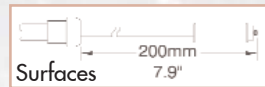
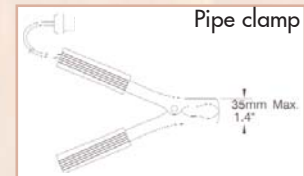
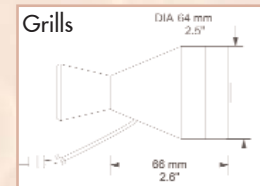
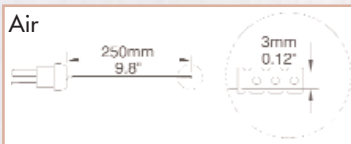
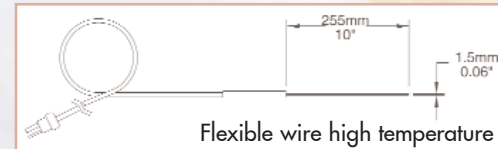


Thermometry

Instruments for the measure of temperature

HI 766 usage	Max Temperature	Response time (90% F.V.)	Probe length (stainless steel)
HI 766PA, convexe surfaces	320°C (600°F)	7 seconds	280 mm
HI 766PB, high temperature solids	650°C (1200°F)	8 seconds	L 200 mm x dia 1.6 mm
HI 766PC, semi-solids, meat, rubber	900°C (1650°F)	15 seconds	L 155 mm x dia 3 mm
HI 766PD, air, gas	300°C (570°F)	20 seconds	L 250 mm x dia 3 mm
HI 766PE1, liquids, air, gas	900°C (1650°F)	6 seconds	L 155 mm x dia 3 mm
HI 766PE2, liquids, air gas	900°C (1650°F)	6 seconds	L 200 mm x dia 5 mm
The following probes include a handle, 1 m cable and a mini-connector			
HI 766A, convexe surfaces	320°C (600°F)	7 seconds	280 mm
HI 766B, high temperature solids	650°C (1200°F)	8 seconds	L 200 mm x dia 1.6 mm
HI 766C, semi-solids, meat, rubber	900°C (1650°F)	15 seconds	L 155 mm x dia 3 mm
HI 766C1, semi-solids, food	300°C (570°F)	4 seconds	L 95 mm x dia 1.6 mm
HI 766D, air, gas	300°C (570°F)	20 seconds	L 245 mm x dia 3 mm
HI 766D/12, air, gas	300°C (570°F)	20 seconds	L 120 mm x dia 3 mm
HI 766E1, liquids, air, gas	900°C (1650°F)	6 seconds	L 120 mm x dia 3 mm
HI 766E2, liquids, air, gas	900°C (1650°F)	6 seconds	L 220 mm x dia 5 mm
HI 766F, high temperatures	1100°C (2000°F)	4 seconds	L 255 mm x dia 1.5 mm
HI 766B1, 90° angle surfaces	450°C (840°F)	8 seconds	300 mm (spring sensor)
HI 766B2, rounded surfaces	900°C (1650°F)	3 seconds	L 130 mm x dia 8 mm (spring sensor)
HI 766B3, small surfaces	200°C (390°F)	6 seconds	L 130 mm x dia 5 mm
HI 766B4, grills	250°C (482°F)	6 seconds	L 66 mm x dia 64 mm Teflon surface, 70 cm cable
HI 766TV1, pipes and tubes	200°C (390°F)	8 seconds	Max opening 35 mm
HI 766F1, flexible wire, hard to reach areas	480°C (900°F)	1 second	dia 2 mm (exposed wires sensor)
HI 766Z, flexible wire, ovens	1100°C (2000°F)	4 seconds	L 255 mm x dia 1.5 mm
HI 766TR1, semi-solids, liquids	250°C (482°F)	10 seconds	L 500 mm x dia 10 mm
HI 766TR2, semi-solids, liquids	250°C (482°F)	10 seconds	1 m
HI 766TR3, semi-solids, liquids	250°C (482°F)	10 seconds	1.5 m
HI 766TR4, semi-solids, liquids	250°C (482°F)	10 seconds	2 m
HI 766HD, interchangeable handle made in PVC with 1 m cable and female connector. For the connexion of all HI 766Px probes.			
HI 766EX, 1 m coiled extension cable with connectors at both ends (male and female).			



