

AZ INSTRUMENT KATALOG

AZ[®]
INSTRUMENT



AZ 7729 Işıklı Display Ortam Hava Kalitesi Ölçer

AZ 7729 ışıklı display ortam hava kalitesi ölçer, ortamdaki havanın karbondioksit değeri, sıcaklığını ve nem değerlerini ölçebilen, alarm özelliğine sahip bir ölçüm cihazıdır.



AZ 88598 K Tipi Sıcaklık Kayıt Cihazı 4 Kanallı Datalogger

AZ 88598 K Tipi 4 kanallı Datalogger, 4 adete kadar termokupl bağlanabilen, bağlanılan bu verileri sd karta kaydedebilen datalogger çeşididir.



AZ 86505 pH / mV / İletkenlik / TDS / Tuzluluk / Sıcaklık Ölçer

AZ 86505 masaüstü ölçüm cihazı; sıvılarda kullanılan, akrobat ölçüm kollarına sahip, masaüstü kullanım özellikli çok parametrelili test cihazıdır. Ölçüm yaptığı değerler; pH, mV, TDS, Tuzluluk, mS ve uS olarak sıralanabilir.



AZ 8685 Dijital Ph Metre

AZ Instruments markasının sunduğu bu AZ8685 kalem tipi dijital pH metre, 0 ile 14 pH aralığında hassas ve hızlı ölçümlerle laboratuvar kalitesinde sonuçlar sunar. Sıvıların pH ve sıcaklık değerlerini aynı anda görebilirsiniz.



AZ 8689 Değiştirilebilir Probu Dijital PH Metre

AZ 8689 dijital ph metre cihazı; ± 0.05 ph gibi çok hassas ve hızlı bir şekilde ph ölçümü yapabilen, aynı zamanda da değiştirilebilir probu, elektronik ph ölçüm cihazıdır.



AZ 86031 Combo Su Kalite Ölçüm Seti (PH, EC, Tuzluluk, TDS, DO ve Sıcaklık)

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İNTERNET SİTELERİMİZ

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ANEMOMETRELER



8901

Handheld Anemometer with Temp. 8901

- Remote fan with built-in temperature sensor
- Measures 3 parameters: air velocity, air volume and temperature
- 8 points air velocity & volume average display
- PC communication interface



Metric/Imperial



MAX/MIN



AVG



Low Battery



HOLD



Auto Power Off



Low Battery



PC Link



DC jack



Model	8901
Wind speed range	0.4~35m/s; 80~6900ftm
Wind speed accuracy	+/- (2 % of reading +0.2 m/s)
Air temp. range	-10~50.0°C
Air temp. resolution	0.1°C/°F
Air temp. accuracy	+/-0.6°C
Windspeed unit (metric)	m/s (meter per second)
Windspeed unit (imperial)	ft/m (feet per minute)
Air volume unit (metric)	cms (cubic meter per second)
Air volume unit (imperial)	cfm (cubic feet per minute)
Temp. response time	60 seconds (typical)
LCD update	every second
Air volume display	0 to 9999m ³ /s
Air volume resolution	0.1(0 to 999.9) or 1 (1000 to 9999)
LCD size	37(H)x42(W)mm
Operating temp.	0~50°C
Operating RH%	Humidity<80%
Storage temp.	-10~50°C
Storage RH%	Humidity < 90%
PC Link	YES
8 points velocity average	YES
Battery life	100 hours
Dimension(mm)	180x73x38 (meter);152x75x42 (vane)
Weight	~170g
Battery	9V battery x 1pc or 9VDC adaptor
Optional accessory	Software kit / replacement vane probe
Standard Package	Meter/Vane probe/Battery/Manual/Hard case

Ordering Code

VZ8901AZN, 8901 meter+vane probe
 VZ890PAZ, replacement vane probe
 VZUSBAZM, USB software kit
 VZRS232NB, RS232 software kit

*Available for EB project

Optional



REPLACEMENT VANE PROBE

P/N:VY890PNA
 For model 8901
 Remote fan with built-in Temp. Sensor
 Fan size: 75mmdia x 152mm h
 Cable length: 50cm (extended to 1.5M)



USB cable & software

P/N: VZUSBAZM



Ordering Code

VZ8902AZ, 8902 meter+vane probe
 VZ8911AZ, 8911 meter+vane probe
 VZ8912AZ, 8912 meter+vane probe
 VZ891PAZ, replacement vane probe
 VZUSBAZM, USB software kit
 VZRS232NB, RS232 software kit

Handheld Anemometer with Humidity 8902/8911/8912

- Remote fan with built-in temp.&humidity sensor
- Measures 6 parameters: air velocity, temp., humidity, air volume, dew point & wet bulb temperature
- 8911 extra features: PC link, 8 points velocity average
- 8912 extra features: PC link, BTU capacity calculation
- What is **BTU**? BTU, short for British Thermal Unit, is a basic measure of thermal (heat) energy. One BTU is the amount of energy needed to heat one pound of water one degree Fahrenheit



Metric/
Imperial



MAX/MIN



AVG
8 points



Low
Battery



HOLD



Auto
Power Off
15min



Low
Battery



PC Link



Backlight



DC Jack



Tripod Hole

Model	8902	8911	8912
Wind speed range		0.6~32M/S	
Wind speed accuracy		+/- (2 % of reading +0.2 m/s)	
Air temp. range		-20.0~60.0°C	
Air temp. resolution		0.1°C/°F	
Air temp. accuracy		+/-0.6°C	
Air RH% range		0%RH~100%RH	
Air RH% resolution		0.1%RH	
Air RH% accuracy		+/-3%RH(at 25°C, 10~90%RH, others +/-5%RH)	
Temp. response time		60 seconds (typical)	
Air RH% response time		60 seconds (typical)	
LCD update		every second	
Wet Bulb temp. display		-22~70.0°C	
Dew point temp. display		-68~70.0°C	
Air volume display		0 to 99999m ³ /minute	
Air volume resolution		0.1(0 to 9999.9) or 1 (10000 to 99999)	
LCD size		26(H)x44(W)mm	
Operating temp.		0~50°C	
Operating RH%		Humidity<80%	
Storage temp.		-10~50°C	
Storage RH%		Humidity < 90%	
PC Link	N/A	YES	YES
8 points velocity average	N/A	YES	N/A
BTU capacity	N/A	N/A	YES
Dimension(mm)		175x70x33 (meter);170x77x40 (vane)	
Weight		~170g	
Battery		AAA x 4pcs or 9VDC adaptor	
Optional accessory		Software kit / replacement vane	
Standard Package		Meter/Vane probe/Battery/Manual/Hard case	

Optional



REPLACEMENT VANE PROBE

P/N: VY891PAZ

For models 8902, 8911, 8912

Unique rotate protective cap to prevent dust

Remote probe w/ built-in Temp. & humidity sensor

Fan size: 75mm Dia. x 170mm H

Cable length: 50cm (extended to 1.5M)



USB cable & software

P/N: VZUSBAZM

Handheld Anemometer with Temp. 8903/8904/8906



8906



8903



8904

- Integral fan with built-in temperature sensor
- Fashion design for one hand operation
- Measures 3 parameters: air velocity, air volume and temperature
- 8903: Display velocity+temp., PC link
- 8904: 8903 function + 8 points velocity average
- 8906: 8904+air volume calculation



Metric/
Imperial



MAX/MIN



AVG



Low
Battery



HOLD



Auto
Power Off



Low
Battery



PC Link



Optional



USB cable & software
P/N: VZUSBAZM

Ordering Code

VZ8903AZ, 8903 meter
VZ8903AZT, 8903 w/built in tripod hole
VZ8904AZ, 8904 meter
VZ8906AZ, 8906 meter
VZUSBAZM, USB software kit
VZRS232NB, RS232 software kit
*Available for EB project

Model	8903	8904	8906
Wind speed range	0.4~30m/s; 80~5900ftm		
Wind speed accuracy	+/- (2% of reading +0.2 m/s)		
Air temp. range	-10~50.0°C		
Air temp. resolution	0.1°C/°F		
Air temp. accuracy	+/- 1°C		
Windspeed unit (m/s)	YES	YES	YES
Windspeed unit (ft/m)	YES	YES	YES
Windspeed unit (KM/H)	N/A	YES	YES
Windspeed unit (MPH)	N/A	YES	YES
Windspeed unit (knot)	N/A	YES	YES
Air volume unit (cms)	N/A	N/A	YES
Air volume unit (cfm)	N/A	N/A	YES
Temp. response time	60 seconds (typical)		
LCD update	every second		
Air volume display	0 to 9999m ³ /s		
Air volume resolution	0.1(0 to 999.9) or 1 (1000 to 9999)		
LCD size	34(H)x40(W)mm		
Operating temp.	0~50°C		
Operating RH%	Humidity<80%		
Storage temp.	-10~50°C		
Storage RH%	Humidity < 90%		
PC Link	YES	YES	YES
8 points velocity average	N/A	YES	YES
Battery life	100 hours		
Dimension(mm)	183x76x45 (meter);70 (impeller)		
Weight	~150g		
Battery	9V battery x 1pc		
Optional accessory	Software kit		
Standard Package	Meter/Battery/Manual/Hard carry case		

WIND SPEED CONVERSION

UNIT	M/S	FTM	KNOTS	KMH	MPH
1 M/S=	1	196.87	1.944	3.6	2.24
1 FTM=	0.00508	1	0.00987	0.01829	0.01138
1 KNT=	0.5144	101.27	1	1.8519	1.1523
1 KMH=	0.2778	54.69	0.54	1	0.6222
1 MPH=	0.4464	87.89	0.8679	1.6071	1

AIR VOLUME:

CUBIC EQUATIONS:
CFM(FT³/M)=
AIR VELOCITY(FTM) x AREA(FT²)
CMM(M³/MIN)=
AIR VELOCITY (M/S) x AREA (M²)x60



Combo Air Flow, Temp. & Humidity Anemometer 8905

- Measures air velocity, volume, temperature, humidity, dew point and wet bulb temperature
- 18mm mini vane probe with built-in temp. & RH sensor
- Thermistor temp. sensor and capacitive humidity sensor for quick and accurate measurement.
- Plug & lock mini vane probe connector
- Excellent to be used in ventilation duct
- Duct temperature change won't affect the wind accuracy



Auto Power Off



HOLD



MAX/MIN



AVG



Time Stamp



Manual Logging



Auto Logging



Metric/Imperial



Low Battery



PC Link



Backlight



DC Jack



Model	8905
Wind speed range	0.5~20M/S
Wind speed accuracy	+/- (3% of reading+0.2M/S)
Air temp. range	-20~60.0°C
Air temp. resolution	0.1°C/°F
Air temp. accuracy	+/-0.6°C
Air RH% range	0.1%RH~99.9%RH
Air RH% resolution	0.1%RH
Air RH% accuracy	+/-3%RH(at 25°C, 10~90%RH, others +/-5%RH)
Temp. response time	60 seconds (typical)
Air RH% response time	60 seconds (typical)
LCD update	every second
Wet Bulb temp. display	-20~59.9°C
Dew point temp. display	-20~59.9°C
Air volume display	0 to 99999m ³ /minute
Air volume resolution	0.1(0 to 9999.9) or 1 (10000 to 99999)
LCD size	32.5(H)x54(W)mm
Operating temp.	0~50°C
Operating RH%	Humidity<80%
Storage temp.	-10~50°C
Storage RH%	Humidity < 90%
Dimension(mm)	169x78.3x34.4
Weight	~200g
Battery	AAA x 6pcs or 9VDC adaptor
Optional accessory	Replacement vane probe
Standard Package	Meter/Wind Probe/Battery/Manual/software kit /Hard carry case

Ordering Code

VZ8905AZ, 8905 meter + 899P probe
VZ899PAZ, VY899PNL1 in paper box package

*Available for EB project

Optional



scale mark!

EXPANDED VANE PROBE

P/N:VY899PNL1

Built-in temp. & RH sensor

Plug&lock connector

Flow range & accuracy: 0.5~20m/s, 3%reading+0.2m/s

Probe size:273mm(1055mm extended) x18.5mm dia.

Rubber holder





Two colors available

8908



8918

Mini Pocket Type Air Flow 8908/8918

- Compact pocket Swiss knife shape to well protect vane and sensors
- Measures 4 parameters: air velocity, temperature, windchill temperature and humidity.
- 6 wind units selectable: KNT(knot), BF(beaufort), FPM (feet per minute), MPH(mile per hour), MS(meter per second), and KMH(kilometer per hour)
- Water resistant & shock proof. 8908:IP65, 8918:IP54
- Handy design for one hand operation



Auto Power Off



Metric/Imperial



MAX



AVG



HOLD



IP54



IP65



Tripod Hole

Model	8908	8918
Wind speed range	0.5~44.7M/H, 60~3937FT/M, 0.4~38.8KNT, 1.1~20.0M/S, 0.7~72.0KMH, 1~8BF	
Wind speed accuracy	+/- (3% of reading +0.2 m/s)	
Air temp. range	-15~50.0°C	-15~50.0°C
Air temp. resolution	0.1°C/°F	0.1°C/°F
Air temp. accuracy	+/-1°C	+/-1°C
Air RH% range	N/A	5%RH~95%RH
Air RH% resolution	N/A	0.1%RH
Air RH% accuracy	N/A	+/-3%RH(at 25°C, 10~90%RH, others +/-5%RH)
Wind speed response time	averaging every 2 seconds	
Temp. response time	60 seconds (typical)	
Air RH% response time	N/A	60 seconds (typical)
LCD update	every second	
Windchill display	YES	YES
Dew point temp. display	N/A	YES
LCD size	16(H)x28(W)mm	
Operating temp.	-15~50°C	
Operating RH%	Humidity<80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	140x45x25 (90°folded);235x45x25 (180°full opened)	
Weight	~90g	
Battery	CR2032 x 1pc	
Standard Package	Meter/Battery/Manual/Strap/Paper box	

What is windchill?

It is the temperature it “feels like” outside and is based on the rate of heat loss from exposed skin caused by the effects of wind and cold. As the wind increases, the body is cooled at a faster rate causing the skin temperature to drop. Wind Chill does not impact inanimate objects like car radiators and exposed water pipes, because these objects cannot cool below the actual air temperature.

Ordering Code

VZ8908AZ, 8908 meter (black color)
 VZ8908AZGB, 8908 meter (black+gray color)
 VZ8918AZ, 8918 meter (black color)
 VP8908SP, replacement vane

*Available for EB project

Optional



REPLACEMENT MINI FAN

P/N:VP8908SP
 For mini anemometer 8908/ 8918/
 8996/8909/8910
 Fan size: 32mm dia.

Pocket Air Flow & Barometric pressure meter 8909/8910



- Small pocket knife shape & compact design
- Measures 8 parameters: air velocity, temp., humidity, windchill temperature, dew point temperature, barometric pressure, heat index and altitude.
- Barometric pressure history bar chart display
- 6 wind units selectable: knt(knot), bf(beaufort), fpm (feet per minute), mph(mile per hour), ms(meter per second), kmh(kilometer per hour)
- Barometric pressure inHg, mbar, hpa selectable



Model	8909	8910
Wind speed range	0.5~44.7M/H, 60~3937FT/M, 0.4~38.8KNT, 1.1~20.0M/S, 0.7~72.0KM/H, 1~8BF	
Wind speed accuracy	+/- (3% of reading +0.2 m/s)	
Air temp. range	-15~50.0°C	
Air temp. resolution	0.1°C/°F	
Air temp. accuracy	+/-1°C	
Air RH% range	5%RH~95%RH	
Air RH% resolution	0.1%RH	
Air RH% accuracy	+/-3%RH(at 25°C, 10~90%RH, others +/-5%RH)	
Pressure range	400~1100mbar	
Pressure resolution	1(400~1100mbar/hpa), 0.1(11.8~32.5inHg)	
Pressure accuracy	+/-3hpa (at -10~60°C)	
Altitude range & res.	N/A	-274~2743M(1M), -900~9000Ft(3 Ft)
Altitude/Pressure update	N/A	60 seconds
Wind speed response time	averaging every 2 seconds	
Temp. response time	60 seconds (typical)	
Air RH% response time	60 seconds (typical)	
Pressure response time	15 minute (typical)	
LCD update	every second	
Windchill display	YES	YES
Dew point temp. display	YES	YES
Heat index display	YES	YES
Altitude display	N/A	YES
LCD size	16(H)x28(W)mm	
Operating temp.	-15~50°C	
Operating RH%	Humidity<80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	150x55x25 (90°folded);235x55x25 (180°full opened)	
Weight	~90g	
Battery	CR2032 x 1pc	
Standard Package	Meter/Battery/Manual/Strap/Paper box	

Ordering Code

VZ8909AZ, 8909 meter

VZ8910AZ, 8910 meter

VP8908SP, replacement vane

Optional



REPLACEMENT MINI FAN
P/N:VP8908SP
For mini anemometer 8908/
8918/8996/8909/8910
Fan size: 32mm dia.



10cm Vane Air Flow, Temp.& Humidity & CO₂ Anemometer 8916/8917/8919

- Measures air velocity, volume, temperature, humidity, dew point, wet bulb temperature and CO₂
- 10cm diameter vane type with built-in NDIR waveguide technology CO₂ sensor, Temp.and humidity sensors
- Auto airflow cone recognize
- Inlet and outlet measurement is doable
- Square and round air flow cone are available as optional
- Unlimited points average auto calculation
- Time weighted average auto calculation



Backlight

Optional



AIR FLOW CONE
P/N:VZ8916RNL
For model 8916/8917/8919
Round size (mm):210
Square size(mm):346x346
Soft carry case package

ROUND & SQUARE SIZE ARE SOLD AS A SET

MEASURE AIR VOLUME EASILY, NO NEED TO INPUT OUTLET SIZE!

Ordering Code

Bulk order only

VZ8916AZ, 8916AZ meter
VZ8917AZ, 8917AZ meter
VZ8919AZ, 8919AZ meter
VZ8916RNL, round+square air flow cone
VZ8916PNL, extension stick for meter & cone

Model	8916	8917	8919
Wind speed range	0.20~30.00M/S		
Wind speed accuracy	+/- (1.5 % of reading + 0.3m/s) for under 20m/s +/- (3 % of reading + 0.3m/s) for above 20m/s		
Air temp. range	-20~60.0°C		
Air temp. resolution	0.1°C/°F		
Air temp. accuracy	+/-0.6°C		
Air RH% range	0.1%RH~99.9%RH		
Air RH% resolution	0.1%RH		
Air RH% accuracy	+/-3%RH(at 25°C, 10~90%RH, others +/-5%RH)		
CO ₂ range	0~9999 ppm, (5001~9999 ppm out of scale range)		0~9999 ppm, (5001~9999 ppm out of scale range)
CO ₂ accuracy	±30ppm±5% of reading (0~5000ppm)		
Temp. response time	60 seconds (typical)		
Air RH% response time	60 seconds (typical)		
LCD update	every second		
Wet Bulb temp. display	-20~59.9°C		
Dew point temp.display	-5~59.9°C		
Air volume display(CMM)	0 to 99999m ³ /minute		
Air volume resolution	0.1(0 to 9999.9) or 1 (10000 to 99999)		
LCD size	32.5(H)x54(W)mm		
Operating temp.	0~50°C		
Operating RH%	Humidity<80%		
Storage temp.	-10~50°C		
Storage RH%	Humidity < 90%		
Dimension(mm)	269x106x51		
Weight	~200g		
Battery	AAA x 4pcs		
Optional accessory	Airflow cone (w/soft carry case) & cone extension stick		
Standard Package	Meter/Battery/Manual/Hard carry case		

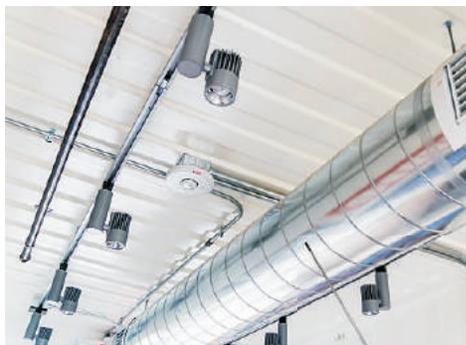


NEW



Handheld Hotwire Anemometer with temperature 8952

- Robust telescoping hot wire probe. Compact thermal sensor is ideal for in-duct measuring to minimize turbulence effect and suited for low flow and velocity applications.
- Measures velocity, volume flow (cmh, cmm, cfm, l/s) and temperature.
- Duct temp. change has limited impact to reading accuracy.
- Timed & multi-point average flow calculations.
- In-duct air balancing with fast response time
- Depth and direction indicators. Hands free magnet



The telescoping handle makes it easy to reach duct work above head.



