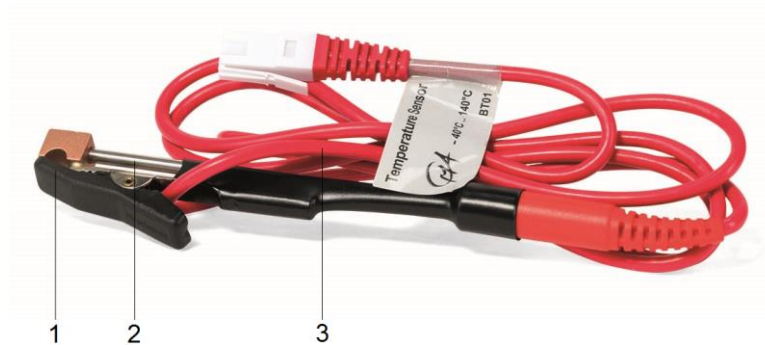# 3B SCIENTIFIC® PHYSICS

…going one step further

Temperature Sensor NTC with Measurement Terminal 1021797

Instruction sheet

03/18 SD

1 Measurement Terminal
2 Temperature sensor
3 Connecting cable

1. Safety instructions

The equipment conforms to safety regulations for electrical measuring instruments and control and laboratory equipment as per DIN EN 61010, part 1.

- In order to avoid permanent damage to the built-in NTC sensor, never exceed the maximum temperature of 140°C.
- Never expose the PVC grip or the connecting cable to temperatures above 80°C.

2. Description

The temperature sensor NTC with measurement terminal is used for measuring temperatures ranging from -40°C to +140°C. It is used in conjunction with the VinciLab (1021477) and €Lab (1021478) interfaces.

The temperature sensor is designed for measuring temperature in the copper piping of heat pumps (1000820 or 1000819). The tip of the thermocouple has a suitably shaped copper clamp for pipes with a diameter of 6 mm.

3. Technical data

Measuring range:	-40°C to +140°C
Sensor type:	20 kΩ NTC sensing resistor
Accuracy:	±2°C at -40°C ±0,6°C at 30°C ±1,8°C at 140°C
Resolution:	0.1°C
Delay (time for measurement to change by 90%):	10 s (in water, stirring needed) 270 s (in calm air) 80 s (in draughty air)
Sensor cable:	PVC-insulated, 1.4 m

4. Operation

- Connect the temperature sensor to the data logger.
- Start "Coach" App.
- Proceed as specified in the rest of the instructions.

5. Applications

Temperature measurements at the open ends of heat pump (1000820 or 1000819). See Fig. 1 and Fig. 2.

Determination of the temperature of metal tubes in thermal expansion apparatus (1000830)

Observation of freezing and boiling points as well as heat of reaction

Required apparatus:

1 VinciLab	1021477
or	
1 €Lab (+ Software „Coach")	1021478
1 Temperature sensor NTC with measurement terminal	1021797

6. Care and maintenance

- Before cleaning the equipment, disconnect it from the interface.
- Use a soft, damp cloth to clean it.

7. Disposal

- The packaging should be disposed of at local recycling points.
- Should you need to dispose of the equipment itself, never throw it away in normal domestic waste. Local regulations for the disposal of electrical equipment will apply.
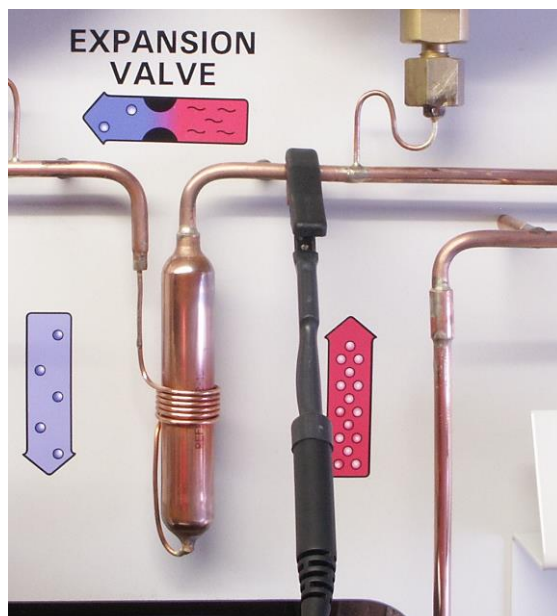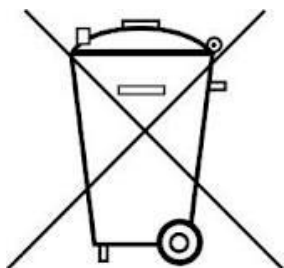

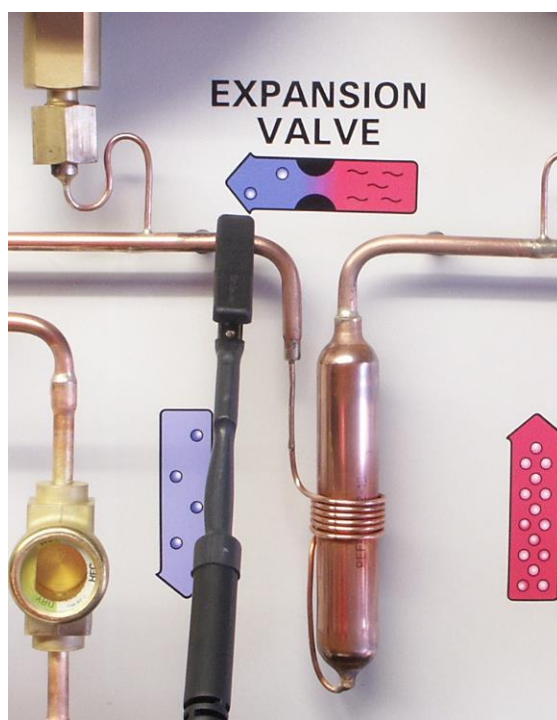Fig. 1: Temperature measurement in front of heat pump expansion valve

Fig. 2: Temperature measurement behind heat pump expansion valve