It is recommended to check your thermometer calibration in two points. For an accurate verification, choose the Hanna test keys according to the value more close to the usually measured temperature.



General Informations

Temperature Probes

Precise process control is one of the most important factors in maintaining high quality in production, just as precision and accuracy are the key to research. Temperature is one of the most important variables today, in research, as well as in production. Electronic thermometers have provided the versatility asked for by operators in all areas of temperature measurement. Mechanical stress is no longer a worry with Hanna's electronic thermometers. Rain, cold, dust and other natural obstacles are overcome with our rugged instruments.

Temperature measurement

Temperature is one of the most common physical quantities in our everyday life. It is defined as the property of a body that determines the transfer of heat to or from other bodies. Physically, temperature affects variations in the macroscopic quantities of a body such as volume and pressure, among others. Two empirical temperature scales are in common use: the Celsius and the Fahrenheit scales. These scales are based on two fixed points.

The Celsius (formally Centigrade) temperature scale uses the Celsius (°C) units, defined as 1/100th fraction of the difference between the temperature of boiling (100°C) and freezing points (0°C) of water. The Fahrenheit scale uses Fahrenheit (°F) units, where the temperature of boiling point of water is taken as 212°F, and the temperature of the freezing point as 32°F.

Accuracy

With digital indicators it is easy to indicate resolutions of 0.1°C. There is no relationship between resolution and accuracy of measurements. Here is a list of the main causes of errors in temperature measuring systems: internal linearity, electronic components, limitation of use of the electronic components, the liquid crystal display, the batteries, etc. and also the errors coming from the probe.

Hanna's thermometers features

- Cal-Check feature
- Pre-calibrated temperature probes
- Availability of calibration test keys

Types of thermometers Hanna

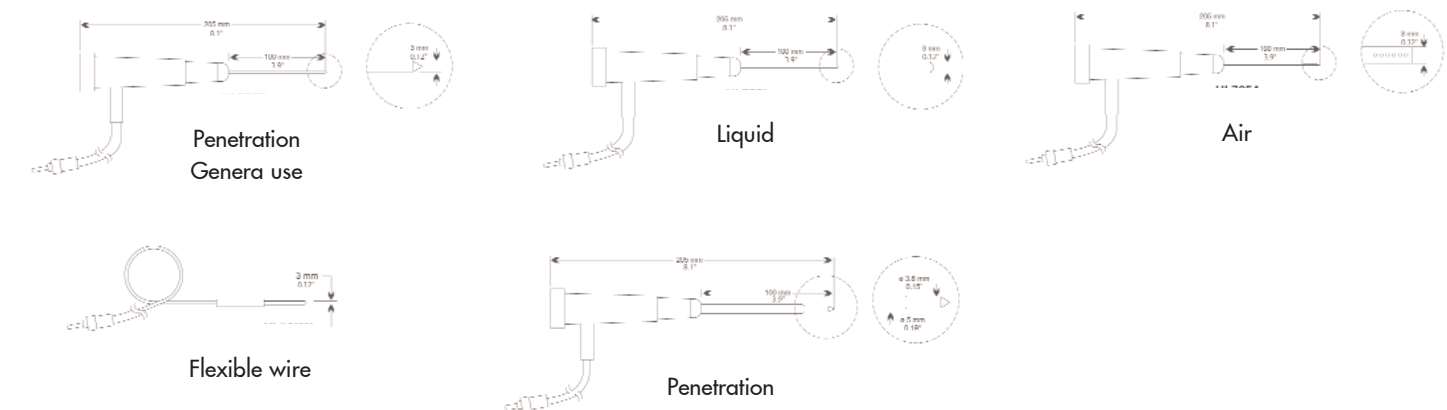
- Thermistor thermometers
 - Measuring temperature from -50 to 150°C, for accurate readings.
- Thermocouple thermometers with interchangeable probes
 - High resistance probes measuring up to 1100°C
- Pt100 thermometers with electric resistance
 - Multiple-wire technology for maximum accuracy
- Infrared thermometers
 - Ideal for foodstuffs, moving machinery, high temperature surfaces and hazardous areas.

