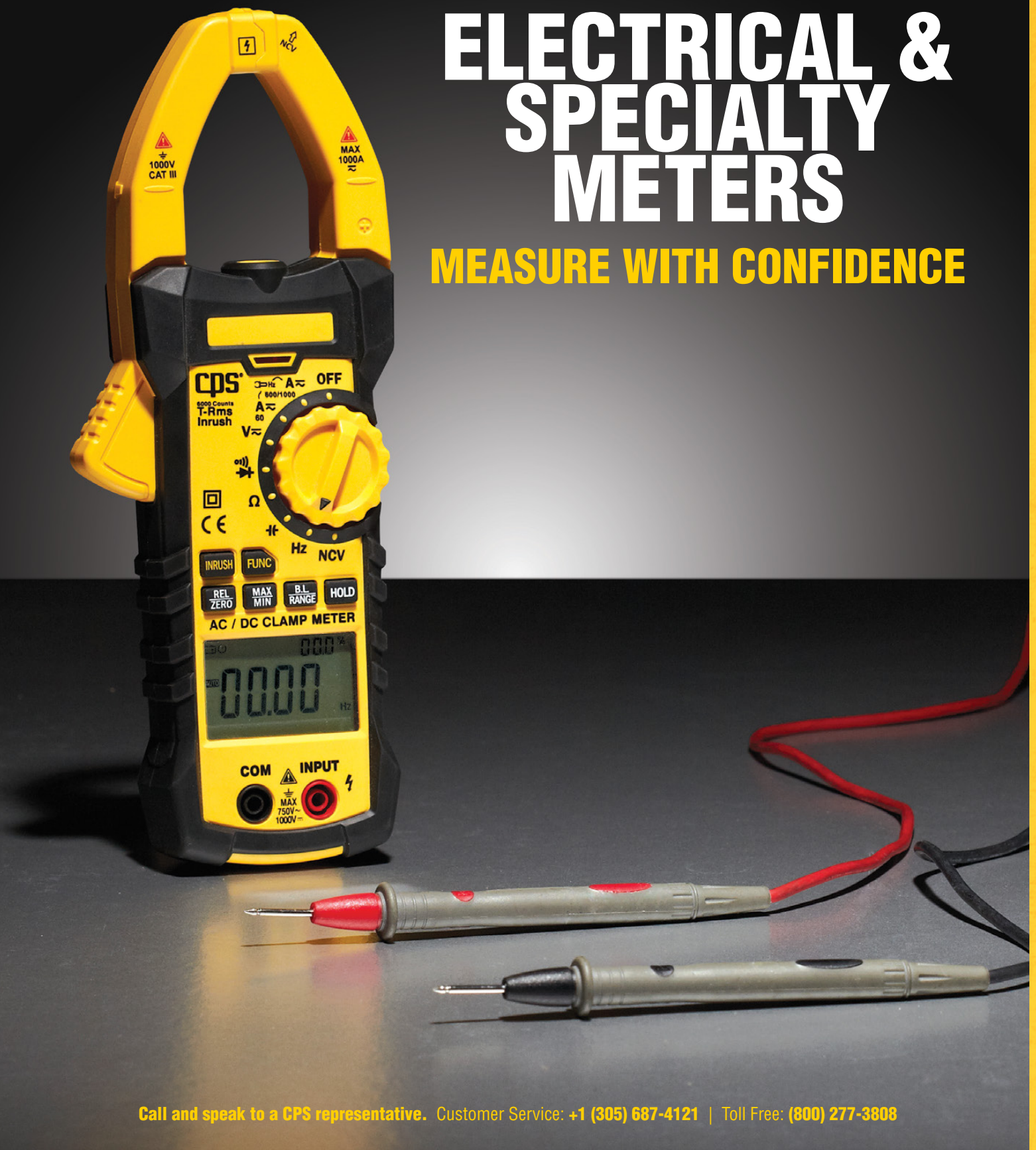
ELECTRICAL & SPECIALTY METERS

MEASURE WITH CONFIDENCE



AC750 DIGITAL CLAMP METER

The **AC750** is a multi-functional AC/DC clamp meter and hosts an array of enhanced features such as ability to capture true In-Rush measurements, non-contact voltage detection, and data logging of output readings to a PC (USB connection cable included).

