

# AIRFLY - humidity and temperature control

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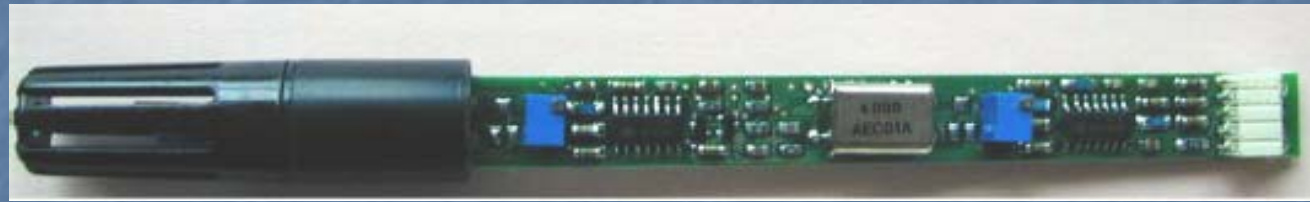
## 2 studied solutions:

- Innovative Sensor Technology (Switzerland) – temperature and relative humidity measurements
- SENSORIKA (Czech Rep.) – temperature and dew point measurement

# Innovative Sensor Technology



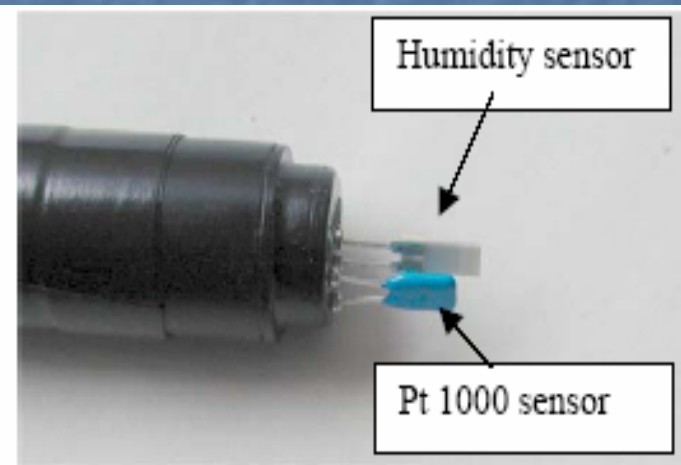
Humidity meas. range:  
0 – 100 % RH  
-non condensing