All kind of probes for your various needs

Thermistor probes HI 762 and HI 765 Series

Range from -50 to 150°C (-58 to 302°F), CTN (HI 762) and CTP (HI 765) captors, accuracy of ±0.2°C (±0.4°F), ABS handle, replacement error of ±0.2°C (±0.4°F), AISI 316 stainless steel probe, response time (90% of the final value) from 6 to 8 seconds.

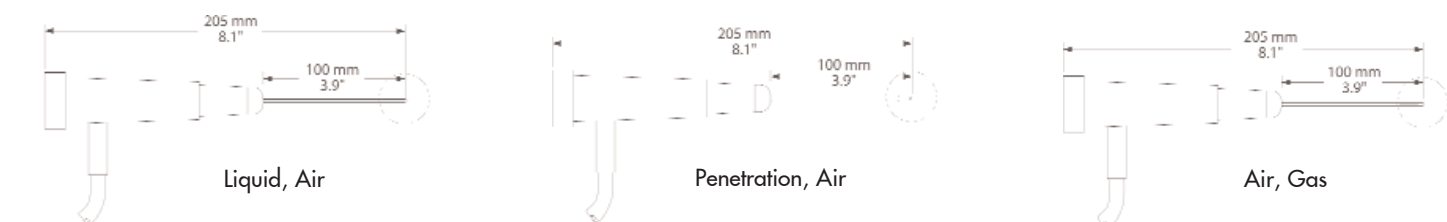
Usage HI 762	1m (3.3') cable	2m (6.6') cable	10m (33') cable	Handle color	
Penetration, general use	HI 762PW, HI 765PW	-	HI 762PW/10, HI 765PW/10	White	
	HI 762PBL, HI 765PBL	-	HI 762PBL/10, HI 765PBL/10	Blue	
	HI 762PG, HI 765PG	-	HI 762PG/10, HI 765PG/10	Green	
	HI 762PR, HI 765PR	-	HI 762PR/10, HI 765PR/10	Red	
Air, gas	HI 762A, HI 765A	-	HI 762A/10, HI 765A/10	White	
Semi-solids	HI 762PWL, HI 765PWL	-	-	White	
Air, liquids	HI 762L, HI 765L	HI 762L/2	HI 762L/10, HI 765L/10	White	
	HI 762BL, HI 765BL	-	-	Black	
Flexible wire, hard to reach areas	HI 762W, HI 765W	-	HI 762W/10, HI 765W/10	Without handle	
With weight, tanks	HI 762DIP	-	-	Without handle	
Stacked goods	HI 762BP, HI 765BP	-	-	Without handle	
Usage	1m (3.3') cable	3m (9.9') cable	5m (16.4') cable	10m (33') cable	Handle color
Tanks	HI 765DIP	HI 765DIP/3	HI 765DIP/5	HI 765DIP/10	Without handle



Pt100 HI 768 probes

Range from -30 to 350°C (-22 to 622°F), Pt100 sensor, accuracy of ±0.25°C (±0.5°F), Cariton handle, replacement error of ±0.2°C (±0.4°F), AISI 316 stainless steel probe, response time (90% of the final value) of 30 seconds.

