

Instruments for HVAC/R
Technicians



HVAC Arsenal





Guides HVAC technicians through the following tests.

- Target Evaporator Exit Temperature
- Superheat
- Subcooling
- Combustion
- CheckMe! (HG2)

NEW

NEW





Data Logger Model: DL3

A great product made better. Record measurements over time, automatically, manually or set triggers.

- Trigger function to log outside a range
- Enhanced data scrolling

PAGE 1-8



Diagnostic Psychrometer Model: SRH2

Measures %RH and temperature. Calculates the following:

- Target Evaporator Exit Temperature
- Target Superheat
- Wet bulb
- Dew point

PAGE 48





Combustion Check Meter Model: SOX2

Find %O₂, %CO₂, and excess air. Includes pump and high-temperature thermocouple.

- Natural Gas
- Propane
- Oil #2
- Cond./Non-Cond.

PAGE 4-9



Carbon Monoxide Detector Model: SCM3

Fast enough for walk around tests.

- Premium electrochemical sensor.
- Bright backlit dual-display
- ZERO button on front

PAGE



Infrared Refrigerant Leak Detector Model: SRL2K7

The industry's most advanced refrigerant leak detector.

- Sensor built to last 10 years
- 8-hour rechargeable Li ion battery
- Senses CHANGE in refrigerant levels

PAGE -



Heated Diode Refrigerant Leak Detector Model: SRL8

Premium heated diode refrigerant leak detector.

- Heated diode sensor
- 15-hour rechargeable Li ion battery
- Senses ABSOLUTE concentration

PAGE 1



Wireless Refrigerant Scale Model: SRS2

Rugged and easy to use.

- Wireless remote stores inside
- Rubber pad and bumpers
- Solid aluminum construction

Fieldpiece History

Fieldpiece was incorporated in June, 1990 by Rey Harju to develop digital multimeters specially designed for field service technicians. Rey's experience as the Marketing and Sales Manager at Beckman Instrument's Digital Multimeter Group and Director of Marketing and Sales at ITT/Pomona Test Accessories Division helped him understand what instruments and accessories were needed by field service technicians.

In the beginning, Fieldpiece sold to customers in the electronic, electrical, and HVAC/R market, but over the years Fieldpiece has narrowed its target market to HVAC/R only.

Fieldpiece is the creator of the modular digital multimeter. The "stick" style digital multimeter (DMM) combined with accessory heads makes it easy to take electrical readings in the field and enables the technician to easily test a wide range of other parameters.

Fieldpiece also offers many standalone products with feature sets tailored to the HVAC/R technician.

Fieldpiece designs their instruments and accessories in the U.S.

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Modular Expandability

for Comprehensive HVAC/R Testing



Fieldpiece accessory heads slide on the "Stick" meter, data logger and electronic handle. Plus, they work with most other meters using Fieldpiece leads.

How it Works

1. Attach Head

Velocity = 1712 feet/min



- Temperature: pipe, non-contact infrared (IR), air, wet bulb, superheat, subcooling and dew point.
- More HVAC/R parameters: %RH, air velocity, vacuum, gas pressure, static pressure, AC/DC current, O₂ and CO.

2. Set Meter to mV

- Use stick meter, data logger, electronic handle.
- Use any DMM with mV ranges.

3. Read LCD

■ Read parameters directly.



Modular Flexibility for HVAC/R

Use it your way. Use multiple Fieldpiece Accessories with multiple Fieldpiece meters in multiple ways.

Accessory Head on Stick Meter

ASX14 (page 43) attached to HS36 (page 14) calculating real-time superheat.



Accessory Head on Handle

ACH4 (page 37) attached to EHDL1 (page 45) measuring AC amp draw.



Accessory Head on Data Logger

AAV3 (page 39) attached to DL3 (page 18) measuring average air flow.



Accessory Head with a Standard DMM

ACM3 (page 40)
connected
to LT17A
(page 30)
measuring
carbon
monoxide.



HVAC Guide® System Analyzer

HVAC GUIDE SYSTEM ANALYZER



The HVAC Guide® system analyzer is the industry's first easy to use, handheld tool that leads field technicians step-by-step through critical HVAC tests, including Superheat, Subcooling, Target Evaporator Exit Temp, Combustion Analysis, and CheckMe!®

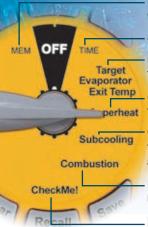


More effective HVAC installation and maintenance.

- ✓ Minimize call-backs.
- ✓ Easier.
- / Faster.
- ✓ Better.
- ✓ Less reliance on off-site technical assistance.

Models HGI & HG2

How it Works:



Upload data to PC via USB. Organize customer IDs and tests.

Set real-time clock.

Use target evaporator exit temperature to check airflow.

Get actual superheat and compare it to target superheat. No charts needed.

Get actual subcooling and compare it to target subcooling. Use the built-in algorithm or, use manufacturer's data.

Use combustion analysis to maximize combustion efficiency.

Most advanced real-world method for analyzing A/C systems. Included with model HG2. CheckMe![®] for HG1 available for purchase at www.fieldpiece.com

Enter Data on the INPUT FORM

Carl Carl Carl Carl Carl Carl Carl Carl
INPUT FORM
SH Table: Standard
or rapids ocardara
Refrigerant: R-22
AR R R M AL AR ARE
OD Dry Bulb: 95.8°F
Ret Wet Bulb: 71.3'F
Ol Diversion CA OD-1-
SL Pressure: 64.2Psig
Customer ID: JONES12345
CO2 COMEL INTO OUE STS 242
TO THE RESERVE OF THE PERSON O

Superheat Test INPUT FORM

Enter data on the INPUT FORM. Each line is a step in the test being performed.

Three ways to enter data.

- Automatically from accessory head. Select appropriate line on the INPUT FORM. Press enter to start the reading, press Enter again to lock in the reading.
- 2. Drop down menu.
- Manually using standalone equipment.

Read your results off the OUTPUT FORM

OUTI OT TOKW
OUTPUT FORM Target SH: 19.9'F Actual SH: 4.0'F Vapor Sat: 37.0'F Acutal Superheat is below the Target Superheat which indicates an

Superheat Test OUTPUT FORM

Fill in the INPUT FORM and press **Output**. The OUTPUT FORM will display the results of calculations.

OUTPUT FORM also displays plain English explanation about the test being performed and what the results mean.

The CheckMe!® OUTPUT FORM tells you what the problem is and what to do about it, ranked in order of likelihood. If you haven't taken all the necessary measurements, the first line will tell you what you need to do for a complete diagnosis.

HVAC Guide® System Analyzer

HVAC GUIDE SYSTEM ANALYZER

An Expert in Your Hip Pocket

Complete the INPUT FORM by performing the required tests, press OUTPUT to see the results and recommendations. Download future upgrades including the CheckMe! function at www.fieldpiece.com

Benefits

Improved HVAC technician performance

- Fewer call backs.
- Faster testing.
- Easier analysis.
- Higher quality job.
- Wider range of tests with less backup technical support.

Features

- Easy to use INPUT / OUTPUT FORMS.
- Automatically enter data using Fieldpiece heads.
- Manually enter data using standalone equipment.
- Sophisticated air conditioning analysis program based on data from over 500,000 field tests (HG2 only).
- Download test data to a PC and print work orders.
- Reload tests when returning to the same customer.
- Generate professional, spreadsheet work orders with time-stamped data and Customer IDs.

INCLUDES

ATH4 Dual-temp Head ATWB1 Wet Bulb T/C ATA1 Dry Bulb T/C ANC5 Case USB Cable PC Software



GO BIG! Fieldpiece Mega Pack (model HS36K40): AAV3, ADMN2, RMA316, ASX14, ACM3, ATIR3, ARH4, ATH4, SMG5, ADA2, ADK7, ADLS2, AQK3, AVG2, ATC1, ACH4, HS36, EHDL1, HG2, PLM2, PMG2, AOXP2, ATBF1, ATA1, ATWB1, ANC3 case (see chart p.35)



Models HGI & HG2

Specifications

Range	500mVDC, 5VDC(auto)
Accuracy	0.5% ± 2
Input Protection	Max 30VDC/24VAC
Battery	1.5V AA x 6 (installed)
Battery Life	500 hrs typical alkaline
Test Memory	up to 200 saved tests
Conversion	1V = 1count 1mV = 1count (5VDC)

Which Accessory Heads?

