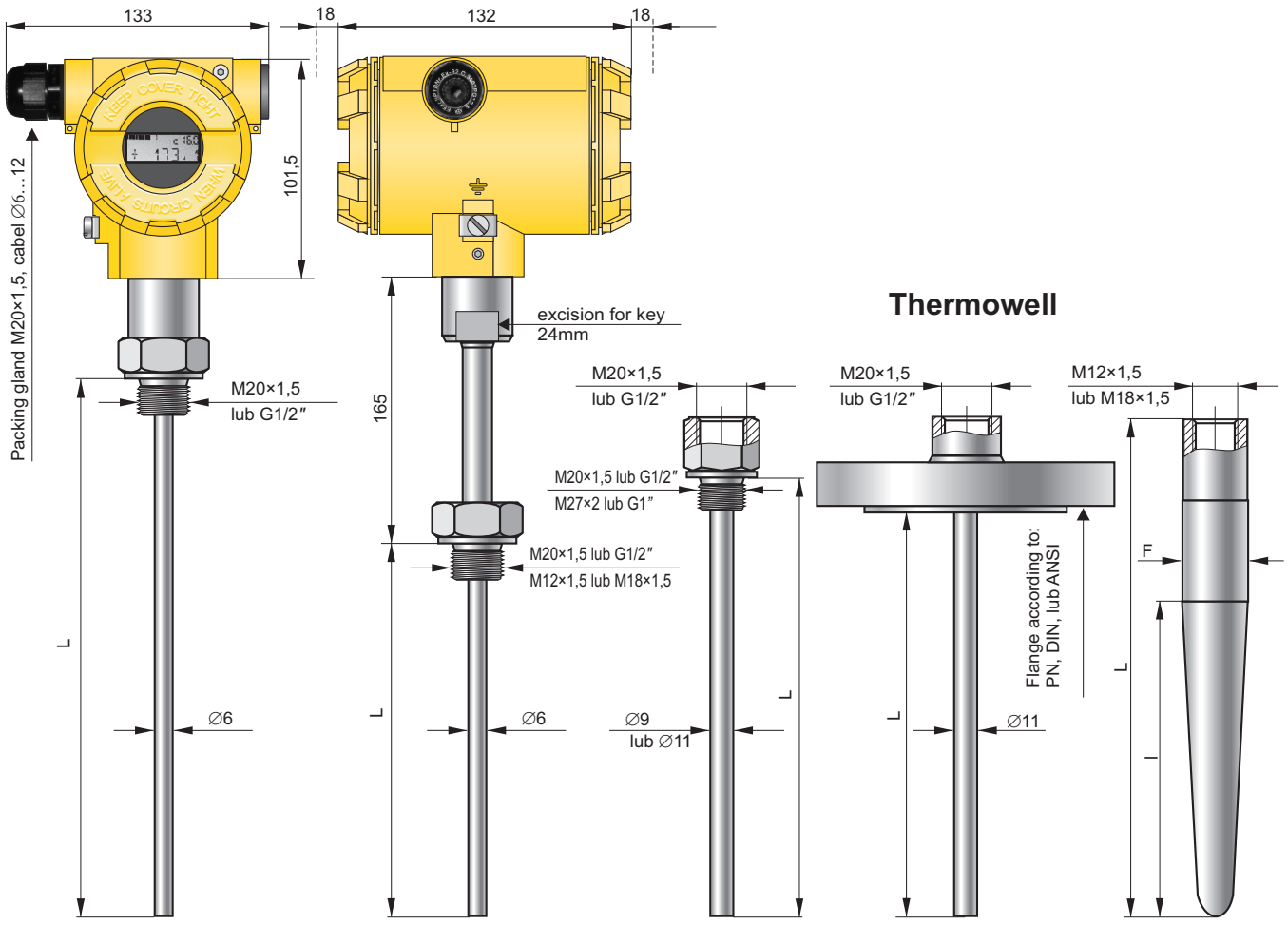
Smart temperature transmitter type APT-2000ALW

