

Calibration

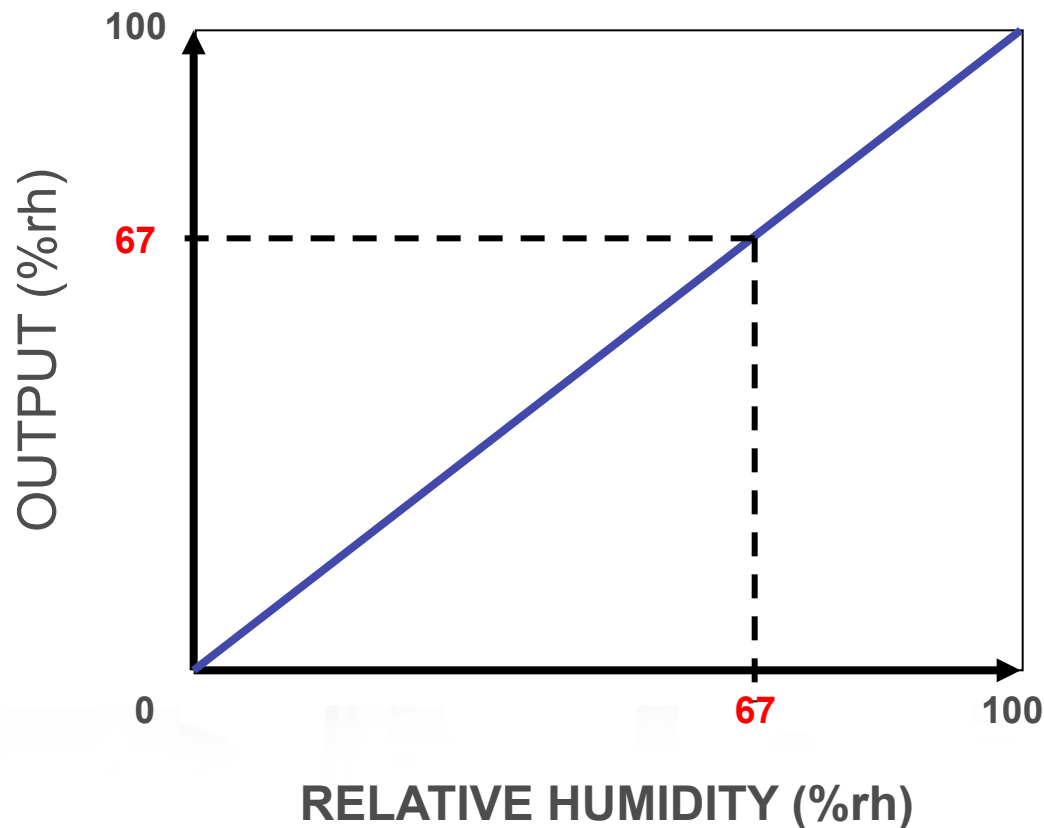


rotronic

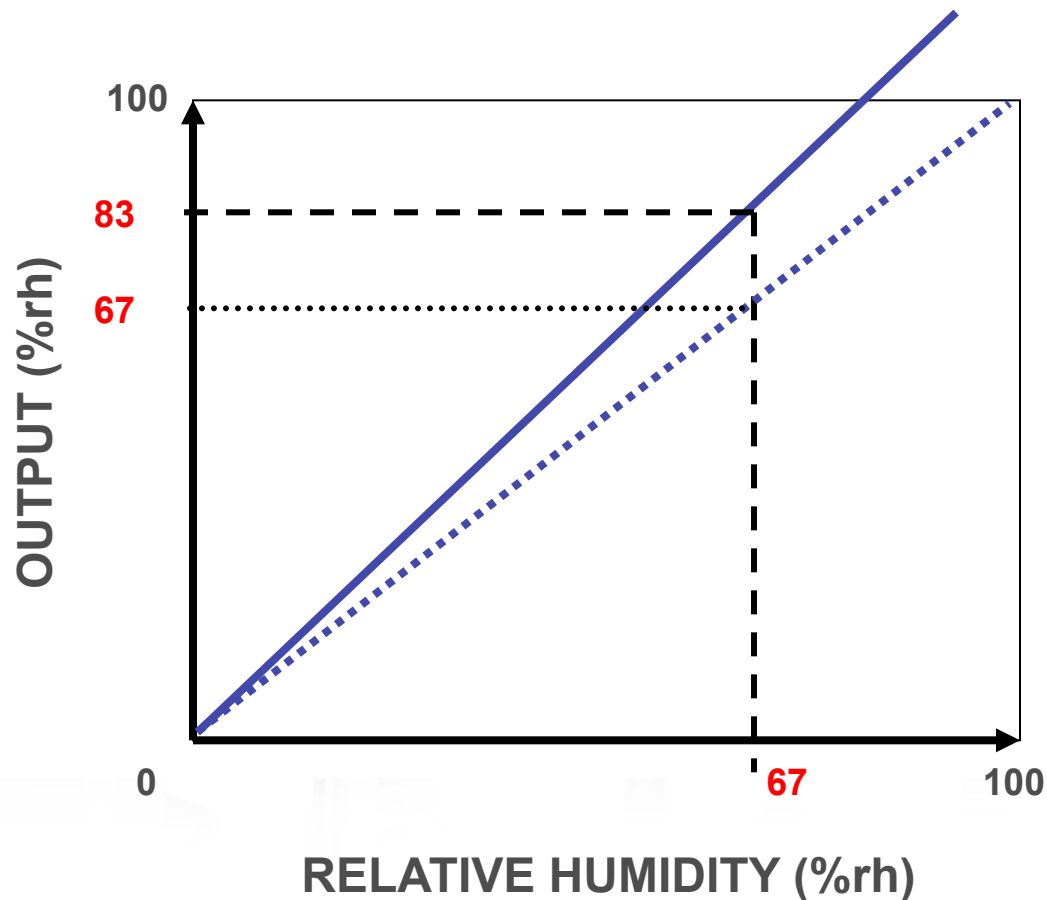
Calibration

Needful information and reasons why we adjust
the way we adjust!