			Н	ΙEΑ	D			T	'n	
TEST	MEASUREMENT	ATH4	ASX14	AOX2	ACM3*	ACH4	ATWB1	ATA1	ATC1	ATBF1
Target	Return Dry Bulb	•						•		
Evaporator Exit Temp	Return Wet Bulb	•					•			
	Supply Dry Bulb	•						•		
Superheat	DD Dry Bulb							•		
	ID Wet Bulb						•			
	SL Pressure		•							
	SLTemp		•						•	
Subcooling	LL Pressure		•							
	LL Temp		•						•	
Combustion	O2			•						
	Flue Temp			•						•
	CO				•					
	Primary Temp			•						•
Check Me!	Return Dry Bulb	•						•		
(model HG2)	Return Wet Bulb	•					•			
	Supply Dry Bulb	•						•		
	SL Pressure		•							
	SL Temp LL Pressure LL Temp		•						•	
			•							
			•						•	
	OD Dry Bulb	•						•		
	Cond Amps					•				

- Included with the HVAC Guide® System Analyzer
- Recommended accessory head.
- Thermocouple is included with recommended head.
- With optional aspirator pump, model AOXP2 (included with the AOX2 head).



Accessory Heads Slide on Fieldpiece accessory heads

to easily input data automatically.



Optional Pipe Clamp Thermocouples

Minimize your time on the job by using the HVAC Guide® with ATC series pipe clamps.



Dot Matrix Display with Backlight

Bright blue backlight allows you to easily view display in the dark.

More HVAC Guide® Fieldpacks:

HG1 Summer Pack (model HG1KS4): HG1, ASX14. ATH4, ANC8.

HG1 Winter Pack (model HG1KW4): HG1, ACM3. AOX2, ANC8.

HG2 Summer Pack (model HG2KS4): HG2, ASX14. ATH4, ANC8.

HG2 Winter Pack (model HG2KW4): HG2, ACM3. AOX2, ANC8.

HG2 All-Season (model HG2K9): HG2, ACM3, AOX2, ASX14, ACH4, ANC3.

The Original Stick Meter

The portability and expandability HVAC veterans remember. The HS26 Stick Meter is back!



HS26



Unique Features for HVAC/R:

Modular Expandability

Works with all Fieldpiece accessory heads. Just attach the head to the top.

400AAC

Attach the included ACH4
Current Clamp Accessory
Head to the top and turn
the dial to 200mVAC (0.1
resolution) or 2000mVAC
(1.0 resolution) to read amps
directly on the display.

Microamps DC

For flame rectifier diode tests.

Capacitance

For motor-run and motor-start capacitors.

And More

- Rugged ABS case with O-ring to block contaminants
- MAX hold automatically holds the highest measurement so you can view the display after you've disconnected.
- Hi voltage beeper and LED warn of dangerous voltages >30V.
- Auto-power off to extend battery life.
- Manual-ranging for safer testing.
- Continuity beeper and LED below 100Ω



What's Included:

The HS26 meter comes packaged inside the padded ANC7 case. Includes clamp head. Just slide the clamp onto the top of the HS26 meter to read amps. Also included are deluxe silicone test leads, alligator clips, 9V battery (installed), and operator's manual.



Specifications: HVAC Features & Functions

			_		
Function	Range	Accuracy/ Resolution	HS26		
Ranging			Manual		
Counts			2000		
AC Conversion			Average		
VAC	200m	200m 1.2% + 3/0.1m			
	2000m	1.2% + 3/1m	•		
	200	1.2% + 3/0.1	•		
	600	2.0% + 5/1	•		
VDC	200m	0.5% + 2/0.1m	•		
	2000m	0.5% + 2/1m	•		
	200	0.5% + 2/0.1	•		
AAC	20	20 2.7% + 5/0.1			
	100	3.3% + 6/0.1			
	400	4.7% + 8/1			
ADC	200μ	1.0% + 2/0.1µ	•		
Ohms	200Ω	1.0% + 3/0.1Ω	•		
MFD	200μ	3.0% + 3/0.1µ	•		
Hi-V Indicator		>30V AC/DC	•		
Continuity		<100Ω	•		
Diode Test			•		
 Included Range 	е	Green LED an	d beeper		
With ACH4 cla	mp head	Red LED and	beeper		

Stick Style Meters

Slide the head onto meter or use deluxe silicone leads for remote connection.

HS33 HS35 HS36



Unique Features for HVAC/R:

Non-contact Voltage

Loud beeper and bright LED indicate the NCV tab is near AC voltages down to 24VAC.

Auto-ranging (HS35, HS36)

Automatically changes range for best resolution.

Temperature

Thermocouple plugs in directly for accurate readings, even in fast changing environments.

Microamps (HS35, HS36)

For flame rectifier diode tests.

Backlight (HS36)

To see display in the dark.

True RMS (HS36)

For non-sinusoidal wave forms.

Capacitance

For motor-run and motor-start capacitors.

And More

- Rugged rubberized case with magnetic hanger.
- Hi-voltage indicators you can't miss. Both LED and beeper turn on to indicate you've touched potentially dangerous voltage.
- Continuity indicated by LED and beeper.
- MAX/MIN automatically holds the highest or lowest measurement so you can view the display after you've disconnected.
- Low ohms range for motor windings and mid range for thermistors.
- Frequency (HS35, HS36) for variable frequency drives.
- Auto-power off to extend battery life.



HS36

On-the-go HVAC/R Testing





Specifications: Features and Functions for the Real World

Function	Range	Accuracy/ Resolution	HS33	HS35	HS36
Ranging			Manual	Automatic	Automatic
Counts			2000	4000	4000
AC Conversion			Average	Average	True RMS
Backlight					•
Bargraph				•	•
VAC	200m	1.2% + 5/0.1m	•	•	•
	2000m	1.5% + 5/1m		•	•
	40	1.5% + 5/0.01		•	•
	200	1.5% + 5/0.1m	•	•	•
	600	2% + 5/1	•	•	•
VDC	200m	0.5% + 2/0.1m	•	•	•
	2000m	0.5% + 2/1m	•	•	•
	20	0.5% + 2/0.01		•	•
	200	0.5% + 2/0.1	•	•	•
	600	0.5% + 2/1		•	•
AAC	20	2.7% + 7/0.1	•	•	•
	100	3.7% + 8/0.1	•	•	•
	400	5.0% + 10/1	•	•	•
ADC	400µ	1% + 2/0.1 µ		•	•
	4000µ	1% + 2/1 µ		•	•
°F	200 °F	1°F/0.1	•	•	•
	1000 °F	1°F/1		•	•
MFD	200	3% + 5/0.1m	•	•	•
Hi-V Indicator		>30V	•	•	•
NCV		>24VAC	•	•	•
Ohms	200	1% + 4/0/1	•	•	•
	4K	1% + 4/1		•	•
	40K	1% + 4/10		•	•
	200K	1% + 4/100	•	•	•
	4M	1.5% + 4/1K		•	•
	20M	3% + 5/10K		•	•
Continuity			•	•	•
Diode			•		
HZ				•	•
With ACH4 cla	mp head	LED and beepe	r • Rang	e is 40XX,	not 20XX

Temperature accuracies shown are after simple field calibration.

Remote It

For hard to reach test points, remove the probe tips and connect to any Fieldpiece accessory head.



Hang It

For safe and easy testing, hang the meter using the magnetic hanger included. For maximum safety, clip one lead to ground using the alligator and test with one hand.



Test Lead Solutions

- Probe storage in the back. Just snap them in.
- Removable probe tips for connection to most accessory heads.
- Attach detachable probe tip directly into jack for easy and safe voltage testing.
- Silicone wire test leads remain flexible in cold weather, withstand caustic chemicals, and work well in temperatures that will melt vinyl leads.
- Leads conveniently wrap around meter and store.



www.fieldpiece.com



Bright LEDs combined with the beeper make the meter safer and easier to use.



MIN/MAX button lets you record BOTH minimum and maximum readings. This is particularly handy while recording temperature. Can also be used with accessory heads.

What's Included:

Every HS30 series meter comes packaged inside the padded ANC1 4-pocket case. A 400AAC clamp head is included. Just slide the clamp onto the top of the HS30 meter to read amps. Also included are deluxe silicone test leads, alligator clips, k-type thermocouple, Velcro strap, 9V battery (installed), and operator's manual.