Usage HI 768	1 m (3.3') cable	3 m (9.9') cable	5 m (16.4') cable
Penetration, air, semi-solids	HI 768P	-	-
Air, gas	HI 768A	-	-
Liquid, air	HI 768L	HI 768L/3	HI 768L/5



Thermocouple thermometers

Extreme temperatures and high accuracy instruments



Product Code	Range	Accuracy	Printer Logging	Water proof	Probe included	Special Feature	Manual Calibration	Backlit Display
HI 8757	-50.0 to 1350°C	±0.5% F.S.						
HI 8758	58.0 to 2462°F	±0.5% F.S.						
HI 9043	-50.0 to 1350°C; -58.0 to 2462°F	±0.2% F.S.				min/max		
HI 9044	-50.0 to 1350°C; -58.0 to 2462°F	±0.2% F.S.				min/max		
HI 9063	-50.0 to 1350°C; -58.0 to 2462°F	±0.2% F.S.				min/max		
HI 9063C	-50.0 to 1350°C; -58.0 to 2462°F	±0.2% F.S.				min/max		
HI 935005	-50.0 to 1350°C; -58.0 to 2462°F	±0.2% F.S.				min/max		
HI 935005N	-50.0 to 1350°C; -58.0 to 2462°F	±0.2% F.S.				min/max		
HI 935002	-50.0 to 1350°C; -58.0 to 2462°F	±0.2% F.S.				min/max and 2 probes		
HI 935009	-50.0 to 1350°C; -58.0 to 2462°F	±0.2% F.S.				min/max and 2 probes		
HI 93530	-200.0 to 1371°C; -328.0 to 2500°F	±0.5°C, ±1°F						
HI 93530N	-200.0 to 1371°C; -328.0 to 2500°F	±0.5°C, ±1°F						
HI 93531	-200.0 to 1371°C; -328.0 to 2500°F	±0.5°C, ±1°F				min/max		
HI 93531N	-200.0 to 1371°C; -328.0 to 2500°F	±0.5°C, ±1°F				min/max		
HI 93531R	-200.0 to 1371°C; -328.0 to 2500°F	±0.5°C, ±1°F				min/max and RS232		
HI 93532	-200.0 to 1371°C; -328.0 to 2500°F	±0.5°C, ±1°F				min/max and 2 probes		
HI 93532N	-200.0 to 1371°C; -328.0 to 2500°F	±0.5°C, ±1°F				min/max and 2 probes		
HI 93532R	-200.0 to 1371°C; -328.0 to 2500°F	±0.5°C, ±1°F				min/max, 2 probes, RS232		
HI 93551	-200.0 to 1371°C; -328.0 to 2500°F	±0.5°C, ±1°F				min/max, KJT		
HI 93551N	-200.0 to 1371°C; -328.0 to 2500°F	±0.5°C, ±1°F				min/max, KJT		
HI 93551R	-200.0 to 1371°C; -328.0 to 2500°F	±0.5°C, ±1°F				RS232, KJT		
HI 93542	-200.0 to 1371°C; -328.0 to 2500°F	±0.5°C, ±1°F				min/max, average, 2 probes, KJT		
HI 93552	-200.0 to 1371°C; -328.0 to 2500°F	±0.5°C, ±1°F				min/max, average, 2 probes, KJT		
HI 93552R	-200.0 to 1371°C; -328.0 to 2500°F	±0.5°C, ±1°F				min/max, av., 2 probes, RS232, KJT		
HI 98701	-200.0 to 1370°C; -300.0 to 2500°F	±0.5°C, ±1°F	Printer			KJT		
HI 98704	-200.0 to 1370°C; -300.0 to 2500°F	±0.5°C, ±1°F	Printer			4 probes, KJT		
HI 98801	-200.0 to 1370°C; -300.0 to 2500°F	±0.5°C, ±1°F	Both			KJT		
HI 98804	-200.0 to 1370°C; -300.0 to 2500°F	±0.5°C, ±1°F	Both			4 probes, KJT		

