**Quick Start**

1. Install six AA batteries into rear battery compartment. Batteries included in packaging.
2. Press the center blue button for 1 second to turn on your new manifold.
3. Connect hoses and pipe clamps to the manifold and the system.
4. Set real-time pressure and temperature measurements all at once!

**Description**

Your SMA460 is the top of the line Wireless 4 Port Manifold and Micron Gauge for HVAC professionals. See all your pressures and temperatures at the same time on the redesigned large displays with bright blue backlit.

SMA460 combines high precision, absolute pressure sensors, a superheat/subcooling calculator, true micron gauge for vacuum, and dual temperature measurements. Your SMA460 calculates and displays your target superheat and actual superheat to verify proper charge. SMA460’s large 3/8”VAC port and true 3/8”bore throughout the block allow for quicker recovery and evacuations.

**Target Superheat**

Target Superheat is useful for charging fixed orifice air conditioning systems. Your SMA460 can receive real-time indoor wet bulb (IDWB) and outdoor dry bulb (ODDB) temperatures to calculate real-time target superheat. The IDWB and ODDB values can be entered both manually or measurements are taken by other instruments, or a combination of one wireless measurement with one manually inputted measurement.

**Manual Entry**

1. Press Target SH button to enter Target SH setup mode. SMAW will search for the last connected wireless instrument and automatically connect if found. Press ENTER to end search and sync to new wireless instrument. IDWB will blink indicating it is ready for an input.
2. Hold SYNC until beep is heard to search for a Fieldpiece wireless instrument. IDWB will blink indicating manual input mode is ready.
3. Enter the temperature you want to input indicating a static TSH calculation.

**Manual Input**

1. Enter the temperature you want to input indicating a static TSH calculation.
2. Enter the temperature you want to input indicating a static TSH calculation.

**Pulling a Vacuum**

Follow all manufacturers’ evacuation procedures over these instructions.

1. Connect your SMA460 to your vacuum pump and the system, then power on your SMA460.
2. Set alarm LO. Turn on your new manifold to verify your desired vacuum and stabilization levels. Set Fieldpiece Alarm instructions below.
3. Pull a vacuum on the system. SMA460 will automatically sense the negative pressure and begin to display in inHg. Once the vacuum levels are low enough, the display will automatically change to microns in micron mode the inHg readings will no longer display.
4. The rate at which the vacuum levels are changing will be displayed in microns per minute. The smaller the rate of change, the closer you are to stabilization.

**Set Vacuum Alarms**

1. Hold ALARM 1 for 1 second to enter Alarm Mode. The first digit of US alarm will blink.
2. Use ARROWS to change the blinking number. Press ENTER to lock. Change to vacuum in microns. Omit of US alarm will blink.
3. Use ARROWS to change the blinking number. Press ENTER to lock. Change to vacuum in microns.
4. Hold ALARM until you hear a beep to save your alarm values and exit Alarm Mode. Set Wireless Signal Lost or ODDB an “Err” will flash once and a double beep will sound. IDWB range (40°F to 125°F, 4.4°C to 51.7°C) and ODDB range (50°F to 140°F, 10°C to 60°C). Re-enter a temperature within these ranges to calculate target superheat.

**Preparations**

1. Plug Type K thermocouple plugs here.
2. Press to change units.
3. Press to confirm selection.
4. Press to cycle through refrigerants.
5. Press to change units.
6. The correct refrigerant is selected on the SMAN.
7. The correct refrigerant is selected on the SMAN.
8. Set real-time pressure and temperature measurements all at once!
Activate Vacuum Alarms When Pulling a Vacuum
1. Press to activate low alarm. Default is 500 microns. Stopwatch will start. When low vacuum value is reached, SMAN460 will beep and the stopwatch will restart from zero. You can see how long it took to reach your target value.
2. Press ALARM again to deactivate low and activate high alarm. Default is 1000 microns. When high vacuum value is reached the stopwatch will pause. You can see how long it took to reach your target value.
3. Press ALARM again to deactivate high alarm.

Advanced Pressure Calibration
Your SMAN460 has the ability to perform a linear adjustment of the pressure sensors based on refrigerant type, temperature, and pressure. Calibration procedure:
1. Check that the pressure is within the Temperature and Pressure zeroing procedures section for details. This will ensure pressure readings are zeroed and thermocouple is properly calibrated to the 50°F port of the SMAN. Calibration to 5°F port is not necessary for this calibration.
2. The refrigerator cylinder should be stored in a stable ambient temperature for at least 1 hour before calibration.
3. Plug a Type K thermocouple into SLT. (A bead type thermocouple, like the ATB1, is recommended.)
4. Thermocouple attached to refrigerant tank was not properly zeroed. This will ensure pressure readings are zeroed and thermocouple is properly calibrated to the 50°F port of the SMAN. Calibration to 5°F port is not necessary for this calibration.

Fieldpiece Accessories
For updating to newer versions of firmware
Psig, kPa, MPa, bar, inHg, and cmHg

Specifications
Micros for Vacuum
Connector type: 3/8” (10 mm) Male flare fitting
Range: 0 to 9999 microns of mercury
Resolution: 1 micrometer (0 to 10000 microns), 250 microns (2001 to 5000 microns), 500 microns (5001 to 10000 microns), 1000 microns (10001 to 20000 microns)
Accuracy: ±(5% of reading + 5 microns), 50 to 10000 microns
Maximum overload pressure: 580 psi
Units: Microns of mercury

FCC Compliance and Advisory Statement
This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference that may cause undesired operation. The SMAN has been tested and found to comply with the limits for a Class B digital device, according to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
1. Reorient the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

Cleaning the exterior with a dry cloth. Do not use liquid.

Limited Warranty
This meter is warranted against defects in material or workmanship for one year from date of purchase. During this period Fieldpiece will repair or replace the defective unit, at its option, subject to verification of the defect. This warranty does not apply to defects resulting from abuse, neglect, accident, unauthorized repair, alteration, or unreasonable use of the instrument. Any such defect shall make the meter unfit for any test or measurement. Fieldpiece reserves the right to make any such repair or replacement at its option.

Environmental Statement
Fieldpiece warranty department at Cyanotech@fieldpiece.com, you will be given the necessary information. You can also contact our Customer Service Department at 800-852-1234 or your nearest Fieldpiece authorized service center. For a full list of our paper products, please visit our website at www.fieldpiece.com. If you need to return your equipment, please contact us at 800-852-1234 or via email at Cyanotech@fieldpiece.com. You can also visit our website at www.fieldpiece.com for more information on how to connect wirelessly.