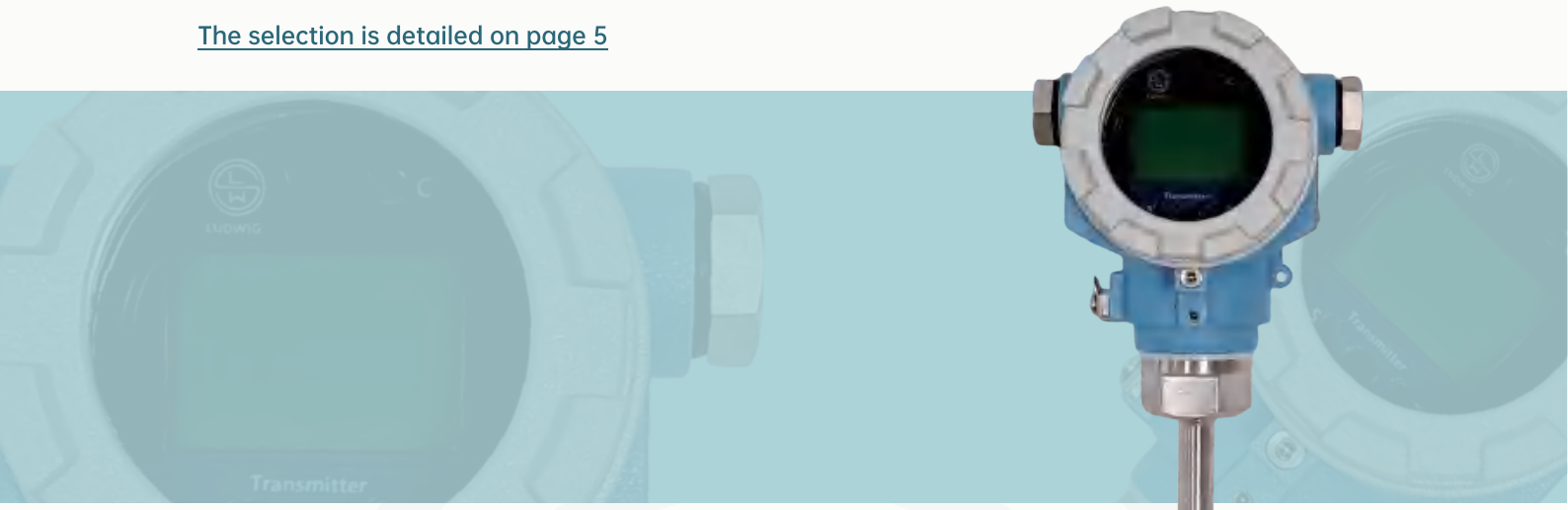
The selection is detailed on page 5



ST20

Intelligent Temperature Transmitter

Working principle

The temperature transmitter adopts thermocouple and thermal resistance as temperature measuring elements. The output signal from the temperature measuring elements is sent to the transmitter module. After the circuit processing such as voltage regulation filtering, operation amplification, nonlinear correction, V/I conversion, constant current and reverse protection, etc., Converted into a linear relationship with temperature 4-20mA current signal 0-5V/0-10V voltage signal, RS485 digital signal output.

Product description

The ST20 field display is a 4 to 20mA current loop display that provides a superposed HART® communication between the transmitter and the control room. Therefore, the display range and units are automatically selected according to the Settings of the connected HART® transmitter.

Commonly used temperature units are stored before leaving the factory. The attached "User unit" can be written as required. The field display can display range alarms as well as MIN and MAX. The fault current signal of the transmitter can also be detected and displayed. The display can be connected to any 4 to 20mA transmitter.

The display is directly powered by a 4 to 20mA loop, resulting in a voltage drop of no more than 3V. The display can be mounted directly on the wall. A mounting bracket with a diameter of 1 to 2 tubes is also available. The ST20 base module can also be mounted separately into another housing. The display consists of a built-in display module with a cast aluminum or stainless steel housing.