Infrared and Pt100 thermometers

Rugged instruments for harsh environments

Product Code	Range	Accuracy	Probe included
Infrared Thermometers			
HI 99550-00	-10 to 300°C	±2%	N.A.
HI 99550-01	14 to 572°F	±2%	N.A.
HI 99551-00	-10 to 300°C	±2%	N.A.
HI 99551-01	14 to 572°F	±2%	N.A.
HI 99551-10	-20.0 to 199.9°C	±2%	N.A.
HI 99556-00	-10 to 300°C	±2%	-
HI 99556-01	14 to 572°F	±2%	-
HI 99556-10	-20.0 to 199.9°C	±2%	-



Product Code	Range	Accuracy	Printer Logging	Probe included	Special Feature
Pt100 Thermometers					
HI 955501	-199.9 to 850°C	±0.2°C			
HI 955502	-199.9 to 850°C	±0.2°C			
HI 955201	-200.0 to 850.0°C	±0.1°C	Printer		
HI 955202	-200.0 to 850.0°C	±0.1°C	Printer		2 probes
HI 955301	-200.0 to 850.0°C	±0.1°C	Both		
HI 955302	-200.0 to 850.0°C	±0.1°C	Both		2 probes



Thermistor thermometers

Interchangeable probes for all your needs



HI 9060

With Hanna thermometers, very precise readings of temperature are now possible (at the tenth of degree) thanks to the great sensitivity of their sensor.



HI 98840



HI 93510

Product Code	Range	Accuracy	Printer Logging	Water proof	Probe included	Special Feature	Manual Calibration	Backlit Display
HI 8751	-40.0 to 150.0°C	±0.5% F.S.						
HI 8752	-58 to 338°F	±0.5% F.S.						
HI 8753	-40.0 to 150.0°C; -58 to 338°F	±0.5% F.S.						
HI 9040	-50.0 to 150.0°C; -58.0 to 302.0°F	±0.4°C;±0.8°F				min/max		
HI 93510	-50.0 to 150.0°C; -58.0 to 302.0°F	±0.4°C;±0.8°F				min/max		
HI 93510N	-50.0 to 150.0°C; -58.0 to 302.0°F	±0.4°C;±0.8°F				min/max		
HI 93512	-50.0 to 150.0°C; -58.0 to 302.0°F	±0.4°C;±0.8°F				min/max and 2 probes		
HI 93522	-50.0 to 150.0°C; -58.0 to 302.0°F	±0.4°C;±0.8°F				min/max and 2 probes		
HI 9060	-50.0 to 150.0°C; -58.0 to 302.0°F	±0.4°C;±0.8°F				min/max		
HI 98710	-50.0 to 150.0°C; -55.0 to 300.0°F	±0.4°C;±0.8°F	Printer					
HI 98740	-50.0 to 150.0°C; -55.0 to 300.0°F	±0.4°C;±0.8°F	Printer			4 probes		
HI 98810	-50.0 to 150.0°C; -55.0 to 300.0°F	±0.4°C;±0.8°F	Both					
HI 98811	-50.0 to 150.0°C; -55.0 to 300.0°F	±0.4°C;±0.8°F	Both			i-Button®		
HI 98840	-50.0 to 150.0°C; -55.0 to 300.0°F	±0.4°C;±0.8°F	Both			4 probes		

Temperature Loggers

The ideal solution for the agri-food sector

Compact Temperature Datalogger with Remote Control from PC and ±0.3°C Accuracy HI 140 Series



HI 140 without hook			
Model	Range	Resolution	Accuracy
HI 140A	-30.0 to 70.0°C / -22.0 to 158.0°F	0.5°C / 0.5°F	±1.5°C / ±3°F
HI 140B	-10.0 to 30.0°C / 14 to 86°F	0.2°C / 0.4°F	±0.5°C / ±1°F
HI 140C	-30.0 to 10.0°C / -22 to 50°F	0.2°C / 0.4°F	±0.5°C / ±1°F
HI 140D	20.0 to 60.0°C / 68 to 140°F	0.2°C / 0.4°F	±0.5°C / ±1°F
HI 140E	-30.0 to -10.0°C / -22 to 14°F	0.1°C / 0.2°F	±0.3°C / ±0.6°F
HI 140F	20.0 to 40.0°C / 68 to 104°F	0.1°C / 0.2°F	±0.3°C / ±0.6°F
HI 140G	-5.0 to 15.0°C / 23 to 59°F	0.1°C / 0.2°F	±0.3°C / ±0.6°F
HI 140H	10 to 120°C / 50 to 248°F	1°C / .2°F	±2°C / ±4°F