DL3 Data Logger

Data log any parameter measured by a Fieldpiece accessory head.

New Upgrades:

- TRIG (trigger) switch position. Set DL3 to record only the data you need.
- Enhanced data scroll.
- Bright, blue backlight.
- Export data in .xls format.
- Unique Features:

 Record data points
- manually, automatically or trigger to log outside a range.
- Real-time clock: second, minute, hour, day, month, year.
- All data points are time stamped.
- Multiple data sets of various parameters can be stored.
- Easy downloading to PC.
- Cost-effective, multi-channel recording using multiple DL3s.
- 20,000 data points.
- Combine with the AAV3 anemometer to determine CFM easily.
- Long battery life.



MAX 30V DC

CONNECT ONLY TO

What's Included:

Every Data Logger meter comes packaged with a PC Utility CD ROM, operator's manual, and USB cable that connects your DL3 Data Logger to your computer.



Using Fieldpiece accessory heads record:

- 1. RH%, temp, wet bulb, dew point, temp difference, air velocity.
- 2. CO ppm, %O₂ in air, and %CO₂, all of which are products of combustion.
- 3. Gas pressure, static pressure, differential pressure.
- 4. Subcooling, superheat, pressure (hi-side or low-side).
- 5. AAC/ADC, VAC/VDC, mA and µADC.

ARH4 on DL3

= 80

II

@ <u>___</u>

PER

Fletopiece

How it Works:

Set up the data logger to record for your desired length of time, and at your desired frequency. Record. Then either read the results on the DL3 or download to a computer.



1. Set SPAN, or how long you want to record data. Data can be recorded from 1 second to 999 days.



2. Set PER, or period. PER is how often you want to record data. Data can be recorded from once a second to once every 999 hours.

OR



2. **NEW:** Set TRIG, or trigger. Use TRIG to set the DL3 to record only data points that fall outside a pre-set range you define.



3. Set MULT. This is for accessory heads that require you to move the decimal.



4. Set dial to the appropriate mV range and the reading will be displayed in LCD.

To begin recording, press START. At any time, you can press RECORD to add a data point, complete with a real time stamp. A new data set is started when the rotary dial position is changed. Previous data sets are maintained until the DL3 is cleared.

To view results, select READ/SEND, press MIN/MAX/AVG to see min. max and

average. Press ▲ and ▼ to scroll through the data or to change data sets.





MIN / MAX / AVG button

scroll buttons





LCD showing maximum



LCD showing minimum



LCD showing average

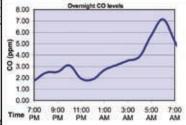
Above: Just press the MIN/MAX/ AVG button to display minimum, maximum, and average. Use ▲ and ▼ buttons to scroll to other data sets.

Left: DL3 recording carbon monoxide with ACM3. Set up the meter to record data once every five minutes for 48 hours and you will be able to see if and when there is a high concentration of CO.

DL3 with ACM3

Data Set1		X1			
1/19/08	7:00 PM	1.74	00	MN	1.74
1/19/08	8:00 PM	2.46	00		2.10
1/19/08	9:00 PM	2.53	CO		2.24
1/19/08	10:00 PM	3.10	CO		2.46
1/19/08	11:00 PM	1.93	CO		2.35
1/20/08	12:00 AM	1.87	00		2.27
1/20/08	1:00 AM	2.71	CO		2.33
1/20/08	2:00 AM	3.12	00	1	2.43
1/20/08	3:00 AM	3.52	CO		2.55
1/20/08	4:00 AM	3.89	CO		2.69
1/20/08	5:00 AM	5.75	CO		2.97
1/20/08	6:00 AM	7.16	00		
1/20/08	7:00 AM	5.21	00	8.00	
1/20/08	8:00 AM	3.04	00	7.00	_

Download, format, graph and print the data recorded. All formatting is done in Excel.



Fast and Easy CFM Through a Register

Easy CFM Measurements

Take an average of the air velocity by taking a number of readings and then averaging them by pressing the MIN/ MAX/AVG button. To get CFM, just multiply by the free area.

Using Multiple Data Loggers

A common customer complaint is "The system runs all the time."
With multiple DL3s, you can determine if the system is indeed running all the time as well as troubleshoot the cause of the

8 77°

problem. Put one DL3 with an ACH4 on the condenser to log amperage to track the time when the system is running and how hard. At the same time, log indoor

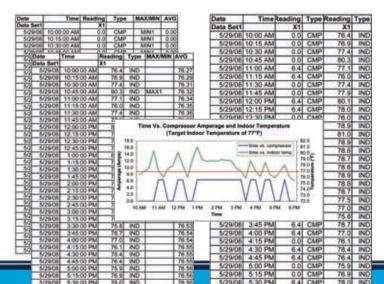
temperature by using the DL3 with an
ARH4 to see if the target temperature
is being reached and if the system is

performing as it should.



Bottom Left: DL3 with ACH4 logging amperage to compressor.

Below: By downloading the data from two DL3s into a spreadsheet you can analyze it, line up the times, format the data and perform mathematical operations. You can graph it too. All formatting is done in Excel.





Clamp-On Meters

All-in-one meter for the HVAC/R technician.

> SC66 **SC67 SC76 SC77**

SC66 and SC67 are manual ranging. SC76 and SC77 are autoranging and work with Fieldpiece accessory heads, SC77 has true RMS and backlight.







Unique Features for HVAC/R:

Non-contact Voltage (NCV)

The presence of 24VAC triggers a loud beeper and bright LED.

Temperature

Thermocouples allow for real-time accurate temperature measurement.

Microamps

For flame rectifier diode tests.

Capacitance

For motor-run and motor-start capacitors.

And More

- Backlight for viewing display in the dark.
- True RMS for true power calculations.
- LED and beeper turn on to indicate you've touched potentially dangerous voltage. Continuity indicated by LED and beeper.
- Hold saves readings so you can look at them even after the meter has been disconnected. Ohm ranges for motor windings and other HVAC/R applications.
- Amps AC resolution to 0.01A for heat anticipator circuit (20A range).
- Auto-power off to extend battery life.



backlight on

More Real World Capability In One Meter



Specifications: Features and Functions for the Real World

Function	Range	Accuracy/ Resolution	SC66	SC67	SC76	SC77
Ranging			Manual	Manual	Manual/ Automatic	Manual/ Automatic
Counts			2000	2000	3400	4000
Backlight						•
True RMS						•
Bargraph					•	
VAC	3.4	± 2.0% rdg + 8 dgts/0.001			•	•
	34	± 2.0% rdg + 8 dgts/0.01			•	•
	200	± 2.0% rdg + 8 dgts/0.1	•	•	•	•
	600	± 2.0% rdg + 8 dgts/1.0	•	•	•	•
VDC	340m	±0.5% rdg + 2 dgts/0.1			•	•
	3400m	±0.5% rdg + 2 dgts/1.0			•	•
	20	±0.5% rdg + 2 dgts/0.01	•		•	•
	200	±0.5% rdg + 2 dgts/0.1		•	•	•
	600	±0.5% rdg + 2 dgts/1.0			•	•
AAC	20	±3.0% rdg + 10 dgts/0.01	•		•	•
	200	±3.0% rdg + 5 dgts/0.1	•	•	•	•
	300	±3.0% rdg + 10 dgts/0.1			•	•
μADC	200	±1.0% rdg + 2 dgts/0.1	•	•	•	•
	4000	±1.0% rdg + 2 dgts/1.0				•
°F	200	±1°F/0.1	•	•	•	•
	1000	±2.0% + 4°F/1.0		•	•	•
MFD	4	±3.0% rdg + 10 dgts/0.001				•
	40	±3.0% rdg + 5 dgts/0.01				•
	200	±3.0% rdg + 5 dgts/0.1	•	•	•	•
	4000	±5.0% rdg +20 dgts/1.0				•
Ohms	200	±1.2% rdg + 4 dgts/0.1	•	•	•	•
	3400	±1.2% rdg + 4 dgts/1.0			•	•
	20k	±1.2% rdg + 4 dgts/0.01	•	•	•	•
	340K	±1.2% rdg + 4 dgts/0.1			•	•
	3.4M	±1.5% rdg + 4 dgts/0.001			•	•
	40M	±3.0% rdg + 5 dgts/0.01			•	•
Hi-V Indicator	>30V		•	• •	• •	• •
NCV	>24VAC		• •	• •	•	• •
Continuity			•	• •	•	•
Diode			•	•	•	
LED Beeper	Range is	34XX, only for SC76 Range is	s 40XX			

SC76 & SC77: Modular Expandability in an All-In-One Meter

The SC76 and SC77 have removable probe tips and mVDC ranges which allow the meters to

connect to any of our accessory heads. The meters expand to keep up with your measurement needs.