Product application

Process industry

Equipment construction

General industrial application

Oil and gas industry

Functional characteristics

The measuring range is automatically configured between the HART® host and the transmitter using the HART® protocol

Range from -9999... 99999/MPa bar chart

Displays measurement units and multiple status information

Explosion-proof form: intrinsic safety/flameproof

HART® : Auxiliary functions and multi-point communication capability

✆ 400-860-9760

For more product information, please visit www.ludwig-schneider.com.cn

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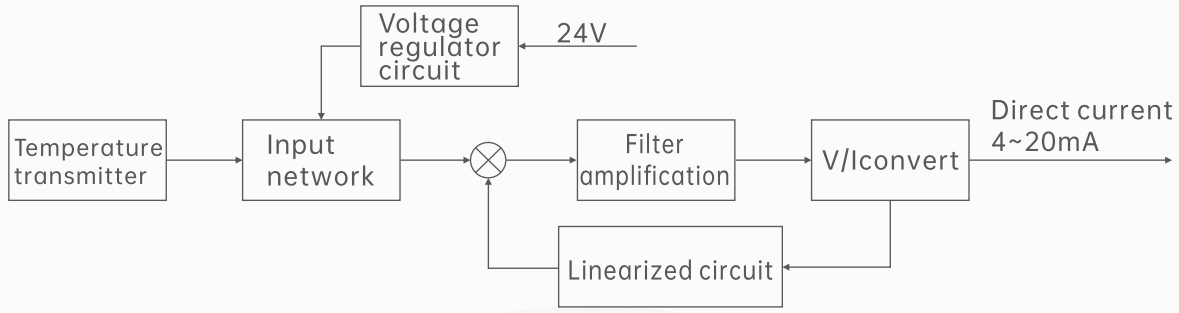
Schematic diagram



Technical parameter

How the display works	LCD, rotatable, each rotation 10°	
Measured value	7-segment LCD, 5-bit, 9mm character length	
Bar chart	20 segment LCD	
Message line	14-segment LCD, 6-bit, 5.5 mm character length	
Status indication	♥ : HART® mode (HART® parameter adjustment signal)	
	: Device lock	
	⚠ : Warning or error message	
Indicated range	- 9999... 99999	
Measurement rate	4/s	
precision	Measuring range ±0.1%	Measuring range ±0.05%
Temperature coefficient	Measuring range ±0.1%/10K	
Input signal	4... 20mA	
Output signal	Analog electrical signal directly into the loop	
Allowable current carrying capacity	100mA	
Pressure drop	< DC 3 V (current is 20 mA < DC 2 V); Supply via a current loop	
HART® Functionality		
▪ Access control	-	Auxiliary host
▪ Automatic parameter setting	Unit, measuring range	
▪ Available command	-	Unit, measurement range start/end value, format, zero, range, damping, and polling address
▪ Identified command	General pattern: 1,15,35,44	General patterns: 0,1,6,15,34,35,36,37,44
▪ multipoint	nonsupport	Automatically extract and display measurements from HART® digital data
Electrical connection		
▪ Signal input	Suspended lead 0.5 mm² (Basic module)	
	Internal spring clamp terminal, maximum cross-sectional area of joint: 2.5mm² (field display)	
▪ Signal output	Cost-effective terminal, maximum cross-sectional area: 2.5mm²	
Electromagnetic compatibility (EMC)	EN 61326 Radiation (Class B Group 1) and resistance to interference (Industrial applications)	

Operating condition

Ambient temperature	-60[1] / -40 ... +85 ℃
Display functional area	-20[2] ... +70 ℃
Storage temperature	-40 ... +85 ℃
humidness	35... 85% (relative humidity), no condensation
Vibration resistance	3g, according to DIN EN 60068-2-6
Impact resistance	30 g, according to DIN EN 60068-2-27

1) Special models can be customized (only available in specific batches) 2) At previous ambient temperatures, the indicated function of delayed recovery at 20 ° C can be expected, especially at low loop currents.

