

HNF20-A

ELECTRONIC TURBINE FLOW SENSOR

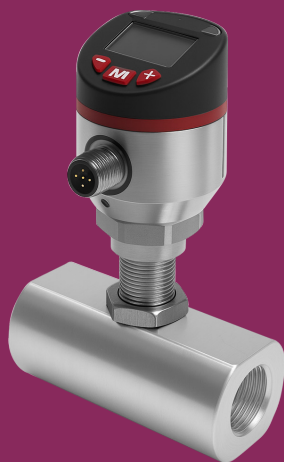
SCHEMATIC STRUCTURE

The HNF20-A intelligent electronic turbine flow sensor features small size and easy setup. It incorporates intelligent circuitry, allows for arbitrary setting of upper and lower flow alarm values, supports RS485 data communication, and supports integrated temperature measurement.

It can remotely monitor real-time flow conditions, with all parameters configurable on-site. The flow rate of the turbine-measured medium is processed by the sensor's intelligent circuitry and can be programmed arbitrarily.



PRODUCTS/CONNECTIONS



Female thread type



External thread type



Clip type



Flange type

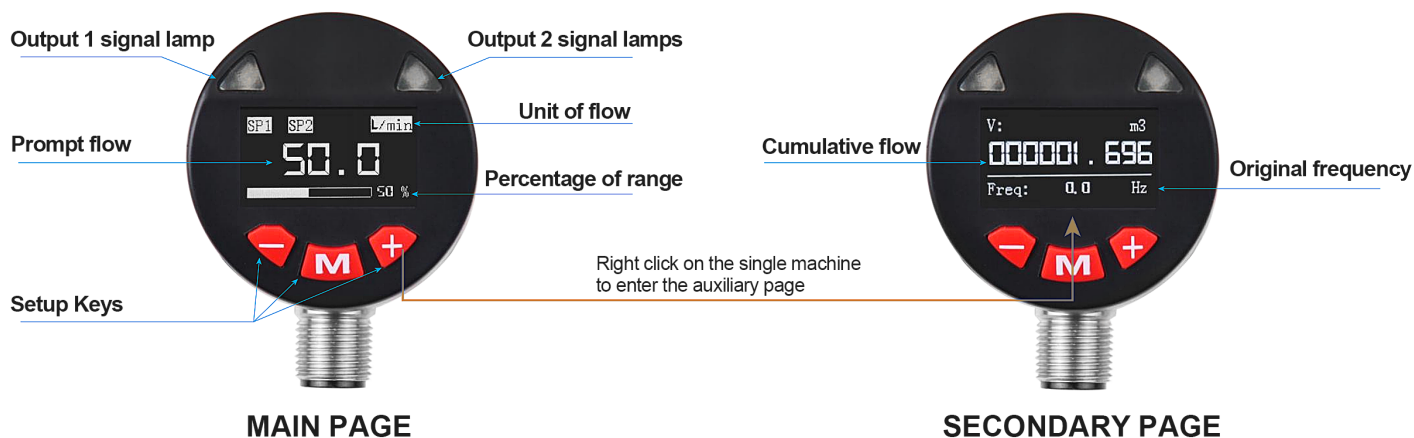
AREAS OF APPLICATION

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

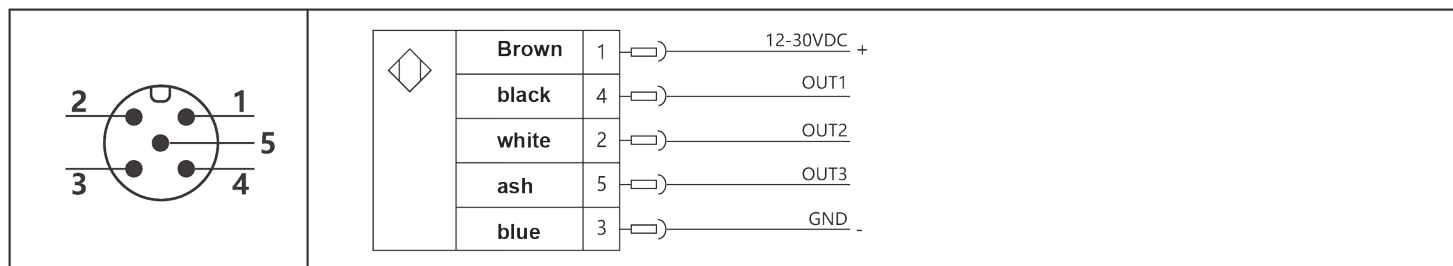
TECHNICAL PARAMETERS

NAME	SPECIFICATION
Measuring calibre	DN6...DN300
Supply voltage	12....30Vdc
Output Type	Switching, analogue, pulse, RS485
Load	Switch <200mA/Analogue <500mA
Response time	10ms~5s(factory default 1s)
Switching accuracy	≤±0.5% range
Current Type Analogue Output	≤±0.5% range
Wiring Protection	Inverted phase, overload, short circuit protection
Design	Liquid crystal screen
Display Range	Four digits
Measurement accuracy	≤±1.0% range
Medium temperature	-30...100°C/150°C/180°C
Ambient temperature	-10...70°C