O-rings to mark the depth of duct



Non detachable hotwire probe.

More reliable.

Ordering Code

VZ8952AZ, 8952 meter w/hotwire probe

*Available for EB project

Model	8952
Wind speed range	0.15~20.0M/S (30.0 ~3937 ft/m)
Wind speed resolution	Below 10 m/s:0.01, above 10 m/s:0.1 (Below 100 ft/m:0.1, above 100 ft/m:1)
Wind speed accuracy	+/-(-5% of reading+0.1) m/s +/-(-5% of reading+20) ft/m
Air temp. range	-10.0~50.0°C (14.0~122.0° F)
Air temp. resolution	0.1°C /0.1° F
Air temp. accuracy	0.0°C~50.0°C is ±1.0°C(1.8°F), Below 0°C is±1.5°C (2.7°F)
Wind speed response time	0.5 second (typical)
Temp. response time	60 seconds (typical)
LCD update	every second
Air volume display	0 to 99999
Air volume resolution	0.1(0 to 9999.9) or 1 (10000 to 99999)
Air volume unit	cmm, cmh, l/s, cfm
LCD size	26(H)x44(W)mm
Operating temp.	0~50°C
Operating RH%	Humidity<80%
Storage temp.	-10~50°C
Storage RH%	Humidity < 90%
Dimension(mm)	175x70x33 (meter)
Probe	8mm diameter
Telescope tube	96cm (38 inch) extended. 26.5cm (10 inch) storage
Weight	331 g
Battery	4pcs AAA batteries
Standard Package	Meter with built-in hotwire probe/Battery/Magnet/Manual/O-rings/Hard carry case



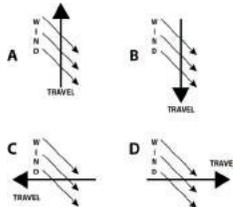
Strong magnet for hands free operation ~



Ultimate & Easy



The head-tail-crosswind is the relationship between travel direction and wind direction. When wind direction is fixed and travel direction changes, the wind resistance changes, for example the wind resistance for A is stronger than B (see diagram) and C is stronger than D. When calculating head, tail, and crosswind, first measure the travel direction by compass.



Ordering Code

VZ8996AZ, 8996 meter
VP8908SP, replacement vane

Pocket Type Air Flow with Compass 8996

- Measures 7 parameters: air velocity, compass, temp., humidity, windchill, wet bulb & dew point.
- 6 wind units selectable: KNT(knot), BF(beaufort), FPM (feet per minute), MPH(mile per hour), MPS(meter per second), KPH(kilometer per hour)
- Delta T to show the temp. difference between ambient air and dew point temperature
- To calculate cross wind and head/tail wind
- Self maintained compass calibration procedure



Auto Power Off



Metric/Imperial



Low Battery



MAX



AVG



IP54



Tripod Hole

Model	8996
Wind speed range	0.5~44.7M/H, 60~3937FT/M, 0.4~38.8KNT, 1.1~20.0M/S, 0.7~72.0KMH, 1~8BF
Wind speed accuracy	+/- (3% of reading +0.2 m/s)
Air temp. range	-15.0~50.0°C
Air temp. resolution	0.1°C/°F
Air temp. accuracy	+/-1°C
Air RH% range	0%RH~100%RH
Air RH% resolution	0.1%RH
Air RH% accuracy	+/-3%RH(at 25°C, 10~90%RH, others +/-5%RH)
Temp. response time	60 seconds (typical)
Air RH% response time	60 seconds (typical)
LCD update	every second
Windchill display	YES, -20.0~50.0°C
Dew point temp. display	YES, -20.0~50.0°C
Wet bulb display	YES, -5.0~50.0°C
Compass display	YES, 0~360degree
Compass accuracy	+/- 2degree
LCD size	16(H)x28(W)mm
Operating temp.	-15~50°C
Operating RH%	Humidity<80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Dimension(mm)	140x45x25 (90°folded);235x45x25 (180°full opened)
Weight	~90g
Battery	CR2032 x 1pc
Standard Package	Meter/Battery/Manual/Strap/Paper box

Optional



REPLACEMENT MINI FAN

P/N:VP8908SP
For mini anemometer 8908/ 8918/
8996/8909/8910
Fan size: 32mm dia.



Combo Air Flow Datalogger w/ printer 9871 w/o printer 9671

- Measure /record/ print air velocity, volume, temperature, humidity and wet bulb temperature
- 70mm diam. vane probe with built-in temp. & RH sensor
- Three measurement modes with printing function:
 - single point measurement
 - manual record up to 99 points
 - automatically record up to 2400 lines (12000 points)
- Built-in tripod mountable receptacle



Model	9871	9671
Wind speed range		0.6~32M/S
Wind speed accuracy	+/- (2% of reading+0.2M/S)	
Air temp. range	-20~60.0°C	
Air temp. resolution	0.1°C/°F	
Air temp. accuracy	+/-0.6°C(-20~50°C), +/-1.2°C at others	
Air RH% range	0.1%RH~99.9%RH	
Air RH% resolution	0.1%RH	
Air RH% accuracy	+/-3%RH(at 25°C, 10~90%RH, others +/-5%RH)	
Temp. response time	60 seconds (typical)	
Air RH% response time	60 seconds (typical)	
LCD update	every second	
Wet Bulb temp. display	-22~70.0°C	
Wet Bulb temp. Resolution	0.1°C/°F	
Air volume display	0 to 99999m ³ /minute	
Air volume resolution	0.1(0 to 9999.9) or 1 (10000 to 99999)	
LCM size	26(H)x45(W)mm	
Operating temp.	0~50°C	
Operating RH%	Humidity<80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	208x70x53	170x70x40
Weight	~370g	~210g
Battery	AA x 4pcs or 9VDC adaptor	AAA x 4pcs or 9VDC adaptor
Optional accessory	Replacement vane probe	
Standard Package	Meter/Probe/Thermo paper/Battery/Manual/software kit/Hard carry case	

Three measurement modes

1. Example: 9871 single point measurement

T:	29.7°C	RH:	73.7%
WB T:	V: 0.7MPS	VOL:	0.1CMM
	26.1°C		
EXIT	INPUT	PRN	

2. Example: 9871 manually record

01:	06-30 23:56:49
V:	0.7MPS
T:	29.7°C
RH:	73.7%
WB T:	26.1°C
VOL:	0.1CMM
EXIT	CLR PRN BACK

3. Example: Logging function in processing

Begin:	30-06-05
Start:	02:28:55
End:	02:07-05
Suspend:	03:28:55
Rate:	60Sec(s)
Expect:	2400Point(s)
Remain:	2000Point(s)
EXIT	EDIT VIEW NEXT

Ordering Code *Bulk order only*
VZ9871AZ, 9871 meter + 987P probe
VZ9671AZ, 9671 meter + 987P probe
VZ987PAZ, VY987PAZ in paper box package
VM69811B, spare thermo paper

Optional



REPLACEMENT PROBE
 P/N: VY987PAZ
 Rotate protective cap
 Built-in humidity & temp.
 Fan size:
 75mm(dia.) x 170mm(h)
 Cable length:
 50cm (extended to 1.5m)



THERMO PAPER
 P/N: VM69811B
 SIZE:
 38mm x 20M x 30@



Bluetooth 10cm Vane Air Flow, Temp. Humidity & CO₂ Anemometer 89161/89171/89191

- Measures air velocity, volume, CO₂, temperature, humidity, dew point & wet bulb temperature
- Broadcasting data every second to smart devices by using Bluetooth technology
- 10cm diameter vane type with built-in NDIR waveguide technology CO₂ sensor, Temp. and humidity sensors
- Auto airflow cone recognize
- Optional square & round flow cone and extension stick
- Unlimited points average auto calculation
- Time weighted average auto calculation
- Free APP provides data recording, photograph & filing

Optional



METER & CONE EXTENSION STICK

P/N: VZ8916PNL
For wind meter and VZ8916RNL cone. Phone holder included
Length after extension: 170cm
Length for package: 54cm
Package: Soft carry bag



MEASURE AIR VOLUME EASILY, NO NEED TO INPUT OUTLET SIZE!

AIR FLOW CONE

P/N: VZ8916RNL
For model 89161/89171/89191/8916/8917/8919
Round size (mm): 210
Square size (mm): 346x346
Soft carry case package

ROUND & SQUARE SIZE ARE SOLD AS A SET



Model	89161	89171	89191
Wind speed range	0.20~30.00M/S		
Wind speed accuracy	+/- (1.5 % of reading + 0.3m/s) for under 20m/s +/- (3 % of reading + 0.3m/s) for above 20m/s		
Air temp. range	-20~60.0°C		
Air temp. resolution	0.1°C/°F		
Air temp. accuracy	+/-0.6°C		
Air RH% range	0.1%RH~99.9%RH		
Air RH% resolution	0.1%RH		
Air RH% accuracy	+/-3%RH(at 25°C, 10~90%RH, others +/-5%RH)		
CO ₂ range	0~9999 ppm, (5001~9999 ppm out of scale range)		0~9999 ppm, (5001~9999 ppm out of scale range)
CO ₂ accuracy	±30ppm±5% of reading (0~5000ppm)		
Temp. response time	60 seconds (typical)		
Air RH% response time	60 seconds (typical)		
LCD update	every second		
Wet Bulb temp. display	-20~59.9.0°C		
Dew point temp. display	-5~59.9°C		
Air volume display(CMM)	0 to 99999m ³ /minute		
Air volume resolution	0.1(0 to 9999.9) or 1 (10000 to 99999)		
LCD size	32.5(H)x54(W)mm		
Operating temp.	0~50°C		
Operating RH%	Humidity<80%		
Storage temp.	-10~50°C		
Storage RH%	Humidity < 90%		
Dimension(mm)	269x106x51		
Weight	~200g		
Battery	AAA x 4pcs		
Optional accessory	Airflow cone (w/soft carry case) & cone extension stick		
Standard Package	Meter/Battery/Manual/Hard carry case		

Ordering Code

VZ89161AZ, 89161AZ bluetooth anemometer
VZ89171AZ, 89171AZ bluetooth anemometer
VZ89191AZ, 89191AZ bluetooth anemometer
VZ8916RNL, round+square air flow cone
VZ8916PNL, extension stick for meter & cone
*Available for EB project





98792



96792



Mini Vane Air Flow Datalogger w/ printer 98792 w/o printer 96792

- Measure /record/ print air velocity, volume, temperature, humidity and wet bulb temperature
- 18mm mini vane probe with built-in temp. & RH sensor
- Three measurement modes with printing function:
 - single point measurement
 - manual record up to 99 points
 - automatically record up to 2400 lines (12000 points)
- Excellent to be used in ventilation duct
- Duct temperature change won't affect the wind accuracy



Model	98792	96792
Wind speed range	0.5~20.0M/S	
Wind speed accuracy	+/- (3% of reading+0.2M/S)	
Air temp. range	-20~60.0°C	
Air temp. resolution	0.1°C/°F	
Air temp. accuracy	+/-0.6°C	
Air RH% range	0.1%RH~99.9%RH	
Air RH% resolution	0.1%RH	
Air RH% accuracy	+/-3%RH(at 25°C, 10~90%RH, others +/-5%RH)	
Temp. response time	60 seconds (typical)	
Air RH% response time	60 seconds (typical)	
LCD update	every second	
Wet Bulb temp. display	-22~70.0°C	
Wet Bulb temp. Resolution	0.1°C/°F	
Air volume display	0 to 99999m ³ /minute	
Air volume resolution	0.1(0 to 9999.9) or 1 (10000 to 99999)	
LCM size	26(H)x45(W)mm	
Operating temp.	0~50°C	
Operating RH%	Humidity<80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	208x70x53	170x70x40
Weight	~370g	~210g
Battery	AA x 4pcs or 9VDC adaptor	AAA x 4pcs or 9VDC adaptor
Optional accessory	Replacement vane probe	
Standard Package	Meter/Wind Probe/Thermo paper/Battery/Manual/software kit/Hard carry case	

Ordering Code *Bulk order only*
VZ98792AZ, 98792 meter + 899P probe
VZ96792AZ, 96792 meter + 899P probe
VZ899PAZ1, VY899PNL2 in paper box package
VM69811B, spare thermo paper

Optional



scale mark!

EXPANDED VANE PROBE

P/N: VY899PNL2
 Built-in temp. & RH sensor
 Mini Din connector
 Flow range & accuracy:
 0.5~20m/s, 3%reading+0.2m/s
 Probe size: 273mm
 (1055mm extended) x 18.5mm dia.
 Rubber holder



Spare thermo paper
 P/N: VM69811B
 SIZE: 38mm x 20M x 30@

DATALOGGER ***ÇEŞİTLERİ***



Ordering Code
VZ87797AZ, 87798 logger
VZ87799AZ, 87799 logger
VZ12405A, 5V universal adaptor

*Available for EB project

Desktop Temp./Humidity Monitor with SD Card Logging 87798/87799

- Simultaneously display/record Temp. and Humidity
- Advanced SD card design for continuous recording
- Check vapor condensation risk through DP temperature
- Long battery life (via alkaline battery)
 - no logging: one year -logging: one month (rate:1min, 1G SD card)
- LED/Audible alarm threshold of each parameters are programmable
- 87798: Dew point monitor 87799: External T monitor



Model	87798	87799
Temp. range	-10.0~70.0°C	
Temp. resolution	0.1°C/°F	
Temp. accuracy	+/-1°C	
Humidity. range	0%~99.9%RH	
Humidity resolution	0.1%RH	
Humidity accuracy	+/-3%RH (at 25°C, 10~90%RH, others +/-5%RH)	
Dew point temp. Range	-20~70°C	N/A
External temp. Range	N/A	-10~70°C (Display: -30~70°C)
External temp. resolution	N/A	0.1°C/°F
External temp. accuracy	N/A	+/-0.6°C (0~50°C), +/-1.2°C (-10~0°C, 50~70°C) No specified for -30°C~-10°C
External probe size	N/A	Dia.4mm x Length:25mm
External probe cable	N/A	2M long, material: PVC
SD card	SD card or SDHC card (MMC and SDXC cards are not compatible)	
Sampling rate	1 to 720 mins. Default: 10 mins	
Beeper (dB)	~65dB	
RH% Self calibration	YES, via salt chamber	
Power consumption	<0.4mA	
LCD size (mm)	63(H)x70(W)	
Operation temp.	0~50°C	
Operation RH%	Humidity < 90%	
Storage temp.	-10~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	110x91x30(H)	
Weight	~200g	
Power	AA x3pcs or 5V adaptor	
Standard Package	Meter/adaptor/Manual/Paper box/SD card	

What is Dew Point (DP)?

The DP is the temperature at which the air can't hold all of its water vapor and some of the water vapor must condense into liquid water. Condensation of water vapour begins when the temp. of air is lowered to its dew point and beyond.

What is the application of Dew Point?

- In summer or high humidity season, identifies and warns when conditions for mold growth exist
- In winter or low humidity season, identifies and warns when conditions for static electricity exist
- Air temperature and dew point temp. indicate where condensation may occur
- Monitor conditions in laboratories, basement and other controlled environment settings



NEW



Detachable Desktop stand, tripod hole and wall mount holes



88081

Large Display Temp.+RH% Monitor & Datalogger 88081

- Keypad and PC programming are both feasible.
- Plug and play, USB driver and software are not required.
- Dew point temperature to check mould growing risk
- Automatically generate statistic report to ease your work
- High accuracy humidity and temperature measuring
- Monitoring and logging both can be powered up by batteries and power adaptor
- LED flash & audible buzzer warning threshold are programmable. Available in both monitoring and logging.
- Salt bottle self-calibration function is integrated



Step 1
Setup through Windows PC or meter keypad

Step 2
Leave it in any place.

Step 3
Press Start key 5 seconds to activate

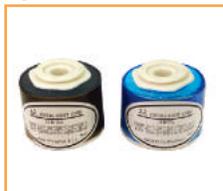
Step 4
Press Stop key 5 seconds to stop. You may press "Mark" to make bookmark

Step 5
Press key to review max. & min. value of logged data.

Step 6
Plug into PC to generate PDF and Excel report.

Model	88081
Temp. range	NTC thermistor, -30.0~70.0°C , -22.0~158.0°F
Temp. resolution	0.1°C , 0.1°F
Temp. Accuracy	+/-0.5°C
Humidity range	Capacitor, 0.1~99.9%rH
Humidity resolution	0.1%rH
Humidity Accuracy	+/-3% (at 25°C, 10~90%), others +/-5%
Dew point range	-85.2~70.0°C
Dew point resolution	0.1°C , 0.1°F
USB Interface	YES. USB2.0 plug & play
Sampling points	24K: T & 24K:RH
Meter size	120(L)*93(W)*42(T) mm
LCD size (mm)	51(H)x63(W)
Operating temp.	-20~70°C (but the probe can measure down to -30°C) ; room temp.(PC mode)
Operating RH%	Humidity < 90%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Weight	~200g
Battery	AA bat.x4pcs or 9VDC adaptor 3months life time while alarm function is OFF 2 months life time while alarm function is ON
Sampling interval	30 seconds, 5, 10, 30, 60, 90, 120 minutes
Start delay	0, 5, 30, 45, 60, 90, 120 minutes and 24 hours
Alarm range	Programmable from -20 to 70°C and 0.1 to 99.9 %RH
Alarm delay	0, 5, 30, 45, 60, 90, 120 minutes
Alarm type	Single Event, Cumulative, Disable
Operation keys	5 Keys
LED indicator	REC, High / Low alarm
Standard package	Logger, AA batteries, manual, paper box, USB cable
Optional Accessory	RH calibration salt kit, 9VDC universal adaptor

Optional



CAL. SALT BOTTLE
P/N:VZ0033AZ1(33%)
P/N:VZ0075AZ1(75%)
For 88081
Calibration use

Ordering Code

VZ88081AZ, 88081 RH/Temp. Logger
VZ109BAZ, 9V universal adaptor
VZ0033AZ1, 33% salt bottle
VZ0075AZ1, 75% salt bottle

*Available for EB project





Step 1
Completely programmable by users

Step 2
Leave it in any place.