Field case

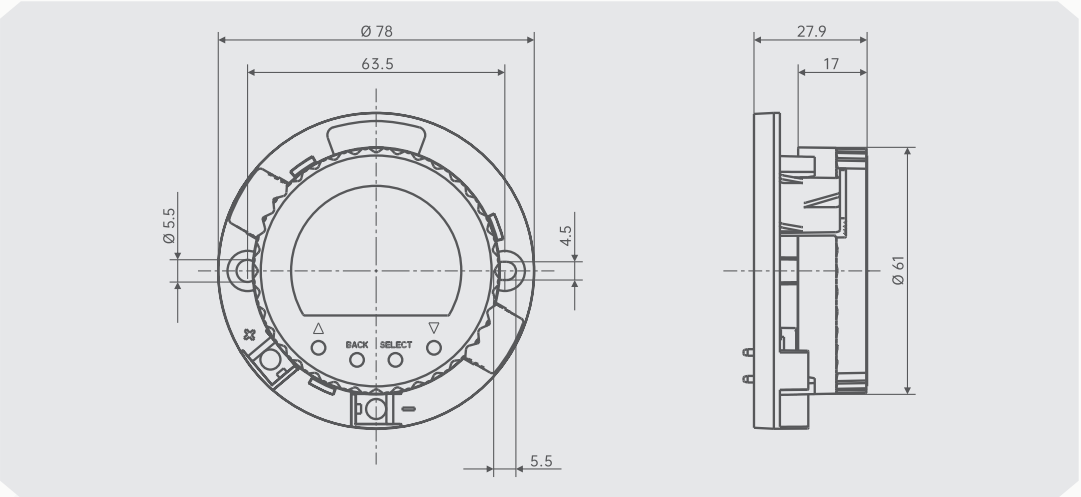
material	Aluminum, stainless steel
	Windows made of polycarbonate
colour	Aluminum: Dark blue
	Stainless Steel: Silver
Cable sleeve	3 M20 x 1.5 or 3 1/2NPT
Class of protection	IP66
weight	Aluminum: About 1.5kg
	Stainless steel: about 3.7kg
dimension	See drawing

Basic module, HART® loop module

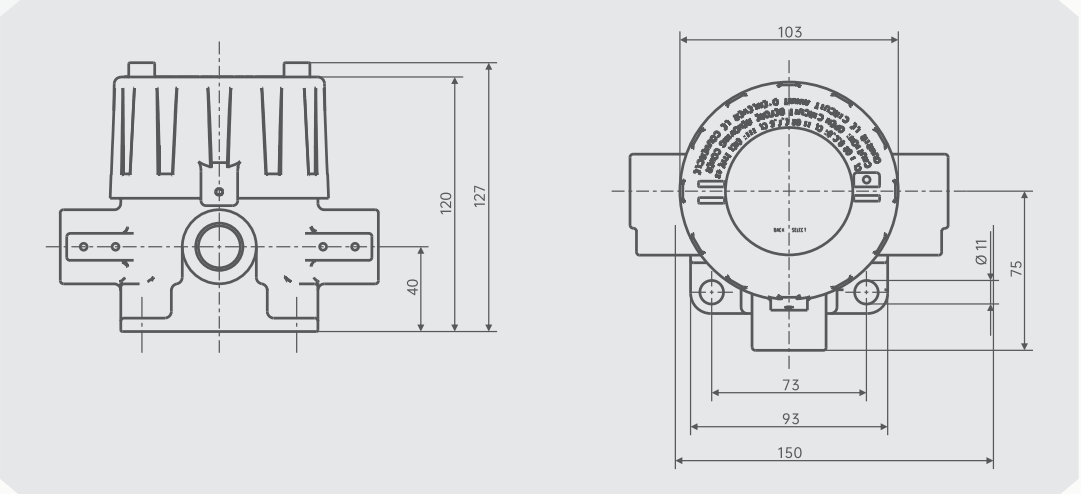
material	polycarbonate
Class of protection	IP20
weight	About 80g
dimension	See drawing