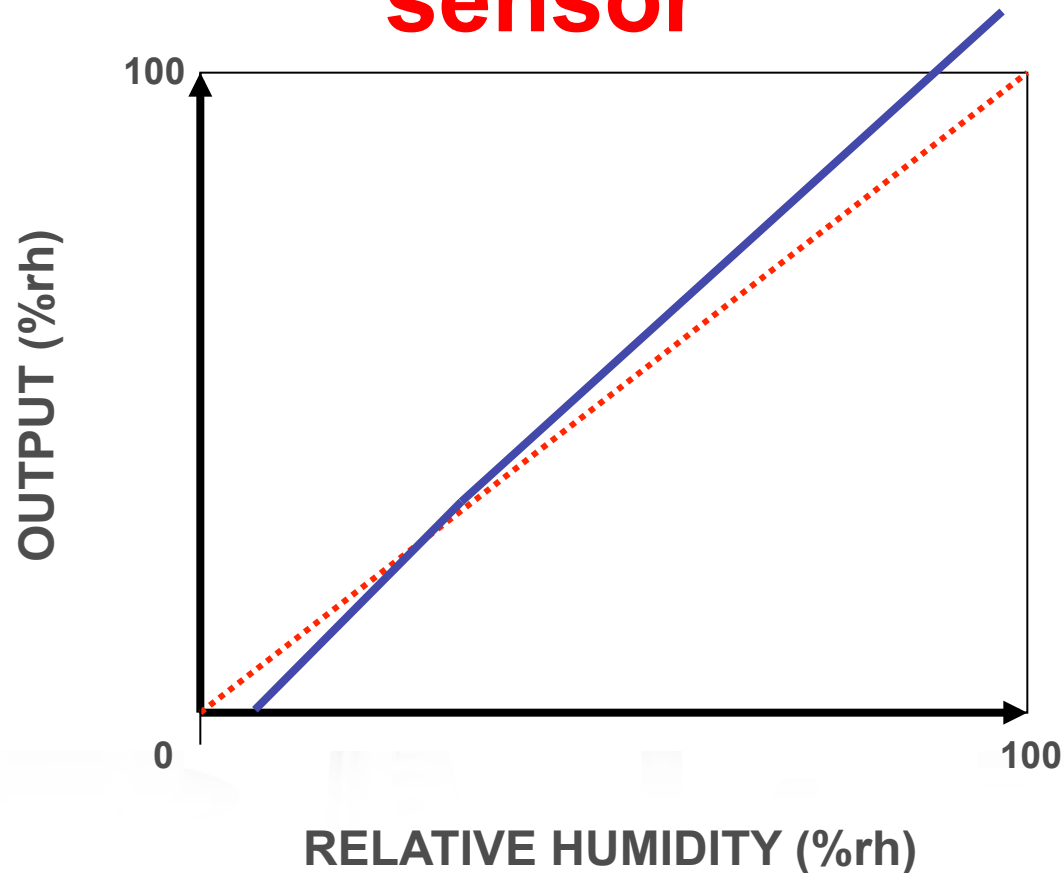
Ideal characteristic of a sensor



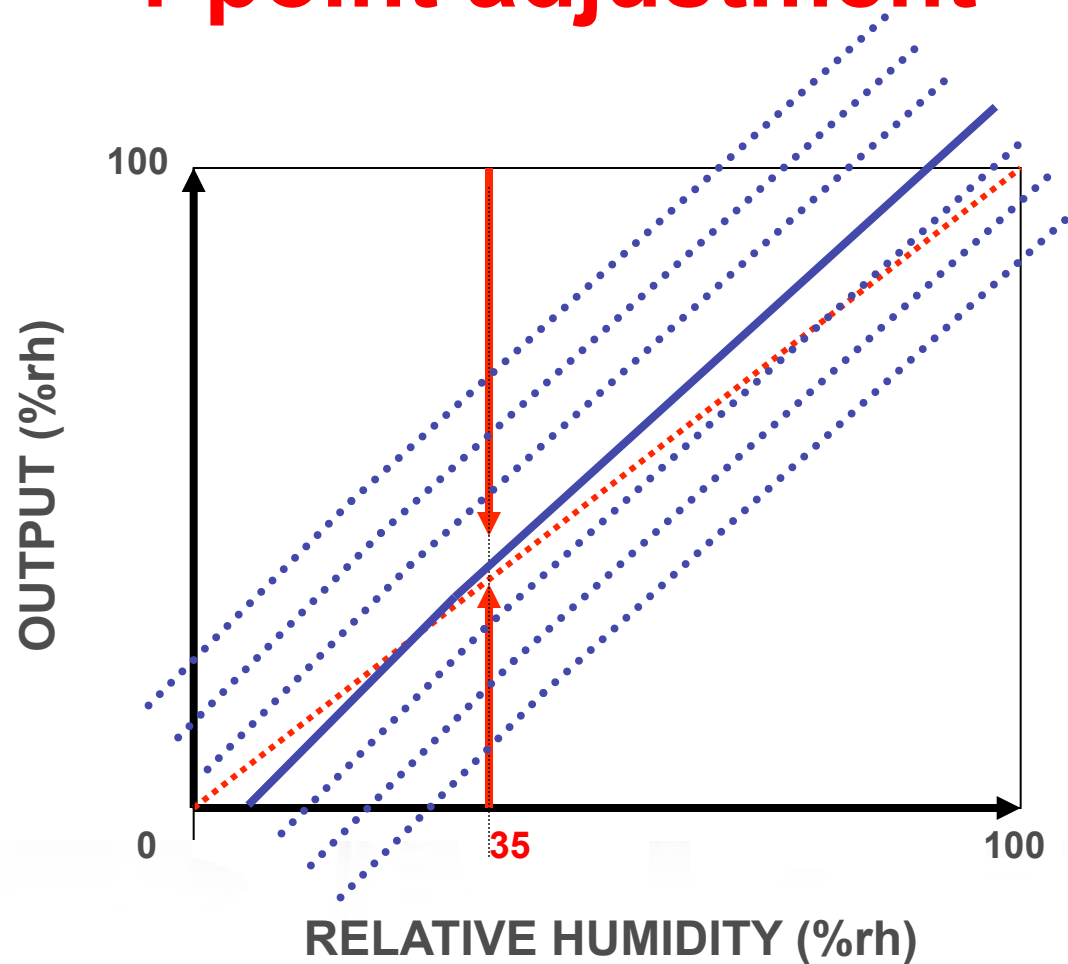
Characteristic drift



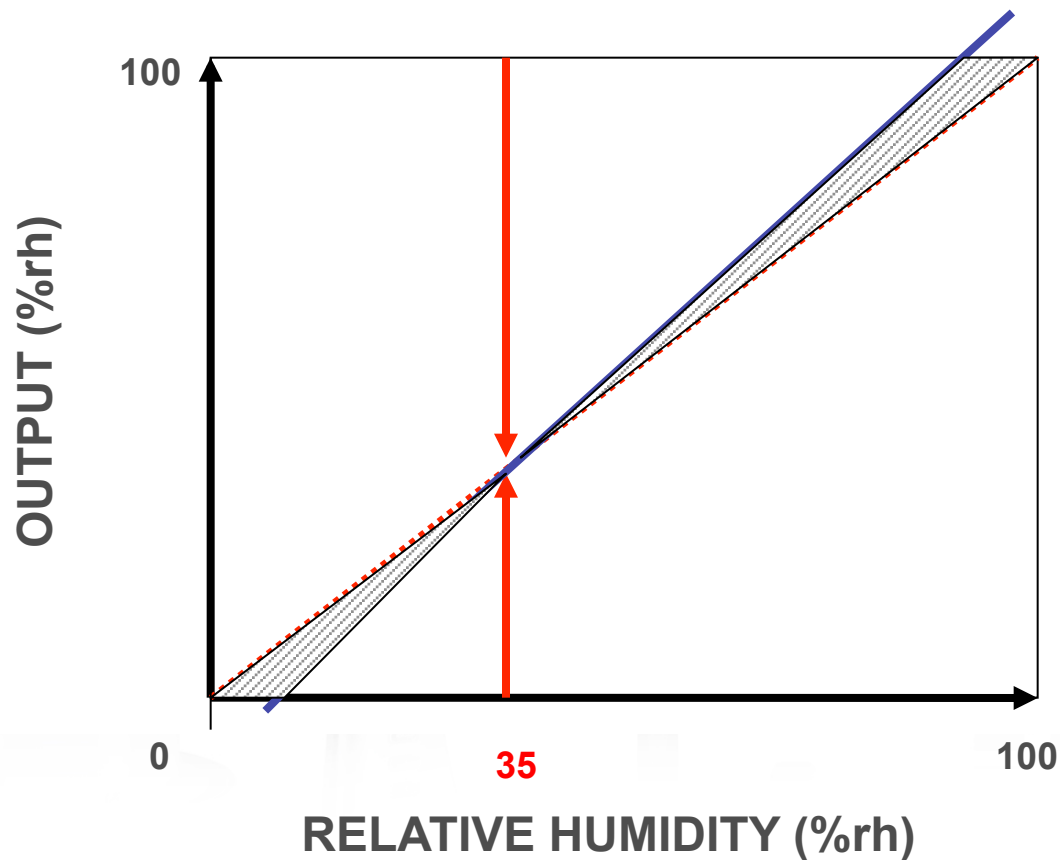
Real characteristic of a capacitive sensor