Step 3
Press Start key 5 seconds to activate

Step 4
Press Stop key 5 seconds to stop. You may press "Mark" to make bookmark

Step 5
Press key to review max. & min. value of logged data.

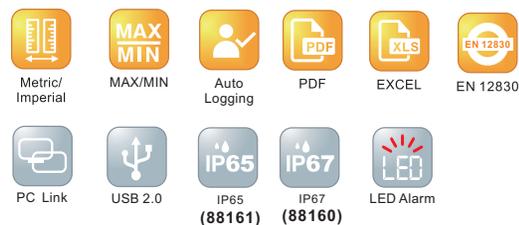
Step 6
Plug into PC to generate PDF and Excel report.

Ordering Code
 VZ88160AZ, 88160 logger
 VZ88161AZ, 88161 logger (w/o probe)
 VZ87P6AZ1, Temp. Probe for 88161
 VZ87P6AZ2, Temp. Probe for 88161
 VZ87P6AZ3, Vaccine Temp. Probe for 88161

*Available for EB project

USB Temperature logger w/PDF report 88160/88161

- Upgraded to 9 month battery life time
- Plug & Play. PC software and driver are not required
- Automatically generate PDF/Excel report. Report contains summary, graph and detailed data
- Completely user re-programmable: 6 languages, sampling interval, start delay, alarm delay, unit, alarm range, alarm type, password and user name
- One key operation to know leftover battery life time



Model	88160	88161
Temp. range	NTC thermistor, -30~70°C , -22~158°F	
Temp. resolution	0.1°C , 0.1°F	
Temp. Accuracy	+/-0.5°C	
Ext. Temp. range	NTC thermistor, -30~70°C , -22~158°F	
Ext. Temp. resolution	0.1°C , 0.1°F	
Ext. Temp. Accuracy	+/-0.5°C	
Sampling points	48000 readings	24000 Int. and 24000 Ext.
Meter size	110(L)*45(W)*17(T) mm	
Operating temp.	-30~70°C (Logging status); room temp.(PC mode)	
Operating RH%	Humidity < 90%	
Storage temp.	-40~85°C	
Storage RH%	Humidity < 90%	
Weight	~50g	
Battery	2PC 3.0V CR2032 9 months life time while alarm function is OFF 3 months life time while alarm function is ON	
Sampling interval	30 seconds, 5, 10, 30, 60, 90, 120 minutes	
Start delay	0, 5, 30, 45, 60, 90, 120 minutes and 24 hours	
Alarm range	Programmable from -30 to 70°C	
Alarm delay	0, 5, 30, 45, 60, 90, 120 minutes	
Alarm type	Single Event, Cumulative, Disable	
Operation keys	3 Keys (Start/Stop key & Mark key & Count key)	
LED indicator	REC, High / Low alarm	
Standard package	Logger, batteries, manual, paper box	
Optional accessory	VZ87P6AZ1 or VZ87P6AZ2 or VZ87P6AZ3 external temp. Probe	



EXTERNAL TEMP. PROBE
 P/N: VZ87P6AZ1
 Color: Black
 Size: 15cm stainless probe w/handle
 3.8mm diameter probe
 Cable: 116cm W/3.5mm Jack



EXTERNAL TEMP. PROBE
 P/N: VZ87P6AZ2
 Color: black
 Size: 2cm stainless probe w/o handle
 3.8mm diameter probe
 Cable: 200cm w/3.5mm jack



VACCINE STORAGE PROBE
 P/N: VZ87P6AZ3
 Vial: Empty transparent glass
 Color: black
 Size: 2cm stainless probe w/o handle
 3.8mm diameter probe
 Cable: 200cm w/3.5mm jack

Please fill glycol (car antifreeze) locally



USB RH/Barometric logger w/PDF 88162/88163

- Upgraded to 9 month battery life time
- Plug & Play. Software and USB driver are not required
- Automatically generate PDF/Excel report. Report contains summary, graph and detailed data
- Completely user re-programmable: 6 languages, sampling interval, start delay, alarm delay, unit, alarm range, alarm type, password and user name
- One key operation to know leftover battery life time



Model	88162	88163
Temp. range	NTC thermistor, -30~70°C , -22~158°F	
Temp. resolution	0.1°C , 0.1°F	
Temp. Accuracy	+/-0.5°C	
Humidity range	Capacitor, 0.1~99.9%rH	
Humidity resolution	0.1%rH	
Humidity Accuracy	+/-3% (at 25°C, 10~90%), others +/-5%	
Barometric pressure	300~1100hPa , 8.9~32.5inHg	
Baro. resolution	0.1hPa, 0.1inHg	
Baro. Accuracy	+/-3hpa (0~60C), +/-5hpa(-20~0C), Accuracy is not specified in another temp. Range.	
Sampling points	24K: T & 24K:RH	16K:T , 16K:RH, 16K:Baro
Meter size	110(L)*45(W)*17(T) mm	
Operating temp.	-30~70°C (Logging status); room temp.(PC mode)	
Operating RH%	Humidity < 90%	
Storage temp.	-40~85°C	
Storage RH%	Humidity < 90%	
Weight	~50g	
Battery	2PC 3.0V CR2032 9 months life time while alarm function is OFF 3 months life time while alarm function is ON	
Sampling interval	30 seconds, 5,10,30,60,90,120 minutes	
Start delay	0, 5,30,45,60, 90,120 minutes and 24 hours	
Alarm range	Programmable from -30 to 70°C	
Alarm delay	0, 5,30,45,60, 90,120 minutes	
Alarm type	Single Event, Cumulative, Disable	
Operation keys	3 Keys (Start/Stop key & Mark key & Count key)	
LED indicator	REC, High / Low alarm	
Standard package	Logger, batteries, manual, paper box	

Step 1
Completely programmable by users

Step 2
Leave it in any place.

Step 3
Press Start key 5 seconds to activate

Step 4
Press Stop key 5 seconds to stop. You may press "Mark" to make bookmark

Step 5
Press key to review max. & min. value of logged data.

Step 6
Plug into PC to generate PDF and Excel report.

Ordering Code
VZ88162AZ, 88162 logger
VZ88163AZ, 88163 logger

*Available for EB project





Ultra low temperature logger w/PDF report 88164

- Plug & Play. PC software and driver are not required
- External RTD pt1000 probe for ultra low temperature, such as lyophilization
- Automatically generate PDF/Excel report. Report contains summary, graph and detailed data
- Completely user re-programmable: 6 languages, sampling interval, start delay, alarm delay, unit, alarm range, alarm type, password and user name
- One key operation to know leftover battery life time



Optimize lyophilization by thermal analysis!

Step 1
Completely programmable by users

Step 2
Leave it in any place.

Step 3
Press Start key 5 seconds to activate

Step 4
Press Stop key 5 seconds to stop. You may press "Mark" to make bookmark

Step 5
Press key to review max. & min. value counted from previous reset moment

Step 6
Plug into PC to generate PDF and Excel report.

Ordering Code

VZ88164AZ, 88164 logger (w/ probe)
VZ88164PAZ, RTD probe
VZ88164PAZ1, RTD probe for vaccine storage

*Available for EB project

Model	88164
Temp. range	NTC thermistor, -30.0~70.0°C , -22.0~158.0°F
Temp. resolution	0.1°C , 0.1°F
Temp. Accuracy	+/-0.5°C
Ext. Temp. range	Pt1000 sensor, -100.0~120.0°C , -148.0~248.0°F
Ext. Temp. resolution	0.1°C , 0.1°F
Ext. Temp. Accuracy	+/-0.5°C
<i>(While logger is located in 10~40°C place)</i>	
Sampling points	24000 Int. and 24000 Ext.
Meter size	110(L)*45(W)*17(T) mm
Operating temp.	-30~70°C (Logging status); room temp.(PC mode)
Operating RH%	Humidity < 90%
Storage temp.	-40~85°C
Storage RH%	Humidity < 90%
Weight	~50g
Battery	2PC 3.0V CR2032 3months life time
Sampling interval	30 seconds, 5, 10, 30, 60, 90, 120 minutes
Start delay	0, 5, 30, 45, 60, 90, 120 minutes and 24 hours
Alarm range	Programmable from -30 to 70°C
Alarm delay	0, 5, 30, 45, 60, 90, 120 minutes
Alarm type	Single Event, Cumulative, Disable
Operation keys	3 Keys (Start/Stop key & Mark key & Count key)
LED indicator	REC, High / Low alarm
Standard package	Logger, VZ88164PAZ external temp. Probe batteries, manual, paper box
Optional accessory	VZ88164PAZ1 Vaccine temp. Probe



EXTERNAL TEMP. PROBE
P/N: VZ88164PAZ
Color: black silicon cable
Size: 2cm stainless probe w/o handle
5mm diameter probe
Cable: 200cm w/3.5mm jack



VACCINE STORAGE PROBE
P/N: VZ88164PAZ1
Vial: Empty transparent glass
Color: black silicon cable
Size: 2cm stainless probe w/o handle
5mm diameter probe
Cable: 200cm w/3.5mm jack

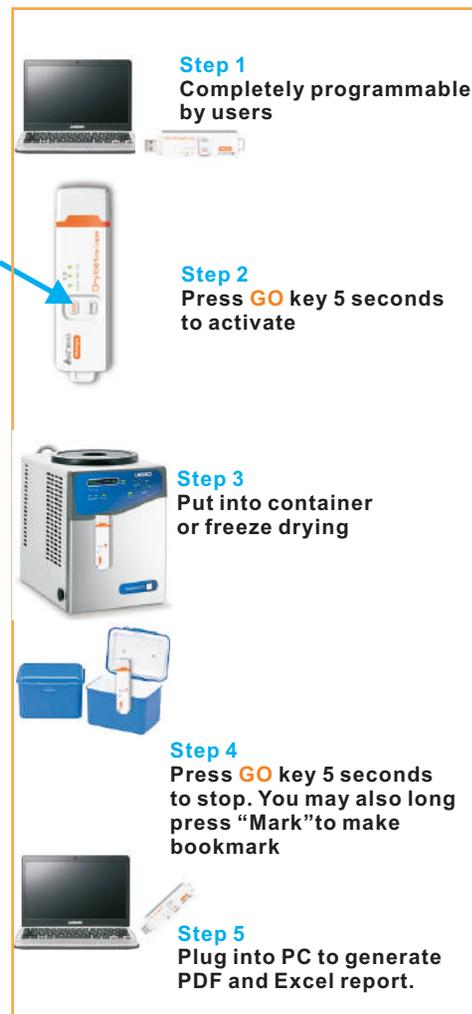
Please fill glycol (car antifreeze) locally

ULTRA LOW TEMP. USB LOGGER w/PDF REPORT



Ultra low Temp. USB logger w/PDF & Excel report 88165

- Plug & Play. PC software and driver are not required
- Built in PT1000 sensor for dry ice & ultra low temperature , such as lyophilization validation
- Automatically generate PDF/Excel report. Report contains summary, graph and detailed data
- Completely user re-programmable: 6 languages, sampling interval, start delay, alarm delay, unit, alarm range, alarm type, password and user name
- Multiple time use for 1.5 year time or 1 million points



Model	88165
Temp. range	PT1000 RTD sensor, -80.0~70.0°C , -112.0~158.0°F
Temp. resolution	0.1°C , 0.1°F
Temp. Accuracy	+/-0.5°C for full range
Logging Type	Multiple Time Use till battery power is low
Meter size	104(L)*28.8(W)*10.5(T) mm
Sampling points	48,000 readings
Operation Lifetime	At least 1 million points or 1.5 years which comes first
Operating temp.	-80~70°C (Logging status); room temp.(PC status)
Operating RH%	Humidity < 80%
Storage temp.	-40~85°C
Storage RH%	Humidity < 90%
Weight	~20g
Battery	1PC 3.6V Lithium battery (installed before shipment)
Sampling interval	30 seconds, 5, 10, 30, 60, 90, 120 minutes
Start delay	0, 5, 30, 45, 60, 90, 120 minutes, 24 hours
Alarm range	-20~-10°C, -10~0°C, 2~8°C, 0~15°C, 0~25°C, 15~25°C, others
Alarm delay	0, 5, 30, 45, 60, 90, 120 minutes
Alarm type	Single Event, Cumulative, Disable
Operation keys	2 Keys (Start/Stop key & Mark key)
LED indicator	REC, Low Bat., High alarm, Low alarm
Standard package	1pc logger in one box, manual, paper box

Application:

- Optimize lyophilization by thermal analysis
- During transportation, record time and temperature for vaccines, biologics, pharmaceuticals and other perishable & temperature sensitive products



Ordering Code
VZ88165AZ, 88165 logger

*Available for EB project



Step 1
Completely programmable by users

Step 2
Press Start key 3 seconds to activate

Step 3
Put into container

Step 4
Press Stop key 3 seconds to stop. You may press Mark key during transition period to create bookmark on PDF report.

Step 5
Plug logger into PC to generate PDF format report

No bothering computer setting!!

No specific software or reader required!!

PDF report

Ordering Code
VZ88181AZ, 88181 logger
(* Note, 10pcs loggers included)

*Available for EB project

Single Use Cold Chain Temperature Logger w/PDF report 88181

- Plug & Play. Software and USB driver are not required
- Automatically generate PDF report. Report contains summary, graph and detailed data
- Completely user re-programmable: 5 languages, sampling interval, start delay, alarm delay, unit, alarm range, alarm type, password and user name
- 4 LEDs provide instant indicator : REC, Low Bat., High /Low temperature alarm
- File encrypted technology to secure data integrity



Metric/Imperial



Auto Logging



PDF



RTCA DO-160G



EN 12830



PC Link



USB 2.0



IP65



LED Alarm

Model	88181
Temp. range	NTC thermistor, -30~70°C , -22~158°F
Temp. resolution	0.1°C , 0.1°F
Temp. Accuracy	+/-0.5°C
Logging Type	Single Use
Pouched size	105(L)*55(W)*2.5(T) mm
Unpouched size	80(L)*43(W)*2.5(T) mm
Sampling points	8192 readings
Shelf Life	12 months shelf time
Operating temp.	-30~70°C (Logging status); room temp.(PC status)
Operating RH%	Humidity < 80%
Storage temp.	-40~85°C
Storage RH%	Humidity < 90%
Weight	~10g
Battery	1PC 3.0V CR2032 (installed before shipment)
Sampling interval	30 seconds, 5, 10, 30, 60, 90, 120 minutes
Start delay	0, 5, 30, 45, 60, 90, 120 minutes
Alarm range	-20~ -10°C, -10~0°C, 2~8°C, 0~15°C, 0~25°C, 15~25°C, others
Alarm delay	0, 5, 30, 45, 60, 90, 120 minutes
Alarm type	Single Event, Cumulative, Disable
Operation keys	2 Keys (Start/Stop key & Mark key)
LED indicator	REC, Low Bat., High alarm, Low alarm
Standard package	10pcs logger in one box, manual, paper box

Application:

During transportation, record time and temperature for vaccines, biologics, pharmaceuticals and other perishable & temperature sensitive products



DRY ICE USB LOGGER w/PDF REPORT



Single Use Dry Ice Ultra low Temperature logger w/PDF report 88185

- Plug & Play. PC software and driver are not required
- Built in PT1000 sensor for dry ice temperature measuring
- Automatically generate PDF report. Report contains statistics summary, diagram and detailed data
- Completely programmable by sender: 6 languages, sampling interval, start delay, alarm delay, unit, alarm range, alarm type, password and user name
- Single trip use to minimize cross-contamination



Model	88185
Temp. range	PT1000 RTD sensor, -80.0~70.0°C , -112.0~158.0°F
Temp. resolution	0.1°C , 0.1°F
Temp. Accuracy	+/-0.5°C for full range
Logging Type	Single Trip Use
Meter size	104(L)*28.8(W)*10.5(T) mm
Sampling points	8,192 readings
On shelf time	Best within one year time
Operating temp.	-80~70°C (Logging status); room temp.(PC status)
Operating RH%	Humidity < 80%
Storage temp.	-40~85°C
Storage RH%	Humidity < 90%
Weight	~20g
Battery	1PC 3.6V Lithium battery (installed before shipment)
Sampling interval	30 seconds, 5,10,30,60,90,120 minutes
Start delay	0, 5,30,45,60, 90,120 minutes,24 hours
Alarm range	-20~-10°C, -10~0°C, 2~8°C, 0~15°C, 0~25°C, 15~25°C, others
Alarm delay	0, 5,30,45,60, 90,120 minutes
Alarm type	Single Event, Cumulative, Disable
Operation keys	2 Keys (Start/Stop key & Mark key)
LED indicator	REC, Low Bat., High alarm, Low alarm
Standard package	1pc logger in one box, manual, paper box

Application:

During transportation, record time and temperature for vaccines, biologics, pharmaceuticals and other perishable & temperature sensitive products



Ordering Code

VZ88185AZ, 88185 single trip logger

*Available for EB project



Step 1
Completely programmable by users through smart devices

Step 2
Leave it in any place. And starting recording in many ways

Step 3
Check real time data on APP anytime
Download data to APP without stopping recording

Step 4
Stopping recording in many ways

Step 5
Press key to review max. & min. data while phone is not available

Step 6
Using APP to generate PDF/csv report and send out

10M radius

NICE LOGGER

Ordering Code

VZ88360AZ, 88360 logger
 VZ88361AZ, 88361 logger (w/o probe)
 VZ87P6AZ1, Temp. probe for 88361
 VZ87P6AZ2, Temp. Probe for 88361
 VZ87P6AZ3, Vaccine Temp. Probe for 88361

*Available for EB project

Bluetooth 4.0 Temperature logger 88360/88361

- Setup logger & download data wirelessly through advanced bluetooth 4.0 technology
- Perfect for temperature mapping. Saving your cost by collecting temperature data in seconds
- Free iOS & Android APP are provided for smart devices
- Generate and send out PDF/csv report through APP. Report contains data summary, graph and detailed data
- Big LCD & dual color LED as status and alarm indicators



Model	88360	88361
Temp. range	NTC thermistor, -30~70°C , -22~158°F	
Temp. resolution	0.1°C , 0.1°F	
Temp. Accuracy	+/-0.5°C	
Ext. Temp. range	NTC thermistor, -30~70°C , -22~158°F	
Ext. Temp. resolution	0.1°C , 0.1°F	
Ext. Temp. Accuracy	+/-0.5°C	
Sampling points	48000 readings	24000 Int. and 24000 Ext.
Meter/LCD size	Meter:70(L)*50(W)*23(T) mm ; LCD:30(L)*18(W)	
Operating temp.	-30~70°C	
Operating RH%	Humidity < 90%	
Storage temp.	-40~85°C	
Storage RH%	Humidity < 90%	
Weight	~70g	
Battery	1PC 3.0V CR2, 1 year life time while BLE broadcast & alarm is OFF 3 months life time while BLE broadcast is ON	
Sampling interval	10 seconds to 120 minutes	
Start delay	0~1440 minutes, 10 mins/step	
Alarm range	Programmable from -30 to 70°C	
Alarm delay	0~720minutes, 5 mins/step	
Alarm type	Single Event, Cumulative, Disable	
Operation keys	2 Keys (Start/Stop key & Max/Min key)	
LED indicator	REC, High / Low alarm	
Standard package	Logger, manual, battery, paper box	
Optional accessory	VZ87P6AZ1 or VZ87P6AZ2 or VZ87P6AZ3 external temp. Probe	



EXTERNAL TEMP. PROBE
 P/N: VZ87P6AZ1
 Color: Black
 Size: 15cm stainless probe w/handle
 3.8mm diameter probe
 Cable: 116cm W/3.5mm Jack