Test Lead Solutions

- Probe storage in the back.
 Just snap them in.
- Single test lead holder for easy and safe voltage testing.
- Silicone test leads remain flexible in cold weather, withstand caustic chemicals, and work well in temperatures that will melt vinyl leads.
- Convenient lead storage. Wrap test leads through clamp to keep the wires out of the way. You can even leave them right there while you test amps.



Included clamp-on meter accessories:

The padded ANC7 case is included with every SC60 and 70 series meter. It has a zippered pocket and a belt loop on the back. Also included are silicone test leads, alligator clips (SC76 and SC77), ATB1 K-Type thermocouple, 9V battery (installed), and operator's manual.



ALS1: Line Splitter

- Use with clamp meter.
- X10 loop for accurate low current measurements.
- Three-wire plug for grounded circuit.
- Up to 15AAC load.
- Contacts for easy voltage measurements.



ALS1

Mini Clamp-On Meters

Most functions needed by HVAC/R technicians.

SC44 SC45 SC46

SC44 is the basic clamp meter with NCV in a size that easily fits on a tool belt or in a tool case. SC45 adds temperature and capacitance. SC46 adds true RMS and backlight.

Features for HVAC/R:

Wire Grabbing Jaw Jaw shaped to make grabbing a wire easy.

Non-contact Voltage (NCV)

LED and beeper warn of voltages down to 24VAC.

Temperature (SC45, SC46)

Thermocouple plugs into meter for better accuracy. No adapter to lose.

Capacitance (SC45, SC46)

For motor-start and motor-run capacitors.

And More

- Backlight (SC46)
- True RMS (SC46)
- Auto-power off to extend battery life.

In all and a state water a large and a second





SC46 with backlight on

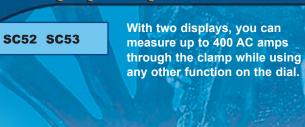
Maximum Features, Minimum Size



Specifications: Features and Functions for the Real World

Function	Range	Accuracy/ Resolution	SC44	SC45	SC46
Ranging			Auto	Auto	Auto
Counts			4000	4000	4000
Backlight					•
True RMS					•
VAC	400m	1.2% + 5/0.1	•	•	
	4	1.2% + 8/0.001	•	•	•
	40	1.2% + 8/0.01	•	•	•
	400	1.2% + 8/0.1	•	•	•
	600	1.5% + 8/1.0	•	•	•
VDC	400m	0.5% + 2/0.1	•	•	
	4	0.5% + 2/0.001	•	•	•
	40	0.5% + 2/0.01	•	•	•
	400	0.5% + 2/0.1	•	•	•
	600	0.5% + 2/1.0	•	•	•
AAC	40	2.0% + 10/0.01	•	•	•
	400	2.0% + 10/0.1	•	•	•
°F	-30~400	1°F/0.1 (32-120°F)		•	•
MFD (µF)	4	3.0% + 10/0.001		•	•
	40	3.0% + 5/0.01		•	•
	400	3.0% + 5/0.1		•	•
	4000	5.0% + 20/1.0		•	•
Ohms	400	1.0% + 4/1.0	•	•	•
	4K	1.0% + 4/0.001	•		
	40K	1.0% + 4/0.01	•		
	400K	1.0% + 4/0.1	•		
	4M	1.5% + 4/0.001	•		
	40M	3.0% + 5/0.01	•		
NCV	>24VAC		• •	• •	• •
Continuity			•	•	•
Diode			•		
•LED •B	eeper				

Dual-Display Clamp Meters





It's like having two meters in your hand.

- Volts, Amps, Ohms
- Capacitance (SC53)
 Under 8" tall
- **Temperature (SC53)**
- Non-contact voltage Microamps DC (SC52)
 - (NCV) >24V AC/DC Diode Test (SC52)
 - Wire Grabbing Claw

What's Included:







Features and Functions for the Real World

Function	Range	Accuracy/ Resolution	SC52	SC53
Ranging			Auto	Auto
Counts			4000	4000
VAC	4	1.2% + 5/0.001	•	•
	40	1.2% + 5/0.01	•	•
	400	1.2% + 5/0.1	•	•
	600	1.5% + 5/1.0	•	•
VDC	4	0.5% + 2/0.001	•	•
	40	0.5% + 2/0.01	•	•
	400	0.5% + 2/0.1	•	•
	600	0.5% + 2/1.0	•	•
AAC	40	2.0% + 6/0.01	•	•
	400	2.0% + 6/0.1	•	•
μADC	400	1.0% + 2/0.1	•	
	4000	1.0% + 2/1.0	•	
°F	-30~400	1°F/0.1 (32-120°F)		•
MFD (µF)	4	3.0% + 10/0.001		•
	40	3.0% + 5/0.01		•
	400	3.0% + 5/0.1		•
	4000	5.0% + 20/1.0		•
Ohms	400	1.0% + 4/0.1	•	•
	4K	1.0% + 4/0.001	•	•
	40K	1.0% + 4/0.01	•	•
	400K	1.0% + 4/0.1	•	•
	4M	1.5% + 4/0.001	•	•
	40M	3.0% + 5/0.01	•	•
NCV	>24VAC		• •	• •
Continuity			• •	• •
Diode ● LED ● B			•	

Classic Style Meters

Familiar form with features needed for HVAC/R.

All except the SPDM1 work with Fieldpiece accessory heads.

Optional ADLS2 leads or AHDL1 handle required for LT83A.



ATB1

LT17A with backlight on

New LT series meters come with backlight, tilt stand, probe storage, and magnetic hanger.



LT17A: Biggest "Bang for the Buck"

Features and functions designed for HVAC/R:

- Temperature: K-type thermocouple plugs directly into meter. No adapter to lose.
- MFD for motor start/run capacitors.
- Microamps for flame rectifier diode tests.
- Low ohm ranges for motor windings.
- MIN/MAX function.
- See page 33 to find out what's included.

LT16A: True RMS Meter

For working with motors and electrical equipment.

- Volts, ohms, amps, continuity.
- MFD for motor start/run capacitors.
- Frequency for variable frequency drives.
- MAX/MIN to record highs and lows.
- Phase rotation indication for 3phase motor connection.
- See page 33 to find out what's included.

LT16A with backlight on



LT83A: Good Meter, Great Price

Basic functions at a low price.

- Volts, ohms, amps, continuity.
- Battery checker.
- MAX/MIN to record highs and lows.

LT83A with backlight on



SPDM1: Pocket DMM with Non-contact Voltage

Pocket sized digital multimeter (DMM) with all the basic functions.

- Convenient lead storage.
- Volts AC/DC, ohms, continuity, and diode check.
- Non-contact voltage.