- Versatile for testing AC/DC voltage, AC/DC current, resistance and frequency
- True RMS AC measurement
- Max/min value measurement
- Audible continuity and diode test
- Non-contact voltage detection
- Integrated clamp light and LCD backlight
- Auto zero key for DCA measurement
- Auto/Manual range, auto power off
- Secondary injection molded case, safety as per IEC1010 1000V CAT III
- Includes **DMXTL** CAT 3, 1000V test leads (shown below)

USB data connection

Extra strength grip clamp

Built-in flashlight

Back view

AC750

Display	6000 count dual display
Range Control	Auto range mode
Battery	9V battery (one piece)
Dimensions (W,H,D)	8.8˝ x 3.4˝ x 1.3˝ (225 mm x 86 mm x 33 mm)
Weight	0.70 lb (320 g)

DMXTL 1000V CAT 3 TEST LEADS

Captures True Motor In-Rush Current

Includes Built-in Data Logging with Software

DMXTL (Replacement Probes For AC750)

For more information visit **www.cpsproducts.com**

AM50

N11445

AM50 VELOCITOR™ AIR VELOCITY METER

A professional grade, precision, hand held, detached vane anemometer that provides fast, accurate air velocity measurements for balancing HVAC systems or determining CFM calculations. Includes large 3/4″ display digits and low battery indicator, as well as Data Hold, Max Hold (°F,°C); Function Selection (°F,°C, Anemometer); Units Selection (m/s, ft/min, Knots, Km/Hr). Kit also includes a convenient K Type thermocouple integrated into the remote vane providing quick measurement of grill/duct outflow temperatures from 32° to 122°F (0° to 50°C). An easy-to-read chart allows quick conversion of air velocity measurements into CFM data. Also included is an instruction manual, CFM Chart (Grill Size, Free Air), 9 V battery, molded carrying case. Factory calibrated.

Temperature Sensor	K-type thermocouple			
Average Period (Seconds) for Wind Speed Measurement	Feet/Minute	~1.2		
	Meters/Second	~0.6		
	Knots	~1.2		
	Km/Hr	~2.2		
Flex Cord	5’			
Power Consumption	Approx 6 mA			
Battery Life	9V			
Battery Type	50 hr (for 300 mA-hr battery)			
Operating Pressure	500 mb ~ 2 Bar			
Operating Temperature Range (Meter)	32°F to 122°F (0°C to 50°C)			
Operating Temperature Range (Vane)	32°F to 140°F (0°C to 60°C)			
Operating Humidity for Thermocouple	<80% RH			
Storage Temperature Range	-40°F to 140°F (-40°C to 60°C)			
Bearing	Ultra-low friction sapphire jewel			
Weight	12.3 oz (350 g)			
Mounting Nut	1/4″ x 20			
Dimensions (L x W x H)	6.6″ x 3.5″ x 1″; (168 mm x 88 mm x 26 mm)			
Units	Range	Threshold	Resolution	Accuracy
Feet/Minute	0 to 8,800	60	0.1	±3% or 0.1
Meters/Second	0 to 45	0.3		
Kilometers/Hour	0 to 140	1.0		
Knots	0 to 88	0.6		

DM350 TECH-SET™ AUTO-RANGING DIGITAL MULTIMETER CAT III 600V

The **DM350** is a Multi-Functional Meter and is designed to international safety standard IEC1010 CAT III 600V. The **DM350** is encased in a secondary injection mold and supports such features as auto ranging, data hold and maximum value measurement.

Display	4 digit large character LCD
Range Control	Auto range mode
Battery	(2) 1.5V AA batteries
Dimensions	158 x 74 x 31mm
Weight	Approx. 220g (including batteries)
DC Voltage	200m / 2 / 20 / 200 / 600V ±0.7%
AC Voltage	200m / 2 / 20 / 200 / 600V ±0.7%
DC Current	200µ / 2000 µ / 20m / 200mA ±1.2%, 2/10A±2.0%
(with optional clamp)	200/2000A (0.1mV/0.1A) ±1.2%
AC Current	200 µ / 2000 µ / 20m / 200mA ±1.5%, 2/10A±3.0%
(with optional clamp)	200/2000A (0.1mV/0.1A) ±1.5%
Resistance	200 / 2k / 20k / 200k / 2M ± 1.2%: 20M ± 2.0%
Temperature	-20°C - 1000°C ± 3.0%, 0°F ~ 1800°F ± 3.0%
Capacitance	20n / 200n / 2µ / 20µ / 200µ / 2000µF ± 4.0%

N11445 **DM350**

SM150

CE N11445

SM150 SOUND LEVEL METER

A professional grade, hand held, lightweight sound level meter for measuring noise levels from 35 to 130dB. Common applications include monitoring sound output from HVAC/R compressors, blowers, health and safety requirements, offices, factory machinery, airports, auditoriums, studio acoustics, etc. Features switches for Hi/Lo dB, slow/fast/impulse, and A & C Weighting. Includes a large, 4 digit LCD display, maximum hold (captures & holds maximum noise level), Over/under range indicator, peak and average response settings. Includes a 3.5 mm output jack for downloading AC or DC signals to a frequency analyzer, level recorder, FFT analyzer, graphic recorder, etc. Kit includes instruction manual, foam windscreen, 3.5 mm plug, calibration screwdriver, 9 V battery, foam padded carrying case. Factory calibrated. CE approved. Meets or exceeds ANSI S1.4 Type 2; IEC 61672-1 Class 2.