EXTERNAL TEMP. PROBE
 P/N: VZ87P6AZ2
 Color: black
 Size: 2cm stainless probe w/o handle
 3.8mm diameter probe
 Cable: 200cm w/3.5mm jack



VACCINE STORAGE PROBE
 P/N: VZ87P6AZ3
 Vial: Empty transparent glass
 Color: black
 Size: 2cm stainless probe w/o handle
 3.8mm diameter probe
 Cable: 200cm w/3.5mm jack

Please fill glycol (car antifreeze) locally



Step 1
Completely programmable by users through smart devices

Step 2
Leave it in any place. And starting recording in many ways

Step 3
Check real time data on APP anytime
Download data to APP without stopping recording

Step 4
Stopping recording in many ways

Step 5
Press key to review max. & min. data while phone is not available

Step 6
Using APP to generate PDF/CSV report and send out

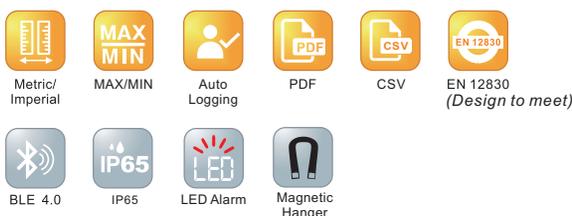
10M radius

NICE LOGGER

Ordering Code
VZ88362AZ, 88362 logger
VZ88363AZ, 88363 logger

Bluetooth 4.0 Barometric Pressure, Humidity & Temperature logger 88362/88363

- Programming logger & download data wirelessly through advanced bluetooth 4.0 technology
- Saving your cost by collecting recording data in seconds
- Free iOS & Android APP are provided for smart devices
- Generate and send out PDF/CSV report through APP. Report contains data summary, graph and detailed data
- Big LCD provides real time data every 5 seconds.
- Dual color LED are used as status and alarm indicators



Model	88362	88363
Temp. range	NTC thermistor, -30~70°C , -22~158°F	
Temp. resolution	0.1°C , 0.1°F	
Temp. Accuracy	+/-0.5°C	
Humidity range	Capacitor, 0.1~99.9%rH	
Humidity resolution	0.1%rH	
Humidity Accuracy	+/-3% (at 25°C, 10~90%), others +/-5%	
Barometric pressure	300~1100hPa , 8.9~32.5inHg	
Baro. resolution	0.1hPa, 0.1inHg	
Baro. Accuracy	+/-3hpa (0~60C), +/-5hpa(-20~0C), Accuracy is not specified in another temp. Range.	
Sampling points	24K: T & 24K:RH	16K:T , 16K:RH, 16K:Baro
Meter size	Meter:70(L)*50(W)*23(T) mm ; LCD:30(L)*18(W)	
Operating temp.	-30~70°C	
Operating RH%	Humidity < 90%	
Storage temp.	-40~85°C	
Storage RH%	Humidity < 90%	
Weight	~70g	
Battery	1PC 3.0V CR2, 1 year life time while BLE broadcast & alarm is OFF 3 months life time while BLE broadcast is ON	
Sampling interval	10 seconds to 120 minutes	
Start delay	0~1440 minutes, 10 mins/step	
Alarm range	Programmable from -30 to 70°C	
Alarm delay	0~720minutes, 5 mins/step	
Alarm type	Single Event, Cumulative, Disable	
Operation keys	2 Keys (Start/Stop key & Max/Min key)	
LED indicator	REC, High / Low alarm	
Standard package	Logger, batteries, manual, paper box	

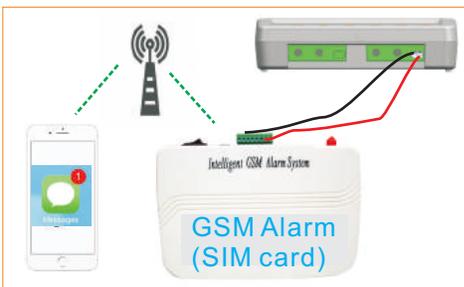
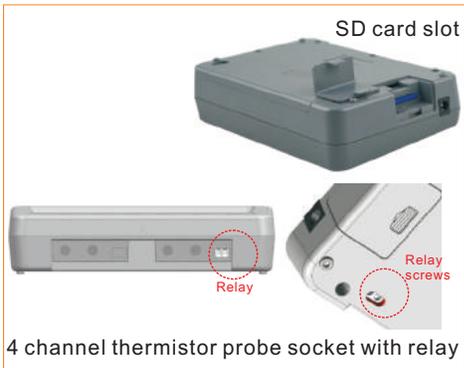


*Available for EB project



4 Channel NTC thermistor SD Card Logger with relay 88597

- Super big LCD portable / wallmount SD card logger
- Measure and Log 4 temperature at once by using quick response NTC thermistor probes
- High/low alarm of each channel with relay output is programmable
- One button operation to display T1-T2
- Display temperature change from baseline
- Temperature offset function for adjustment purpose



No bothering computer setting!!
Log anytime anywhere!!
Trigger external alarm system!!
Big display!!

Ordering Code

VZ88597AZ, 88597 logger
 VZ87P6AZ1, probe with handle
 VZ87P6AZ2, probe without handle
 VZ87P6AZ3, probe for vaccine storage
 VB1099EX, 9V universal adaptor

*Available for EB project

Model	88597
Thermistor temp. range	-30~70°C , -22~158°F
Temp. resolution	0.1°C , 0.1°F
Temp. Accuracy	0.5°C
Relay	A normal open contact Contact rating @resistive load:1A 30VDC/0.5A 125VAC
Sampling rate	Programmable from 1 second up
LCD size (mm, HxW)	47x104
Operating temp.	0~50°C
Operating RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Dimension(mm,LxWxT)	152x100x39
Weight	~300g
Battery	4pcs AA alkaline batteries or 9V adaptor
Standard Package	Meter, 4pcs thermistor probes(87P6AZ2), battery, manual, SD card, plain box
Optional Accessory	9V adaptor, thermistor probes



9V UNIVERSAL ADAPTOR
 P/N:VB1099EX
 Input:100~240 VDC
 Output:9VDC, 0.9A
 3 plugs included:US/UK/EU



EXTERNAL TEMP. PROBE
 P/N: VZ87P6AZ1
 Color: Black
 Size:15cm stainless probe w/handle
 Cable: 116cm W/3.5mm Jack
EXTERNAL TEMP. PROBE
 P/N: VZ87P6AZ2
 Color: black
 Size:2cm stainless probe w/o handle
 Cable: 200cm w/3.5mm jack

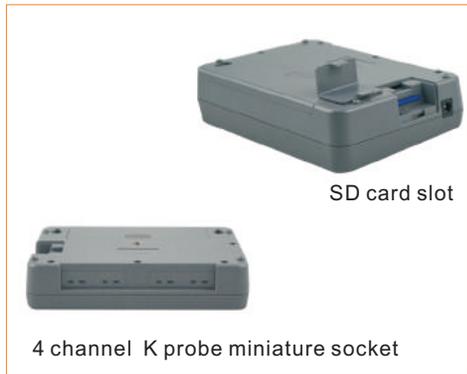


VACCINE STORAGE PROBE
 P/N: VZ87P6AZ3
 Vial: Empty transparent glass
 Color: black
 Size:2cm stainless probe w/o handle
 3.8mm diameter probe
 Cable: 200cm w/3.5mm jack



4 Channel K Thermocouple SD Card Logger 88598

- Super big LCD portable / wallmount SD card logger
- Measure and Log 4 temperature at once by using quick response thermocouple probes
- High/low alarm of each channel is programmable
- One button operation to display T1-T2
- Display temperature change from baseline
- Temperature offset function for adjustment purpose



Model	88598
K temp. range	-200~1370°C , -328~2498°F
K temp. resolution	0.1°C , 0.1°F
K temp. accuracy (under 18~28°C ambient temp.)	±(0.3% rdg +1°C)
Sampling rate	Programmable from 1 second up
LCD size (mm, HxW)	47x104
Operating temp.	0~50°C
Operating RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Dimension(mm,LxWxT)	152x100x39
Weight	~300g
Battery	4pcs AA alkaline batteries or 9V adaptor
Standard Package	Meter, 2pcs bead type K thermocouple, battery, manual, SD card, plain box

Wallmount with big display!!

No bothering computer setting!!

Log anytime anywhere!!

Leave your PC at home !!

Optional Accessory K type thermocouple (custom made thermocouple is available upon request)



Ordering Code

- VZ88598AZ, 88598 logger
- VB1099EX, 9V universal adaptor
- VE60A000, 1M long K bead cable
- VE60A0YK, 4M long K bead cable
- VE6SF013A, metal K probe for -200°C to 1200°C



K BEAD TYPE THERMOCOUPLE

- P/N: VE60A000
- Temp. Range: -50~200°C
- Length: 1M long
- P/N: VE60A0YK
- Temp. Range: -50~200°C
- Length: 4M long
- Other custom made probe: immersion, penetrate, Surface.....etc are available Upon request



9V UNIVERSAL ADAPTOR

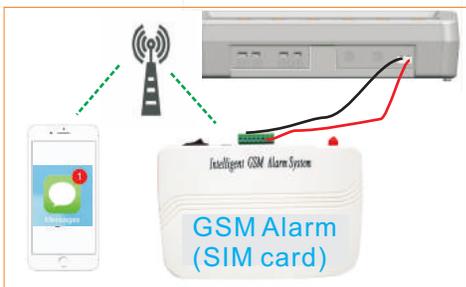
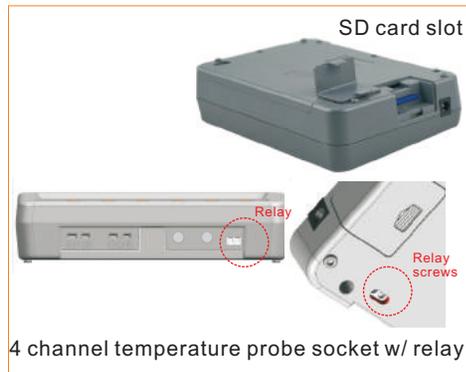
- P/N: VB1099EX
- Input: 100~240 VDC
- Output: 9VDC, 0.9A
- 3 plugs included: US/UK/EU

*Available for EB project



4 Channel SD Card Logger w/ relay & K Thermocouple & Thermistor 88599

- Super big LCD portable / wallmount SD card logger
- Measure and Log 4 temperature at once by using quick response K thermocouple and NTC thermistor probes
- High/low alarm of each channel with relay output is programmable
- One button operation to display T1-T2
- Display temperature change from baseline
- Temperature offset function for adjustment purpose



Trigger external alarm system!!
No bothering computer setting!!

- Ordering Code**
 VZ88599AZ, 88599 logger
 VZ87P6AZ1, probe with handle
 VZ87P6AZ2, probe without handle
 VZ87P6AZ3, probe for vaccine storage
 VE60A000, 1M long K bead cable
 VE60A0YK, 4M long K bead cable
 VE6SF013A, metal K probe for -200°C to 1200°C
 VB1099EX, 9V universal adaptor

*Available for EB project

Model	88599
K temp. range	-200~1370°C , -328~2498°F
K temp. resolution	0.1°C , 0.1°F
K temp. accuracy (under 18~28°C ambient temp.)	±(0.3% rdg +1°C)
Thermistor temp. range	-30~70°C , -22~158°F
Temp. resolution	0.1°C , 0.1°F
Temp. Accuracy	0.5°C
Relay	A normal open contact Contact rating @resistive load:1A 30VDC/0.5A 125VAC
Sampling rate	Programmable from 1 second up
LCD size (mm, HxW)	47x104
Operating temp.	0~50°C
Operating RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Dimension(mm,LxWxT)	152x100x39
Weight	~300g
Battery	4pcs AA alkaline batteries or 9V adaptor
Standard Package	Meter, 2 bead K probe(VE60A000), 2 thermistor probes (87P6AZ2), battery, manual, SD card, plain box
Optional Accessory	9V adaptor, thermistor probes



K BEAD TYPE THERMOCOUPLE
 P/N:VE60A000
 Temp. Range:-50~200°C
 Length: 1M long
 P/N:VE60A0YK
 Temp. Range:-50~200°C
 Length: 4M long
 Other custom made probe: immersion, penetrate, Surface.....etc are available Upon request



EXTERNAL TEMP. PROBE
 P/N: VZ87P6AZ1
 Size:15cm stainless probe w/handle
 Cable: 116cm W/3.5mm Jack
EXTERNAL TEMP. PROBE
 P/N: VZ87P6AZ2
 Size:2cm stainless probe w/o handle
 Cable: 200cm w/3.5mm jack
EXTERNAL TEMP. PROBE
 P/N: VZ87P6AZ3
 Vial: Empty transparent glass
 Size:2cm stainless probe w/o handle
 Cable: 200cm w/3.5mm jack

Please fill glycol (car antifreeze) locally



9V UNIVERSAL ADAPTOR
 P/N:VB1099EX
 Input:100~240 VDC
 Output:9VDC, 0.9A
 3 plugs included:US/UK/EU



DEVİR ÖLÇER ÇEŞİTLERİ

Pocket size Tachometer 8000/8001



8000

- Lowest cost contact and non-contact tachometer in the market
- Two ways to power on/off
- Non-contact measurement by red LED beam
- Contact rotating object via convex or concave contact tips
- Four rotation speed units are selectable in contact mode: rpm, m/min, ft/min, yd/min.



Auto Power Off



Low Battery



HOLD



8001

Model	8000	8001
Measuring range		
Rotation (non-contact)	10.0~99999RPM	
Rotation (contact)		10.0~19999RPM
Surface speed (contact)		1.0000~9999.9M/Min 3.0000~30000Ft/Min 1.0000~10000Yd/Min

Resolution		
RPM unit		0.001/0.01/0.1/1
M/Min unit		0.0001/0.001/0.01/0.1
Ft/Min unit		0.0001/0.001/0.01/0.1
Yd/Min unit		0.0001/0.001/0.01/0.1
Accuracy	+/- (0.1% of rdg. +2 digit)	

Measure distance	5~30cm	Contact
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Power consumption	5uA (Idle), 18mA (measurement)	
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Time base	4.0Mhz Quartz Crystal	
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Sampling time	1second (>60RPM), >1second (10~60RPM)	
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LCD size	15(H)x33(W)mm	
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Operating temp.	0~50°C	
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Operating RH%	Humidity < 80%	
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Storage temp.	-10~50°C	
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Storage RH%	Humidity < 90%	
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Dimension	124x50x33mm	149x50x33mm
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Weight	~80g	~85g
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Battery	9V battery x 1pc	
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Standard Package	Meter/Battery/Manual/Paper box /reflective tape/convex tip/concave tip	
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Two ways to power on



Ordering Code

VZ8000AZ, 8000 tachometer

VZ8001AZ, 8001 tachometer

Optional



CONTACT TIPS

P/N: VM38001E
CONVEX TIP
P/N: VM38001F
CONCAVE TIP
For contact
Rotate speed
Use



REFLECTIVE TAPE

P/N: VL8000A0
For non-contact rotate
Speed. Use for targeting
Rotating object
LENGTH: 16X600 MM
COLOR IN SILVER
(remove blue color protection
film before use)

Pocket size 2 in 1 Tachometer 8008



- Lowest cost contact and non-contact 2 in 1 combo tachometer on the market
- Two ways to power on/off
- Simple three steps to transform from contact to non-contact tachometer
- Non-contact measurement by red LED beam
- Contact rotating object via convex or concave contact tips
- Four rotation speed units are selectable in contact mode: rpm, m/min, ft/min, yd/min.



Three steps to switch from contact to non-contact tachometer



STEP1: Unit change to **RPM** for non-contact mode



STEP2: Unscrew



STEP3: Remove

Two ways to power on



Ordering Code

VZ8008AZ, 8008 tachometer

*Available for EB project

Model	8008
Measuring range	
Rotation (non-contact)	10.0~99999RPM
Rotation (contact)	10.0~19999RPM
Surface speed (contact)	1.0000~9999.9M/Min 3.0000~30000Ft/Min 1.0000~10000Yd/Min
Resolution	
RPM unit	0.001/0.01/0.1/1
M/Min unit	0.0001/0.001/0.01/0.1
Ft/Min unit	0.0001/0.001/0.01/0.1
Yd/Min unit	0.0001/0.001/0.01/0.1
Accuracy	+/- (0.1% of rdg. +2 digit)
Measure distance	5~30cm (non-contact)
Power consumption	5uA (Idle), 18mA (measurement)
Time base	4.0Mhz Quartz Crystal
Sampling time	1second (>60RPM), >1SECOND (10~60RPM)
LCD size	15(H)x33(W)mm
Operating temp.	0~50°C
Operating RH%	Humidity < 80%
Storage temp.	-10~50°C
Storage RH%	Humidity < 90%
Dimension	165(L)x51(W)x32(H)mm
Weight	~90g
Battery	9V battery x 1pc
Standard Package	Meter/Battery/Manual/Paper box /reflective tape/convex tip/concave tip

Optional



CONTACT TIPS
P/N: VM38001E
CONVEX TIP
P/N: VM38001F
CONCAVE TIP
For contact
Rotate speed
Use



REFLECTIVE TAPE
P/N: VL8000A0
For non-contact rotate
Speed. Use for targeting
Rotating object
LENGTH: 16X600 MM
COLOR IN SILVER
(remove blue color protection
film before use)

GAZ KAÇAK DEDEKTÖRLERİ



Portable Methane & Propane Detector 7291/7201

- Low cost handheld type detector checking methane and propane gas leakage
- Bright 5-level leakage led indicator
- Status ready and battery low led indicator
- Quality & reliable semi-conductor sensor
- Built in auto-calibration function while meter powers on
- Long & flexible stainless goose neck detect probe
- Built in earphone jack for mute mode use



Auto Power Off



LED Alarm



Buzzer Alarm

What is methane?

Methane (CH₄) is a naturally occurring gas. One of its major causes is the decomposition of plant and animal matter by methane producing bacteria. Methane is a very powerful greenhouse gas - 21 times more potent than carbon dioxide.

It is produced naturally, but over the last two centuries its concentration in the atmosphere has more than doubled as a direct result of human activities, leading to serious concerns about its impact on global warming.

The major man made sources of methane are natural gas extraction, waste disposal, livestock farming and coal mining.

What is propane?

Propane is a hydrocarbon (C₃H₈) and is sometimes referred to as liquefied petroleum gas, LP-gas or LPG. Propane is produced from both natural gas processing and crude oil refining, in roughly equal amounts.

It is nontoxic, colorless and virtually odorless. As with natural gas, a strong identifying odor is added so the gas can be readily detected.