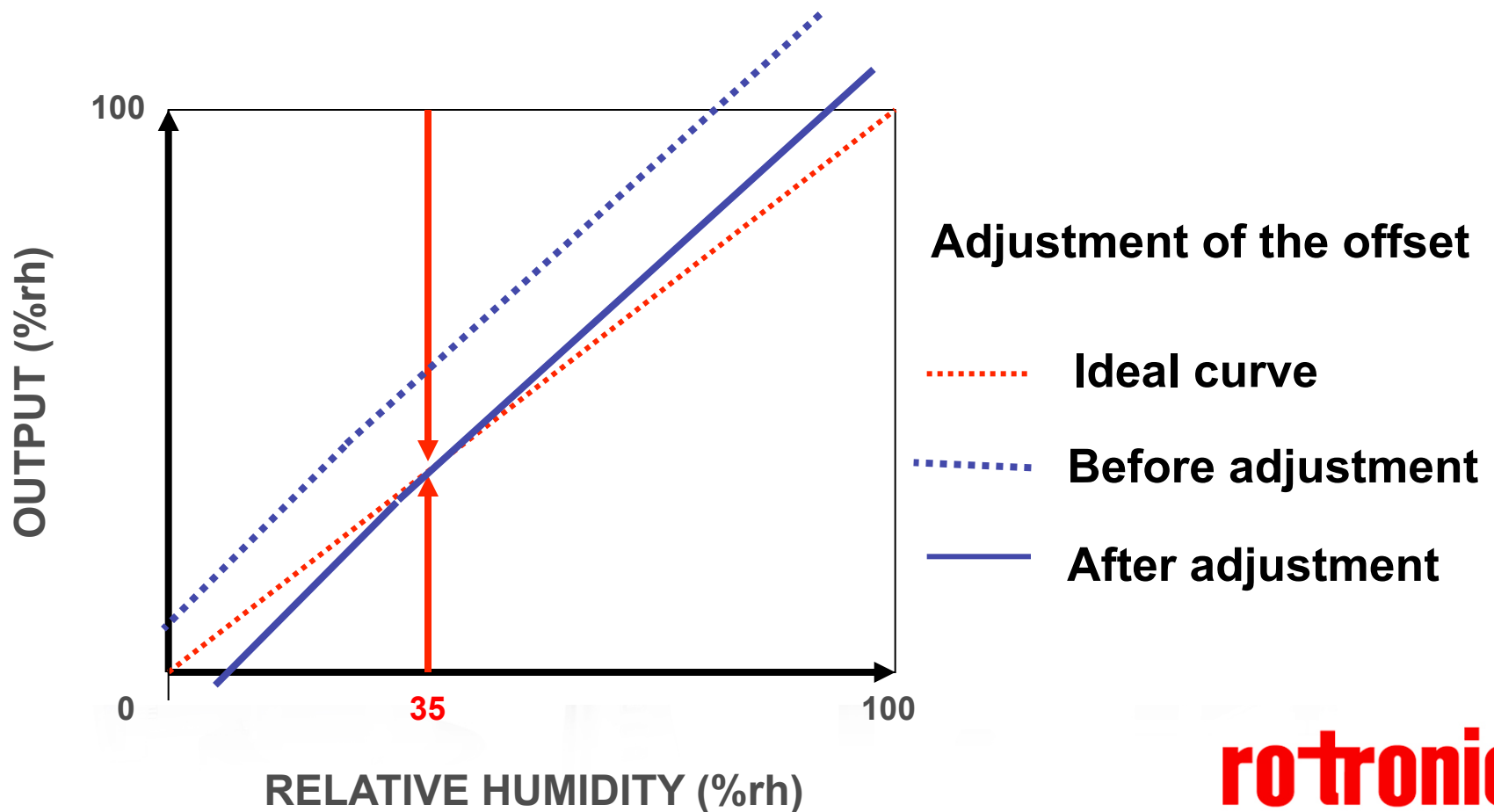
1 point adjustment



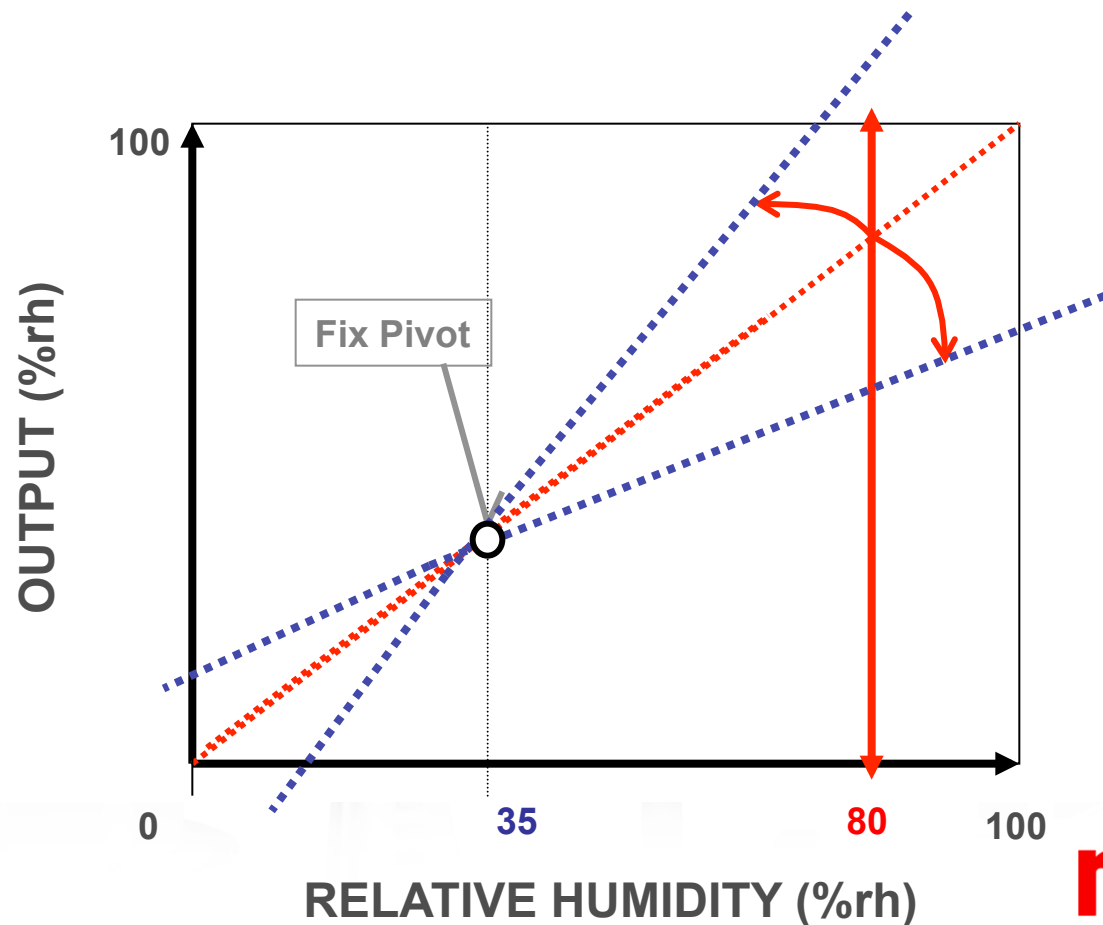
1 point adjustment



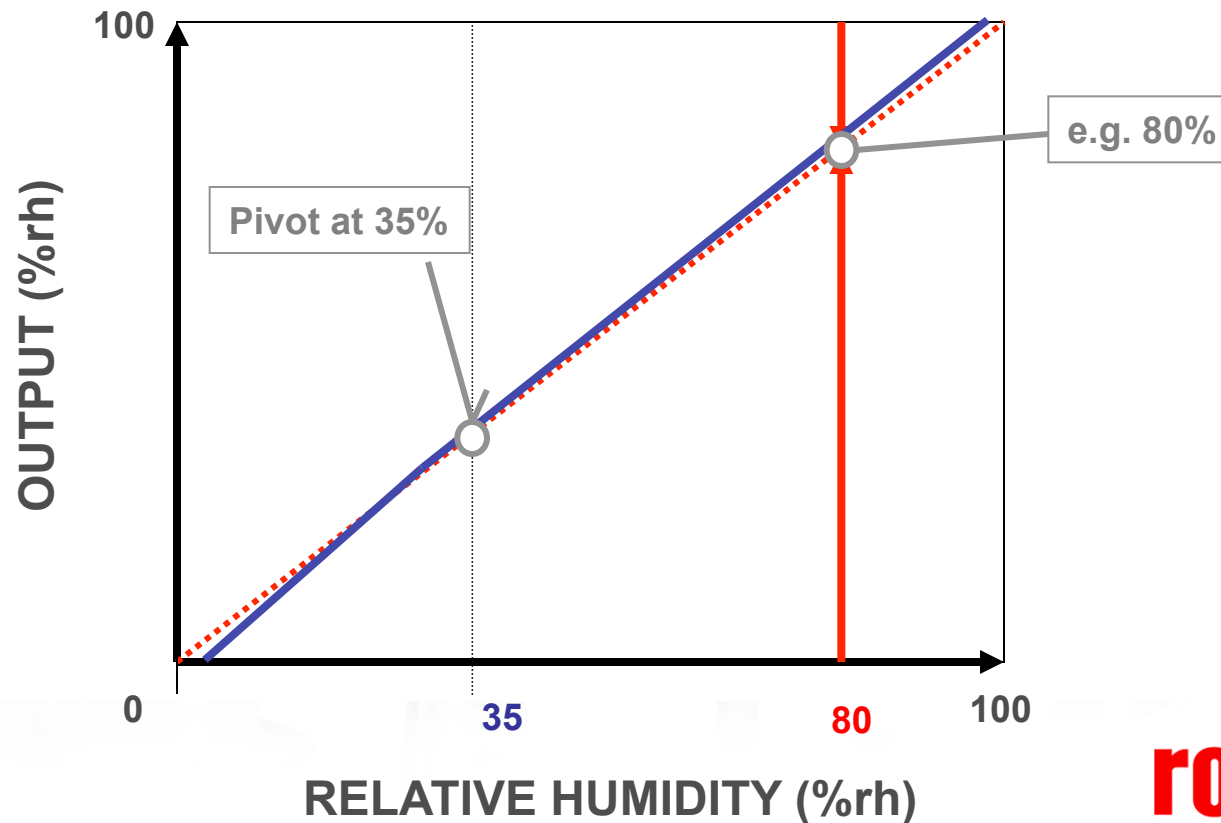