Output voltage:  
0 – 10 V

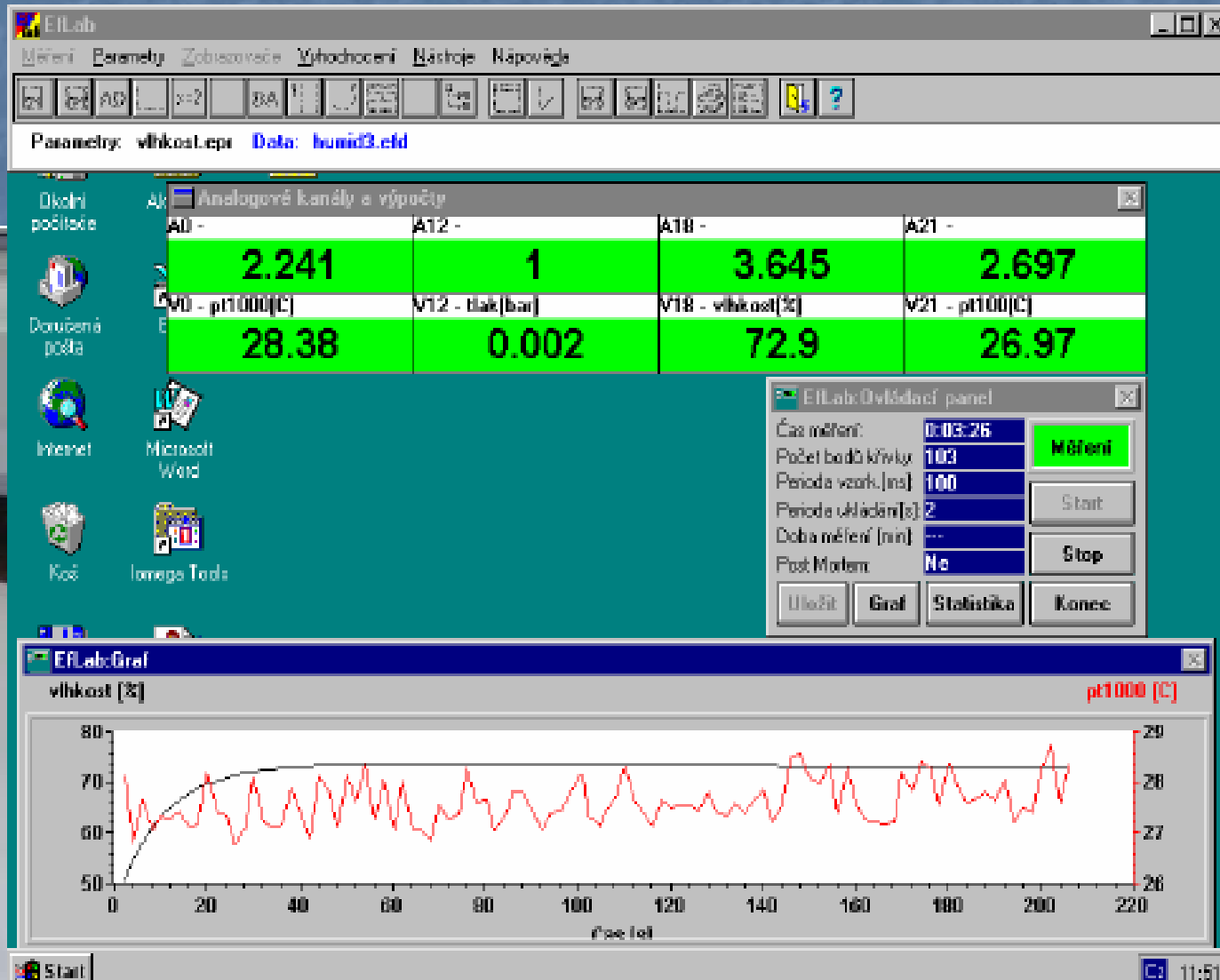
Accuracy @ 23 °C:  
2 % RH

Response time:  
~ 10 s



# IST - calibration

saline solution of NaCl (75 % RH)



# IST - calibration

saline solution of  $MgCl_2$  (33 % RH)



# SENSORIKA



## Humidity sensor HS 2Ta:

Accuracy at + 21°C

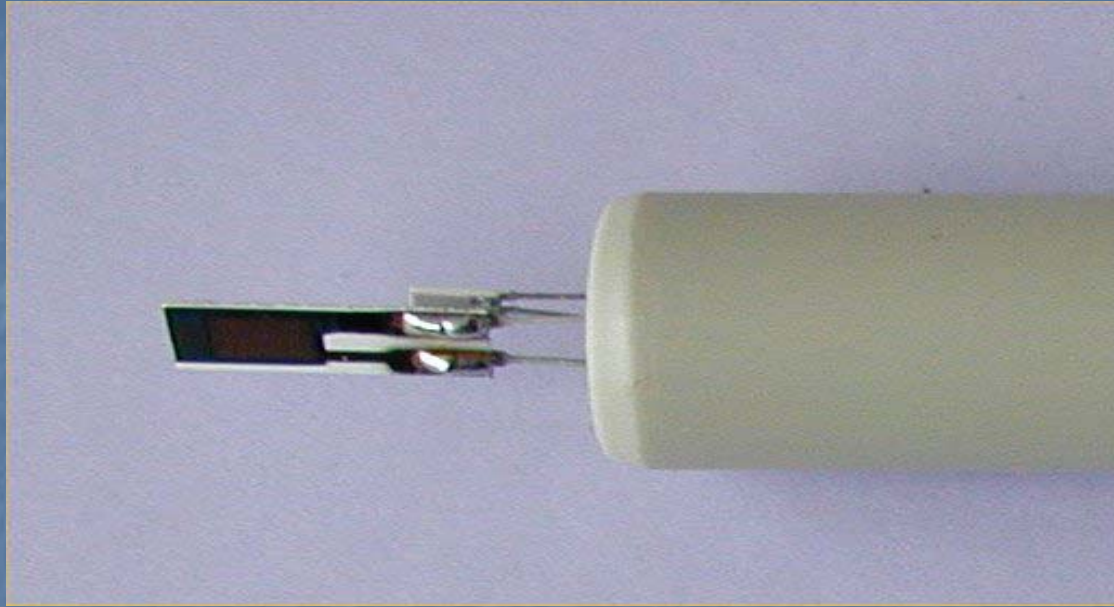
In interval -80°C ÷ + 40°C DP ... better than  $\pm 2^\circ\text{C}$  DP,

In interval -60°C ÷ + 10°C DP ... better than  $\pm 1^\circ\text{C}$  DP,

Time response ... less than 5 sec,

Frequency (-80°C ÷ + 10°C DP) ... 65 ÷ 15 kHz.