Storage temperature	-20...80°C
Meter head housing	Stainless steel/engineering plastics
Casing	Stainless steel 304
Turbine	3cr13 (martensitic stainless steel)
Protection class	IP67
Outlet method	M12x1 connector

PANEL SCHEMATIC



WIRING DIAGRAM

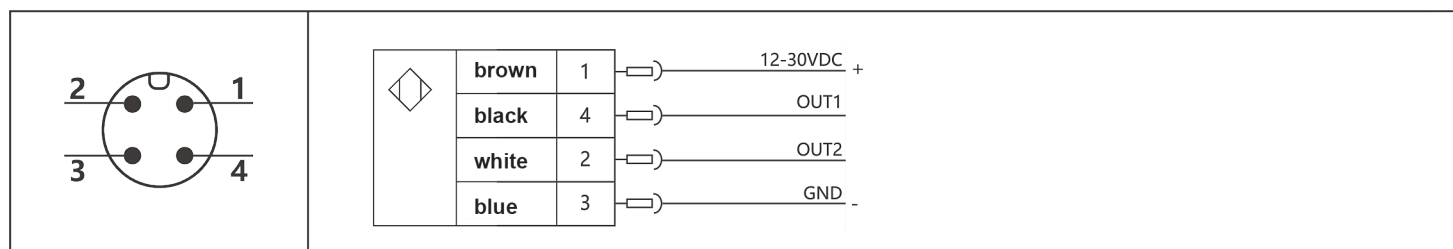


A3:Two switches + one analogue

colour	pin	clarification	colour	pin	clarification	colour	pin	clarification
brown	1	Power Positive (+)	blue	3	Power negative (-)	grey	5 (OUT3)	Flow:4-20mA(factory default) Flow:1-5v Flow:0-10v
black	4 (OUT1)	Flow switch PNP (factory default) Flow switch NPN Linear pulse (full scale 100Hz) Raw pulse (reference coefficient) Quantitative pulse (full scale*0.1)	white	2 (OUT2)	Flow switch PNP (factory default) Flow Switch NPN			

AR:RS485 communication/analogue

colour	pin	clarification	colour	pin	clarification	colour	pin	clarification
brown	1	Power Positive (+)	blue	3	Power negative (-)	grey	5 (OUT3)	Flow:4-20mA(factory default) Flow:1-5v Flow:0-10v
black	4 (OUT1)	RS485(B)	white	2 (OUT2)	RS485(A)			



SA:Switching/Pulse/Frequency/IO-Link/Analogue

colour	pin	clarification	colour	pin	clarification
brown	1	Power Positive (+)	blue	3	Power negative (-)
black	4 (OUT1)	Flow switch PNP (factory default) Flow switch NPN Linear pulse (full scale 100Hz) Raw pulse (reference coefficient) Quantitative pulse (full scale*0.1) IO-Link	white	2 (OUT2)	Flow:4-20mA(factory default) Flow:1-5v Flow:0-10v