DMM Features and Specifications Table

Function	Range	Accuracy/ Resolution	LT16A	LT17A	LT83A
Ranging			Manual	Manual	Manual
Counts			2000	2000	2000
Backlight			•	•	•
True RMS			•		
VAC	200m	1.5% + 5/0.1	•	•	•
	2000m	1.5% + 5/1.0	•	•	•
	20	1.5% + 5/0.01	•	•	•
	200	2.0% + 5/0.1	•	•	•
	600	2.0% + 5/1.0	•	•	•
VDC	200m	0.5% + 1/0.1	•	•	•
	2000m	0.5% + 1/1.0	•	•	•
	20	0.5% + 1/0.01	•	•	•
	200	0.5% + 1/0.1	•	•	•
AAC	600	0.5% + 1/1.0	•	•	•
	200µ	1.5% + 5/0.1	•	•	•
	2m	1.5% + 5/0.001	•	•	
	20m	1.5% + 5/0.01	•	•	•
	200m	1.5% + 5/0.1		•	•
	2	3.0% + 5/0.001	•		•
	10	3.5% + 4/0.01	•	•	
	20*	3.0% + 7/0.01 4.0% + 8/0.01	•	•	
400	100* 400*	5.0% + 8/0.01	•	•	•
ADC	20µ	1.0% + 1/0.01	_		•
	200u	1.0% + 1/0.01	•	•	•
	200µ	1.0% + 1/0.001			•
	20m	1.0% + 1/0.001	•	•	•
	200m	1.0% + 1/0.1	•	•	•
	2	2.5% + 1/0.001	•		
°F	10	3.0% + 3/0.01			•
•	200	1°F/0.1		_	
		(32-120°F)		•	
MFD	1400	3.0% + 7/1.0		•	
=	20	4.0% + 10/0.01			
	200	4.0% + 10/0.1	•	•	
	2K	4.0% + 10/0.001	•	•	
Ohms	20K	4.0% + 10/0.01	•	•	
	200	1.0% + 4/0.1	•	•	•
	2K	1.0% + 4/0.001	•	•	•
	20K	1.0% + 4/0.01			•
	200K	1.0% + 4/0.1	•	•	•
	2M	1.0% + 4/0.001			•
	20M	3.0% + 4/0.01	•	•	•
	200M	2.0% + 4/0.1			•
Battery Check	2000M	5.0% + 10/1.0	•		
Frequency	1.5V	3.5% + 2/0.01			•
Phase Rotation			•	•	
Continuity			•		
Diode			•	•	•
*With the ACH4			•	•	•

SPDM1 Features and Specifications Table

SPDM1	Range	Accuracy / Best Resolution
Counts	2000	
Ranging	Auto	
NCV	•	
VAC	2-600	4.0%+5/.001
VDC	2-600	2.0%+2/.001
Ohms	200-20M	5.0%+5/0.1
Continuity	•	
Diode	•	

Basic Fieldpacks

LT17A



Includes meter, the ACH4 400 AAC accessory clamp, ATB1 thermocouple, leads, and mail pouch carrying case (ANC5).

LT16A



Includes true-RMS meter, the ACH4 400 AAC accessory clamp, leads, ASA2 alligator clips, and carrying case (ANC5).

Contents of Fieldpacks								
Product Number	LT16A	LT17A	LT83A					
Meter	LT16A	LT17A	LT83A					
400 AAC Amp Clamp (ACH4)	•	•						
Carrying Case	ANC5	ANC5						
Alligator Leads (ASA2)	•							
Yellow Alligator Lead for 3-phase	•							
Leads with Removable Probe Tips	•	•						
Test Lead Material	Vinyl	Vinyl	Vinyl					
K-Type Thermocouple (ATB1)		•						

Connect to Accessory Heads

Connect your digital multimeter to Fieldpiece Accessory Heads by using the AHDL1 Adapter Handle or by using Fieldpiece leads with removable probe tips (included).

> LT17A connected to AHDL1 and ACH4



Complete Fieldpacks

Easily carry what you need to the job site.

No more "winging it" or long walks back to the truck.
Carrying case designs make instrument access fast. If
you need to measure gas, just add the "G" at the end
of a Fieldpack's part number to include the manometer
(AMN2) and carbon monoxide (ACM3) accessory heads.



Fully loaded Fieldpack. This one has it all, yet weighs only eight pounds. The big briefcase has plenty of room for additional paperwork and hand tools.



Data logger and accessory heads to record most HVAC/R parameters conveniently and easily. Includes an EHDL1 handle to convert any accessory head to a standalone instrument. Data logger software and cables included for downloading to PC.

Fieldpack Selection Guide

				_	-				
MODEL	DESCRIPTION		HS33K14	HS36K19	HS36K35	HS36K40			
Meters									
EHDL1	Electronic handle			•	•	•			
DL3 *	Data logger	•			•				
HG2	HVAC Guide [®] System Analyzer					•			
HS33	Manual ranging stick		•						
HS36	Auto ranging stick/true rms, b/l			•	•	•			
SMG5	Megger (includes leads/case)				•	•			
Leads/Accessories									
ADA2	Dual alligator clips		•	•	•	•			
ASA2	Small alligators (pr)		•	•	•	•			
AHDL1	Adapter handle								
AQK3	Flame diode kit AQC2+AQP1		•	٠	•	•			
ADLS2	Silicone Deluxe		•	٠	•	•			
Velcro Strip	Attaches ATB1 to pipe		•	•	•	•			
Cases									
ANC3	Briefcase	•		•	•	•			
ANC8	Mid-sized case		•						
Thermocouple									
ATA1	Alligator clip	•		•	•	•			
ATWB1	Wet bulb	٠		٠	•	•			
ATC1	Small pipe clamp		•	٠	•	•			
ATB1	Bead tip		•	٠	•	•			
Heads									
AAV3	Air velocity, temp				•	•			
ACH4	Amp clamp		•	٠	•	•			
ACM3	Carbon monoxide		G	G	G	•			
ADMN2	Dual-port manometer					•			
AMN2	Manometer		G	G	G				
AOX2 *	%CO, %O2, temp					•			
ARH4	%RH, WB, dew pt., air temp		•	٠	•	•			
ASX14	Superheat/subcooling for A/C				•	•			
ATH4	Dual temp					•			
ATIR3	Infrared temperature				٠	•			
AUA2	Micro/milliamps w/ AQK3		•						
AVG2	Vacuum gauge			٠	•	•			
AVH1	Volts				•				
Pocket Tools									
PLM2	Mirror with LED light				•	•			
PMG2	Lighted Magnet Tool				•	•			

G - Add "G" suffix to model number to include ACM3 and AMN2
 Lincludes all accessories that normally come with meter minus carry case

Accessory Heads

Connect Fieldpiece accessory heads to the "stick" meter, data logger, electronic handle, or other DMM to measure HVAC/R parameters.

The Fieldpiece HS series "stick" meters connect directly to accessory heads by sliding the head right onto the meter. Use the EHDL1 handle to convert any head to a stand alone meter.

Fieldpiece accessory heads can be used with most other DMMs. Your meter only needs mV (AC and DC) ranges and industry standard input jacks.

Use the Fieldpiece deluxe test leads (ADLS2) or the convenient AHDL1 adapter handle to connect the head to

your meter.







ACH4 on AHDL1 connected to LT17A

ACH4: AC Current Clamp



ACH4

Measures to 400AAC. New claw shape allows for easy one handed wire isolation.

■ Current range: 1A to 400A.

■ Accuracy:

1A-20A AC: ± (1.5% rdg + 0.2A) 20A-100A AC: ± (2.5% rdg + 0.3A) 100A-400A AC: ± (3.5% rdg + 0.5A)

■ Maximum conductor size: 0.91 inches (23mm).

Remote the ACH4 with most DMMs.

AVG2: Vacuum Gauge

Displays pressure in microns in steps of 1 micron. Has pump down indication showing progress from atmospheric pressure.

■ Range: 50 to 2000 microns of mercury.

■ Resolution: 1 micron of mercury.

- Accuracy (@~75°F): ±10%, 0-1000 microns of mercury.
- Fitting: 1/4" flared brass fitting (male).
- Auto-off can be disabled for data logging.
- Straight-in access to sensor for easy cleaning.
- New "T" for inline vacuum testing.
- LEDs indicate INCreasing, DECreasing, and STABLE vacuum.



AVG2

Pick the Right Temperature Head

For air temperatures, use the ARH4 or the AAV3. When it's not practical to touch the test point (e.g., a ceiling vent), use the ATIR3 infrared head. Infrared is not recommended for pipe temperatures. For comparing temperatures (two temperatures at once), use the ATH4 with any K-Type thermocouple with the small industry standard plugs.

ATH4: Dual Temperature

Two K-Type thermocouple inputs. Display T1, T2, or T1-T2.

- ±1°F accuracy after simple field calibration.
- Range: -50°F to 1500°F (optional hi-temp thermocouple required).
- Displays °F directly at 0.1°F resolution on DMM with 0.1mVDC resolution.
- Select °F or °C.
- Includes two "wrap tab" thermocouples plus Velcro straps. Thermocouples insulated to 400°F.



ATH4

■ Auto-off can be disabled for data logging (DL3).

ATIR3: Infrared Surface Temperature with Laser

Use for quick surface temperature measurements.

- Measures temperature without contact.
- 8:1 field of view.
- Laser sight included.
- Select °F or °C.
- Operating ambient temp: 32°F to 122°F at <75%RH.</p>
- Range: 0°F to 752°F.
- Accuracy: Whichever is greater. At 73°F ± 10°F at <90%RH; ±2.0%rdg or 4°F, 32°F to 160°F; ±3.0%rdg or 5.5°F, 0°F to 31°F, 161°F to 752°F.



