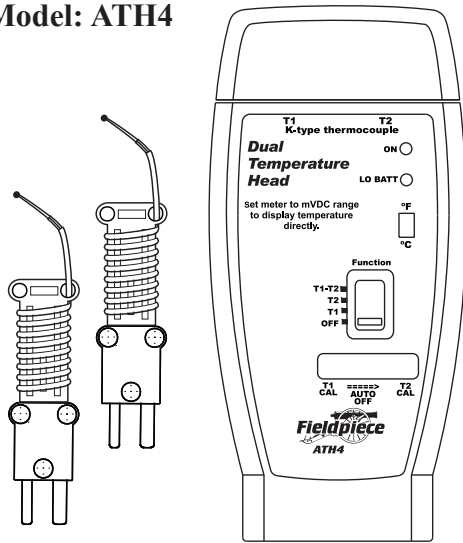


## Dual Temperature Accessory Head Model: ATH4



### OPERATOR'S MANUAL

## Field calibration

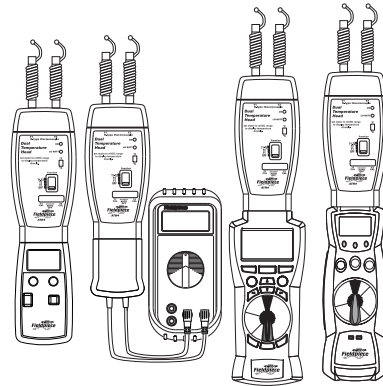
To calibrate the system (ATH4 converter, thermocouple, meter), adjust the calibration pods on the face of the converter while measuring a known temperature. Ice water is very close to 32°F (0°C) and is readily available. This eliminates the accuracy stack-up which results from calibrating each component separately. Accuracies of one degree or better are easily obtained.

1. Stabilize a large cup of ice water. Stir or shake while it is stabilizing. Pure distilled water will be the most accurate, but tap water is nearly as good. A stabilized mixture of ice and water is very close to 32°F (0°C), even after considering altitude and contaminant variations.
2. Select mVDC range.
3. Immerse one probe in ice water and let it stabilize.
4. Slide the switch to "T1" and adjust the "T1" calibration pot on the face of the converter to display 31.3 on the DMM for optimum accuracy at room temperature.
5. Repeat steps 3 and 4 for "T2".

## Description

Converts the voltages from two K-type thermocouples to display temperature on any digital multi-meter with industry standard jacks and input impedance of 9 or 10 MOhms. For 0.1° resolution, use a DMM that displays 0.1mVDC.

The ATH4 converts the Fieldpiece "Stick" series meter, DL3 data logger and EHDL1 electronic handle to a one-piece dual-input temperature meter. Use the optional Fieldpiece ADLS2 deluxe silicone test leads or the AHDL1 adapter handle with the ATH4 for use with DMMs with industry standard jacks.



EHDL1 AHDL1w/DMM DL3 "Stick"

## Warranty

The product is warranted to the original purchaser against defects in material or workmanship for a period of one (1) year from the date of purchase. During the warranty period, Fieldpiece Instruments will, at its option, replace or repair the defective unit.

This warranty does not apply to defects resulting from abuse, neglect, accident, unauthorized repair, alteration, or unreasonable use of the instrument. Any implied warranty arising out of the sale of Fieldpiece's products including but not limited to implied warranties of merchantability, and fitness for purpose, are limited to the above. Fieldpiece shall not be liable for incidental or consequential damages.

## Service

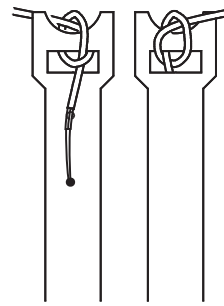
Return any defective ATH4 to Fieldpiece for warranty service along with proof of purchase. Contact Fieldpiece for out of warranty repair charges.