2 point adjustment - Step 1: 35%rh



2 point adjustment - Step 2: 80%rh



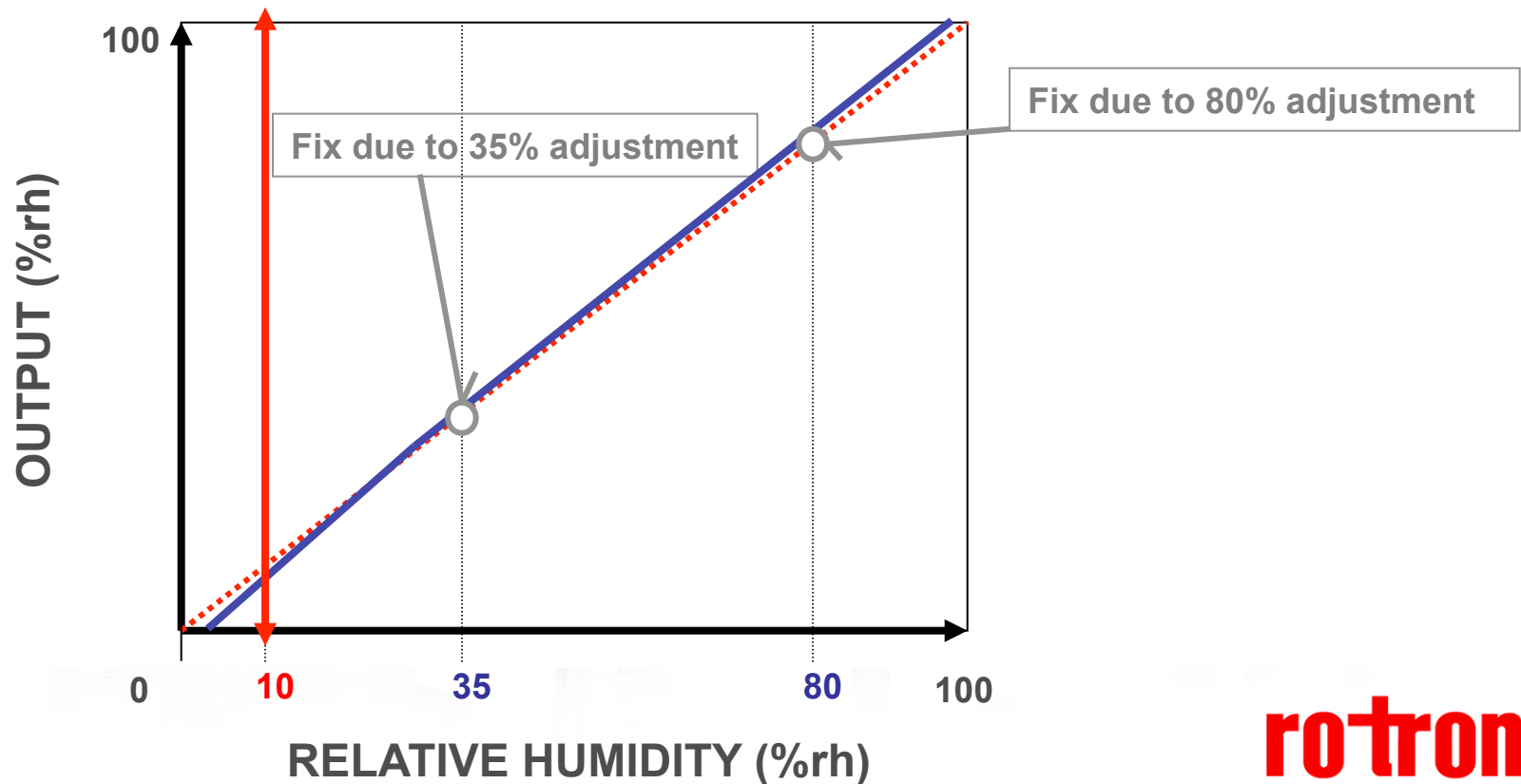
2 point adjustment - Step 2: 80%rh