ATIR3

ARH4: Digital Psychrometer

Measures air temperature and RH%. Displays wet bulb for getting target superheat from manufacturers charts.

- Accuracy:
 - ±1°F 32°F-113°F. ±2.5%RH,
 - 10% to 90%RH @ 77°F.
- Select °F or °C.
- Displays temperature, RH%, wet bulb and dew point.
- Auto-off can be disabled for data logging (DL3).







Automatically log readings with the DL3 Data Logger.

ARH4 on DL3

DE

rielapiece

AAV3: Air Velocity and Temperature

Measures air velocity. Use to estimate CFM. Also displays temperature.

■ Use with the DL3 to find average air flow and compute CFM.

Air velocity

- Ft/min, M/s, MPH, KM/hr.
- Range: 80 to 5900 ft./min.
- Accuracy: ±3% + 1dgt.

Temperature

- Displays °F or °C.
- Range: -4°F to 140 °F.
- Accuracy: ±1°F from 32°F to 113°F.
- Resolution: 0.5°F.

Heating Season Products

To check levels of carbon monoxide, use the ACM3. An AMN2 manometer can be used to ensure you have proper gas line and manifold pressure. An AUA2 can ensure that the flame diode circuit is functioning properly and not causing the furnace to "lock-out". The AOX2 accessory head measures $\%O_2$ of flue gas. It also displays $\%CO_2$. The ADMN2 is a dual port manometer, which allows the user to measure pressure drop. Use the ADMN2 to make sure the conditioned space has a positive pressure, keeping combustion products out. Check out our new heating season standalones on p.49 and p.51

ACM3: Carbon Monoxide

Measures CO in air and finds CO sources.

- Fast enough to locate CO source in "walk-around" test.
- Response time: <70sec to 90% of reading.
- Three-pin sensor for better performance.
- Optional pump (AOXP2).
- Auto-off can be disabled for data logging.
- Select real-time or average.
- Range: 0 to 1000PPM (2000PPM with 5 minute max exposure time).
- Accuracy: 0-35ppm ±5% reading ±2 ppm after zeroing.
- Sensor type: Electrochemical (specific to CO).

ACM3



AMN2: Manometer (Pressure)

Measures gas pressure and has resolution low enough for static pressure.

- Maximum ±60 inches WC (water column) for gas pressure.
- Accuracy: ±2% FS.
- 0.01 inches WC resolution for static pressure.
- Includes tube and adapter for gas pressure measurement.
- Manual zero-set for comparing two pressures.
- Auto-off can be disabled for data logging.
- Comes with adapters (RMA316 see p. 52).



AOX2: Oxygen and Carbon Dioxide

The AOX2 measures the oxygen in air for combustion analysis. The AOX2 also computes %CO₂ and measures stack temperature.

- Display %O₂, %CO₂, or temperature.
- Includes field calibratable K-type thermocouple & hand pump (AOXP2).
- STABLE LED indicates when the reading is stable.
- %O₂: Range: 0 to 25% O₂, Accuracy: ±0.3%, Resolution: 0.1
- **Temp:** Range: -58°F to 1000°F, Accuracy: ±0.6%+3°F after simple field calibration. Resolution: 0.1°F







AOX2

ADMN2: Dual-Port Manometer

The ADMN2 is a dual-port manometer accessory head that measures differential, absolute, and static pressure in mBar or inches of water column (WC).

- Range from -60 to +60.0 inches WC.
- Accuracy of ±1.5% FS.
- Resolution down to 0.01 in WC for static pressure measurements.
- Comes with adapters (RMA316 p.52).

ADMIN

AUA2: Milliamp and Microamp

Measures microamps for flame diode test. Measures 4 to 20mA control circuits.

- Includes flame diode adapter kit (AQK3).
- Max current: 200mA AC or DC.



Superheat and Subcooling Tools

Most non-electrical HVAC/R problems are charge related. Many systems in operation are undercharged or overcharged. This can cause decreased efficiency and compressor failure. The higher the efficiency of a system, the more critical it is that it is charged properly.

Features common to all charging kits:

- Read temperature and pressure.
- ATC1 pipe clamp thermocouple included.
- STABLE LED indication.
- "T" refrigerant line connector included.
- Altitude compensation set.
- Auto-off with disable option.
- T/C calibration.



Top view showing K-type jack and hose connection.



ATC1 included with all superheat and subcooling heads.

For superheat, the head measures suction line pressure and suction line temperature. It calculates actual superheat based on the refrigerant selected. Any of the three parameters can be displayed: pressure, temperature, or superheat.

For subcooling, the head measures liquid line pressure and liquid line temperature. It calculates actual subcooling based on the refrigerant selected. Any of the three parameters can be displayed: pressure, temperature, or subcooling temperature.

ASH3: Superheat for A/C

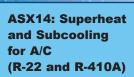
Measures suction line pressure and temperature and calculates superheat.

■ Select R-22 or R-410A.

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ASH3



Measures suction line or liquid line pressure and temperature to calculate and display superheat or subcooling for A/C.

■ Select R-22 or R-410A.

ASX24



Charging Kits

Measures suction line or liquid line pressure and temperature to calculate and display superheat or subcooling for refrigeration.

■ Select R-134A or R-404A.

SSX34: Standalone Superheat and Subcooling for A/C and Refrigeration

Fieldpiece

Measures suction or liquid line pressure and temperature to calculate and display superheat/subcooling.

- Select R134A, R404A, R410A, or R22.
- Magnetic hanger.



Heads for Miscellaneous Electrical Applications



AMD1: Microwave Oven Diode Tester

Tests high voltage diodes commonly found to fail in microwave ovens.

- Contains 9V battery to test high voltage diodes.
- Identifies opens, shorts, and correct forward voltage drop.

AMD1

AVH1

VOLTS

Fieldpiece

AVH1: Voltage Head

Records voltage using DL3 data logger or EHDL1 handle.

■ Accuracy: DC: ±(0.5%rdg + 1 dgt); AC: ±(1.0%rdg + 4 dgts).

■ Max voltage: 600V AC or DC.

■ Input impedance: 1Mohm.







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Accessory Head Handles

EHDL1: Electronic Handle

Converts any Fieldpiece accessory head into a standalone instrument.

- MIN/MAX to record highest and lowest reading.
- Ranges: 200mVAC, 2000mVAC, 200mVDC, 2000mVDC.
- Resolution: 0.1mV.



EHDL1



EHDL1 handle with AAV3 head

Standalone air velocity and temp. gauge.



EHDL1 handle with ARH4 head

Standalone RH%, temp., wet bulb, and dew point.



Connects any Fieldpiece accessory head to any digital multimeter with industry standard jacks.



AHDL1

Standalone Instruments

Some technicians prefer standalone instruments. Fieldpiece offers them to let you decide the way you want to work.

SDMN5: Dual Port Manometer

The SDMN5 is a ruggedized standalone dual-port manometer that measures differential, absolute, and static pressure.

- Measures inches WC, mm WC, mBar, and PSI.
- Rubber boot.
- Magnetic hanger.
- Data HOLD.
- Auto-off (APO) to extend battery life.
- Accuracy: ±1.5% FS.
- Range: -60 to +60 inches WC.
- Resolution: 0.01 inches WC.
- Includes (2) adapters (RMA316).





SVG2: Vacuum Gauge

A rugged standalone vacuum gauge with alarms and INCREASING/ DECREASING/STABLE indicators.

- Measures from 50 to 2000 microns.
- Big display for easy visibility.
- Auto off when the SVG2 is left on in atmospheric pressure.
- Programmable high and low alarm that notifies the user when the desired vacuum level has been reached with a bright red LED and an audible alarm.
- Vacuum indicator notifies the user if the vacuum is decreasing, stable or increasing in pressure.
- Fast response and high resolution.
- Easy to clean.
- Magnetic hanger.



SMG5: Megohm Meter

Small, low cost meter for checking compressor insulation.

- Predict compressor failure.
- 1000VDC stresses insulation to measure up to 2000Mohms.
- Backlit LCD display.
- Auto-off to extend battery life.
- Case, alligator clip, leads with removable tips.

