



Recorder



Flow



Pressure



Temp



Analyzer



Level

Datasheet

Radar Level Transmitter

SIN-WSR550

Sinomeasure

Committed to process automation solutions

Tel: 86-13336194863

E-mail: info@sinomeasure.com

www.sino-measure.com

Datasheet**Level Radar Transmitter
SIN-WSR550**

The (76 - 81) GHz series refers to Frequency Modulated Continuous Wave (FMCW) radar instruments operating within the (76 - 81) GHz band, supporting both four-wire and two-wire applications. Multiple models are available, with a measuring range of up to 60 m and a minimum blind zone as small as 8 cm.

Due to their higher operating frequency and shorter wavelength, these radars are particularly well-suited for solid level measurement. Utilizing a lens-based electromagnetic wave transmission and reception design, they offer unique advantages in environments with heavy dust or extreme temperatures.

The instruments are available with either flange or threaded process connections, ensuring convenient and flexible installation.

Applications

- Chemical industry
- Solids level measurement
- Sewage treatment
- Mining industry
- Paper and Pulp Industry
- Boiler Engineering
- Liquid and solid powder measure
- Acids, bases or other corrosive media

Features

- Based on the self-developed CMOS millimeter wave RF chip, a more compact RF architecture, a higher signal-to-noise ratio, and nearly zero blind zone are realized.
- 5GHz working bandwidth means higher measurement resolution and accuracy.
- 3 ° antenna beam angle, so the interference in the environment has less impact on the instrument, and the installation is more convenient.
- Shorter wavelength yields good reflection properties on sloped solids, so aiming towards material angle of repose is usually not necessary.
- Remote debugging and remote upgrading is supported to reduce the cost of field personnel.
- Supports mobile phone Bluetooth configuration, enabling convenient on-site maintenance for personnel.

**SIN-WSR550**

Parameters	
Input	
Measured Variables	Level / Liquid Level
Range	0.08 m ~10m; 0.08~20m; 0.08 m ~30m; 0.3 m~60m
Beam Angle	3°/8°
Transmit Frequency	76GHz~81GHz
Output	
Transmitter Output	4~20mA
Communication Output	RS-485,MODBUS, HART
Fault Output	3.8mA, 4mA, 20mA, 21mA, hold
Power Supply	
Power Supply	15~28VDC;220VAC
Power Consumption	Maximum Power Consumption 2 W
Cable Entry	M20*1.5 Cable Gland
Cable Specification	AWG or 0.75mm ²
Performance Parameters	
Accuracy	Liquid measurement: ±2mm Solid measurement: ±5mm
Resolution	Display Resolution: 1 mm Distance Resolution: 3 cm
Measurement Interval	1s
Process Conditions	
Dielectric Constant Range	≥2
Process Pressure	-0.1~2 MPa
Process Temperature	(-40~80) °C / (-40~150) °C Note: Other temperature ranges available upon request
Environmental Conditions	
Storage Temperature	-40~80°C
Protection Rating	IP67
Material	
Shell Material	Aluminum Alloy or Stainless Steel