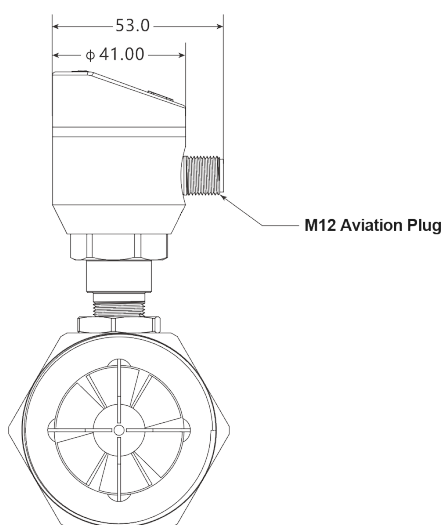
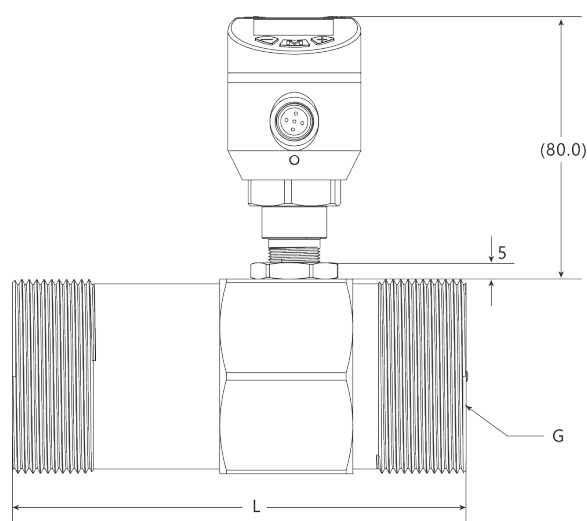
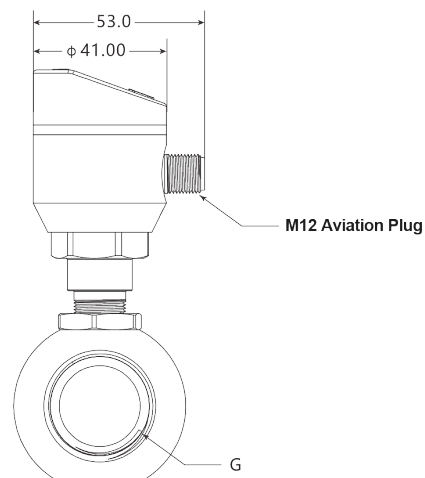
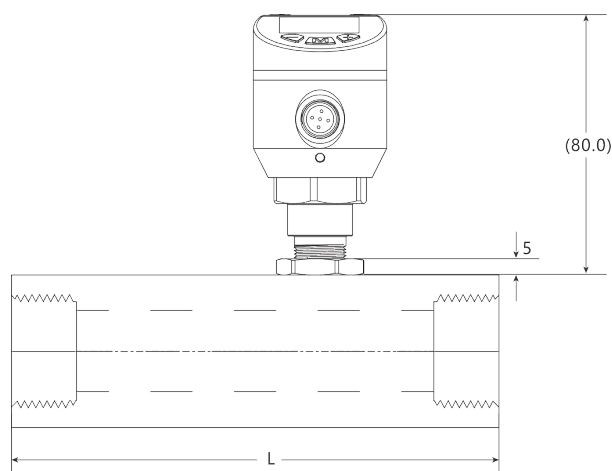
AT:Analogue (flow/temperature)

colour	pin	clarification	colour	pin	clarification
brown	1	Power Positive (+)	blue	3	Power negative (-)
black	4 (OUT1)	Temperature:4-20mA(factory default) Temperature:1-5v Temperature:0-10v	white	2 (OUT2)	Flow:4-20mA(factory default) Flow:1-5v Flow:0-10v

PRODUCT SIZE(MM)

