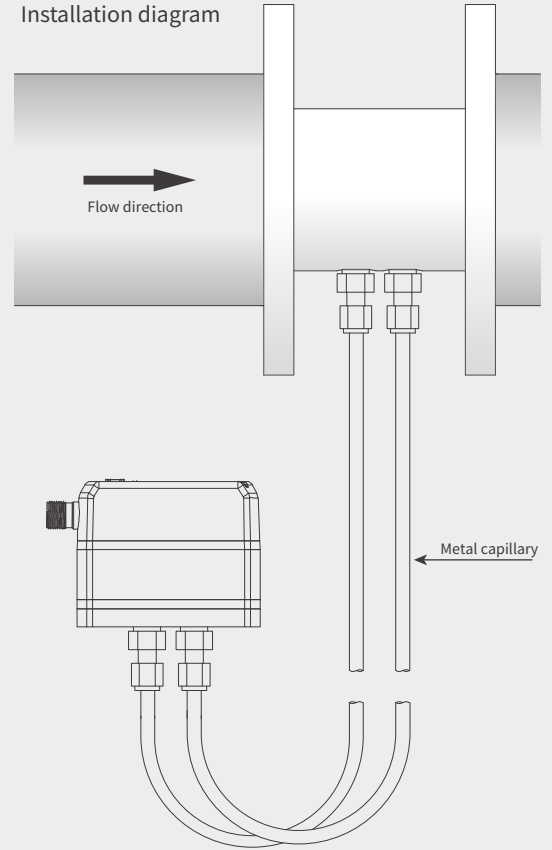


Installation diagram



High temperature type (KT03: $\leq 200^{\circ}\text{C}$ /KT10: $\leq 350^{\circ}\text{C}$)

Installation diagram



Nominal diameter (DN)	Flange outside diameter D	Distance between centers K	Hole diameter ϕ	Hole number N	thickness H	Body length L (mm)
15	95	65	14	4	14	120
20	105	75	14	4	16	120
25	115	85	14	4	16	120
32	140	100	18	4	18	120
40	150	110	18	4	18	140
50	165	125	18	4	19	150
65	185	145	18	8	20	175
80	200	160	18	8	20	200
100	220	180	18	8	22	220
125	250	210	18	8	22	250
150	285	240	22	8	24	300
200	340	295	22	12	26	360
250	405	355	26	12	29	400

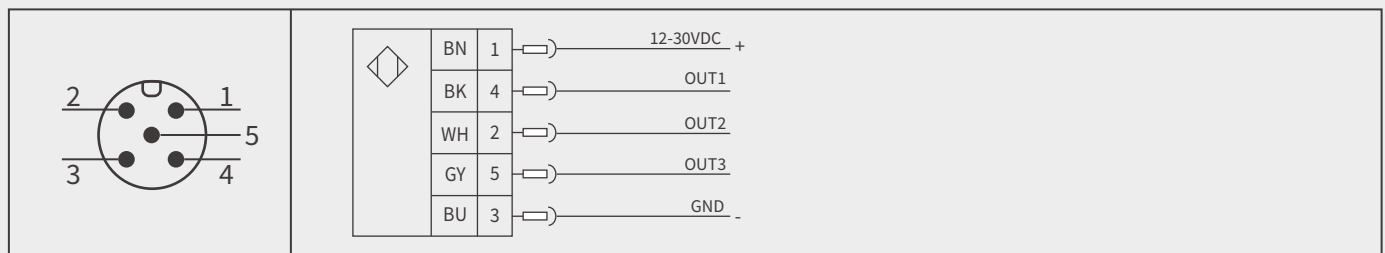
Range table

Pipe diameter	Process connection	range(L/min)	code
DN15 1/2"	Threaded flange	0.4~2	04
		1~5	1
		2~15	2
		4~30	4
		8~40	8
		10~50	10
DN20 3/4"	Threaded flange	2~15	2
		4~30	4
		8~40	8
		10~50	10
		16~120	16
DN25 1"	Threaded flange	2~15	2
		8~40	8
		4~30	4
		10~50	10
		12~60	12
		15~100	15
		20~120	20
		30~150	30
DN32 1 1/4"	flange	8~40	8
		15~100	15
		20~120	20
		30~150	30
		40~200	40
		50~250	50
DN40 1 1/2"	Threaded flange	8~40	8
		15~100	15
		20~120	20
		30~150	30
		40~200	40
		50~250	50
		70~350	70
DN50 2"	flange	20~120	20
		40~200	40
		70~350	70
		100~500	100