AC400 TECH-SET™ DIGITAL CLAMP METER

The **AC400** is a auto-ranging clamp on meter. The **AC400** is designed to international safety standard IEC1010 CAT III 600V. The **AC400** is encased in a secondary injection mold and supports such features as auto ranging, data hold and maximum value measurement.

AC400

CE N11445

SM150 SOUND LEVEL METER SPECIFICATIONS	
Frequency Range	20 Hz ~ 8KHz
Measuring Level Range	35~ 130 dB
Frequency Weighting	A/C
Time Weighting	Fast (125 mS), Slow (1 sec.) Impulse (35 mS)
Microphone	1/2˝ Electret Condenser
Display	LCD (4 Digits)
Resolution	0.1 dB
Display Period	0.5 sec.
Level Ranges	Lo (35-95dB); Hi (65~130dB)
Accuracy	±1.4dB (Under Reference Conditions)
Dynamic Range	65 dB
Alarm Function	“OVER” displays when input out of range
Weight	12.3 oz (350 g)
Mounting Nut	1/4˝ x 20
Dimensions (LxWxH)	Inch: 6.6˝ x 3.5˝ x 1˝; mm: 168 x 88 x 26
Maximum Hold	Hold readings, with decay , 1 dB/3 minutes
Calibration	Electrical calibration via internal oscillator (1 KHz) sine wave
AC Output	0.6 Vrms at FS (full scale), output impedance approx. 5KΩ
DC Output	10mV/dB, output impedance approx. 5KΩ
Power Supply	One 9V battery
Power Life	Approx 50 hr (alkaline)
Operating Temperature Range	32° F to 104°F (0°C to 40°C)
Operating Humidity Range	25% to 90% RH
Storage Temperature	14°F to 140°F (-10°C to 60°C)
Storage Humidity	10% to 70% RH
Dimensions (L x W x H)	Inch: 9.4˝ x 2.7˝ x 0.98˝ mm: 240 x 68 x 25
Weight	7.5 oz (215 g)

TEMPERATURE & SYSTEM MEASUREMENT

INNOVATIVE SYSTEM ANALYSIS INSTRUMENTATION

SH450 MULTI-FUNCTION SUPERHEAT THERMOMETER & SYSTEM ANALYZER

The **SH450** system analyzer is a versatile diagnostic tool for accurately measuring and evaluating the performance of today's advanced HVAC/R systems. Measurement capabilities include pressure, superheat, sub cooling, relative humidity, wet bulb, dry bulb and dew point with a range of highly accurate, job specific probes and sensors. The unit is also an advanced multi-channel thermometer, incorporating 4 discrete temperature channels with temperature differential between any 2 of the 4 inputs, min/max, scan and data record functions. Powered by one 9V alkaline battery (included), the unit is designed for portability, yet can still be powered via an optional 110V power supply for permanent, stationary applications.

The versatile **SH450** comes standard with one clamp-on temperature probe **TMX3C**, one Velcro™ strap pipe probe, one general purpose temperature probe **TMX2G** and a six pack of wet bulb socks **TMX3WB**. Optional accessory probes are shown on page 46 and offer the convenience of interchangeable use with other CPS manufactured products including our advanced line of digital manifolds.

SH450

SH450 KEY FEATURES:

- Integrated 90+ refrigerant PT (pressure/temperature) table
- Four discrete temperature channels
- Superheat and subcool measuring functions
- Displays bubble and vapor saturation temperatures
- Direct relative humidity and wet bulb measurements
- Temperature differential with min / max memory
- Stainless steel pressure-vacuum sensor with a range of -14.7 Psi to 725 Psi
- Reads in Psig, KPa, bar, Hg, kg/cm2
- High accuracy silicon humidity transducer probe port
- Operates on 9V battery or optional wall transformer
- Auto-off or continuous on mode
- Large 4-digit backlit display
- Calibrated to NIST traceable standards
- Includes: general purpose probe **TMX2G**; clamp-on surface probe **TMX3C**; 9V alkaline battery and owner's manual