The SMG5 provides a 1000V voltage source, monitors current, and displays the resistance between the test points. Maximum current output is <1mA. It can be used to determine the condition of insulation from winding to ground in a motor, compressor, or transformer.

Disconnect the windings and measure the resistance between the windings and ground through the insulation. Determine what a good reading is by comparing your reading to values supplied by the manufacturer of the equipment.

Noticing decreasing insulation resistance levels can forecast problems preventing catastrophic failure.



SRPM2: Optical Laser Tachometer

SMG5

- Measures RPM without contact.
- Laser light.
- Works up to four feet away.
- Range: 1.5 to 99,999 RPM.



Diagnostic Standalones

The SRH2 measures the RH% and temperatures and calculates the system targets for you. The SOX2 measures O_2 and stack temperature and calculates CO_2 and excess air for a lot less than a full-featured combustion analyzer. Use the SOX2 with the SCM3 to calculate efficiency.

SRH2: Diagnostic Psychrometer

From indoor return wet bulb and dry bulb measurements, the SRH2 automatically calculates the target supply dry bulb, allowing the tech to verify proper evaporator coil airflow. From indoor return wet bulb and outdoor condenser-entering dry bulb, technicians get target superheat directly to verify charge on fixed restrictor systems. No charts, no calculations. It's that easy.

- Wet bulb, dry bulb, dew point and %RH.
- Calculate target superheat and target evaporator exit temperature.
- For temperature measurements select built-in thermistor or plug-in thermocouple.
- Max/Min/Hold function.
- Blue backlight.
- Rubber boot helps protect the meter during bangs and drops.
- Magnetic hanger for hands free operation.
- Auto-off to save battery life.
- Easily calibrate temperature in the field.
- Includes ATA1 T/C (p. 56), ATWB1 Wet Bulb T/C (p.56), standard 9V battery (installed), and manual.



backlight on



SOX2: Combustion Check Meter

Quickly check against combustion equipment manufacturer's specs. Includes the parameters you need without the costly extras you don't.

- Measures %O₂ & stack temp.
- Calculates %CO₂ & %Excess Air (%EA).
- Displays %O₂, %CO₂, or %EA, & temp.
- H (hold), MAX, MIN or real time display
- Natural Gas, Oil #2, Propane

Combustion Check vs. Combustion Analysis

The SOX2 is designed to help technicians get quick combustion checks for comparison with manufacturer's specifications. If you need more comprehensive combustion testing, see the HVAC Guide® System Analyzer (p. 8) for combustion analysis.

Includes SOX2, ATBF1 K-type T/C, AOXP2 hand pump, ANC1 case, and RAOX9 filter replacement kit.

SCM3: Carbon Monoxide Detector

Find CO sources fast.

Fieldpiece

The SCM3 standalone carbon monoxide detector measures CO in parts per million (ppm) and is fast enough for walk-around testing.

- Fast electrochemical sensor.
- Calibrate to ambient quickly with ZERO button.
- Audio and visual alerts with mute.
- MAX hold.
- Magnetic hanger for hands-free operation.
- Auto power off (APO) to help conserve battery life.
- Standard 9-volt battery (included).

Use it for walk-around tests to help pinpoint sources of CO indoors. Measure CO ppm in flue gas using the optional AOXP2 pump.



INFRARED

- State-of-the-Art Infrared Sensor
- Sensitivity Below 0.1 oz/yr.
- 8-hour Rechargeable Lithium Battery (10 min. auto-off)
- **Detects CFC, HFC, HCFC & Blends**
- Auto Re-Calibration

Model SRL2K7

Infrared (IR) Refrigerant Leak Detector

- Senses CHANGE in refrigerant concentration. Requires double-pass sweeping motion to detect leaks.
- Sensor maintains initial sensitivity over life of meter.
- Inherently handles background refrigerant without re-adjustment.
- Sensitivity similar on CFCs, HFCs, HCFCs & blends.
- Won't trigger on oil or moisture.
- More expensive.

Both detectors include:

- hard case
- 9" flex extension probe 9" needle tip probe



HEATED DIODE

- State-of-the-Art Heated Diode Sensor
- Sensitivity Below 0.1 oz/yr.
- 15-hour Rechargeable Lithium Battery (10 min. auto-off)
- Detects CFC, HFC, HCFC & Blends
- Manual or Automatic ZEROing

Heated Diode

Refrigerant Leak Detector

- Senses ABSOLUTE concentration. Beeper & bar-graph indicate higher concentration of gas the closer you get to the leak.
- Like all heated diode sensors, sensitivity and life depend on exposure to refrigerants.
- ZEROing function resets level of triggering for use in contaminated areas.
- More sensitive to some refrigerants than others.
- Can trigger on moisture and oil.
- · Less expensive.
- wall & vehicle chargers
- 10 filters
- 5 O-rings



SRS2: Wireless Refrigerant Scale

The SRS2 is a wireless scale designed specifically for weighing refrigerant cylinders. The remote control is securely stored inside the back of the rugged scale platform. The remote has a backlight and a magnetic hat so you can attach it to any metal surface allowing you to keep your

hands free. The platform is made of solid aluminum with rubber corners to protect against the hazards of daily use.





- Solid aluminum construction.
- Diamond plate rubber grip pad for refrigerant tanks.
- Remote stores within platform.
- Bright blue backlight.
- Hang it by the flip up magnetic hat.
- Battery life: Remote 80-hrs. Platform 100-hrs. Continuous use with alkaline batteries.





Thermometers

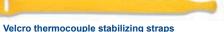
ST4: Ruggedized Dual **Temp Thermometer**

- Read T1, T2, or T1-T2.
- Rugged rubber boot.
- Min/Max and Hold.
- LED indicates disconnected probe.
- Great temperature compensation for fast changing environments.
- Select °F or °C.
- Includes 2 K-type thermocouples.
- Range: -58°F to 2000°F (400°F with included thermocouples.)
- Accuracy: ±1°F, 30°F to 120°F with field calibration.



ST4

Includes clear-front case with magnetic hanger.



case showing magnet

Stainless Steel Rod Thermometers



SPK1: Pocket Knife Style Thermometer

- Detent holds rod in 16 positions.
- Easily hangs from thermostat, register, or a hole in flex duct.
- Rod folds away for storage.
- MIN/MAX and Hold.
- Resolution 0.1°F.
- Accuracy: ±1.8°F, -4 to 302°F.
- Range: -58°F to 392°F.

SWT2: Water Resistant Thermometer

Sealed for field use.

SWT2 with cap off

■ MAX/MIN.

■ Accuracy: ±1.8°F, -4°F to 392°F.

■ Resolution 0.1°F.

Range: -58°F to 392°F.



SWT2 with cap on

Infrared Thermometers

Fast and convenient. Take temperatures without having to touch a surface. Takes less than one second for stabilization. Room, register and surface temperatures can be taken easily and conveniently. The laser makes it easier to aim. The drawback of using IR thermometers is having to know the cone of view and the surface emissivity for accurate readings. IR is best when convenience is more important than accuracy.

SIG1: Gun Style IR Thermometer with Laser

The SIG1 makes taking temperatures one-handed, easy, accurate and fast. The narrow 10:1 cone of view allows you to target smaller areas from further away.

The backlight allows you to read the measurements in any lighting

condition.

- 10:1 cone of view.
- Select °F or °C.
- Range: -22°F to 1022°F.
- Accuracy: ±4°F or 2% rdg, whichever is greater.
- Resolution: 1°F.
- Automatic data hold.
- Backlight.
- Auto-off (APO) to conserve battery life.



SIL2: IR Pocket Thermometer with LED Flashlight

The SIL2 has great accuracy and a built-in bright LED flashlight that uses a separate AAA battery. The SIL2 looks like a pen in your pocket.

- 1:1 cone of view.
- Automatic data hold.
- Select °F or °C.
- Range: -27°F to 230°F.
- Excellent accuracy: ±1.5°F.
- Resolution: 0.5°F.
- Auto-off (APO) to conserve battery life.



SIR2: IR Pocket Thermometer with Laser

Pocket IR with laser. Narrow viewing angle.

- 6:1 cone of view.
- Min/Max automatic data hold.
- Select °F or °C.
- Range: -27°F to 482°F.
- Accuracy: ±4°F or 2% rdg, whichever is greater.
- Resolution: 0.1°F.
- Auto-off (APO) to conserve battery life.
- One-hand operation.