Model	7201	7291
Methane range	120~1920 ppm	40~640ppm
Propane range	40~640ppm	40~640ppm
Sensitivity	120ppm (Methane) 40ppm (Propane)	40ppm (Methane) 40ppm (Propane)
Gas discrimination filter	Built -in	N/A
Response time	Within 10 seconds	
Warm up time	Within 60 seconds	
Operating condition	-5~45°C , 5~95% RH (avoid condensation)	
Storage condition	-20~ 50°C, 0~95%RH(avoid condensation)	
Power supply	4pcs AA batteries or 9V adaptor	
Meter size (LxWxH,mm)	175x 70 x 38	
Weight	120g	
Flexible probe length	18" (465mm)	
Standard package	Meter, manual, AA alkaline batteries, carry case	



Ordering Code

VZ7201AZ, 7201 meter

VZ7291AZ, 7291 meter

*Available for EB project

Carbon Dioxide Monitor & Controller for Plant & Human 7530



- Accurate and long life time NDIR CO₂ measuring
- External CO₂ sensor to be used in closed space
- Display real time CO₂ value
- Display CO₂ chart with variable time zoom levels
- Max. /Min. recall function
- Programmable CO₂ zone value & CO₂ center value to control relay power on and off
- Audible alarm warns CO₂ concentration
- Target zone indicator
- Built-in Day/Night auto detection to override CO₂ control
- Monitoring & Controlling CO₂ value in Green house, residential and commercial building



Metric/
Imperial



MAX/MIN



LED Alarm



Relay



Buzzer
Alarm



Backlight



4 different plug and socket



AZ (USA)



AZE (EU Schuko)



AZF (EU France)



AZU (UK)

Ordering Code

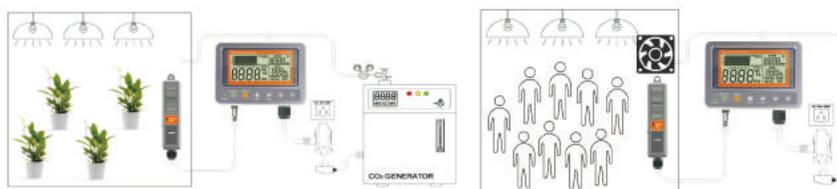
VZ7530AZ, CO₂ controller in USA plug
 VZ7530AZE, CO₂ controller in EU plug
 VZ7530AZF, Co₂ controller in France plug
 VZ7530AZU, CO₂ controller in UK plug
 VZ7530AZP3, CO₂ replacement probe
 ...We can custom made more to meet your local regulation. Please contact us.
 *Available for EB project

Model	7530
<u>Measuring range</u>	
CO ₂	0~5000 ppm
Resolution	1ppm (0-1000); 5ppm (1000-2000); 10ppm (>2000)
<u>Accuracy</u>	
CO ₂ below 2000ppm	±50ppm±5% of reading
CO ₂ above 2000ppm	<±10% of reading
Warm-up time	30 seconds
<u>Response time</u>	
CO ₂	<30 seconds for 90% of step change
LCD size	47 x 104 mm
Meter size	158 x 106 x 50 mm
Sensor size	124 x 33 x 26 mm ; Cable length: 4.5 meters
Operating condition	0~50°C, 5~95% RH (avoid condensation)
Storage condition	-20~ 60°C, 5~95%RH(avoid condensation)
Power supply	AC100~240VAC
Piggyback socket load	5A@250VAC; 10A@120VAC
Weight	700g
Standard package	Sensor unit, monitor & controller unit, manual, screws

Application:

For green house, highly accurate digital CO₂ controller measures the carbon dioxide level in the grow room and automatically turns off the CO₂ device to accurately keep the carbon dioxide PPM at the desired level

For human use, measure the carbon dioxide level in closed space and automatically turns on/off ventilation system to get good air quality



Plant mode

Relay ON while CO₂ is too low

Human mode

Relay ON while CO₂ is too high



Pocket Type CO Detector 7701

- Digital pocket detector for checking CO concentration
- Dual LCD display with current carbon monoxide and maximum CO readings
- Long life and reliable electrochemical carbon monoxide sensor
- Warning carbon monoxide audible alert adjustable, preset at 25ppm
- Manually calibrate at 0 or 500ppm carbon monoxide standard gas



Auto Power Off



MAX



Backlight



Buzzer Alarm



Ordering Code
VZ7701AZ, 7701 meter

Model	7701
CO range	0~999 ppm
Resolution	1 ppm
Accuracy (at 20±5°C, 50±20%RH)	+20% at 0~100ppm; ±15% at 100~500ppm Other ranges are not specified
Response time	within 60 seconds
LCD size (mm, HxW)	11x26
Operating condition	0~50°C, 5~95% RH (avoid condensation)
Storage condition	-20~ 50°C, 0~95%RH(avoid condensation)
Power supply	3pcs AAA batteries
Battery Life	300 hours
Meter size (LxWxH,mm)	175x 47 x 28
Weight	120g
Standard package	Meter, manual, AAA alkaline batteries, plain box, wrist strap, soft carry pouch

CO level affects human health

ppm	Symptoms and applicable standard	ppm	Symptoms and applicable standard
0-1	Normal background levels	100	Remove employees from enclosed space if the CO concentration exceeds 100ppm per OSHA exposure limit.
9	Maximum indoor air quality level: Maximum allowable concentration per ASHRAE Residential standards 62-1989 for living area.	200	Mild headache, fatigue, nausea and dizziness w/i 2-3 hrs.
25	Maximum limit 8 hrs of continuous exposure per California OSHA workplace standards.	400	Frontal headache, life threatening after 3hrs. Maximum concentration in flue gas per the US EPA and AGA standards.
35	Maximum 8 hrs average exposure level per US OSHA workplace standards.	800	Dizziness, nausea, convulsions, death w/i 2-3 hrs.
50	Maximum concentration for continuous exposure in any 8 hrs average level per OSHA standards.	1600	Nausea w/i 20 min., death w/i 2-3 hrs



*Available for EB project

INDOOR AIR QUALITY(IAQ) MONITOR



PM2.5, CO₂, HUMIDITY, TEMP. MONITOR/DATALOGGER 7710

- Large LED displays PM2.5, Health index, CO₂, humidity and temperature.
- 12000 times auto logging. USB2.0 plug and play. No need to operate through specific software.
- Wall mount display with 3-color light bar to provide PM2.5/CO₂ hazardous level indicator from far distance
- High accuracy laser optical PM2.5 sensor
- NDIR (non-dispersive infrared) waveguide CO₂ tech
- CO₂ automatic background calibration(called ABC) for long time drift compensation



Best helper to balance **energy bill** and **IAQ**



Choose **one** or **multiple** parameter as your reference indicator and use it to optimize. For example, if 800ppm CO₂ or 12ug/m³ PM2.5 is the guideline, you can adjust the ventilation to meet this target instead of adjusting the ventilation too high to waste energy.

The **health index** here is defined by **USA EPA**.

Long term PM2.5 value brings higher impact to human health. The health index here provides you a quick indication to know the average PM2.5 level of past 24 hours.

Health index level	AQI category	Breakpoints (ug/m ³ , 24H average)
1	Good	0.0~12.0
2	Moderate	12.1~35.4
3	Unhealthy for sensitive groups	35.5~55.4
4	Unhealthy	55.5~150.4
5	Very Unhealthy	150.5~250.4
6	Hazardous	250.5~350.4
7	Hazardous	350.5~500

Ordering Code

VZ7710AZ, 7710 PM2.5/CO₂ Logger
VB17729A, 5V USB adaptor with 4 plugs

*Available for EB project

Model	7710
Measuring range	
PM2.5	0~999 ug/m ³
CO ₂	0~9999 ppm,
Temperature	-10.0~60.0°C (14~140°F)
Humidity	0.1~99.9% RH
Resolution	1ug/m ³ , 1ppm, 0.1°C/°F, 0.1%RH
Accuracy	
PM2.5	0-100: +/-10 ug/m ³ ; 101-999: +/-10% rdg.
CO ₂	+40ppm±3% of reading (400~2000ppm), Other range is 10% of reading
Temperature	+0.6°C/+0.9°F
Humidity	+5%RH (at 25°C, 10~90%RH); ±7%RH (at 25°C , other range)
Warm-up time	10 seconds
Response time	
PM2.5	<30 seconds(90% step change)
CO ₂	<30 seconds (63% step change)
Tair	<2 mins (90% step change)
Humidity	<20 minutes (90% step change)
Auto Logging	12000 times records
Operating condition	0~50°C , 0~95% RH (avoid condensation)
Storage condition	-20~ 50 °C, 0~95%RH(avoid condensation)
Power supply	5VDC USB type C port
Power consumption	<500mA
Meter size (LxWxH,mm)	257 x 168 x 45.5 mm (L x W x T)
IP rating	IP20
Weight	610g
Standard package	Meter, manual, Type C cable, Hanging & filtering accessories.
Optional accessory	100~240V to 5V@0.6A adaptor with 4 plugs (US.EU.UK. AU)

Areas of application: Widely used in the office building, school, exhibition hall, shopping mall, meeting room, fitness center, restaurant and other public places where **energy bill**, personal **comfort** and **healthy** are important.

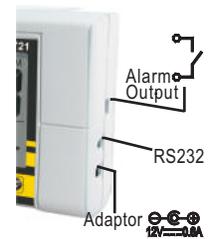


INDOOR AIR QUALITY MONITOR



Wallmount CO₂ & TEMP. Monitor w/o humidity:7721 w/ humidity:7722/77232

- Super large LCD displays CO₂&Temp. simultaneously
- Designed with NDIR (non-dispersive infrared) waveguide technology CO₂ sensor
- ABC (automatic background calibration) preset on for long time drift compensation
- Alarm output drives built- in relay to control ventilation system
- Display 8 hrs TWA value (time-weighted average) or 15 minutes STEL value (short-term exposure limit)
- Easy to manually calibrate CO₂ at fresh air



Model	7721	7722	77232
Measuring range			
CO ₂	0~9999 ppm,		0~9999 ppm,
Temperature		-10~60°C (14~140°F)	
Humidity		0.1~99.9% RH	0.1~99.9% RH
Resolution	1ppm , 0.1°C/°F, 0.1%RH		
Accuracy			
CO ₂	+50ppm±5% of reading (0~2000ppm) Other range is 10% of reading		+30ppm±5% of reading (0~5000ppm) Other range is 10% of reading
Temperature	±0.6°C/±0.9°F		
Humidity		±3%RH (at 25°C, 10~90%RH); ±5%RH (at 25°C, other range)	±3%RH (at 25°C, 10~90%RH); ±5%RH (at 25°C, other range)
Warm-up time	30 seconds		
Response time			
CO ₂	<30 seconds(90% step change)		
Tair	<2 mins (90% step change)		
Humidity	<10 minutes (90% step change)		
RELAY(1A 30VDC/0.5A 125VAC)	Yes		
LCD size (mm, HxW)	50x65		
Operating condition	0~50°C , 0~95% RH (avoid condensation)		
Storage condition	-20~ 50°C,0~95%RH(avoid condensation)		
Power supply	12VDC adaptor		
Battery life	<50mA(average), <310mA(peak)		
Meter size (LxWxH,mm)	130x 85 x 60		
Weight	200g		
Standard package	Meter, manual ,12V USA type adaptor , paper box		

Optional



CAL. SALT BOTTLE
P/N:VZ0033AZ1(33%)
P/N:VZ0075AZ1(75%)
FOR 7722/77232
CALIBRATION USE



12V UNIVERSAL ADAPTOR
P/N:VZ1098AB
100~240VAC INPUT
12V OUTPUT

Ordering Code

VZ7721AZ, 7721 meter w/USA plug adaptor
VZ7722AZ, 7722 meter w/USA plug adaptor
VZ77232AZ, 77232 meter w/USA plug adaptor
*For w/EU plug adaptor, order VZxxxxAZ1
VB1098AB, 12V universal adaptor
VZ0033AZ1+VZ0075AZ1, RH calibration
VZUSBAZM, software kit



USB CABLE & SOFTWARE
P/N: VZUSBAZM



*Available for EB project

INDOOR AIR QUALITY MONITOR



CO₂, HUMIDITY, TEMP., TREND MONITOR 7727

- Big LCD displays CO₂ value, humidity, temperature, CO₂ trend (with good, normal, poor indicator) and hour-minute clock.
- Logged CO₂ data shown as trend, no need to download.
- Touch panel to program the setting
- NDIR (non-dispersive infrared) CO₂ technology
- 3-color backlight to indicate status of indoor air quality
- Eco mode to turn backlight dim during night time
- 7-color backlight as nightlight to fit home/office deco.



CO₂ LEVELS AND GUIDELINES

Non-Enforced Reference levels

NIOSH recommendations

250-350 ppm:

Normal outdoor ambient concentrations

600 ppm:

Minimal air quality complaints

600-1000 ppm:

Less clearly interpreted

1000 ppm:

Indicates inadequate ventilation; complaints such as headaches, fatigue and eye/throat irritation will be more widespread. 1000 ppm should be used as an upper limit for indoor levels.

EPA Taiwan: 600ppm and 1000ppm

Type 1

indoor areas such as department stores, theaters, restaurants, libraries, the acceptable CO₂ concentration of 8 hours average is 1000ppm.

Type 2

indoor areas with special requirements of good air quality such as schools, hospitals, day care centers, the suggested CO₂ level is 600ppm.

Regulatory exposure limit

ASHRAE Standard 62-1989: 1000ppm

CO₂ concentration in occupied building should not exceed 1000ppm.

Building bulletin 101 (BB101): 1500ppm

UK standards for schools say that CO₂ at averaged over the whole day (i.e. 9am to 3.30pm) should not exceed 1500ppm.

OSHA: 5000ppm

Time weighted average over five 8-hour work days should not exceed 5000ppm.

Germany, Japan, Australia, UK...: 5000ppm

8 hours weighted average in occupational exposure limit is 5000ppm.

Ordering Code

VZ7727NL, 7727 compact size CO₂ monitor
VB17729A, 5V USB adaptor with 4 plugs

Model	7727
Measuring range	
CO ₂	200~5000 ppm,
Temperature	0.0~50.0°C (32~122°F)
Humidity	5~95% RH
Resolution	
	1ppm, 0.1°C/°F, 1%RH
Accuracy	
CO ₂	±50ppm±5% of reading (200~3000ppm) Other range is 10% of reading
Temperature	±0.6°C/±0.9°F
Humidity	±5%RH (at 25°C, 10~90%RH); ±7%RH (at 25°C, other range)
Warm-up time	10 seconds
Response time	
CO ₂	<2 mins (63% step change)
Tair	<2 mins (90% step change)
Humidity	<20 minutes (90% step change)
Operating condition	0~50°C, 0~95% RH (avoid condensation)
Storage condition	-20~50°C, 0~95%RH (avoid condensation)
Power supply	5VDC USB type C port
Power consumption	<500mA
Buzzer	~70dB at 10cm distance
Meter/LCD size	108x67x30 mm / 60 x 37.5 mm
Weight	90g
Standard package	Meter, manual, USB type C cable, paper box
Optional accessory	100~240V to 5V@0.6A adaptor with 4 plugs (US.EU.UK. AU)

4 Different Backlight settings to fulfill all your needs

AUTO mode

The LCD backlight auto switches between green, yellow and red according to CO₂ concentration.

AL mode

The LCD backlight only turns on and in red while CO₂ is higher than threshold

ON mode

The backlight is always ON and 7 colors can be picked up from setting mode.

OFF mode

Backlight is always OFF.



CO₂, HUMIDITY, TEMP. Monitor 7729

- Super large LED displays CO₂, temperature and humidity readings simultaneously
- Designed with high accuracy NDIR (non-dispersive infrared) waveguide technology CO₂ sensor
- 22cm long 3-color green, yellow and red LED light bar to indicate the CO₂ concentration level
- ABC (automatic background calibration) preset on for long time drift compensation
- Buzzer alarm included with easy mute or disable function
- Easy to manually calibrate CO₂ at fresh air



Programmable air quality light bar indicator



Model	7729
Measuring range	
CO ₂	0~9999 ppm,
Temperature	-10.0~60.0°C (14~140°F)
Humidity	0.1~99.9% RH
Resolution	
	1ppm , 0.1°C/°F, 1%RH
Accuracy	
CO ₂	+50ppm±5% of reading(0~2000ppm) Other range is 10% of reading
Temperature	+0.6°C/+0.9°F
Humidity	±5%RH (at 25°C, 10~90%RH) ; ±7%RH (at 25°C , other range)
Warm-up time	
	10 seconds
Response time	
CO ₂	<30 seconds(90% step change)
Tair	<2 mins (90% step change)
Humidity	<20 minutes (90% step change)
Operating condition	
	0~50°C , 0~95% RH (avoid condensation)
Storage condition	
	-20~ 50°C,0~95%RH(avoid condensation)
Power supply	
	5VDC USB type C port
Power consumption	
	<500mA
Meter size (LxWxH,mm)	
	226x 152 x 45
Weight	
	450g
Standard package	
	Meter, manual ,USB type C cable, Hanging accessory, Paper box
Optional accessory	
	100~240V to 5V@0.6A adaptor with 4 plugs (US.EU.UK. AU)

For both Wall mount & Desktop



Ordering Code

VZ7729AZ, 7729 CO₂ monitor with light bar
VB17729A, 5V USB adaptor with 4 plugs

*Available for EB project



INDOOR AIR QUALITY MONITOR



DIP SWITCH SETTINGS

Green to Yellow	DIP 1	DIP 2	Yellow to red	DIP 3	DIP 4
600ppm	<input type="checkbox"/>	<input checked="" type="checkbox"/>	+200ppm	<input type="checkbox"/>	<input checked="" type="checkbox"/>
700ppm	<input type="checkbox"/>	<input checked="" type="checkbox"/>	+300ppm	<input type="checkbox"/>	<input checked="" type="checkbox"/>
800ppm	<input type="checkbox"/>	<input checked="" type="checkbox"/>	+400ppm	<input type="checkbox"/>	<input checked="" type="checkbox"/>
900ppm	<input type="checkbox"/>	<input checked="" type="checkbox"/>	+500ppm	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Temp Unit	DIP 5	Buzzer	DIP 6	CO2 cal.	DIP 7
F	<input type="checkbox"/>	ON	<input type="checkbox"/>	ON	<input type="checkbox"/>
C	<input checked="" type="checkbox"/>	OFF	<input type="checkbox"/>	OFF	<input checked="" type="checkbox"/>

HOW TO IMPROVE IAQ ?