Pressure Range	-14.7 Psig to 725.0 Psig (-100 kPa to 5000 kPa)
Pressure Accuracy	±1% of reading or ± 0.5 Psig (± 3.5 kPa)
Pressure Units	Psig, kPa, bar, Hg, kg/cm2
Proof Pressure	1000 Psi (7000 KPa)
Dew or Bubble Saturation Temperature	±1.8˚F (±1.0˚C)
Measurement Temperature Range	-40˚F to +300˚F (-40˚C to +150˚C) Actual temp range depends on the probe being used
Temperature Resolution	±0.1˚F or ˚C
Superheat/Subcool Accuracy	±0.4˚F / ±0.2˚C from 14.0˚F to 158˚F / -10.0˚F to 70˚C; 0.6˚F / 0.3˚C elsewhere in the range
RH Range	0 to 100%RH
RH Accuracy (TMX3RH)	±1.8%RH from 10 to 90%RH; ± 3% elsewhere in the range
DB Accuracy (TMX3RH)	±1.2% of reading ± 1.0˚F from -40˚F to 200˚F (± 1.2% of reading ± 0.5˚C from -40˚C to 90˚C)
Power Source	9V alkaline battery or optional TMX3PS AC adapter for 100 to 240VAC (40 to 60 Hz) - USA Plug
Battery Life	30hr continuous use
Automatic Power Off	After 10 minutes of inactivity

TM360 SERIES, 4 STATION THERMO-PSYCHROMETER

TM360 Series are professional grade instruments that can accommodate all your temperature, humidity, dry/wet bulb and dew point measurements. **TM360** incorporates 4 discrete temperature ports capable of min/max and memory functions including temperature differential between any 2 of the 4 available ports. Display and alternate between four ports to continuously monitor multiple probes during system diagnosis.

A dedicated special purpose port accommodates an optional state-of-the-art silicon humidity transducer probe for fast and accurate measurements during superheat calculations. Housed in a rugged polyethylene case, the **TM360** is engineered to provide laboratory accuracy in rough field conditions. A generous probe storage area is provided to contain all your job specific probes.

TM360 & TM360C

TM360 KEY FEATURES:

- Four discrete temperature channels
- High accuracy silicon humidity transducer probe port
- Large 4-digit, easy-to-read, backlit display
- Min/Max and memory functions
- Temperature differential between any 2 of the 4 temperature ports
- Direct relative humidity and wet bulb measurements
- Calibrated to NIST traceable standards
- Auto-off after 10 minutes of non-use or continuous ON mode
- Operates 30 continuous hr on (1) 9V alkaline battery
- Integrated battery eliminator jack
- Rugged polyethylene carrying case
- Large probe storage area
- Switchable ˚C/˚F
- **TM360** includes accessory probes **TMX2A**, **TMX2G**, **TMX2S**
- **TM360C** includes accessory probes **TMX2A**, **TMX2S**, **TMX3C**

Temperature Resolution	±0.1˚F or ˚C
Temperature	±0.4˚F / ±0.2˚C from 14.0 to 158˚F -10.0 to 70˚C; 0.6˚F / 0.3˚C elsewhere in the range
RH Range	0 to 100%RH
RH Accuracy (TMX3RH)	±1.8% RH from 10 to 90%RH; ± 3% elsewhere in the range
DB Accuracy (TMX3RH)	±1.2% of reading ± 1.0˚F from -40˚F to 200˚F (± 1.2% of reading ± 0.5˚C from -40˚C to 90˚C)
Power Source	9V alkaline battery or optional TMX3PS AC adapter for 100 to 240VAC (40 to 60 Hz)
Battery Life	30hr continuous use
Automatic Power	Off After 10 minutes of non-use, or user selectable continuous ON mode
Backlight	15 seconds