HI 140 with hook (molded eye)			
Model	Range	Resolution	Accuracy
HI 140AH	-30.0 to 70.0°C / -22.0 to 158.0°F	0.5°C / 0.5°F	±1.5°C / ±3°F
HI 140BH	-10.0 to 30.0°C / 14 to 86°F	0.2°C / 0.4°F	±0.5°C / ±1°F
HI 140CH	-30.0 to 10.0°C / -22 to 50°F	0.2°C / 0.4°F	±0.5°C / ±1°F
HI 140DH	20.0 to 60.0°C / 68 to 140°F	0.2°C / 0.4°F	±0.5°C / ±1°F
HI 140EH	-30.0 to -10.0°C / -22 to 14°F	0.1°C / 0.2°F	±0.3°C / ±0.6°F
HI 140FH	20.0 to 40.0°C / 68 to 104°F	0.1°C / 0.2°F	±0.3°C / ±0.6°F
HI 140GH	-5.0 to 15.0°C / 23 to 59°F	0.1°C / 0.2°F	±0.3°C / ±0.6°F
HI 140HH	10 to 120°C / 50 to 248°F	1°C / .2°F	±2°C / ±4°F

All loggers have the following features: programmable high and low alarm thresholds; programmable logging interval from 1 min. to 23 hours and 59 min; logging delay start selectable from 0 min. to 23 hours and 59 min; programmable ID number; infrared communication with serial interface; programmable real time clock; 3 x 1.5V AA batteries (included) with approx. life of 4 years at 25°C; dimensions: dia 86.5 mm x h 35 mm; / weight: 150 g.



Temperature Dataloggers with Internal and External Sensors HI 141 Series

Model	Display	Sensor(s)	Range
HI 141A (H)		1 internal	-40.0 to 80.0°C / -40.0 to 176.0°F
HI 141B* (H)		1 external	-40.0 to 125.0°C / -40.0 to 257.0°F
HI 141C (H)		1 internal	-20.0 to 70.0°C / -40.0 to 158.0°F
HI 141D (H)		1 external	-40.0 to 125.0°C / -40.0 to 257.0°F
HI 141E* (H)		1 internal	-40.0 to 80.0°C / -40.0 to 176.0°F
		1 external	-40.0 to 125.0°C / -40.0 to 257.0°F
HI 141F* (H)		2 externals	-40.0 to 125.0°C / -40.0 to 257.0°F
HI 141G* (H)		1 internal	-20.0 to 70.0°C / -40.0 to 158.0°F
		1 external	-40.0 to 125.0°C / -40.0 to 257.0°F
HI 141J* (H)		2 externals	-40.0 to 125.0°C / -40.0 to 257.0°F

Technical features for all models	
Resolution	0.1°C (-40.0 to 100.0°C); 0.2°C (> 100.0°C) 0.1°F (-40.0 to 190.0°F); 0.3°F (> 190.0°F)
Accuracy	±0.5°C (-40.0 to 0.0 & 70.0 to 100.0°C); ±0.4°C (0.0 to 70.0°C); ±1.0°C (> 100.0°C) ±1.0°F (-40.0 to 32.0 & 158.0 to 212.0°F); ±0.8°F (32.0 to 158.0°F); ±2.0°F (> 212.0°F)
Environment	RH 100%
Diameter	86.5 mm (3.4")
Height	35 mm (1.4")
Weight	150 g (5.5 oz)

* Other lenght cables available on request

