Certificato No. LRC 180457
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spirax sarco

7B.160-E
Issue 2

Indicating Pneumatic Transmitters Series 600

Series 600 indicating pneumatic trasmitters are instruments designed for directly measuring a temperature or a pressure which is indicated by a pointer on a segmental graduated scale 100 mm wide.

At the same time the measured variable is converted into a linear 3 to 15 psi or 0.2 to 1 bar pneumatic signal.

This signal is then transmitted to a receiver for remote indication, recording and/or an automatic control.

These instruments find wide application in pneumatic transmitting systems for centralized measurement and control of processes.

An inbuilt powerfull amplifying relay allows a long distance transmission with a reduced air consumption.

The transmitted signal is directly proportional to the measured value with remarkable accuracy, repeatibility and sensitivity.

The measuring element is a spiral stainless steel Bourdon tube for pressure and a **gas filled** system with bulb and capillary for temperature.

The instrument is provided with a pressure gauge for the air output signal indication.

Instrument case of reduced size is dust and sprayproof and fitted with accessories for wall or flush panel mounting: optionally instrument may be supplied with accessories for 2" pipe support mounting.

Case internal pressurization is possible on request. Compressed air for instrument supply must be filtered, oil free and completely dry; a pressure of 20 psig (1.4 bar) is required.

MEASURING SYSTEMS

Temperature

Nitrogen filled thermometer system for temperature ranging from —100°C to 600°C; cylindrical bulb for liquids, available also in sanitary execution for food industry, pharmaceutical processes, ecc, or spiral bulb for air and gas.
Bulb and capillary are in AISI 316L stainless steel.
The maximum capillary length may be 10 meters.

Pressure

Bourdon type pressure element in AISI 316L stainless steel: spiral tube for pressures up to 400 bar and helical tube for pressures up to 500 bar.
A diaphragm separator with capillary is available for application with very viscous or corrosive fluids.

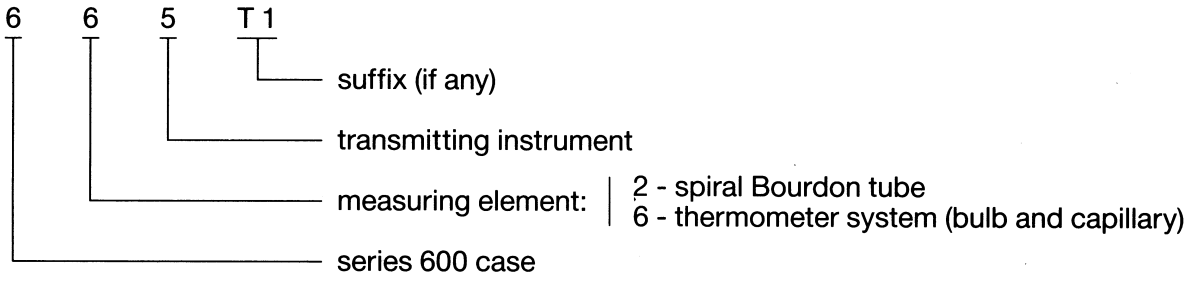
TYPES

The series 600 indicating pneumatic transmitters are available in the following versions:

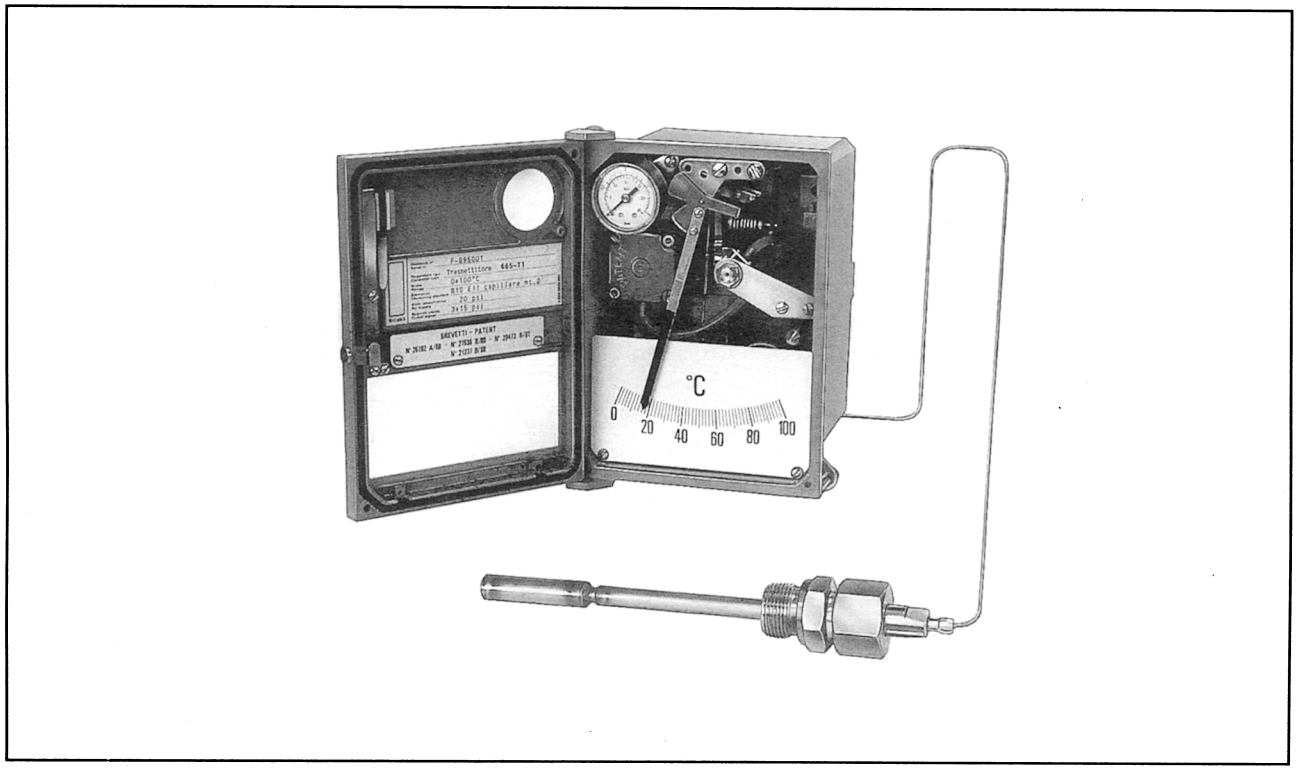
Model 625 - pressure transmitter

Model 665 - temperature transmitter.

The model number, which indentifies the general characteristics of the instrument, is composed by a number of three digits often followed by an alphanumerical suffix.
The meaning of digits and letters is explained with an example.



The suffix is used in order to complete or give complementary informations about the characteristics of the instrument, for example: T5 is used when the thermometric element is nitrogen filled and has a cylindrical bulb while T5 Sy means that the nitrogen filled thermometer system is fitted with a sensing bulb in sanitary execution; T6 means that the thermometer system is nitrogen filled but fitted with a spiral bulb for air and gas.



GENERAL SPECIFICATIONS

Type of instrument	Indicating pneumatic transmitter with direct measuring of variable
Measuring limits	• pressure: —1 to 500 bar • temperature: —100°C to 600°C
Scale	segmental 100 mm long
Accuracy	1% of range span
Sensitivity	0.2% of range span
Repeatibility	0,5% of range span
Linearity	0.5% of range span
Mode of transmission	direct and proportional action: output signal increases on increasing measured variable
Output signal	3 to 15 psi or 0.2 to 1 bar
Air supply	compressed air at 20 psi ± 1.5 psi (1.4 bar ± 0.1 bar)
Air consumption	0.2 Nm^3/h (average)
Air connections	1/4" NPT female for air supply and output signal
Process connections	• pressure: 1/4'' NPT female threaded • temperature: for bulb types, dimensions and connections to process see bulletin 7B.390-E
Ambient temperature limits	maximum 65°C minimum −15°C
Case	die cast alluminium with blue RAL 5010 enamel finish, spray and dust-proof style with standard protection degree IP 54 or IP 55 on request; connection for internal pressurization (optional)
Mounting	• wall or flush panel mounting by means of standard fittings • on 2'' pipe support with clamp (optional)
Weight	approx. 3.5 kg
Overall dimensions	see drawings on the next page

STANDARD RANGES OF MEASUREMENT

FOR PRESSURE

Ranges in bar	— 1-0	0-1	0-4	0-10	0-25	0- 75	0-300	50-100	100-250
	— 1-1	0-2	0-5	0-15	0-30	0-100	0-400	50-150	100-300
	— 1-4	0-3	0-7	0-20	0-50	0-200	0-500	100-200	100-400
Permissible overpressure	25% of measuring range span								