TMX2A


TMX2G


TMX2GA


TMX2P


TMX2S


TMX3C

TMX2RH


TMX3RH


TMX3PS

ACCESSORIES & SPECIFICATIONS FOR USE WITH SH450, TM360 AND TM360C					For use with		
Item	Description	Common Uses	Qty	Operating Temperature Range	TM360	TM360C	SH450
TMX2A	Moving Air Probe, 15' (4.5 m) Lead	Air: Ducting, registers, air movement across condensers, ambient air	1	-40˚F to 221˚F (-40C to +105˚C)	Yes*	Yes*	Yes
TMX2G	General Purpose Probe, 15' (4.5 m) Lead	Surface, Air, Liquids: Copper pipe, ambient air, RH wet sock method	1	-40˚F to 257˚F (-40C to +125˚C)	Yes*	n/a	Yes*
TMX2GA	General Purpose Air Probe, 15' (4.5 m) Lead	Air, Surface, Liquids: Ambient air, ducting, registers, air movement across condensers.	1	-40˚F to 257˚F (-40C to +125˚C)	n/a	n/a	Yes
TMX2P	Puncture Probe , 15' (4.5 m) Lead	Surface, Liquids (Shaft Only): Internal temperatures of frozen materials, air ducts	1	-40˚F to 257˚F (-40C to +125˚C)	Yes	n/a	Yes
TMX2S	Velcro Strap Pipe Probe, 15' (4.5 m) Lead	Surface: temperatures of copper tubing	1	-40˚F to 257˚F / -40˚C to +125˚C	Yes*	Yes*	Yes
TMX3C	Clamp-On Surface Probe, 15' (4.5 m) Lead	Surface: temperatures of copper tubing	1	-40˚F to 221˚F (-40C to +105˚C)	Yes	Yes*	Yes*
TMX2RH	Relative Humidity / Dewpoint Probe	Specialty RH Probe: Measure indoor air quality, set/ troubleshoot humidity devices	1	-40˚F to 194˚F (-40C to +90˚C)	For use with TM150 and TM250		
TMX3RH	Relative Humidity / Dry Bulb / Wet Bulb / Dew Point Probe	Specialty RH Probe: Measure indoor air quality, set/ troubleshoot humidity devices	1	-40˚F to 194˚F (-40C to +90˚C)	Yes	Yes	Yes
TMX3WB	Wet Bulb Socks	for Use With TM360	6	-40˚F to 194˚F (-40C to +90˚C)	Yes	Yes	n/a
TMX3PS	AC Adapter for 100 to 240V (40-60 Hz)- USA Plug	for TM360, SH450	1	32˚F to 140˚F (0 C to +60˚C)	Yes	Yes	Yes

**Indicates accessory is included with the model*

TMINI12 NON-CONTACT THERMOMETER

The **TMINI12** infrared thermometer provides easy, instant temperature measurement over a wide range of applications. **TMINI12** offers convenient one-hand operation, laser point sighting, a backlit LCD display, °F/°C selection, automatic power off feature, built-in LED light, K-Type input for use with optional accessory temperature probes.

Use the **TMINI12** to quickly and easily measure temperatures of registers, ductwork, furnaces, evaporators, condensers, compressors, relays, manifolds, radiators, exhaust systems, thermostats, bearings and more. Includes carrying case and 9V alkaline battery.

Built in LED Light

Temperature Range	-76°F to 932°F (-60°C to 500°C)
D:S (Distance to Spot Size)	12:1
Emissivity	Pre-set at 0.95 - adjustable
Accuracy	±2°C (±4°F) or ±2% of reading
Display	Digital Backlit LCD
Resolution	1°C/°F
Batteries	2 AAA
Warranty	1 year

TMXSK90 K-TYPE TEMPERATURE PROBE

The **TMXSK** is the fastest and most accurate handheld K-type surface probe providing accurate readings in less than 5 seconds. The sensor is made from flat-spring ribbons of thermocouple material for contact on uneven surfaces. A square, ribbed handle for grip and a 3' coiled lead for durability and long reach. The exposed junction provides for fast response and is compatible with any other instrument with a K-type input.

- K-Type Surface Probe (Angled, 90 Degree Head)
- Max Temp: 752°F (400°C)


Coiled lead


Flat-spring ribbons


K-type accessory probe


Used as seen above on the CPS TMINI12 and is compatible with any other instrument with a K Type input.

TMXSK TEMPERATURE PROBE

Identical to the **TMXSK90**, but with a straight probe and round, ribbed handle.

- K-Type Surface Probe (Straight Head)
- Max Temp: 752°F (400°C)

TMXKBEAD TEMPERATURE PROBE

The **TMXKBEAD** is a standard K-type bead probe ideally suited for getting fast results when measuring temperature in a variety of media. This 36″ long (1 m) probe provides accurate readings in less than 5 seconds.

- K-Type Flexible 36″ (1 m) Probe
- Max Temp: 400°F (204°C) Min Temp: -58°F (-50°C)

TMAP ANALOG POCKET THERMOMETER

- Fahrenheit scale
- 1″ dial and stainless steel probe and pocket clip
- 0°F to 220°F
- 5″ (127 mm)

TMAPC ANALOG POCKET THERMOMETER

- Celsius scale
- 1″ dial and stainless steel probe and pocket clip
- -40°C to 80°C
- 5″ (127 mm)

TMDP DIGITAL POCKET THERMOMETER

- Celsius scale
- -58° to 302°F (-50° to 150°C)
- 5″ (127 mm)