FEMALE THREADED CONNECTION

Sealing method:
recommended ferrule
type ED sealing fitting

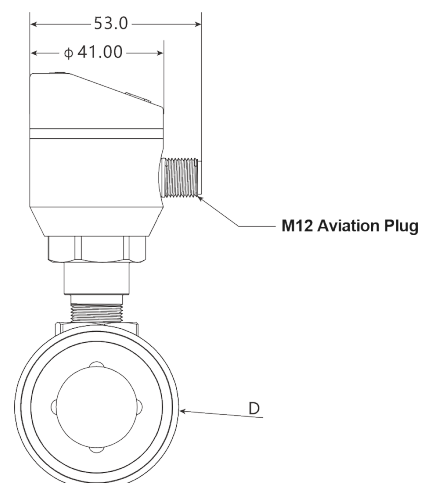
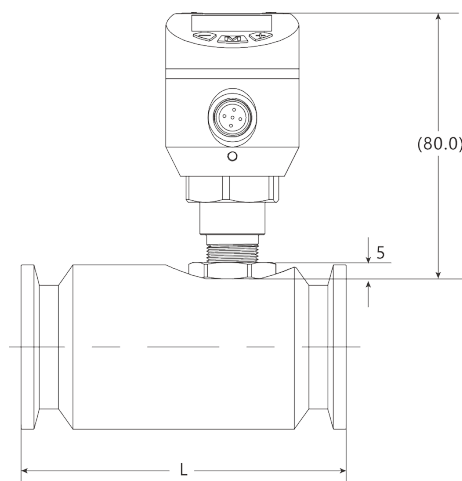


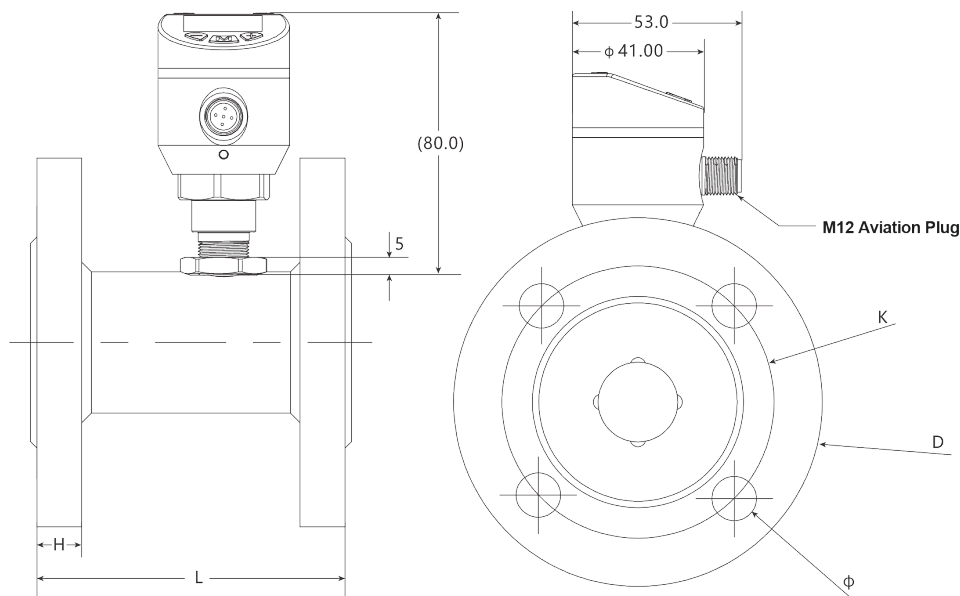
EXTERNAL THREADED CONNECTION

Sealing method:
Flat gasket recommended

CLAMP CONNECTION

Sealing method:
Recommended to use
chuck type gasket





FLANGE CONNECTION

Sealing method:
Flange type gasket

PRODUCT SIZE(MM)