Wiring

24VDC Four-wire Wiring

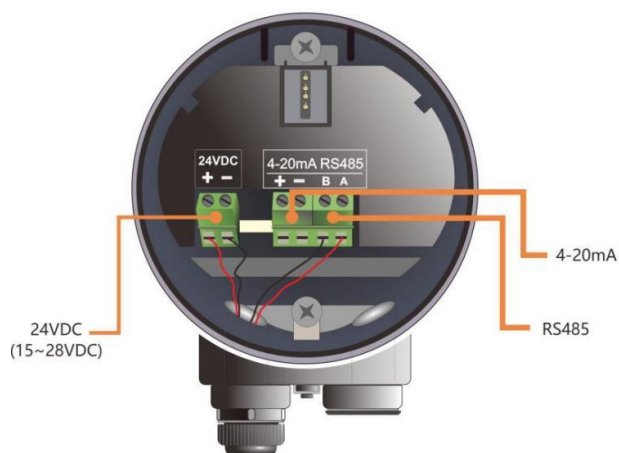


Figure 1 24VDC Four-wire Wiring Diagram

24VDC Two-wire Product Wiring Diagram

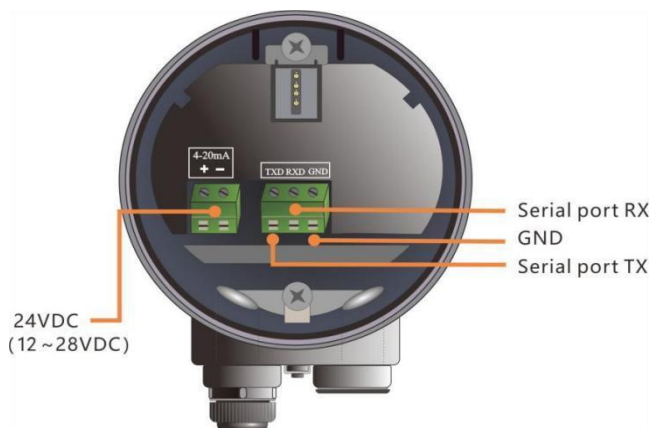


Figure 2 24VDC Two-wire Wiring Diagram

220VAC Four-wire Product Wiring Diagram

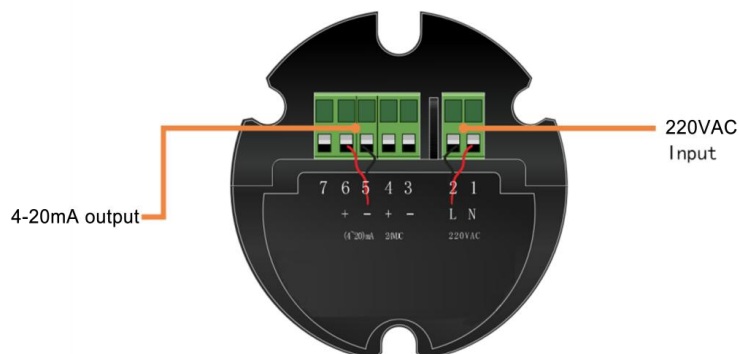