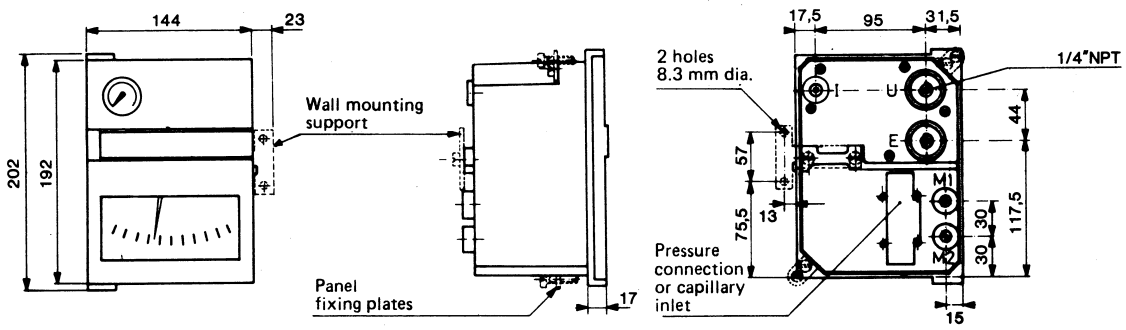
FOR TEMPERATURE

Measuring span	50°C	75°C	100°C	150°C	200°C	300°C	400°C
Ranges in Centigrade degrees	—10- 40	0-75	0-100	0-150	0-200	0-300	0-400
	—25- 25	25-100	10-110	50-200	50-250	50-350	100-500
	0- 50	50-125	25-125	100-250	100-300	100-400	
	25- 75		50-150				
	50-100						
Permissible overtemperature	25% of measuring range span						

DATA REQUIRED FOR OFFERS AND WHEN ORDERING

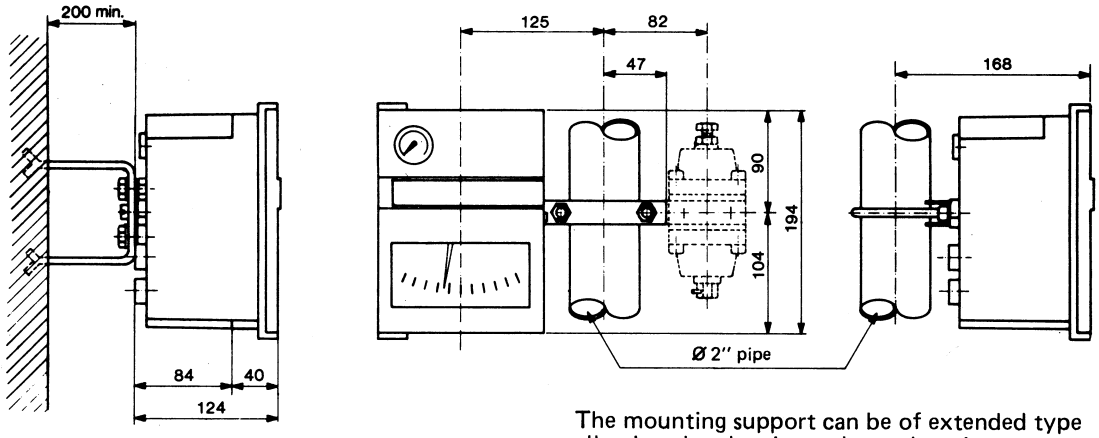
	Example	
Type of instrument	trasmitter for pressure	/ temperature
Measuring range	0-10 bar	/ 50-150°C
Fluid in contact with measuring element	saturated steam	/ lubricating oil
Maximum temperature to which measuring element could be submitted (even accidentally)	190°C	/ 150°C
Maximum pressure to which measuring element could be submitted (even accidentally)	12 bar	/ 20 bar
Required capillary length	—	/ 3 m
If pocket for bulb protection is required (necessary when bulb removal without stopping or emptying the plant is desiderd)	—	/ stainless steel pocket
Mounting style	on 2" pipe support	
Ambient temperature variations	10 to 30°C	

DIMENSIONS (mm)



E = Air supply connection (air inlet)
U = Signal connection (air outlet)

WALL OR PIPE SUPPORT MOUNTING



The mounting support can be of extended type allowing also the air regulator clamping.

FLUSH PANEL MOUNTING