CO2 level	Action
Green	Normal concentration level, no action required; check monitor is working correctly
Yellow	Ventilation required, partially or fully open trickle ventilators or leave room door partially open
Red	Significant ventilation required, open window and leave door fully open

Ordering Code

VZ7730AZ, Hard wire CO2/T/RH monitor

HARD WIRED/ USB TYPE C CO2, HUMIDITY, TEMP. MONITOR 7730

- Designed to meet LVD and Scottish Technical Handbook Domestic Environment 3.14.2
- Same size as a standard plate switch and fits within a 35mm deep flush back box. Two-part easy assembly
- Big color display with real time CO2, humidity and temp. value
- Touch keypad to review the logged 8-hour average, 24-hour average and 24-hour peak value
- NDIR (non-dispersive infrared) CO2 technology
- Programmable traffic light to indicate status of IAQ
- 3-level display brightness to adjust per need
- Buzzer function could be activated while required. Mute function is available while buzzer function is on
- CO2 manual calibration feature is included



Metric/Imperial



LED Display



Buzzer Alarm



LED Alarm

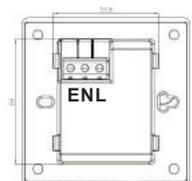


USB TypeC for power



100-240 VAC Input

Model	7730
Measuring range	
CO2	200~9999 ppm,
Temperature	0~50°C (32~122°F)
Humidity	5~95% RH
Resolution	1ppm, 1°C/°F, 1%RH
Accuracy	
CO2	+40ppm±3% of reading (400~2000ppm) Other range is 10% of reading
Temperature	+1°C/+1°F
Humidity	+5%RH (at 25°C, 10~90%RH); +7%RH (at 25°C, other range)
Warm-up time	10 seconds
Response time	
CO2	<5 mins (90% step change)
Tair	<2 mins (90% step change)
Humidity	<20 minutes (90% step change)
Operating condition	0~50°C, 0~95% RH (avoid condensation)
Storage condition	-20~ 50°C, 0~95%RH(avoid condensation)
Power supply	100~240VAC, 50~60Hz, 1.5VA or 5VDC
Power consumption	<2W
Buzzer	~70dB at 10cm distance
Meter/LCD size	86x86x51 mm / 77 x 46 mm
IP	IP30
Housing Material	ABS
Mounting height	1.4~1.8 M
Weight	150g
Standard package	Meter, manual, paper box



2022.7 v1.1

INDOOR AIR QUALITY MONITOR



BATTERY OPERATED & BIG DISPLAY CO₂, RH, DP, TEMP. MONITOR 7732

- Extraordinary power saving feature to provide 1 year monitoring by only 3 pieces AAA batteries
- Big display with CO₂, humidity, dew point temperature and air temperature value
- One key press to review the logged 8-hour average, 24-hour average and 24-hour peak value
- Anti-theft and anti-modification design embedded.
- NDIR (non-dispersive infrared) waveguide CO₂ technology
- Programable 3 emoji icons to indicate indoor air quality level
- Buzzer function could be activated while required, mute function is available while buzzer function is on
- CO₂ manual calibration feature is included



Metric/
Imperial



AVG



Low
Battery



MAX



Buzzer
Alarm

SUPER POWER SAVING

	ECO mode	Regular mode
LCD update	Every 1 min.	Every 10 sec.
Power consumption	40uA	70 uA
AAA alkaline life time	>1 year	>6 months

BUILT-IN ANTI-THEFT AND ANTI-MODIFICATION

4 digits password control LCD



Anti-theft stainless hanger, screw and screw driver set

Ordering Code

VZ7732AZ, battery operated CO₂/RH/DP T/ monitor

*Available for EB project

Model	7732
Measuring range	
CO ₂	0~9999 ppm,
Temperature	0.0~50.0°C (32.0~122.0°F)
Humidity	5.0~95.0% RH
Dew point	-68.2~50.0°C (-90.8~122°F)
Resolution	1ppm , 0.1°C/°F, 0.1%RH
Accuracy	
CO ₂	+50ppm±3% of reading(400~5000ppm) 5001~9999 is 10% of reading. N/A for <400ppm
Temperature	+0.6°C/±1°F
Humidity	+5%RH (at 25°C, 10~90%RH) ; +7%RH (at 25°C , other range)
Warm-up time	10 seconds
Response time	
CO ₂	<5 mins (90% step change)
Tair	<2 mins (90% step change)
Humidity	<20 minutes (90% step change)
Operating condition	0~50°C , 0~95% RH (avoid condensation)
Storage condition	-20~ 50°C,0~95%RH(avoid condensation)
Power supply	3pcs AAA batteries
Power consumption	Eco mode: 40uA ; regular mode: 70uA
Buzzer	~70dB at 10cm distance
Meter/LCD size	86x86x25 mm / 60 x 44 mm
IP	IP30
Housing Material	ABS
Mounting height	1.4~1.8 M
Weight	115g
Standard package	Meter, battery, hanging screw set, manual, paper box

CO ₂ level	Action
Green	Normal concentration level, no action required; check monitor is working correctly
Yellow	Ventilation required, partially or fully open trickle ventilators or leave room door partially open
Red	Significant ventilation required, open window and leave door fully open

INDOOR AIR QUALITY CHECKER



Combo CO₂ & TEMP Portable Checker w/o humidity: 7752/77532 w/ humidity: 7755/77535

- Upgraded to meet EN 50543:2011 requirement
- Designed with NDIR (non-dispersive infrared) waveguide technology CO₂ sensor, low drift and stable
- Data output to PC every 2 sec. for on-line analysis
- Display 8 hrs TWA value (time-weighted average) & 15 minutes STEL value (short-term exposure limit)
- Housing design surrounds with rails to help air ventilation for quick and accurate response
- Easy to calibrate CO₂ at fresh air around 380-420ppm



Model	7752	7755	77532	77535
Measuring range				
CO ₂	0~9999 ppm,		0~9999 ppm,	
Temperature	-10~60°C (14~140°F)			
Humidity	0.1~99.9% RH		0.1~99.9% RH	
Resolution	1ppm , 0.1°C/°F, 0.1%RH			
Accuracy				
CO ₂	±50ppm±5% of reading (0~2000ppm) Other range is 10% of reading		±30ppm±5% of reading (0~5000ppm) Other range is 10% of reading	
Temperature	±0.6°C/±0.9°F			
Humidity	±3%RH (at 25°C, 10~90%RH); ±5%RH (at 25°C, other range)		±3%RH (at 25°C, 10~90%RH); ±5%RH (at 25°C, other range)	
Warm-up time	30 seconds			
Response time				
CO ₂	<30 seconds(90% step change)			
Tair	<2 mins (90% step change)			
Humidity	<10 minutes (90% step change)			
RELAY(1A 30VDC/0.5A 125VAC)	NO		NO	
LCD size (mm, HxW)	26x44			
Operating condition	0~50°C , 0~95% RH (avoid condensation)			
Storage condition	-20~ 50°C, 0~95%RH(avoid condensation)			
Power supply	AA x 4pcs			
Battery life	> 24 hours (Alkaline battery)			
Meter size (LxWxH,mm)	205x70x56			
IP Rating	IP40			
EMC	EN 50270:2015			
Weight	200g			
Standard package	Meter, manual ,AA batteries , hard carry case			

Optional



CAL. SALT BOTTLE
P/N:VZ0033AZ1(33%)
P/N:VZ0075AZ1(75%)
FOR 7755/77535
CALIBRATION USE



9V UNIVERSAL ADAPTOR
P/N:VZ109BAZ
100~240VAC INPUT
9V OUTPUT

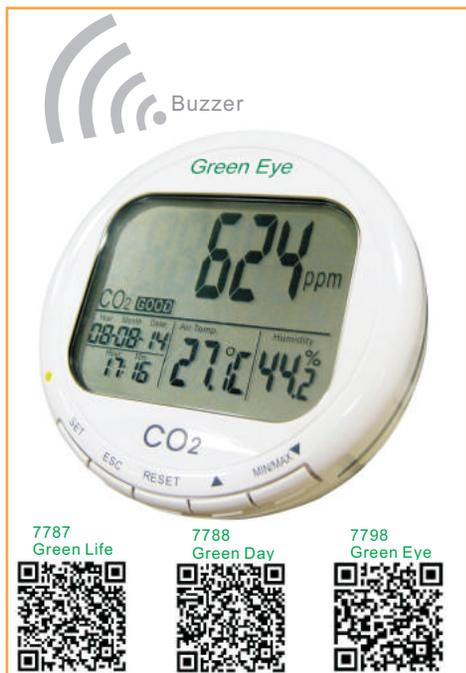
Ordering Code

VZ7752AZ, 7752 meter
VZ7755AZ, 7755 meter
VZ77532AZ, 77532 meter
VZ77535AZ, 77535 meter
VZ109BAZ, 9V universal adaptor
VZ0033AZ1+VZ0075AZ1, RH calibration
VZUSBAZM, software kit

*Available for EB project



USB CABLE & SOFTWARE
P/N: VZUSBAZM



CO₂ LEVELS AND GUIDELINES

Non-Enforced Reference levels

NIOSH recommendations

250-350 ppm:

Normal outdoor ambient concentrations

600 ppm:

Minimal air quality complaints

600-1000 ppm:

Less clearly interpreted

1000 ppm:

Indicates inadequate ventilation; complaints such as headaches, fatigue and eye/throat irritation will be more widespread. 1000 ppm should be used as an upper limit for indoor levels.

EPA Taiwan: 600ppm and 1000ppm

Type 1

indoor areas such as department stores, theaters, restaurants, libraries, the acceptable CO₂ concentration of 8 hours average is 1000ppm.

Type 2

indoor areas with special requirements of good air quality such as schools, hospitals, day care centers, the suggested CO₂ level is 600ppm.

Regulatory exposure limit

ASHRAE Standard 62-1989: 1000ppm

CO₂ concentration in occupied building should not exceed 1000ppm.

Building bulletin 101 (BB101): 1500ppm

UK standards for schools say that CO₂ at averaged over the whole day (i.e. 9am to 3.30pm) should not exceed 1500ppm.

OSHA: 5000ppm

Time weighted average over five 8-hour work days should not exceed 5000ppm.

Germany, Japan, Australia, UK...: 5000ppm

8 hours weighted average in occupational exposure limit is 5000ppm.

Ordering Code

VZ7787AZ, 7787 meter

VZ7788AZ, 7788 meter

VZ7798AZ, 7798 meter

**Available for EB project*

Desktop Carbon Dioxide Monitor w/ logging:7798 w/ relay:7788 w/o relay:7787

- Large LCD displays CO₂ value (with good, normal, poor air quality indicator), year-month-date, hour-minute, air temp. & relative humidity
- 15 degree tilt to provide easy see and read angle
- Display real time clock and date
- NDIR (non-dispersive infrared) waveguide technology
- CO₂ automatic background calibration (called ABC) for long time drift compensation
- 7798: Up to 15999 points auto logging memory space
- 7788: CO₂ relay to control ventilation



MAX/MIN



Metric/Imperial



Auto Logging



PC Link



Buzzer Alarm



DC Jack



LED Alarm



Relay



Model	7798	7788	7787
Measuring range			
CO ₂	0~9999 ppm, (2001~9999 ppm out of scale range)		
Temperature	-10~60°C (14~140°F)		
Relative Humidity	0.1%~99.9%RH		
Resolution	1ppm , 0.1°C/°F, 0.1%RH		
Accuracy			
CO ₂	±50ppm±5% of reading (0~2000ppm) Other range is 10% of reading		
Temperature	±0.6°C/±0.9°F		
Relative Humidity	±3%RH (at 25°C, 10~90%RH)	±5%RH (at 25°C, 20~90%RH)	±7%RH (at 25°C, others)
	±5%RH (at 25°C, others)		
Warm-up time	30 seconds		
Response time			
CO ₂	<2 minutes (90% step change)		
Tair	<2 mins (90% step change)		
RH	<10 minutes (90% step change)		
Sample point	15999 points (5333points for each parameter) 1sec to 04 hour 59 mins 59 sec.	NO	NO
Sampling rate		NO	NO
LCD size (mm, HxW)	60x82		
RELAY(1A 30VDC/0.5A 125VAC)	NO	YES	NO
Operating condition	0~50°C , 5~80% RH (avoid condensation)		
Storage condition	-20~ 50°C, 5~90%RH(avoid condensation)		
Power supply	5VDC adaptor (±10%), >=500mA		
Meter size	120 x 80 mm (Diameter x Depth)		
Weight	200g		
Standard package	Meter, manual, 5V universal adaptor, plain box, software CD & cable (7798 only)		

Optional



STEREO TYPE RELAY OUTPUT
P/N: VW38819A
A CONNECTION WIRE TO USE
WITH # 7788 RELAY OUTPUT





Programmable air quality light bar indicator



For both Wall mount & Desktop



Ordering Code

VZ77294AZ, 77294 CO₂ logger with light bar
VB17729A, 5V USB adaptor with 4 plugs

CO₂, HUMIDITY, TEMPERATURE DATALOGGER 77294

- Large LED displays and record CO₂, Humidity and Temperature readings simultaneously
- 12000 times auto logging. USB2.0 plug and play. No need to operate through specific software.
- Designed with high accuracy NDIR (non-dispersive infrared) waveguide technology CO₂ sensor
- 22cm long 3-color green, yellow and red LED light bar to indicate the CO₂ concentration level
- ABC (automatic background calibration) preset on for long time drift compensation



Metric/Imperial



Auto Logging



EXCEL



USB TypeC



Buzzer Alarm



LED Alarm



USB 2.0



LED Display



Model	77294
Measuring range	
CO ₂	0~9999 ppm,
Temperature	-10.0~60.0 °C (14~140 °F)
Humidity	0.1~99.9% RH
Resolution	1ppm , 0.1 °C/°F, 1%RH
Accuracy	
CO ₂	+50ppm±5% of reading (0~2000ppm) Other range is 10% of reading
Temperature	±0.6 °C/±0.9 °F
Humidity	±5%RH (at 25 °C, 10~90%RH) ; ±7%RH (at 25 °C , other range)
Warm-up time	10 seconds
Response time	
CO ₂	<30 seconds(90% step change)
Tair	<2 mins (90% step change)
Humidity	<20 minutes (90% step change)
Auto Logging	12000 times records
IP rating	IP20
Operating condition	0~50 °C , 0~95% RH (avoid condensation)
Storage condition	-20~ 50 °C, 0~95%RH(avoid condensation)
Power supply	5VDC USB type C port
Power consumption	<500mA
Meter size (LxWxH,mm)	226x 152 x 45
Weight	450g
Standard package	Meter, manual, Type C cable, Hanging accessories.
Optional accessory	100~240V to 5V@0.6A adaptor with 4 plugs (US.EU.UK. AU)

Areas of application: Widely used in the office building, school, exhibition hall, shopping mall, meeting room, fitness center, restaurant and other public places where **energy bill**, personal **comfort** and **healthy** are important.



INDOOR AIR QUALITY DATALOGGER



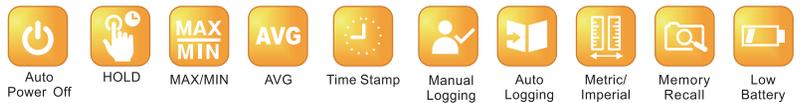
77597



77596

Combo CO₂ & CO & TEMP. Logger w/o humidity: 77596 w/ humidity: 77597

- Upgraded to meet EN 50543:2011 requirement
- Portable meter to check/record indoor air quality: CO₂, CO, temperature, humidity, dew point & wet bulb
- Designed with high accuracy NDIR (non-dispersive infrared) waveguide technology CO₂ sensor
- Designed with fast response electrochemical CO sensor
- Manual calibration is available for CO₂/CO/RH%
- 32000 or 24000 logging memory for #77597 and #77596
- Manual pressure compensation for CO₂ sensor



Model	77597	77596
Measuring range		
CO ₂	0~9999 ppm,	0~9999 ppm,
CO	0~1000 ppm,	0~1000 ppm,
Temperature	-20~60°C (-5~140°F)	
Relative Humidity	0.1%~99.9%RH	N/A
DP(Dew point temp.)	-20.0~59.9°C	N/A
WB(Wet bulb temp.)	-5.0~59.9°C	N/A
Resolution	1ppm , 0.1°C/°F, 0.1%RH	
Accuracy		
CO ₂	±30ppm±5% of reading(0~5000ppm) Other range is 10% of reading	
CO	+/-3 ppm ≤20ppm, +/-5 ppm ≤100ppm +/-10% or reading for 101~500 ppm +/-20% of reading for 501ppm and above	
Temperature	±0.6°C/±0.9°F	
Relative Humidity	±3%RH (at 25°C, 10~90%RH); ±5%RH (at 25°C, other range)	
CO ₂ Warm-up time	30 seconds	
Response time		
CO ₂	<30 seconds(90% step change)	
CO	<60 seconds(90% step change)	
Tair	<2 mins (90% step change)	
RH	<10 minutes (90% step change)	
LCD / Meter size (mm)	26(H)x44(L), 205(L)x70(W)x56(H)	
Operating condition	-20 to 50 °C (CO ₂ sensor), 0 to 50 °C (CO sensor) (avoid condensation) -20 to 60 °C (for the rest parameters)	
Storage condition	-20~ 60°C, 10~90%RH(avoid condensation)	
Power supply	AA x 4pcs or 9V adaptor	
Battery life	> 24 hours (Alkaline battery)	
IP Rating	IP40	
EMC	EN 50270:2015	
Weight	200g	
Standard package	Meter, manual ,AA bat. , USB cable & CD, carry case	

Optional



CAL. SALT BOTTLE
P/N:VZ0033AZ1(33%)
P/N:VZ0075AZ1(75%)
FOR 77597
CALIBRATION USE



9V UNIVERSAL ADAPTOR
P/N:VZ109BAZ
100~240VAC INPUT
9V OUTPUT
for 77597/77596

Ordering Code

VZ77597AZ, 77597 logger
VZ77596AZ, 77596 logger
VZ109BAZ, 9V universal adaptor
VZ0033AZ1+VZ0075AZ1, RH calibration

*Available for EB project



Included!

SICAKLIK VE NEM ÖLÇERLER

Pocket Type Hygro-Thermometer 8701/8703/8705



8701



8703



8705

- Simultaneously display temperature and humidity
- Easy-to-read dual LCD display
- Designed with capacitance type humidity sensor to get accurate and quick reading
- Sensor cap to protect sensor
- Pocket clip design for easy portable around
- 8703 features dew point temperature display
8705 features dew point & wet bulb temperature display



Metric/
Imperial



Auto
Power Off



Low
Battery



MAX
MIN



HOLD



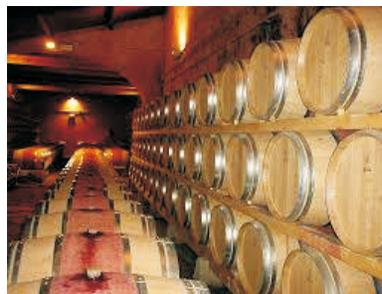
Model	8701	8703	8705
Temp. range	-10~50°C	-20~50°C	-20~50°C
Temp. resolution	0.1°C/°F	0.1°C/°F	0.1°C/°F
Temp. accuracy	+/-1°C	+/-1°C	+/-1°C
Humidity. range	5%~95%RH	0%~100%RH	0%~100%RH
Humidity resolution	0.1%RH	0.1%RH	0.1%RH
Humidity accuracy	+/-4%RH at 25°C	+/-3%RH (at 25°C, 10~90%RH, others +/-5%RH)	
Dew point range	N/A	-68.5~50°C	-78.7~50°C
Wet bulb range	N/A	N/A	-21.6~50°C
Response time (Seconds. Typical)	80	60	60
Self calibration	N/A	N/A	N/A
Battery Life		>500 hours	
LCD size (mm)		18(H)x29(W)	
Storage temp.		-20~50°C	
Storage RH%		Humidity < 90%	
Dimension(mm)		170x48.5x16.5(H)	
Weight		~75g	
Battery		AAA x 2 pcs	
Standard Package		Meter/Battery/Manual/Paper box	

Ordering Code

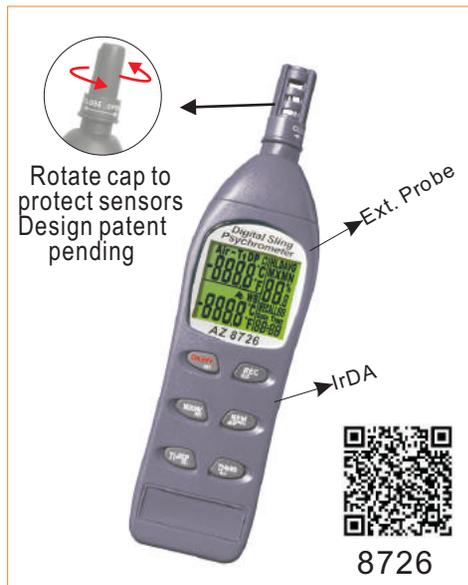
VZ8701AZ, 8701meter

VZ8703AZ, 8703meter

VZ8705AZ, 8705meter



Pocket Hygro-Thermometer w/probe 8706N/8706/8716/8726



Ordering Code

VZ8726A0, 8726 meter
VZ8716A0, 8716 meter
VZ8706A0, 8706 meter
VZ8706NA0, 8706N meter
VZ87P6AZ, temp. Probe
VZ0033AZ1&VZ0075AZ1, salt bottle set
VZHR33AZ&VZHR75AZ, salt bottle set

*Available for EB project

- Simultaneously display temp./RH/external probe temp.
- Dew point & wet bulb temp. is also available in one click
- Designed with capacitance humidity sensor to get accurate and quick reading
- Easy self-calibration by optional salt kits
- 8726 additionally features AVG./Temp. Differ/Backlight/99 memories/memory statistics/real time/IrDA output
- 8716 features Temp. difference display



Metric/
Imperial



Auto
Power Off



Low
Battery



HOLD



MAX/
MIN



Backlight
8726 only

Model	8706N	8706	8716	8726
Temp. range			-20~50°C	
Temp. resolution			0.1°C/°F	
Temp. accuracy			+/-0.6°C	
Humidity. range			0.1%RH~99.9%RH	
Humidity resolution			0.1%RH	
Humidity accuracy			+/-3%RH (at 25°C, 10~90%RH, others +/-5%RH)	
Dew point range	N/A		-78.7~50.0°C	
Wet bulb range	N/A		-21.6~50.0°C	
Response time			60 seconds typical	
External temp. range			-20~70°C	
Ext. temp. accuracy			+/-0.6°C(-20~50°C), +/-1.2°C others	
LCD size (mm)		28(H)x33(W)		32(H)x39(W)
Storage temp.			-20~50°C	
Storage RH%			Humidity < 90%	
Dimension(mm)		48.4x178.5x24.7(H)		57x230x44(H)
Weight		~100g		~110g
Battery		AAA x 2pcs		AAA x 4pcs
Standard Package		Meter/Battery/Manual/Paper box		
Optional Accessory		External probe/ calibration kits/#9660/#9680		

Optional



EXTERNAL TEMP. PROBE

P/N: VZ87P6AZ
Color: black
Size:
15cm probe w/handle
Diameter: 3.8mm
Cable:
116cm w/2.5mm jack



CAL. SALT BOTTLE

P/N: VZ0033AZ1 (33%)
P/N: VZ0075AZ1 (75%)
For 8706n, 8706, 8716
Calibration use



CAL. SALT BOTTLE

P/N: VZHR33AZ (33%)
P/N: VZHR75AZ (75%)
For 8726 calibration
Purpose.