Size mm

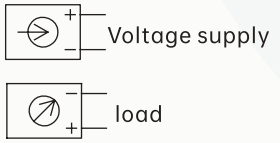
Basic modular



Field display type, aluminum/stainless steel



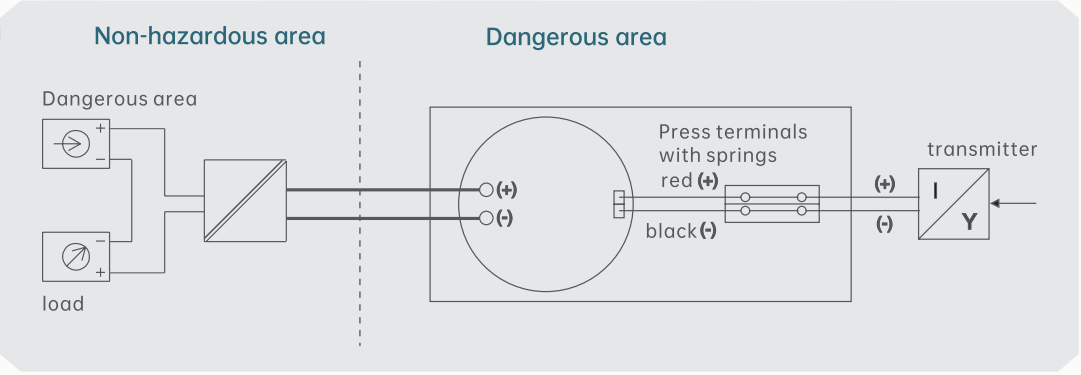
Electrical connectio



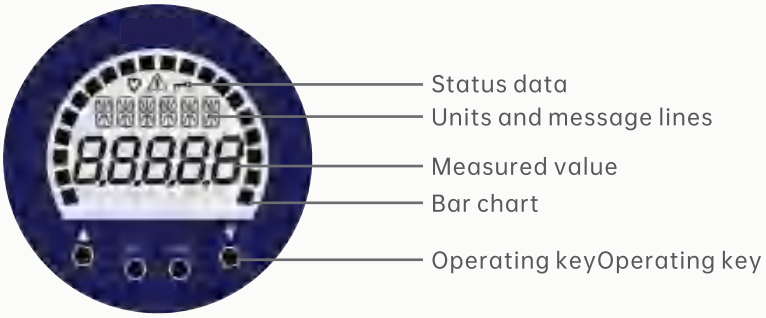
(-) Negative terminal

(+) Power supply positive

2-wire connection



User interface



ST20-Selection composition

Selection example **ST20**

S	B	E	J	V	B	0-400	R	Y	A
1	2	3	4	5	6	7	8	9	10

1.Installation form	S	Digital temperature transmitter	
	T( )	Other types	
2.Electrical interface	A	1/2NPT	
	B	M20×1.5	
	T( )	Other electrical interfaces	
3.Output signal	E	4-20mA HART protocol	
	F	4-20mA FF bus	
	G	4-20mA PA bus	
	H	0-10V	
	T( )	Other output signals	
4.Input signal	J	Pt100，B level	
	K	Pt100，A level	
	L	Pt1000，B level	
	M	Pt1000，A level	
	N	K(NiCr-Ni)	
	O	E(NiCr-CuNi)	
	P	N(NiCrSi-NiSi)	
	Q	J(Fe-CuNi)	
	R	J(T-CuNi)	
	T( )	Other measuring elements	
5.Wire system	U	2 Wire system	
	V	3 Wire system	
	W	4 Wire system	
	T( )	Other wire system	
6.Specification of threaded connection	A	1/2NPT	
	B	G1/2	
	C	G1	
	D	M20×1.5	
	E	M27×2	
6.1.Flange specification	F	DN15	
	G	DN20	
	H	DN25	
	I	DN32	
	J	DN40	
	K	DN50	
	T( )	Other specifications	
7.Temperature range (℃)	G	-200...+1260℃	
	H	Other measured temperatures	

ST20-Selection composition

Selection example ST20

S	B	E	J	V	B	0-400	R	Y	A
1	2	3	4	5	6	7	8	9	10

8.Rod length(mm)	O	50	
	P	100	
	Q	150	
	R	200	
	S	250	
	Y	300	
	U	350	
	V	400	
	W	450	
	X	500	
	T( )	Other lengths	
9.Probe rod material	Y	304SS	
	Z	316L	
	T( )	Other materials	
10.Rod diameter mm	A	6	
	B	8	
	C	10	
	T( )	Other specifications	
11.Authentication	D	Intrinsically safe explosion protection	
	E	Flameproof	
	F	CE Authentication	
	G	SIL Authentication	
12.Special requirements	X	Additional information	
	N	There is no	

Instructions:

ST20HART digital display temperature transmitter, electrical interface is M20*1.5, output 4-20mA+HART, input Pt100, class B, three-wire system, thread specification is G1/2, measuring temperature 0-400℃, length of probe rod 200mm, probe rod material is 304SS, probe rod diameter is 6mm, Item 11/12 is optional.

Product Certification

Compliance and approval; Rodeweig pressure gauges meet key standards and certifications for process measurement technology; Thus guaranteeing the highest reliability in such Settings;

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