Figure 3 220VAC Four-wire Wiring Diagram

Dimension

Threaded Connection Structure

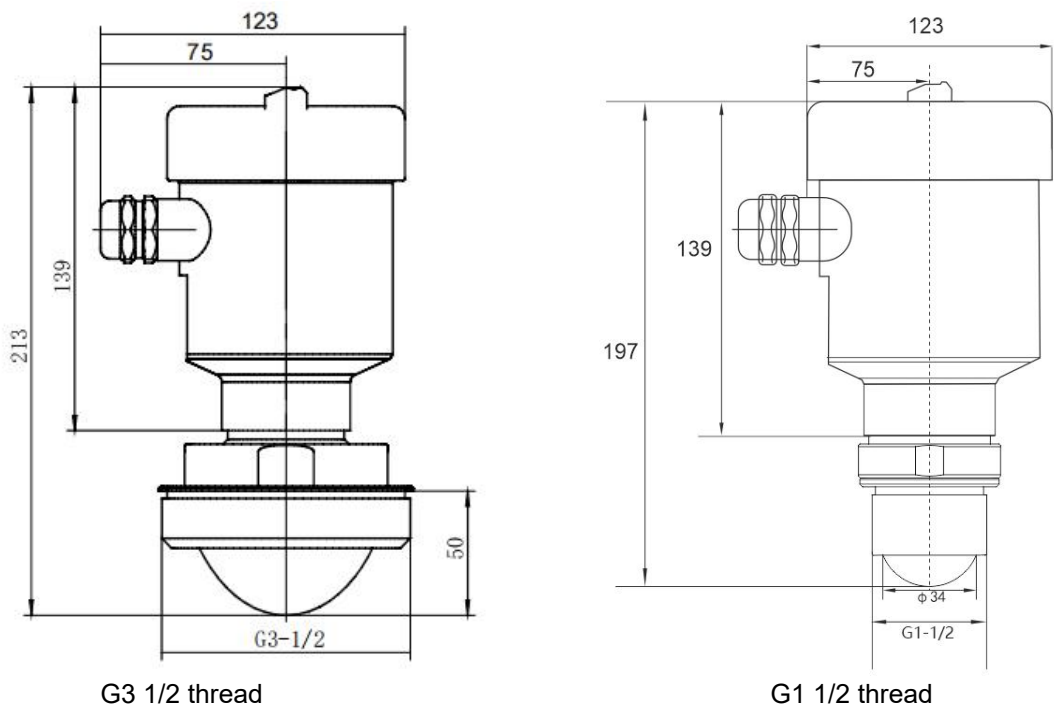


Figure 4 Dimensional Drawing of Standard Temperature Threaded Connection Structure (Unit: mm)

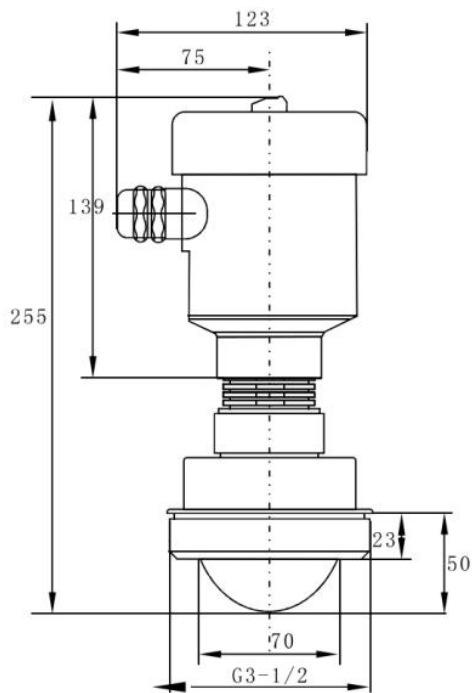
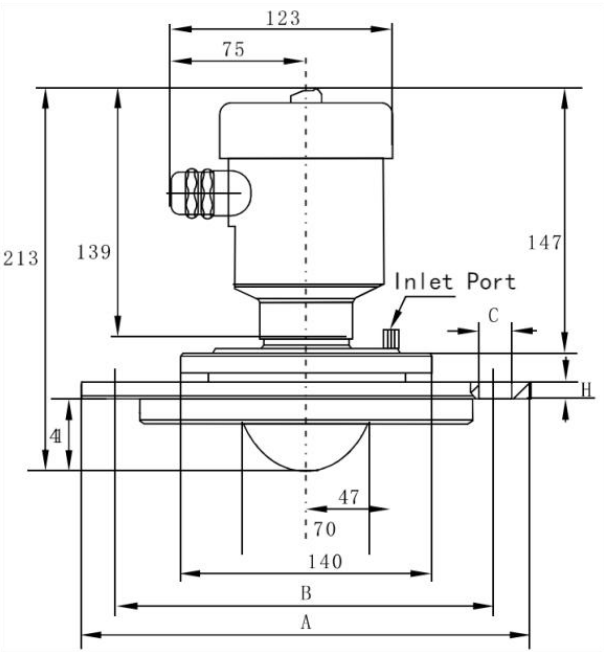