Pen Type Hygro-Thermometer 8708/8709

- Simultaneously display temperature and humidity
- Easy-to-read dual LCD display
- Designed with capacitance type RH sensor to get accurate and quick reading
- Easy self-calibration by optional salt kits (8709 only)
- Pocket clip design for easy carry around



Model	8708	8709
Temp. range	-10~50°C	-20~50°C
Temp. resolution	0.1°C/°F	0.1°C/°F
Temp. accuracy	+/-1°C	+/-1°C
Humidity. range	5%~95%RH	0%~100%RH
Humidity resolution	0.1%RH	0.1%RH
Humidity accuracy	+/-3%RH (at 25°C, 10~90%RH, others +/-5%RH)	
Dew point range	N/A	N/A
Wet bulb range	N/A	N/A
Response time	60 seconds typical	
Self calibration	N/A	YES
Battery life	>150 hours	
LCD size (mm)	18(H)x29(W)	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	175x42x16(H)	
Weight	~55g	
Battery	CR2032 x 1pc	
Standard Package	Meter/Battery/Manual/Paper box	
Optional Accessory	N/A	Calibration kits

Latest capacitance humidity measuring technology

Small change can be detected



Advanced capacitance humidity sensor

20 times response area compared to IC type sensor

Fast, Accurate and Reliable

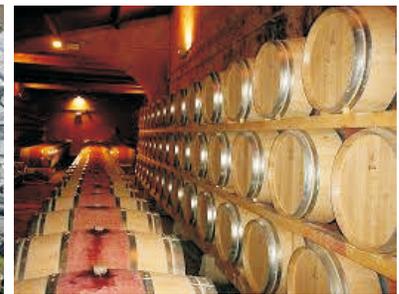
Ordering Code

VZ8708AZ, 8708meter

VZ8709AZ, 8709meter

VZ0033AZ1&VZ0075AZ1, salt bottle set

*Available for EB project



Optional



CAL. SALT BOTTLE
P/N: VZ0033AZ1(33%)
P/N: VZ0075AZ1(75%)
For 8709
Calibration use

Remote Humidity Probe Hygrometer 8721/8723



8721



8723

- Simultaneously dual display temperature and humidity
- Easy-to-read big LCD display
- Remote probe for extending measurement
- Easy humidity self-calibration by optional salt kits



Metric/Imperial



Auto Power Off



Low Battery



HOLD



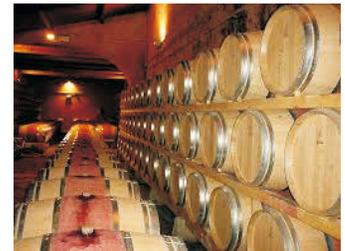
MAX/MIN



DC jack



PC Link



Model	8721	8723
RS232 interface	YES	N/A
HI/LO alarm setting	YES	N/A
Backlight	N/A	YES
RH sensor type	Capacitance	Capacitance
Temp. range	-20~50°C	-10~60°C
Temp. resolution	0.1°C/°F	0.1°C/°F
Temp. accuracy	+/-1°C	+/-0.6°C
Humidity. range	0.1%RH~99.9%RH	
Humidity resolution	0.1%RH	0.1%RH
Humidity accuracy	+/-3%RH (at 25°C, 10~90%RH, others +/-5%)	
Dew point range	-50~50.0°C	-68~49.9°C
Wet bulb range	N/A	-13.4~59.9°C
Response time	60 seconds typical	
LCD size (mm)	29(H)x42(W)	26(H)x44(W)
Operation temp.	0~50°C	
Operation RH%	Humidity < 80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	180(L)x67(W)x30(H)	175(L)x70(W)x33(H)
Weight	~110g	~150g
Battery	9V x 1pc	AAA x 4pcs
Probe	872P	872P
Standard Package	Meter/Probe/Battery/Manual/Carry case	
Optional Accessory	Software CD& cable/Calibration kits	

Latest capacitance humidity measuring technology

Small change can be detected



Advanced capacitance humidity sensor

20 times response area compared to IC type sensor

Fast, Accurate and Reliable

Ordering Code

VZ8721AZ, 8721meter

VZ8723AZ, 8723meter

VZ872PAZ, replacement humidity probe

VZUSBAZM, USB software kit

VZ0033AZ1&VZ0075AZ1, salt bottle set

Optional



HUMIDITY PROBE

P/N: VZ872PAZ

FOR #8721/8723

Size: 14dia x216mm(l)

Cable: 50cm (extended to 1.5M)



USB CABLE & SOFTWARE

P/N: VZUSBAZM



CAL. SALT BOTTLE

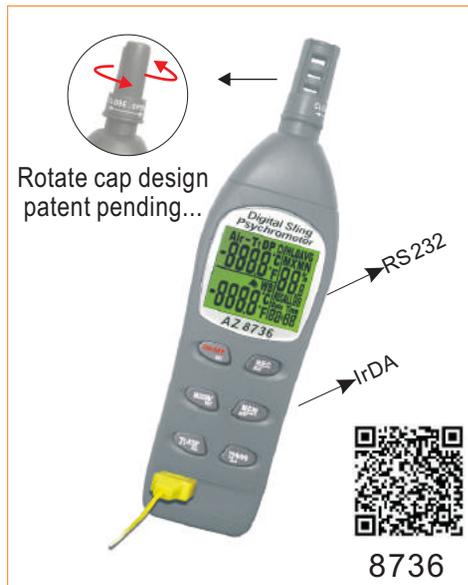
P/N: VZ0033AZ1(33%)

P/N: VZ0075AZ1(75%)

For 872Pprobe

Calibration use

Pocket hygro-thermometer with K thermocouple 8736/8746



Latest capacitance humidity measuring technology

Small change can be detected



Advanced capacitance humidity sensor

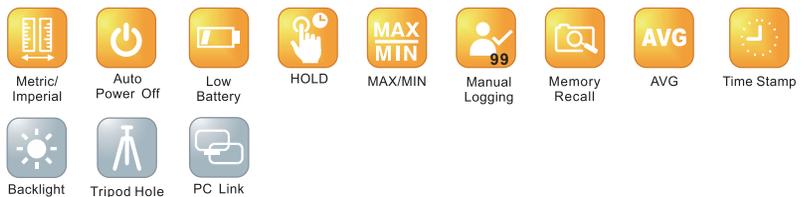
20 times response area compared to IC type sensor
Fast, Accurate and Reliable

Ordering Code

VZ8736A0, 8736 meter
VZ8746A0, 8746 meter
VE60A000, temp. Probe
VE60A0YK, temp. Probe
VZUSBAZMN, USB software kit
VZHR33AZ&VZHR75AZ, salt bottle set

*Available for EB project

- Simultaneously display temp./humidity/k thermocouple temperature
- One button to get dew point & wet bulb temperature
- Designed with capacitance humidity sensor to get accurate and quick reading
- K thermocouple for high temperature checking
- Easy humidity self-calibration by optional salt kits
- IrDA output for data downloading



Model	8736	8746
Temp. range	-20~50°C	
Temp. resolution	0.1°C/°F	
Temp. accuracy	+/-0.6°C	
Humidity. range	0.1%RH~99.9%RH	
Humidity resolution	0.1%RH	
Humidity accuracy	+/-3%RH (at 25°C, 10~90%RH, others +/-5%RH)	
Dew point range	-78.7~50.0°C	
Wet bulb range	-21.6~50.0°C	
Response time	60 seconds typical	
K temp. range & res.	-200~1370°C & 0.1°C	
K temp. accuracy	+/- (0.3%+0.7°C)	
LCD size (mm)	32(H)x39(W)	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	57x230x44(H)	
Weight	~110g	
Battery	AAA x 4pcs	
Standard Package	Meter/K bead thermocouple /Battery/ Manual/Paper box	
Optional Accessory	Software CD& cable/Calibration kits/Custom made K thermocouple/ #9660/ #9680	

Optional



K BEAD TYPE THERMOCOUPLE
P/N:VE60A000 (1M long)
P/N:VE60A0YK (4M long)
Temp. Range: -50~200°C
Other custom made probes : immersion, penetrate, Surface.....etc are available Upon request



USB CABLE & SOFTWARE
P/N: VZUSBAZMN



CAL. SALT BOTTLE
P/N:VZHR33AZ (33%)
P/N:VZHR75AZ (75%)
FOR CALIBRATION PURPOSE.

Wet Bulb Dry Bulb Hygrometer 8760/87601/8762



- Excellent for green house, high humidity, harsh & dusty environment. Condensation caused by water/ pesticide/ fertilizer spray and dust scrap have very limited effect on humidity reading.
- Designed with two thermistor sensors to get accurate & quick temperature & humidity reading by using dry bulb & wet bulb principle
- Built-in fan to speed up the response time to 2 mins
- Dual color LED indicator for logging and alarm
- Humidity self-calibration is not required



Model	8762	8760	87601
Temp. range	5~50°C		
Temp. resolution	0.1°C/°F		
Temp. accuracy	+/-0.6°C		
Humidity. range	0.1%RH~99.9%RH		
Humidity resolution	0.1%RH		
Humidity accuracy	+/-3%(10~100%RH@25°C), the rest is +/-5%		
Response time	120 seconds typical		
LCD size (mm)	25(H)x40(W)		
Memory	100 points	100 points	16000 points
PC download	NO, manually recall	NO, manually recall	YES
Relay	YES	NO	NO
Operation temp.	5~50°C		
Operation RH%	Humidity < 100%		
Storage temp.	0~50°C		
Storage RH%	Humidity < 80%		
Water Tank Refill Time	Every two weeks		
Dimension(mm)	48.4x178.5x24.7(H)		
Weight	~250g		
Battery	AAA x 4pcs or 5V adaptor		
Standard Package	Meter/Water tank/ Battery/Manual/Paper box /Cotton thread		
Optional Package	5V universal adaptor software cable & CD (87601 only)		

Ordering Code *Bulk order only*
 VZ8762AZ, 8762 hygrometer
 VZ87601AZ, 87601 hygrometer
 V8760AZ, 8760 hygrometer
 VZ12405AZ, 5V universal adaptor
 VZUSBNLD, software kit w/USB cable for 87601
 VW38819A, a relay output wire for 8762





Handheld Infrared Thermometer w/ Hygrometer 8857

- The most popular IR+humidity two in one meter to get air temp./surface temp. /Humidity/wet bulb temp./dew point temperature
- To get the temp. difference between dew point temp.& surface temp. in a click
- Quick and accurate IR response time:500ms
- Gear damper device for sensor protection
- IR emissivity value adjustable 0.3~1.0
- Built-in laser beam (670nm) for targeting



Metric/Imperial



Auto Power Off



Low Battery



Backlight



PC Link



Latest capacitance humidity measuring technology

Small change can be detected



Advanced capacitance humidity sensor

20 times response area compared to IC type sensor

Fast, Accurate and Reliable



USB CABLE & SOFTWARE
P/N: VZUSBAZM

Ordering Code

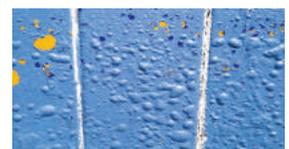
VZ8857AZ, 8857 meter
VZUSBAZM, USB software kit

*Available for EB project

Model	8857
IR Temp. range	-40~500°C
IR Temp. resolution	0.1°C/°F
IR Temp. accuracy (Which is greater)	+/-2% or 2°C at -20~200°C, others is +/-3% or 3°C
Temp. range	-20~50°C
Temp. resolution	0.1°C/°F
Temp. accuracy	+/-0.6°C
Humidity range	0.1%RH~99.9%RH
Humidity resolution	0.1%RH
Humidity accuracy	+/-3%RH (at 25°C, 10~90%RH, others +/-5%RH)
Dew Point temp	-68~49.9°C
Wet Bulb temp	-21.6~49.9°C
IR Repeatability	+/-1°C
Emissivity	0.3~1.0 adjustable
D:S ratio	8:1
LCD size	44(W)x26(H)mm
Operating temp.	0~50°C
Operating RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Dimension	70x50x175mm
Weight	140g
Battery	AAA battery x 4pcs
Optional	Software&cable kit
Standard Package	Meter/Battery/Manual/Carry case

What is the application of Dew Point Temperature?

- In summer or high humidity season, identifies and warns when conditions for mold growth exist
- In winter or low humidity season, identifies and warns when conditions for static electricity exist
- Air temperature and dew point temp. indicate where condensation may occur
- Monitor conditions in laboratories, basement and other controlled environment settings



HYGROMETER LOGGER/PRINTER



Hygrometer Logger w/o printer:9651 w/ printer:9851

- Measuring & recording humidity and temperature
3 measurement modes:
 - single point measurement
 - manual record up to 99 points
 - automatically record up to 12000 points
- Built-in printer to print anytime, anywhere
- Automatic recording is programmable
- Uploading pre-edited header from PC to meter



Model	9851	9651
PC interface		YES
Backlight		YES
RH Sensor type	Capacitance	
Temp. range	-20~50°C	
Temp. resolution	0.1°C/°F	
Temp. accuracy	+/-0.6°C	
Humidity. range	0.1%RH~99.9%RH	
Humidity resolution	0.1%RH	
Humidity accuracy	+/-3%RH (at 25°C, 10~90%RH, others +/-5%)	
Dew point range	-78.7~50.0°C	
Wet bulb range	-21.6~50.0°C	
Response time	60 seconds typical	
LCD size (mm, HxW)	26(H)x45(W)mm	
Operating temp.	0~50°C	
Operating RH%	Humidity < 80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm,LxWxT)	208x70x53(H) mm	170x70x40(H) mm
Weight	260g	210g
Battery	AA battery x 4pcs or 9V adaptor	AAA battery x 4pcs or 9V adaptor
Standard Package	Meter, temp. & RH% probe, battery, thermo paper, manual, software CD & cable, hard carry case	
Optional Accessory	External probe, spare thermo paper, calibration kits	

Three measurement modes

- Example: 9851 single point measurement
- Example: 9851 manually record
- Example: Logging function in processing

Ordering Code *Bulk order only*
VZ9851AZ, 9851 logger & printer
VZ9651AZ, 9651 logger
VM69811B, thermo paper
VZ872PAZ, replacement humidity probe
VZ0033AZ1&VZ0075AZ1, salt bottle set

Optional



SPARE THERMO PAPER
 P/N: VM69811B
 SIZE: 38MM X 20M X 30@



HUMIDITY PROBE
 P/N: VZ872PAZ
 SIZE: 14DIA X216MM(L)
 Cable: 50cm (extended to 1.5M)



CAL. SALT BOTTLE
 P/N: VZ0033AZ1(33%)
 P/N: VZ0075AZ1(75%)
 FOR 872P CALIBRATION



87791



87792



Desktop & wallmount



Indoor & outdoor temp. Air & cabinet temp.

Desktop Temp./Humidity Monitor with alarm function 87791/87792

- Simultaneously display/record Temperature & Humidity
- Check vapor condensation risk through DP temperature
- One year long battery life via alkaline battery
- LED/Audible alarm threshold of each parameters are programmable
- Real time display (hour & minute, am/pm)
- 87791:RH/T/Dew point monitor
87792:RH/T/External Temperature monitor



Metric/Imperial



Time Stamp



Low Battery



MAX/MIN



LED Alarm



Buzzer Alarm

Model	87791	87792
Temp. range	0~50°C (Display: -10.0~70.0°C)	
Temp. resolution	0.1°C/°F	
Temp. accuracy	+/-1°C	
Humidity. range	20~90%RH (Display:0%~99.9%RH)	
Humidity resolution	0.1%RH	
Humidity accuracy	+/-5%RH (at 25°C, 10~90%RH, others +/-7%RH)	
Dew point temp. Range	-20~70°C	N/A
External temp. Range	N/A	-10~70°C (Display: -30~70°C)
External temp. resolution	N/A	0.1°C/°F
External temp. accuracy	N/A	+/-0.6°C (0~50°C), +/-1.2°C(-10~0°C, 50~70°C) No specified for -30°C~-10°C
External probe size	N/A	Dia.3.8mm x Length:25mm
External probe cable	N/A	2M long, material: PVC
Beeper (dB)	~65dB	
RH% Self calibration	YES, via salt chamber	
Power consumption	<0.11mA	
LCD size (mm)	63(H)x70(W)	
Operation temp.	0~50°C	
Operation RH%	Humidity < 90%	
Storage temp.	-10~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	110x91x30(H)	
Weight	~200g	
Power	AA x3pcs	
Standard Package	Meter/Manual/Paper box	

What is Dew Point (DP)?

The dew point temperature is the temperature at which the air can't hold all of its water vapor and some of the water vapor must condense into liquid water. Condensation of water vapour begins when the temperature of air is lowered to its dew point and beyond.

What is the application of Dew Point?