Pipe diameter	Process connection	range(L/min)	code
DN65 2 1/2"	flange	20~120	20
		40~200	40
		50~250	50
		100~500	100
		160~800	160
DN80 3"	flange	20~120	20
		40~200	40
		80~400	80
		100~500	100
		150~750	150
DN100 4"	flange	250~1250	250
		40~200	40
		80~400	80
		150~750	150
		160~800	160
		200~1000	200
		250~1250	250
		280~1400	280
DN125 5"	flange	400~2000	400
		100~500	100
		200~1000	200
		400~2000	400
DN150 6"	flange	600~3000	600
		200~1000	200
		400~2000	400
		600~3000	600
DN200 8"	flange	900~4500	900
		1000~5000	1000
		400~2000	400
		600~3000	600
DN250 10"	flange	1000~5000	1000
		1500~7500	1500
		600~3000	600
		1000~5000	1000
		1500~7500	1500
		1600~8000	1600
		2000~10000	2000
		2400~12000	2400
		2500~12500	2500

- The flow value can be set to cubic meters per hour
- The above flow ranges are all calibrated with water as the medium, Other liquid media also need to provide density and kinematic viscosity.
- Please contact us if you need a larger pipe diameter range.
- This table is limited to the liquid flow measurement range. Gas and steam flow measurements are calculated separately.

Wiring diagram



3A: Three analog outputs

colour	stitch	Instructions	colour	stitch	Instructions	colour	stitch	Instructions
BN	1	power supply (+)	BU	3	power supply (-)	GY	5 (OUT3)	flow: 4-20mA
BK	4 (OUT1)	pressure: 4-20mA	WH	2 (OUT2)	temperature: 4-20mA			

S3: 3-channel switch

colour	stitch	Instructions	colour	stitch	Instructions	colour	stitch	Instructions
BN	1	power supply (+)	BU	3	power supply (-)	GY	5 (OUT3)	flow switch
BK	4 (OUT1)	pressure switch	WH	2 (OUT2)	temperature switch			

RS: RS485

colour	stitch	Instructions	colour	stitch	Instructions	colour	stitch	Instructions
BN	1	power supply (+)	BU	3	power supply (-)	GY	5	RS485(GND)
BK	4	RS485(B)	WH	2	RS485(A)			

SA: 3-way switch + 3-channel analog output

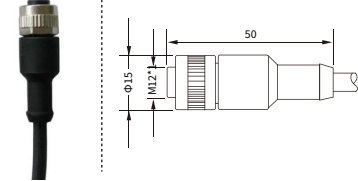
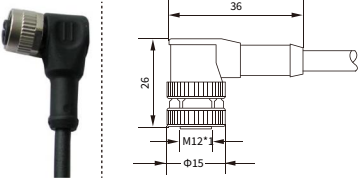
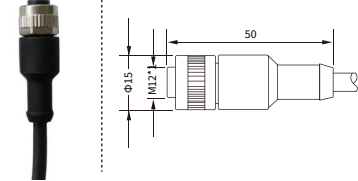
colour	stitch	Instructions	colour	stitch	Instructions
BN	2	power supply (+)	BU	7	power supply (-)
RD	8	Flow switch	GY	5	Flow : 4-20mA
YL	4	Temperature switch	WH	1	Temperature: 4-20mA
GN	3	Pressure switch	PK	6	Pressure: 4-20mA