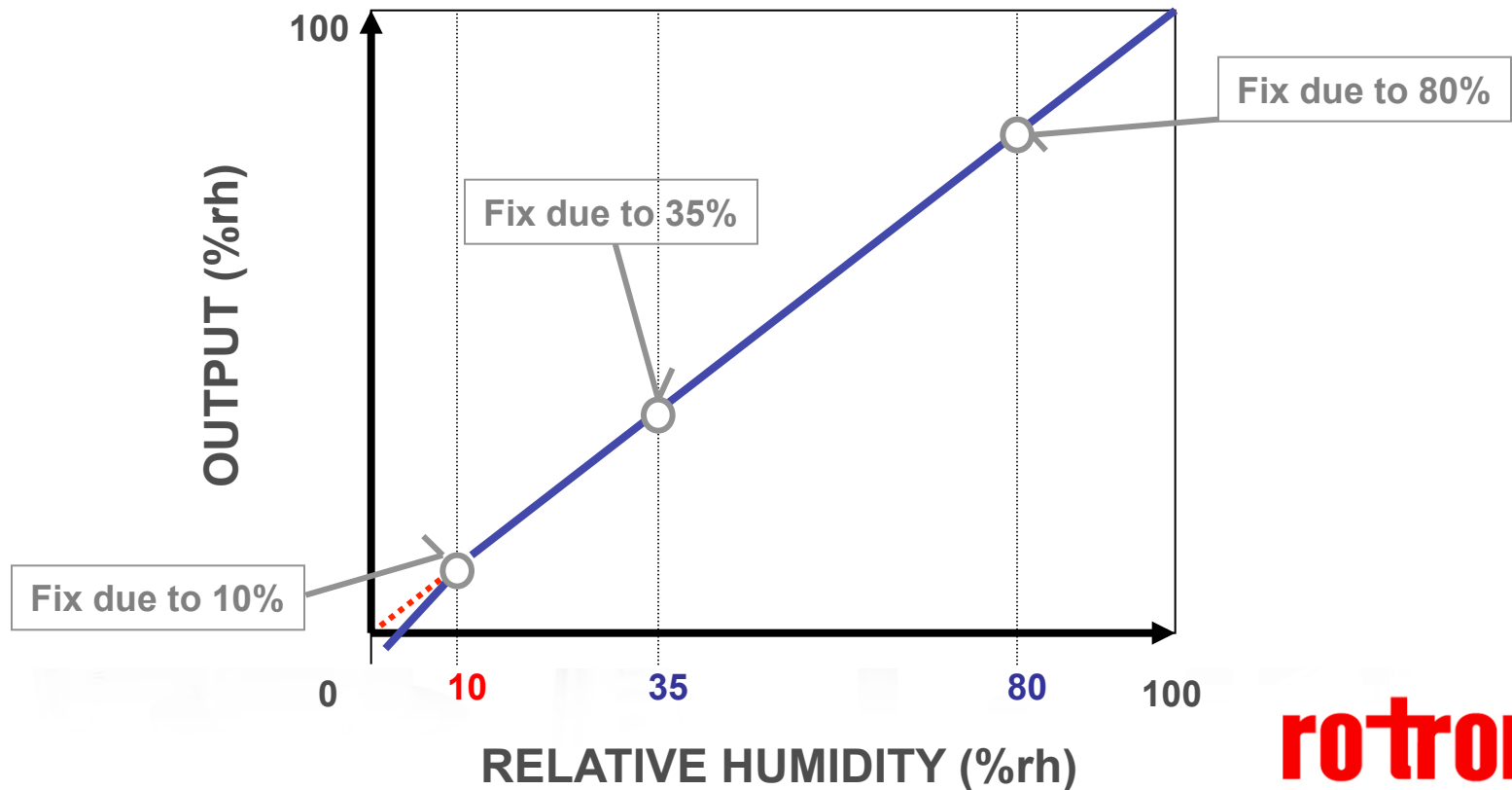
Is a 3 point adjustment necessary?

If the humidity measured in the application is often below 20%rh, it is recommended to do a 3 point adjustment.