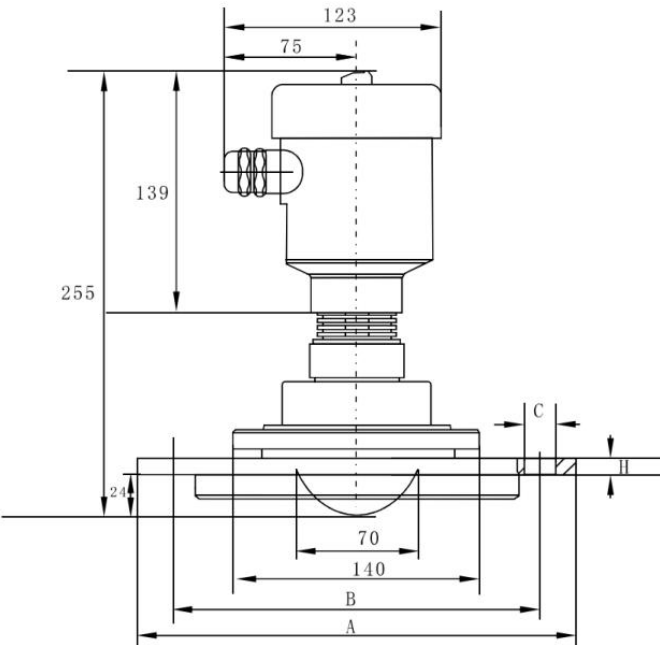
Figure 5 Dimensional Drawing of High-Temperature Threaded Connection Structure (Unit: mm)

Universal Flange Structure



	A	B	C	H
DN80	$\phi 200$	$\phi 160$	8- $\phi 18$	15
DN100	$\phi 220$	$\phi 180$	8- $\phi 18$	15
DN125	$\phi 250$	$\phi 210$	8- $\phi 18$	17
DN150	$\phi 285$	$\phi 240$	8- $\phi 18$	17
DN200	$\phi 340$	$\phi 295$	8- $\phi 18$	19

Figure 6 Dimensional Drawing of Standard Temperature Universal Flange Structure (Unit: mm)



	A	B	C	H
DN80	$\phi 200$	$\phi 160$	4- $\phi 18$	15
DN100	$\phi 220$	$\phi 180$	4- $\phi 18$	15
DN125	$\phi 250$	$\phi 210$	8- $\phi 18$	17
DN150	$\phi 285$	$\phi 240$	8- $\phi 18$	17
DN200	$\phi 340$	$\phi 295$	8- $\phi 18$	19

Figure 7 Dimensional Drawing of High-Temperature Universal Flange Structure (Unit: mm)

Corrosion-Resistant Flange Structure

Corrosion-Resistant Flange Structure (Standard Temperature & Pressure)