HART COMMUNICATION PROTOCOL

- ✓ 4…20 mA output signal + HART protocol
- ✓ Programmable range, zero shift, characteristic and damping ratio with local panel keys
- ✓ ATEX Intrinsic safety
- ✓ ATEX Explosion proof
- ✓ Resistant or thermocouple measuring element
- ✓ Accuracy 0.075%
- ✓ Rangeability 100:1



Technical data

Metrological parameters

Error (digital value)

± (0,05 + 0,05%·z + 0,001·|t|)°C for sensor Pt100
± (0,5 + 0,05%·z)°C for sensor K i t ≤ 375°C
± (0,5 + 0,05%·z + 0,002·(t-375))°C for sensor K i t > 375°C

Additional error for analog output ±0,04%·z

where:
|t| – absolute value of the measured temperature °C
t - value of the measured temperature °C
z – transmitter setting range °C

Measuring range

Sensor type	Min set range	Nominal range
Pt100	10°C	-200…550°C
K	10°C	-40…550°C

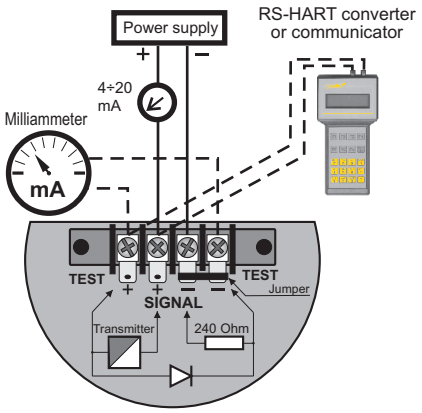
Electrical parameters

Powerr supply 12...55 V DC (Ex 13,5...28 V)
Additional voltage drop when display illumination switched on 3 V

Output signal 4...20 mA + Hart protocol

ATEX certificate II 1/2G Ex ia IIC T4-T6 Ga/Gb
I M1 Ex ia
II D1/2G Ex ia D 20 T105C

Electrical diagram



Resistance required for communication (HART) min. 240Ω.

Load resistance $R[\Omega] = \frac{U_{ZAS}[V] - 12V\ *}{0{,}0225A}$

* – 15 V when display illumination switched on

Operating conditions

Ambient temperature -40...85°C
for version with Ex -40...80°C

Materials

Casing Aluminium, 316Lss
Thermowell

Type of thermowell	Material
GB1, GN1, G1	304ss or 316Lss
T1	304ss, 316Lss
SW1, SW2	15HM 10H2M 316Lss

Communication and configuration

The communication standard for data interchange with the transmitter is the Hart protocol.
Communication with the transmitter is carried out with:
– a KAP-03, KAP-03Ex communicator,
– some other Hart type communicators,
– a PC using an RS-Hart converter and Raport-01 configuration software.

The data interchange with the transmitter enables the users to:
- identify the transmitter;
- configure the output parameters:
- read the currently measured temperature value of the output current and the percentage output control level;
- force an output current with a set value;
- calibrate the transmitter in relation to a model temperature.

APT-2000ALW/___/___/___/___/ L = ... mm /___/___÷___°C/___

Special version:
Ex - version with ATEX certificate
IP-67- protection standard
SS- Housing material 316SS

Type of sensor: **GB, GN**

Thermowell type: **OG2.9, OG2.11, T1, SW1, SW2**

Type of thread of flange connection:
M20×1,5; G1/2″; M27×2; G1" or flange

Immersion length

Type of measuring element: **Pt100, K**

Set measuring range

Alarm signal: 3,8 or 23 mA

Example: Temperature transmitter APT-2000ALW thermowell type T1, ATEX version, immersion length 250mm, flange DN50 PN40, K type sensor, set range 0 - 300°C, alarm signal 23 mA

APT-2000ALW/ Ex/GN/T1/DN50/L=250 mm / DN50 PN40 / K / 0 ÷ 300°C / 23 mA