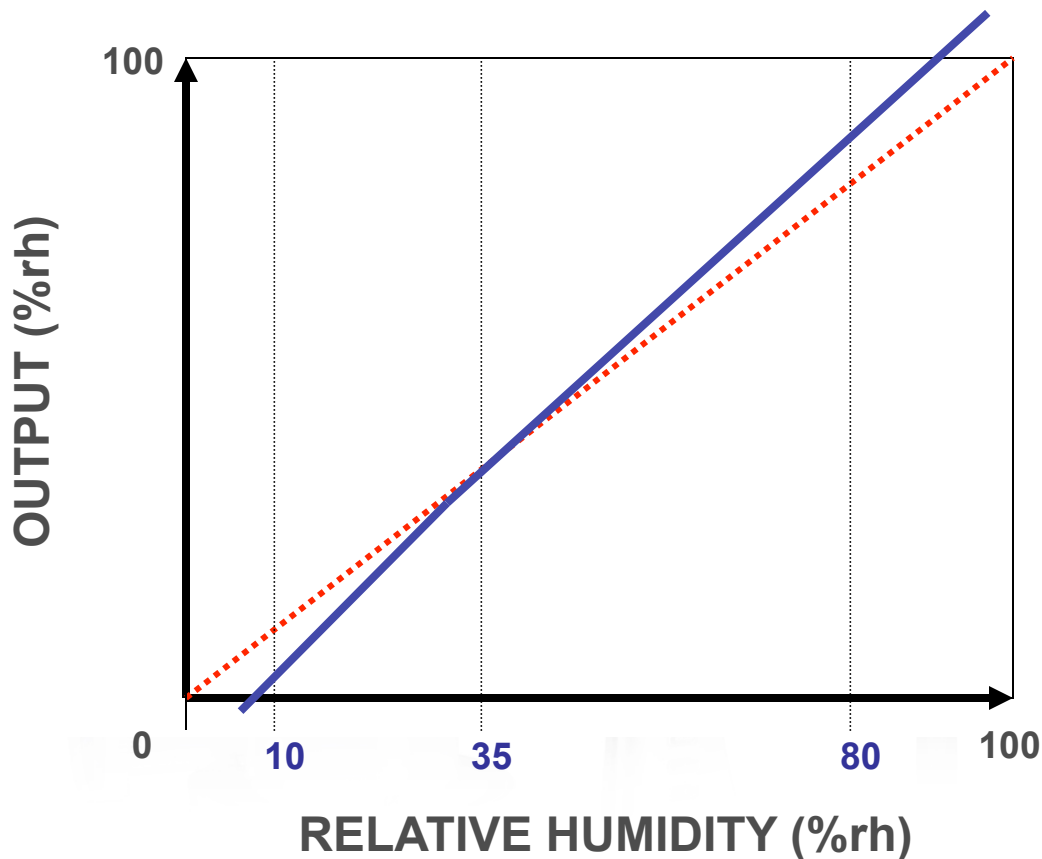
3 point adjustment at 35, 80 and 10%rh



3 point adjustment at 35, 80 and 10%rh

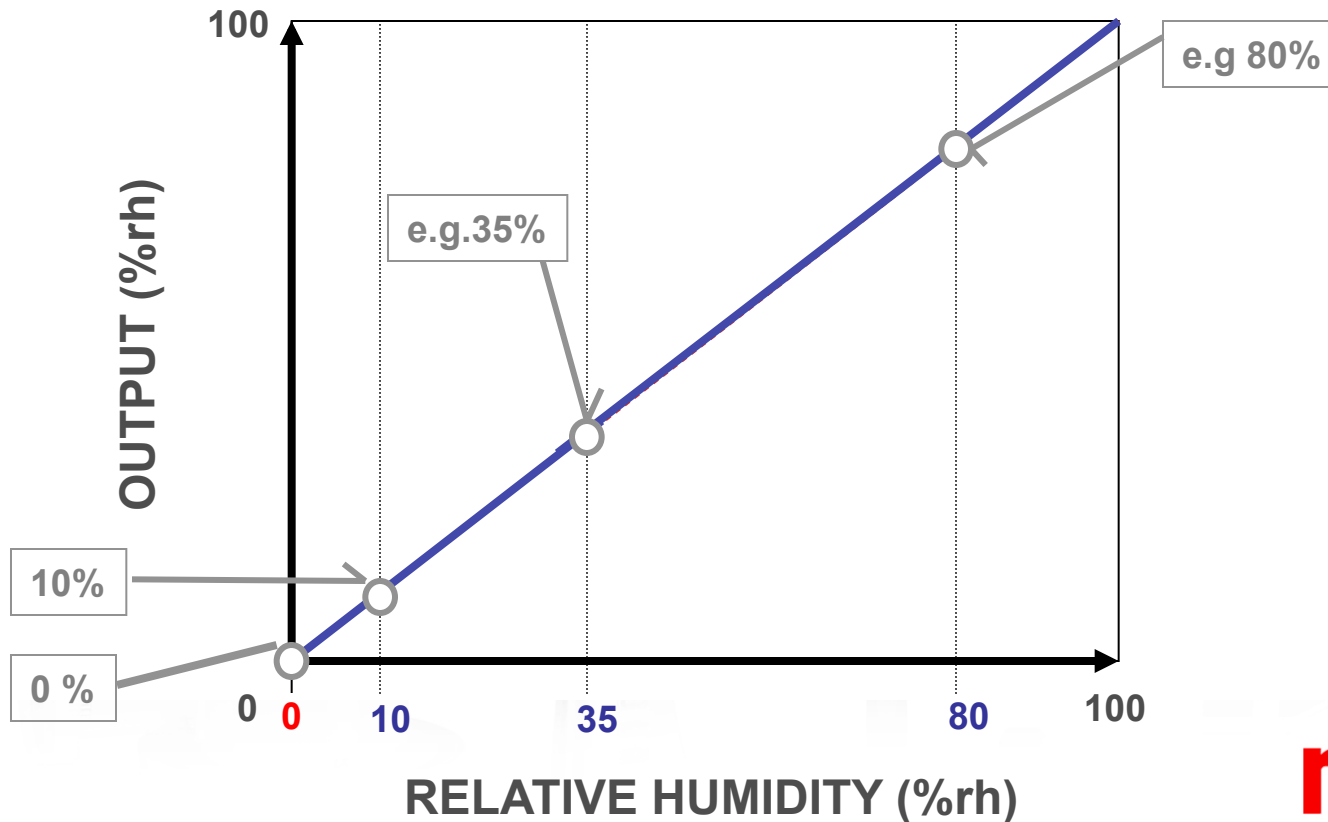


4 point adjustment