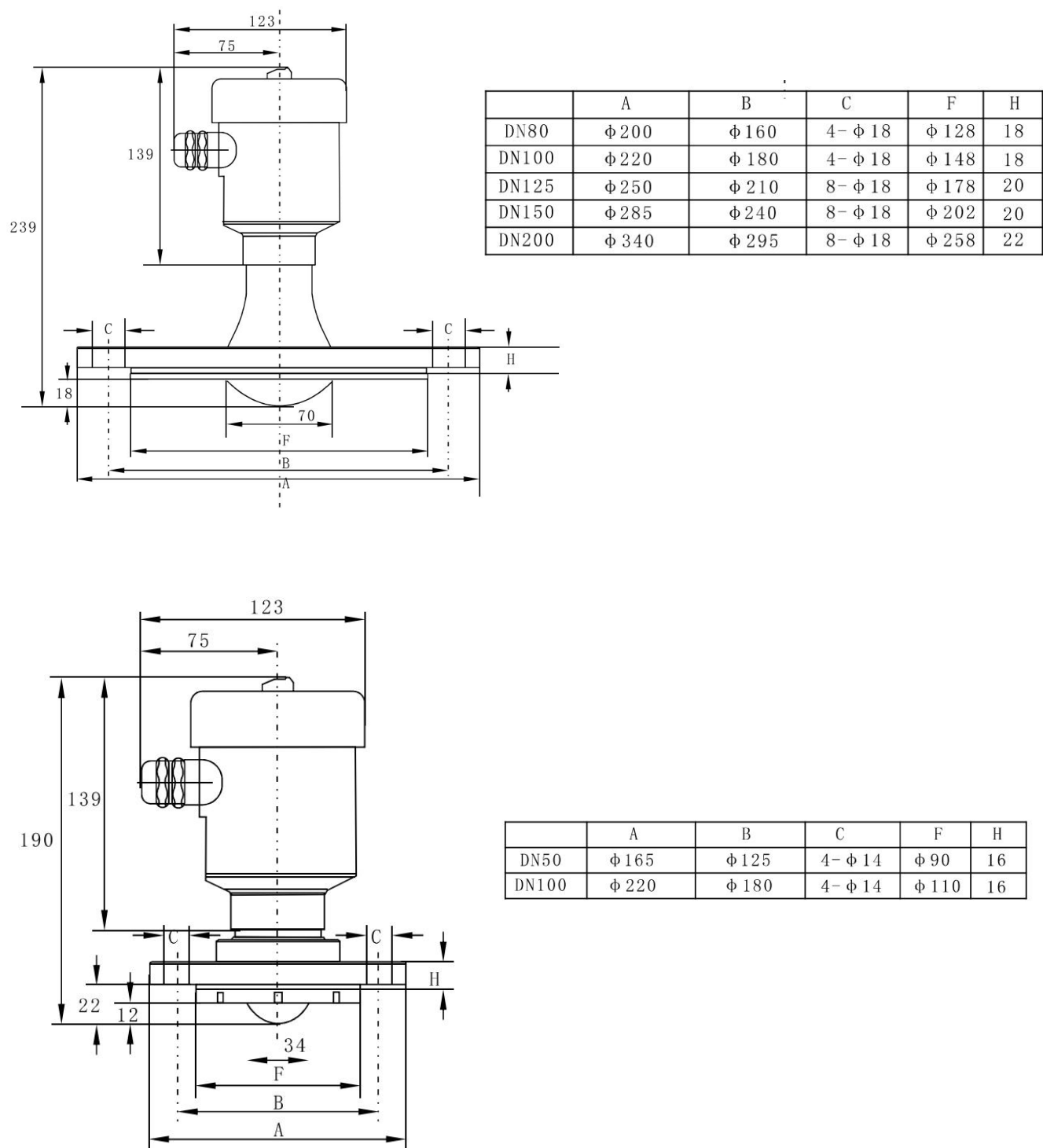
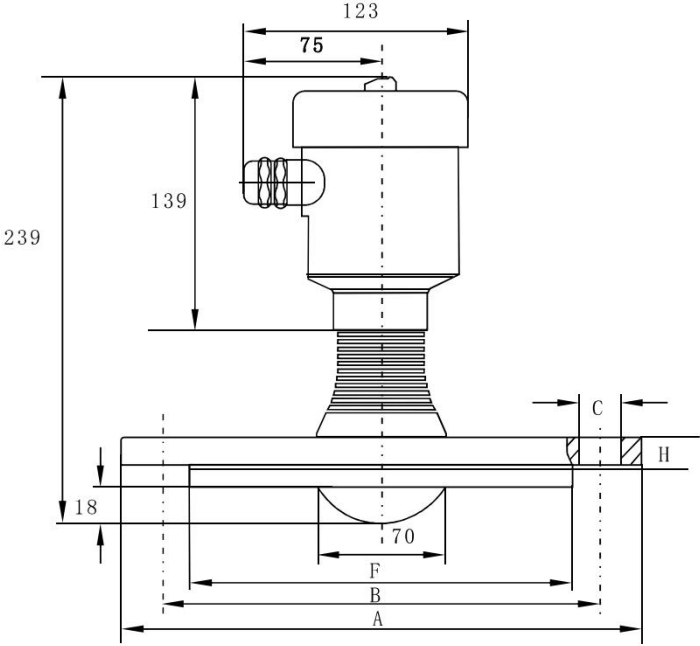
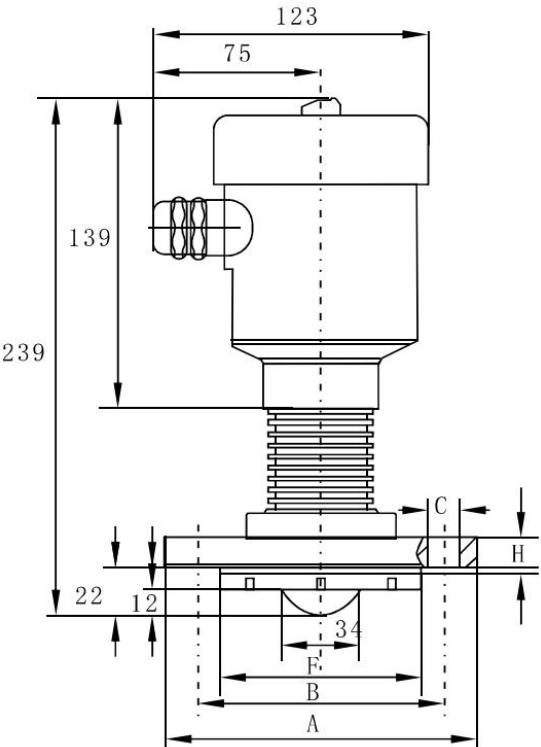