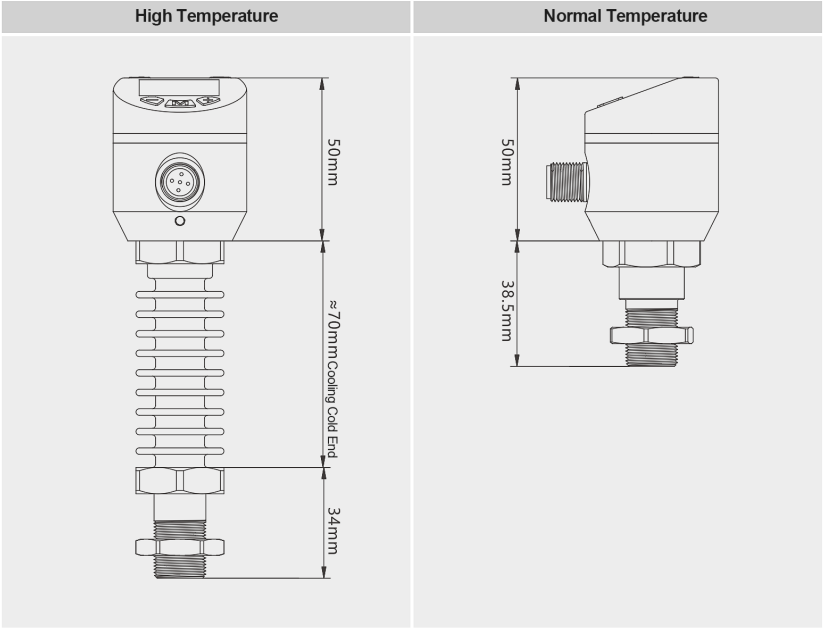
Nominal Diameter (mm)	Flange connection (1.6MPa)						External thread		Internal thread		Clamp connection	
	Flange Outer Diameter D	Centre Distance D	Diameter of hole φ	Number of holes N	Thick nesses H	Body length L	Process Connection		Body length L	Process Connection G	Outer Diameter of chuck D	Body length L
							Straight Section	Ductless				
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						

MEASUREMENT RANGE TABLE

Nominal diameter DN(mm)	Flow rate range (m3/h)		Nominal pressure PN(MPa)	Maximum pressure loss (MPa)
	lower limit	upper limit		
6	Anti-interference type 0.1	0.6	6.3 16 25 40*	0.05
10	0.2(Anti-interference type 0.06)	1.2		
15	0.6(Anti-jamming type 0.12)	6		
20	0.8(Anti-jamming type 0.25)	8		0.035
25	1(Anti-jamming 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	1. 6	
150	40	400		
200	80	800		
250	120	1200	1. 6	
300	180	1800		

HIGH TEMPERATURE
 TYPE DISPLAY UNIT
 DIMENSION REFERENCE
 DRAWING



HNF20-A ELECTRONIC TURBINE FLOW SENSOR SELECTION CHART

NAME	CODE	CODE DESCRIPTION
Measuring calibre	6	DN6
	10	DN10
	12	DN12
	15	DN15
	20	DN20
	25	DN25
	32	DN32

Measuring calibre	040	DN40
	050	DN50
	065	DN65
	080	DN80
	100	DN100
	125	DN125
	150	DN150
	200	DN200
	250	DN250
	300	DN300
	X	Customizable
Signal output	A	Two switches/pulse/frequency + analogue
	M	Analogue (Flow/Temperature)
	MH	RS485 communication + analogue
Connection method	M	External threaded connection (for $\leq$ DN50)
	K	Internal threaded connection (applicable to $\leq$ DN50)
	F	Flange connection
	H	Hygienic clamp connection (applicable to $\leq$ DN100)
Other requirements	G	Anti-interference type (available calibre $\leq$ DN50, display unit can not be disassembled)
	-	Conventional type (medium temperature: $\leq$ 100°C)
	H	High temperature type (medium temperature: $\leq$ 150°C)
	H1	Ultra-high-temperature type (medium temperature: $\leq$ 180°C must use non-interference type instrument installation position from the source of frequency > 500mm)

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Electronic Turbine Flow Sensor