# SENSORIKA



## Temperature sensor Pt 10 000:

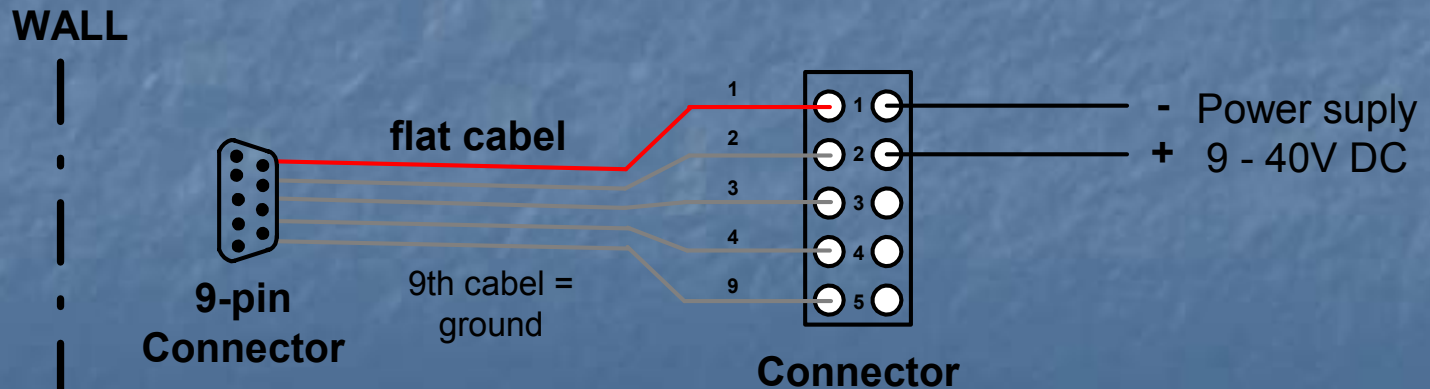
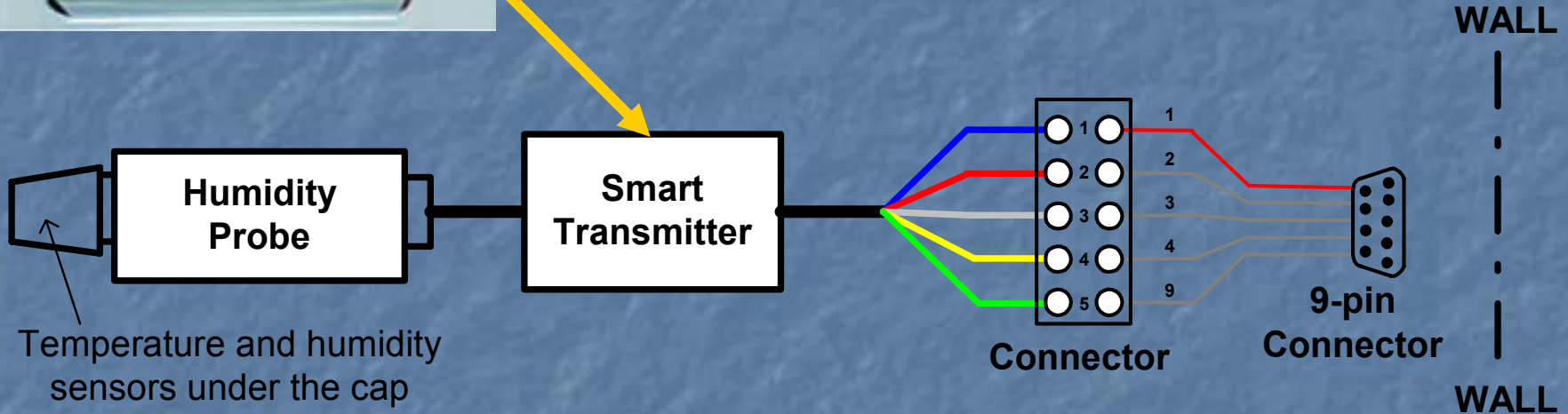
Accuracy at 0°C ... better than  $\pm 0,15^{\circ}\text{C DP}$ ,  
Accuracy at 100°C ... better than  $\pm 1,0^{\circ}\text{C DP}$ ,  
Time response ... less than 12 sec,  
Frequency (0°C ÷ 90°C DP) ... 18 ÷ 13 kHz.

# SENSORIKA



Temperature:

$$T(^{\circ}\text{C}) = 3,75 * I (\text{mA}) - 15$$



Dew point temperature:  $TDP(^{\circ}\text{C}) = 6,25 * IDP (\text{mA}) - 105$