Figure 8 Dimensional Drawing of Corrosion-Resistant Flange Structure, Standard Temperature and Pressure (Unit: mm)

Corrosion-Resistant Flange Structure (High Temperature & Pressure)



	A	B	C	F	H
DN80	φ 200	φ 160	8- φ 18	φ 138	20
DN100	φ 220	φ 180	8- φ 18	φ 158	22
DN125	φ 250	φ 210	8- φ 18	φ 188	22
DN150	φ 285	φ 240	8- φ 22	φ 212	24
DN200	φ 340	φ 295	12- φ 22	φ 268	26



	A	B	C	F	H
DN50	φ 140	φ 110	4- φ 14	φ 90	16
DN65	φ 160	φ 130	4- φ 14	φ 110	16

Figure 9 Dimensional Drawing of Corrosion-Resistant Flange Structure, High Temperature and Pressure (Unit: mm)

Ordering code

SIN-WSR550-A-10-A2-LB-1-TC-WH								Description
SIN-WSR550	-		-	-	-	-	-	
Measuring Medium	A							Liquid
	B							Solid Powder
Measurement Range	10							10m
	20							20m
	30							30m
	60							60m
	XX							Others
Output and Power Supply	A2							Two-Wire System 4-20mA+HART
	SE							4-20mA+RS485, 24VDC
	B3							Two-Wire System 4-20mA+HART+Bluetooth
	B5							4-20mA+RS485+Bluetooth, 24VDC
	B4							Two-Wire System 4-20mA+HART+Bluetooth, 220VAC
	B6							4-20mA+RS485+Bluetooth, 220VAC
Thread Type	LB							G1 1/2 Thread
	LE							G3 1/2 Thread
	FP							HG/T20592 PN16 DN50
	FQ							HG/T20592 PN16 DN80
	FR							HG/T20592 PN16 DN100
	FS							HG/T20592 PN16 DN125
	FT							HG/T20592 PN16 DN150
	FU							HG/T20592 PN10 DN80 Universal Flange
	FV							HG/T20592 PN10 DN100 Universal Flange
	FW							HG/T20592 PN10 DN150 Universal Flange
	XX							Others

Antenna Type and Process Connection Material	1			Polytetrafluoroethylene (PTFE), 304SS
	2			Polytetrafluoroethylene (PTFE), 316LSS
	3			Polytetrafluoroethylene (PTFE)
	9			Others
Heat Resistance Temperature		TC		-40-80℃
		TF		-40-150℃
		XX		Others
Electrical Interface, Housing Material and Level of Protection			WH	M20×1.5 Cable Gland, Aluminum Alloy, IP67
			XX	Others