## Operation

Insure the temperature being measured is stable. Maintain good contact between the thermocouple and what's being measured. Set the meter on 200mV or 2000mV range for 0.1° or 1° resolution respectively. Slide the switch to "T1" to measure temperature display T1, to "T2" to display T2, and to "T1-T2" to measure the difference between T1 and T2.

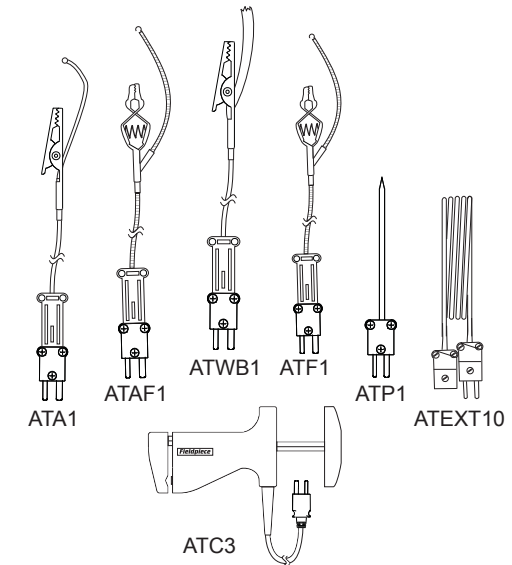
## Velcro Tie-wrap Instructions

Two Velcro straps have been included with the ATH4 to make it easier to measure pipe temperatures. Use the Velcro strap to hold the bead of the model ATB1 thermocouple against the pipe.



## Optional K-type thermocouples

Fieldpiece offers many k-type thermocouples that can be used with the ATH4. ATB1 is the included thermocouple, ATA1 is the ATB1 with an alligator clip, ATAF1 is a high temperature ATA1, ATWB1 is for wet bulb, ATF1 is 6" (15cm) for fluids, ATP1 is for piercing semi solids, ATEXT10 is a 10' (3m) extension, and the ATC3 is a premium pipe clamp.



## Specifications

**Inputs:** Two K-type thermocouples

**Outputs:** Switchable: T1, T2, T1-T2, standard male banana plugs

**Calibration:** Two externally adjustable pots

**Conversion rate:** 1mVDC per 1°

**Range:** -50 to 1800°F (-46 to 982°C)

**Resolution:** 0.1° for meters with 0.1mVDC

**Battery:** Standard 9V

**Battery life:** 200 hours continuous

**Auto-off:** After 15 minutes

**LED indication:** green for "On", red for low battery

**Max input voltage:** 60 VDC, 24 VAC

**Strong RF fields can adversely affect the converter performance.**

**Operating temp:** -30 to 120°F (-34 to 49°C)

**Storage temp:** -4 to 140°F (-20 to 60°C)

**Probe insulation:** Teflon, to 500°F (260°C)

**System accuracy\*** at 75°F ± 5°F (24°C ± 3°C)

ambient, after ice bucket calibration:

±1°F, -50 to 165°F (±0.5°C, -46 to 73°C)

±2°F, 165 to 350°F (±1°C, 74 to 176°C)

±3°F, 350 to 1700°F (±2°C, 176 to 926°C)

**Converter accuracy:** ±0.5%+3.6°F (2°C), -50 to 1800°F (-46 to 982°C)

**Thermocouple accuracy:** ±4°F (±2°C) or ±0.75%, whichever is greater, -30 to 1500°F (-34 to 815°C)

\* To calculate system accuracy from components, add up the accuracy specifications for the meter, the thermocouples, and the converter. For example, at 100°F(38°C), add the accuracies for a DMM(±1°F/ ±0.5°C), a thermocouple (±4°F/ ±2°C), and the converter (±4°F/±2°C). The system accuracy for these individually calibrated components is ±9°F(±4.5°C). If the actual temperature was 100°F(38°C), the meter could read as high as 109 (42.5) and as low as 91 (33.5). By contrast, after a simple "ice bucket" system calibration, the meter would read between 101.0 (38.5) and 99.0 (37.5).

**Fieldpiece**  
Designed in USA  
MADE IN TAIWAN