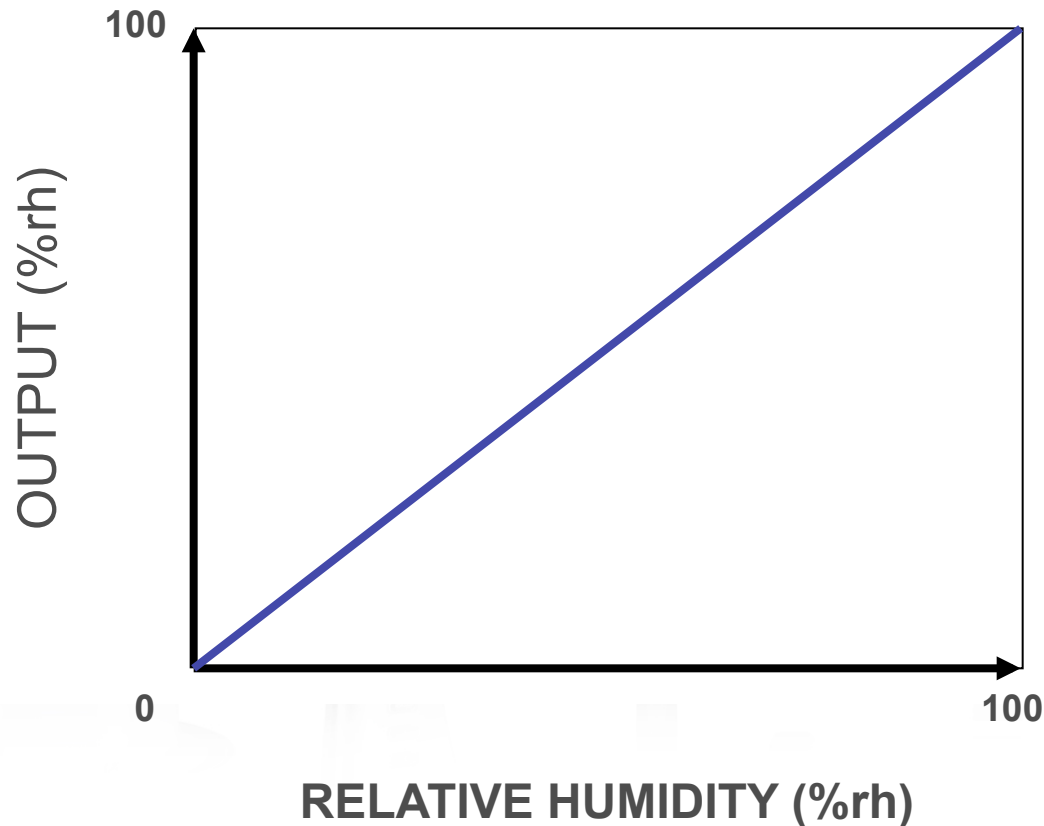


35 %rh – Step 1
80 %rh – Step 2
10 %rh – Step 3
(0%rh) – Step 4

4 point adjustment



100 point adjustment



Protocol

Depending on the customer and QS, the protocols are made:

- Date
- Name (who does the protocol)
- Reference
- Instrument information (serial number etc, last calibration)
- True value
- Measured value
- Deviation.

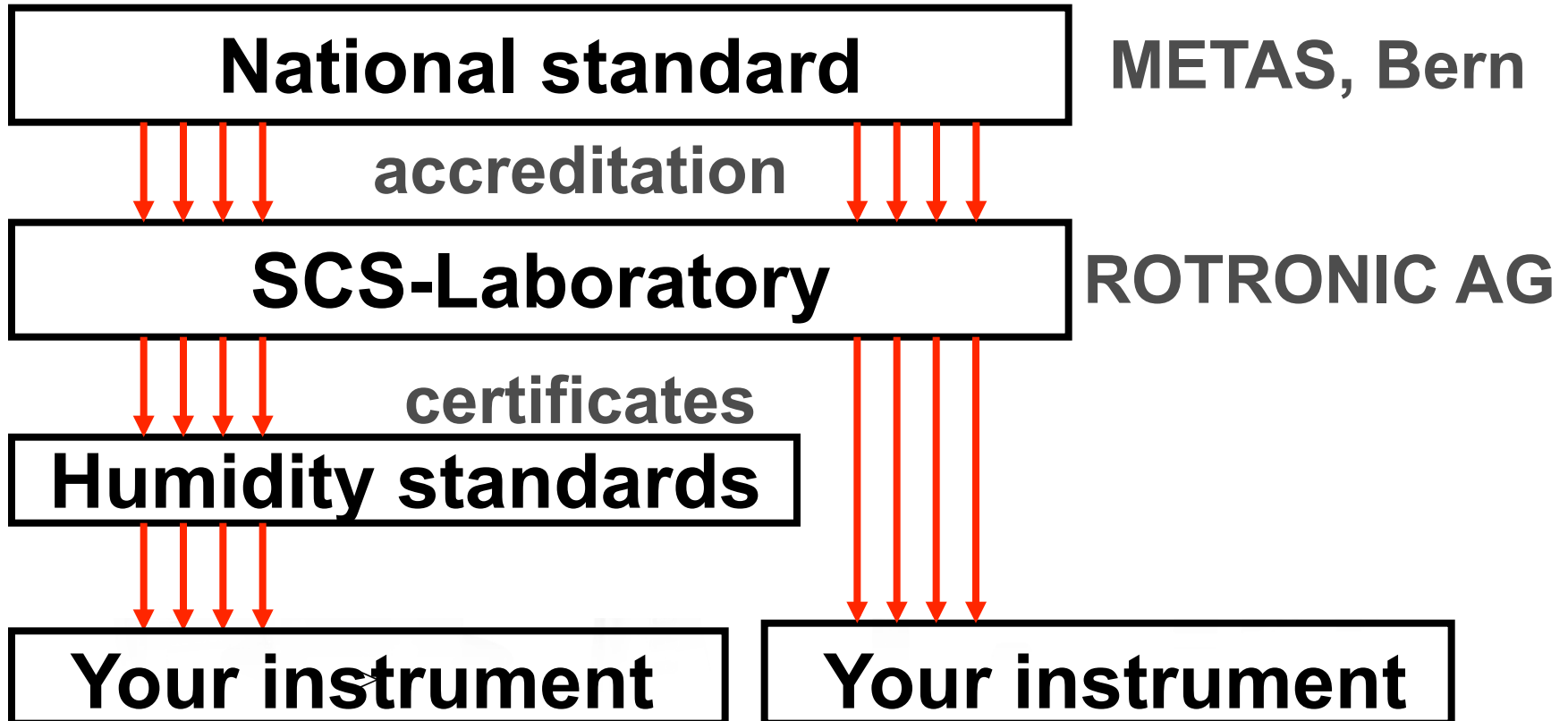
LEADING IN HUMIDITY MEASUREMENT

C:\Dokumente und Einstellungen\james pickering\Anwendungsdaten\ROTRONIC_HW4\DOC\0060306559_ADJ_0.txt

File	View
PROBE CALIBRATION PROTOCOL	
Date: Dienstag, 25. August 2009 Time: 13:09:44	
Device Information Version: V1.4-1 Serial Number: 0060306559 Description: James HC2-S RS-485 Address: 0 Write Protection: Off	
Previous Adjustment Factory Humidity Adjustment: Date/Reference ID: 28.04.2009 / 20080001 Adjustment Values: 34.8% 11.8% 78.7% Factory Temperature Adjustment: Date/Reference ID: 28.04.2009 / 20080001 Adjustment Values: 0°C	
Humidity Calibration Calibration Point 1 (25.08.2009) Reference Value: 58.87%rh As-Found Value: 50.87%rh Temperature: 27.80°C	
HW4 User Name: No user logged on User Description: Version: 2.3.0.21699 HW4 ID: 01 00000008	
User Events File: C:\Dokumente und Einstellungen\james pickering\Anwendungsdaten\ROTRONIC_HW4\EVENT\HW4USER_2009.evt	
Authentication Stamp BC1FC149	

Traceability

Traceable to National Standard



Errors

- Unstable temperature
- Dirty calibration device
- Calibration device not tightened
- More then one time use of ampoules and pads
- Heat radiation
- Draught
- Not in equilibrium
- ...