SIP2: Shirt Pocket IR Thermometer

Shoot the wall to get quick ambient temperatures. Faster and easier than a rod-type thermometer.

- 1:1 cone of view.
- Range: -22°F to 230°F.
- Excellent accuracy: ±1.8°F.
- Resolution: 0.1°F.
- Auto-off (APO) to conserve battery life.

SIP2

Cone of View

To determine temperature, an IR thermometer gathers IR energy from an area and converts it to a temperature. To determine how much area the thermometer detects, divide the distance to the target by the cone of view of the thermometer. For example, if the ratio is specified at 10:1, at ten feet, the thermometer sees a target 1 foot across. The thermometer averages the temperature of everything in the cone of view, no matter how far away.

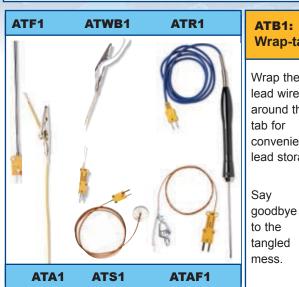
Emissivity

A dull black surface lets IR energy escape from an object easily. The emissivity is close to 1 (or 100%). If the surface is shiny, such as a wet copper pipe, the IR energy can't escape easily. Much is reflected back into the target. The emissivity is lower than 1. The IR energy emitted is no longer proportional to temperature. To get an accurate reading, you must change the emissivity of the target by spraying it with black paint or putting a dark, dull tape on it. Shiny targets can also reflect IR energy from other objects (such as your face) into the thermometer, making an accurate reading impossible.

K-Type Thermocouples

All fieldpiece thermocouples work with all Fieldpiece meters that measure temperature. They were all designed with the HVAC/R tech in mind. Alligator clips are used for securing the thermocouple. The new ATC1 is redesigned for more versatility and higher accuracy.





Wrap-tab Plug

Wrap the lead wire around the convenient lead storage.



Which Thermocouple Works Best?

MODEL	DESCRIPTION	MAX °F PROBE TEMP
ATB1	Bead type standard	400
ATA1	Bead type with alligator	400
ATAF1	Hi-temp bead type with alligator	900
ATWB1	Wet bulb (sock) with alligator	200
ATC1	Pipe clamp (3/8" to 1 3/8")	257
ATC1R	Pipe clamp - refrig. (1/8" to 3/4")	257
ATC2	Pipe clamp (up to 2 1/4")	180
ATC3	Premium pipe clamp (up to 1 3/8")	300
ATEXT10	10' extension cables	400
ATF1	Stainless steel, 6" rod for fluids	1500
ATR1	4.5" piercing rod with handle	1500
ATS1	Disk shaped for grilles	1500

Lead and High Current Solutions

ASLS2: Silicone Test Leads



- High copper strands, silicone insulated test leads.
- Basket style strain relief.
- Fit inside test lead holders on back of SC60/70 series clamp meters, LT series, and HS30 series stick meters.

ADLS2: Deluxe Silicone Test Leads



Exactly like ASLS2 with the addition of removable probe tips.

ADK7: Deluxe Test Lead Kit



Silicone test leads, removable probe tips and alligator clips for grounding.

ADA2: Dual Alligator Clips



Red and black vinyl insulated cables with small alligator clips on the ends. Each shorting cable is 3.5 feet long.

AEK11: Silicone Test Lead Kit



These test leads are unmatched in ruggedness and flexibility.

AQK3: Flame Diode Test Adapter Kit



- DMM jack to quick-connect for flame diode test.
- Quick connect to mini-plug adapter.

ACDC6: 600A AC/DC Current Clamp



Connect to any DMM with industry standard jacks and mV ranges to measure AC or DC current up to 600A. Jaw opens to 1.18".

- DCA accuracy: ±(2%rdg+2A).
- ACA accuracy@60Hz, <400A: ±(2%rdg+2A).
- ACA accuracy@60Hz, >400A: ±(6%rdg+2A).

Extension Tools

These tools make your job easier all day long. The pocket extension tools telescope to approximately 2 feet & have pocket clips. Chrome finish looks great.

Fieldpiece

PMG2

PMG2: Lighted Magnet Tool

Can easily hold up to 3 pounds. Perfect for picking up dropped screws, keys, even tools. Bright LED shines through "donut-hole" magnet to direct light where you need it most.



- PAL1 alligator extension makes lighting pilots a breeze.
- PBS2 combines a strong magnet with a clawed hand to grab out of reach parts. Also a great backscratcher.
- PLF2 fixed-length LED flashlight shorter than a writing pen.
- PMR1 extension mirror helps you see around corners.
- MDSH1 magnetic parts dish with 4" diameter and stamped "Fieldpiece" keeps all the loose fasteners in one place.

DI M

PLM2: Lighted Mirror Tool

Mirror adjusts in any direction and makes viewing in tight places possible. LED reflects light from the mirror to shine where you need it. Detach the mirror to use as flashlight.

SNCV1: Non-Contact Voltage Tester

- Detects live AC voltage without contact.
- Bright red LED and loud beeper.

SNCV1

- Range: 24VAC to 440VAC.
- Senses 24VAC for thermostat power.
- Analog feel indicates strong and weak AC voltage fields.

Replacement Fuses and Batteries

A blown fuse indicates it did its job. Replace it immediately.

Fuses								Batter	108			
	0.1A/250V	RFM66 (4) 0.25A/700V (6x32mm)	RFM70 (4) 2A/600V (6.35x25.4mm)	RFM74 (4) 0.5A/700V (6.35 x 32mm)	RFL712 (1) 12A/600V (10x38mm)	RFL83 (4) 10A/600V (6.35x25.4mm)	RFL83A (4) 10A/500V (6.35x32mm)	RFS74 (4) 0.5A/250V (5x20mm)		RL736 (6)	RLR44 (2)	RCR2032 (1)
MODEL (serial#) SC76 (<612588)	ш.	•	ш.	ш.	ш.	ш.	ш.	ш	MODEL SWT2	L.	•	ш.
SC67		•							SPK1		•	
SC66		•							SPDM1	H	•	
LT83A (<70003091)				•		•			SNCV1	H	•	
LT83A (>70003091)				•			•		SIL2		•	
LT83 (<120808)						•		•	SIR2			•
LT83				•		•			SIP2		•	
LT17A		•							PLM2	•		
LT17 (<120149)	•								In		-	Š.,,
LT17 (>120149)	•			•						A	6	
LT16A		•	•						2 2			
LT16	•		•						O FEN	1	1	
HS36 (<647936)		•							23	-	1	5
HS35 (<637606)		•							E 0009	23	W	
HB74 (<903006)					•			•		1		
HB74				•	•)	

How to tell if you need a fuse

HB meters, big fuse:

1. Connect V to 10A input.

HB meters, LT meters, small fuse: 2. Select microamps range on dial. 3. "OL" means fuse is bad.

1. Connect COM to MFD.

2. Select MFD range on dial.

3. If numbers count up, fuse is good.

HS and SC meters:

- 1. Remove battery cover.
- 2. Connect V to negative battery terminal.
- 3. Select microamps range on dial.

4. "OL" means fuse is good.







Case Specifications

MODEL	WHAT IT CAN HOLD	SIZE H" x W" x D"	POCKETS
ANC1	1 meter + 2 heads	10" x 6.5" x 1.5"	4
ANC2	1 accessory head	8" x 3.5" x 1"	1
ANC3	3 meters + 10 heads	13.5" x 12.5" x 3"	14
ANC4	1 SC40 series meter	8.5" x 3" x 2"	1
ANC5	1 meter + 1 head	11" x 7.5" x 0.5"	2
ANC6	1 standalone meter	9" x 3" x 2.5"	1
ANC7	1 clamp meter	11" x 3" x 2.5"	1
ANC8	2 meters + 4 heads	14" x 7" x 3"	4

Fleece Lined Jacket



A great all-around jacket for cold days.

Hoodie



Comfortable warm pullover hooded sweatshirt.

Windbreaker



Lightweight, lined nylon jacket. Embroidered logo.

T-shirt



Premium grade thick cotton with a front pocket.

Golf Shirt



100% polyester, moisture-wicking golf shirt with color logo.

Long Sleeve T-shirt



100% cotton, silk screen logo, cannon back design.

logo on back

Black Coffee Mug



24K gold logo x2.

Baseball Cap / Beanie



Embroidered logo. Solid cotton-look material all the way around.

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