Selection list

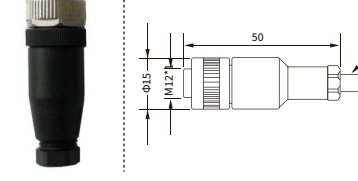
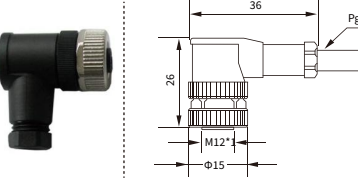
FTS400-	015	-	GK	L	S	-	3A	-	expatiate
FTS400									FTS400 Integrated flow, temperature and pressure sensor
	015								DN15 caliber (025 stands for DN25)
		-							Range code
			GK						Internal thread G teeth (diameter $\leq$ DN50)
			RK						Internal thread R teeth (diameter $\leq$ DN50)
			GM						G thread (diameter $\leq$ DN50)
			RM						External thread R teeth (diameter $\leq$ DN50)
			F						National standard flange (Ministry of Chemical Industry standard PN16: Pressure 1.6M Pa)
				L					Media: liquid
				G					Media: gas
					L				Body material: alumina
					S				Body material: 304 stainless steel
						-			Standard type (medium temperature: -20... 80°C)
						G			High temperature type (medium temperature: -30... 150°C)
						G2			High temperature type (medium temperature: -40... 200°C)
						G3			High temperature type (medium temperature: -40... 350°C)
							3A		Output signal: Three analog output channels
							S3		Output signal: 3-channel switch
							RS		Output signal: RS485 communication
							SA		Output signal: 3-channel switch+ 3 analog output
								-	High temperature cold end type: integrated welding $\leq$ 200°C
								KT03	"High temperature cold end type: sleeve joint $\leq$ 200°C (Use a metal capillary tube with an outer diameter of 6mm and a configuration tube length of 30cm)"
								KT10	"High temperature cold end type: sleeve joint $\leq$ 350°C (Use a metal capillary tube with an outer diameter of 6mm and a configuration tube length of 100cm)"

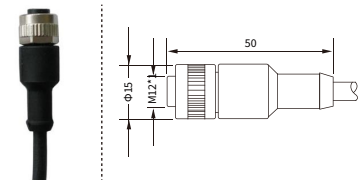
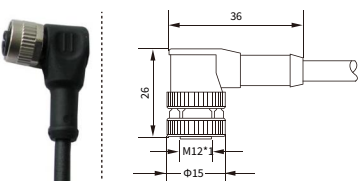
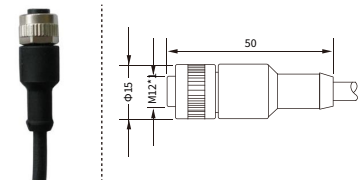
Description: High temperature type selection material, must use stainless steel

Optional accessories - electrical accessories

name	Outline drawing/dimension drawing (mm)	material	model
M12*1-5Pin (2m cable)		PUR	ZL05-PU02G
M12*1-5Pin (5m cable)			ZL05-PU05G
M12*1-5Pin (10m cable)			ZL05-PU010G
M12*1-5Pin (2m cable)		PUR	ZL05-PC02G
M12*1-5Pin (5m cable)			ZL05-PC05G
M12*1-5Pin (10m cable)			ZL05-PC010G
M12*1-5Pin (2m cable)		PVC	ZL05-PU02W
M12*1-5Pin (5m cable)			ZL05-PU05W
M12*1-5Pin (10m cable)			ZL05-PU010W
M12*1-5Pin (2m cable)		PUR	ZL05-PC02W
M12*1-5Pin (5m cable)			ZL05-PC05W
M12*1-5Pin (10m cable)			ZL05-PC010W

Factory standard:ZL05-PC02G

M12* 1-4pin /5Pin self-connector/size drawing (mm)	model
	GL04 (4Pin joint)
	GL05 (5Pin joint)
	WL04 (4Pin joint)
	WL05 (5Pin joint)

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

Factory standard:ZL04-PC02G