- In summer or high humidity season, identifies and warns when conditions for mold growth exist
- In winter or low humidity season, identifies and warns when conditions for static electricity exist
- Air temperature and dew point temp. indicate where condensation may occur
- Monitor conditions in laboratories, basement and other controlled environment settings



Ordering Code

VZ87791AZ, 87791 monitor
VZ87792AZ, 87792 monitor

ISI İNDEKS (SICAKLIK HİSSİ) CİHAZLARI

HEAT STROKE PREVENTION METER



Pen type Heat Index Checker 8715/8750

- Checks dangerous heat conditions through Heat Index
- Programmable danger zone for warning purpose
- Barometric unit selectable (model:8750)
- Packet clip design for easy carry around
- Additional function
 - 8750: barometric pressure display & calibration
 - 8715: features audible beeper function



Model	8715	8750
Temp. range		0~50°C
Temp. resolution		0.1°C/°F
Temp. accuracy		+/-1°C
Humidity. range		0%~100%RH
Humidity resolution		0.1%RH
Humidity accuracy	+/-3%RH (at 25°C, 10~90%RH, others +/-5%RH)	
Dew point range	0~59.9°C	-35~59.9°C
Barometric pressure	N/A	8.86~32.48inHg
Pressure accuracy	N/A	+/-1% full scale
Heat Index range	21~45°C	21~66°C
Response time	15 seconds typical	
RH% Self calibration	N/A	
Battery life	100hour	
LCD size (mm)	18(H)x32(W)	
Operation temp.	0~50°C	
Operation RH%	Humidity < 80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	168x47x15(H)	
Weight	~55g	
Battery	CR2032 x 1pc	
Standard Package	Meter/Battery/Manual/Paper box	

What is Heat Index?

Heat index (HI) is sometimes referred to as the "apparent Temperature". The HI is a measure of how hot it feels when relative humidity (RH) is added to the actual air temperature.

Latest capacitance humidity measuring technology

Small change can be detected



Advanced capacitance humidity sensor

20 times response area compared to IC type sensor

Fast, Accurate and Reliable

Ordering Code

VZ8715AZ, 8715 meter
VZ8758AZ, 8750 meter

Heat Index Chart

Category	Heat Index	Possible heat disorders for people in high risk groups
Danger	54°C or higher	Heat stroke or sunstroke likely
Danger	41-54°C	Sunstroke, muscle cramps, and/or heat exhaustion likely. Heatstroke possible with prolonged exposure and/or physical activity.
Extreme	32-41°C	Sunstroke, muscle cramps, and/or heat exhaustion possible with prolonged exposure and/or physical activity
Caution	27-32°C	Fatigue possible with prolonged exposure and/or physical activity.

HEAT STROKE PREVENTION METER



Handheld WBGT Checker 8758/8778

- Check Indoor/Outdoor WBGT, TA/TG and humidity
- Check dangerous heat conditions through WBGT
- Programmable audible beeper for danger zone warning
- Designed with capacitance type humidity sensor with clear sheath to protect sensor during storage
- Built-in PC interface for real time download
- Humidity self-calibration via salt bottles kit



Model	8758	8778
Temp. range	0~50°C	
Temp. resolution	0.1°C/°F	
Temp. accuracy	+/-0.6°C	
Humidity. range	0.1%~99.9%RH	
Humidity resolution	0.1%RH	
Humidity accuracy	+/-3%RH (at 25°C, 10~90%RH, others +/-5%RH)	
Globe Temp. (inside black ball)	0~80°C	
Globe Temp. Acc.	Indoor: +/-2°C (at 15~40°C), others 2.5°C outdoor: +/-3°C (at 15~40°C), others 3.5°C	+/-1°C (at 15~40°C), others 1.5°C +/-1.5°C (at 15~40°C), others 2°C
WBGT temp. range	0~50°C	
Black ball size(mm)	Dia. 40, height:35	Dia. 75, height:75
Stabilization time	15 ~25 minutes typical	
RH% Self calibration	YES	
Battery life	>250hour	
LCD size (mm)	28(H)x33(W)	
Operation temp.	0~50°C	
Operation RH%	Humidity < 80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	254x48.7x30.9(H)	278.2x75x75(H)
Weight	~120g	~140g
Battery	AAA x2pcs	
Standard Package	Meter/Battery/Manual/Paper box	
Optional	Software Kit /RH calibration kit	

WBGT Formula Indoors / Outdoors and no sun

$$WBGT = 0.7 \times WB + 0.3 \times TG$$

Outdoors and full sun

$$WBGT = 0.7 \times WB + 0.2 \times TG + 0.1 \times TA$$

WBGT & Physical exercise

WBGT	Flag	Activity Intensity
< 80°F < 26.7°C	White	Normal activity. Caution should be taken.
80-84.9°F 26.7-29.4°C	Green	Discretion is required in planning intense physical activity.
85-87.9°F 29.4-31°C	Yellow	Intense activity for new and acclimatized persons should be curtailed.
88-89.9°F 31-32.2°C	Red	Intense exercise must be curtailed for those with less than 12 weeks training in hot weather. Be on high alert
> 90°F > 32.2°C	Black	Cancel all outdoor exercise.

Source: Manual of Naval Preventive Medicine (NAVMED P-5010)

Ordering Code

VZ8778AZ, 8778 meter

VZ8758AZ, 8758 meter

VZHR33AZ+VZHR75AZ, salt bottles

VZUSBAZM, software kit

*Available for EB project

Optional



CAL. SALT BOTTLE
P/N: VZHR33AZ (33%)
P/N: VZHR75AZ (75%)
For 8758/8778 calibration



USB cable & software
P/N: VZUSBAZM

HEAT STROKE PREVENTION METER



Wind speed value makes your WBGT more close to real climate thermo impact!



WBGT	Flag	Activity Intensity
< 80°F < 26.7°C	White	Normal activity. Caution should be taken.
80-84.9°F 26.7-29.4°C	Green	Discretion is required in planning intense physical activity.
85-87.9°F 29.4-31°C	Yellow	Intense activity for new and acclimatized persons should be curtailed.
88-89.9°F 31-32.2°C	Red	Intense exercise must be curtailed for those with less than 12 weeks training in hot weather. Be on high alert
> 90°F > 32.2°C	Black	Cancel all outdoor exercise.

Ordering Code Source: Manual of Naval Preventive Medicine (NAVMED P-5010)
VZ87782AZ, 87782 meter
VZ87785AZ, 87785 meter
VZ87781ST2, salt bottles
VZUSBAZM, software kit

Professional WBGT Monitor 87782/87785

- Check Indoor/Outdoor WBGT, TA/TG/RH & wind speed
- Designed with capacitance type humidity sensor with dust filter to get accurate reading and extend sensor life time
- Model 87785 is equipped with cup type anemometer to measure wind speed from all direction
- Audible beeper and backlight for danger zone warning



Model	87785	87782
Windspeed range	0.5~10 m/s	
Windspeed Acc.	+/- (2% of reading +0.2) m/s	
Temp. range	0~50°C	
Temp. resolution	0.1°C/°F	
Temp. accuracy	+/-0.6°C	
Humidity. range	0.1%~99.9%RH	
Humidity resolution	0.1%RH	
Humidity accuracy	+/-3%RH (at 25°C, 10~90%RH, others +/-5%RH)	
Globe Temp. (inside black ball)	0~80°C	
Globe Temp. Acc.	Indoor: +/-1°C (at 15~40°C), others 1.5°C outdoor: +/-1.5°C (at 15~40°C), others 2°C	
WBGT temp. range	0~50°C	
WBGT Alarm Range	20~50°C	
Black ball size(mm)	Dia. 75, height:75	
Stabilization time	15~25 minutes typical	
RH% Self calibration	YES	
Battery life	~100hour	
LCD size (mm)	50(H)x32(W)	
Operation temp.	0~50°C	
Operation RH%	Humidity < 80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	310(H)x91(diameter, windcup)	302(H)x75(W)x36.7(T)
Weight	~350g	~300g
Battery	AAA x4pcs	
Standard Package	Meter/Battery/Manual/Hard carry case (87785) or paper box (87782)	

Optional



CAL. SALT BOTTLE
P/N: VZ87781ST2
(33% & 75%)
For 87782/87785
Calibration .



USB cable & software
P/N: VZUSBAZM

HEAT STROKE PREVENTION METER



Wearable WBGT & Heat Index Checker 87783/87784

- Simultaneously display WBGT, HI, temperature & RH
- For outdoor & indoor heat stress measuring
- Programmable buzzer and red LED danger zone warning
- Audible alarm volume adjustable (75dB / 60dB / mute)
- 4 level dangerous level indicator on LCD
- Wearable design with arm strap included
- Display updates every 20 seconds
- Functions
 - 87784: WBGT+HI 2 in 1
 - 87783: WBGT only



Model	87783	87784
Temp. range	0~50°C	
Temp. resolution	0.1°C/°F	
Temp. accuracy	+/-0.6°C	
Humidity. range	0.1%~99.9%RH	
Humidity resolution	0.1%RH	
Humidity accuracy	10.0%~90.0% @ 25°C: Typical 5%. Others 7%	
Globe Temp. (inside black ball)	0~70°C	
WBGT temp. range	0~50°C	0~50°C
HI temp. range		0~60°C
WBGT Alarm Range	20~50°C	20~50°C
HI Alarm Range		20~60°C
Black ball size(mm)	Dia. 40	
Stabilization time	15 ~25 minutes typical	
Battery life	~300hour	
LCD size (mm)	40(H)x39(W)	
Operation temp.	0~50°C	
Operation RH%	Humidity < 80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	70(H)x60(W)x22(T)	
Weight	~90g	
Standard Package	AAA x2pcs	
Battery	Meter/Battery/Manual/Paper box	

What is Heat Index?

Heat index (HI) is sometimes referred to as the "apparent Temperature". The HI is a measure of how hot it feels when relative humidity (RH) is added to the actual air temperature.

What is WBGT?

The Wet Bulb Globe Temp. (WBGT) is a composite temperature used to estimate the effect of temperature, humidity, wind speed and solar radiation on humans.

It is used by industrial hygienists, athletes, and the military to determine appropriate exposure levels to high temperatures.

WBGT & Physical exercise

WBGT	Flag	Activity Intensity
< 80°F < 26.7°C	White	Normal activity. Caution should be taken.
80-84.9°F 26.7-29.4°C	Green	Discretion is required in planning intense physical activity.
85-87.9°F 29.4-31°C	Yellow	Intense activity for new and acclimatized persons should be curtailed.
88-89.9°F 31-32.2°C	Red	Intense exercise must be curtailed for those with less than 12 weeks training in hot weather. Be on high alert
> 90°F > 32.2°C	Black	Cancel all outdoor exercise.

Source: Manual of Naval Preventive Medicine (NAVMED P-5010)

Ordering Code

VZ87783AZ, 87783 meter
VZ87784AZ, 87784 meter

*Available for EB project



HEAT STROKE PREVENTION LOGGER



Professional WBGT Logger 87786

- Check Indoor/Outdoor WBGT, TA/TG& Humidity
- Plug & Play. Software and USB driver are not required
- Generate csv report without using extra PC software.
- Completely user re-programmable. 8 languages, sampling rate, start delay time and ID setting.
- Designed with capacitance humidity sensor with dust filter to get accurate reading and extend sensor life time
- Audible beeper and backlight for danger zone warning



Step 1
Completely programmable by users

Step 2
Leave it in any place.

Step 3
Press HOLD, then, press SET key to activate

Step 4
Press HOLD, then, press SET key to stop.

Step 5
Plug into PC to generate CSV report.

WBGT indicator

Green backlight
(26.7~29.4°C)



Yellow backlight
(29.4~31°C)



Red backlight
(31~32.2°C)



Red flashing
backlight
(Above 32.2°C)



Ordering Code

VZ87786AZ, 87786 meter
VZ87781ST2, salt bottles

*Available for EB project

Model	87786
Temp. range	0~50°C
Temp. resolution	0.1°C/°F
Temp. accuracy	+/-0.6°C
Humidity. range	0.1%~99.9%RH
Humidity resolution	0.1%RH
Humidity accuracy	+/-3%RH (at 25°C, 10~90%RH, others +/-5%RH)
Globe Temp. (inside black ball)	0~80°C
Globe Temp. Acc.	Indoor: +/-1 °C (at 15~40°C), others 1.5 °C outdoor: +/-1.5 °C (at 15~40°C), others 2 °C
WBGT temp. range	0~50°C
WBGT Alarm Range	20~50°C
Sampling rate	1, 5, 10, 30, 60, 90, 120 mins
Start delay time	0, 5, 30, 45, 60, 90, 120 mins
Memory points	12000 readings, each contains WBGT, TA, TG and RH
Black ball size (mm)	Dia. 75, height:75
Stabilization time	15 ~25 minutes typical
RH% Self calibration	YES
Battery life	>200hour
LCD size (mm)	50(H)x32(W)
Operation temp.	0~50°C
Operation RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Dimension (mm)	302(H)x75(W)x36.7(T)
Weight	~300g
Battery	AAA x4pcs

Standard Package Meter/Battery/Manual/mini USB cable/paper box

Optional



CAL. SALT BOTTLE
P/N: VZ87781ST2
(33% & 75%)
For 87782/87785/87786
Calibration.

HEAT STROKE PREVENTION METER



Desktop WBGT Real Time Monitor 87797(w/logging) 87796(No logging)

- Simultaneously display/record WBGT, Temp. and RH
- Check dangerous heat conditions through WBGT index
- Long battery life (via alkaline battery)
 - no logging: one year
 - logging: one month (sampling rate:1min, 1G SD card)
- Programmable WBGT LED/Audible alarm threshold
- Programmable recording sampling rate (87797)
- SD card design for continuous recording (87797)



Model	87797	87796
Temp. range	0~50°C (Display: -10.0~70.0°C)	
Temp. resolution	0.1°C/°F	
Temp. accuracy	+/-1°C	
Humidity. range	0.1%~99.9%RH	20~90%RH (Display:0%~99.9%RH)
Humidity resolution	0.1%RH	
Humidity accuracy	+/-3%RH (at 25°C, 10~90%RH, others +/-5%RH)	+/-5%RH (at 25°C, 10~90%RH, others +/-7%RH)
WBGT temp. range	0~60.0°C	
SD card	SD card or SDHC card (NO MMC and SDXC cards)	N/A
Sampling rate	1 to 720 mins. Default:10 mins	N/A
Beeper (dB)	~65dB	
RH% Self calibration	YES, via salt chamber	
Power consumption	<0.4mA	<0.11mA
LCD size (mm)	63(H)x70(W)	
Operation temp.	0~50°C	
Operation RH%	Humidity < 90%	
Storage temp.	-10~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	110x91x30(H)	
Weight	~200g	
Power	AA x3pcs or 5V adaptor	AA x3pcs
Standard Package	Meter/adaptor/Manual/Paper box/SD card	

What is WBGT?

The Wet Bulb Globe Temp. (WBGT) is a composite temperature used to estimate the effect of temperature, humidity, wind speed and solar radiation on humans. It is used by industrial hygienists, athletes, and the military to determine appropriate exposure levels to high temperatures.

WBGT & Physical exercise

WBGT	Flag	Activity Intensity
< 80°F < 26.7°C	White	Normal activity. Caution should be taken.
80-84.9°F 26.7-29.4°C	Green	Discretion is required in planning intense physical activity.
85-87.9°F 29.4-31°C	Yellow	Intense activity for new and acclimatized persons should be curtailed.
88-89.9°F 31-32.2°C	Red	Intense exercise must be curtailed for those with less than 12 weeks training in hot weather. Be on high alert
> 90°F > 32.2°C	Black	Cancel all outdoor exercise.

Source: Manual of Naval Preventive Medicine (NAVMED P-5010)

Ordering Code

VZ87797AZ, 87797 logger
VZ87796AZ, 87796 monitor



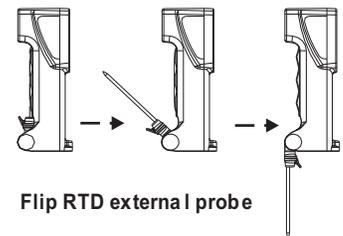
KIZILÖTESİ LAZER TERMOMETRELER

INFRARED THERMOMETER



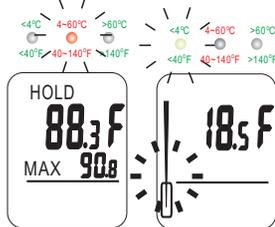
IP65 HACCP IR + Pt100 Thermometer 8838

- Follow HACCP principle to check food safety
- Quick to inspect danger zone temperature
- Quick and accurate IR response time: 500ms
- Count down timer ensure food safety storage
- Flip over probe for internal temperature measurement
- IR emissivity rate preset at 0.97
- Built-in illuminator to highlight the area
- Max reading displays while in IR scanning status



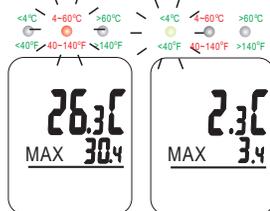
Measuring mode :

Max.hold IR (Non-contact) and probe (Contact) Temp. Display



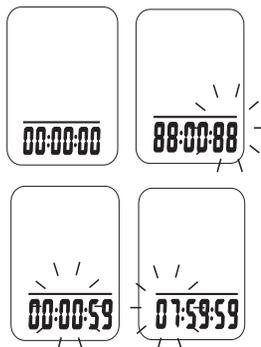
HACCP Check:

The indicator light will flash to indicate the measured temperature



Countdown (Timer) setting:

Based on HACCP inspection intervals



Ordering Code

VZ8838AZ, 8838 IR+Pt100 thermometer

Model	8838
Temp. range	-40~280°C
IR Temp. resolution	0.1°C/°F
Temp. accuracy (at operating temp.: 23°C ± 2°C)	<0°C (32°F): +/-1°C (2°F) +/-0.1 0~65°C (32~150°F): +/-1°C (2°F) >65°C (150°F): +/-1.5% of rdg
RTD-probe temp.	-40~200°C
RTD-probe resolution	0.1°C/°F
RTD-probe accuracy	<-5°C (23°F): +/-1°C (2°F) >65°C (150°F): +/-1°C or 1.5% of rdg -5~65°C (23~150°F): +/-0.5°C (1°F)
Probe length	82mm
IR repeatability	+/-1°C
Emissivity	0.97
D:S ratio	3:1
LCD size	21(W)x28(H)mm
Operating temp.	0~50°C
Operating RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Dimension	61.5x35.5x167mm
Weight	140g
Battery	9V battery x 1pc
Optional	Pouch
Standard Package	Meter/Battery/Manual/Paper box



POUCH (SOFT CARRYING CASE)
P/N: VM68926U
COLOR: BLACK
SIZE: 176X75X35MM



*Available for EB project

Mini Gun Type IR Thermometer 8868/8869/8859

- The most popular IR gun and measure up to 420°C
- Quick and accurate response: 500ms
- Built-in laser beam (670nm) for targeting and complies with FDA class II
- Powered by 9V battery, Easy to replace battery
- Ergonomic hand grip
- D : S ratio up to 8:1



Backlight

Model	8868	8869	8859
Temp. range		-20~420°C	
Temp. resolution		1°C/°F	
Temp. accuracy (Which is greater)		+/-2% or 2°C at -20~100°C, others is +/-3% or 3°C	
Repeatability		+/-1°C	
Emissivity		0.95	
D:S ratio		8:1	
LCD size		27(W)x17(H)mm	
Operating temp.		0~50°C	
Operating RH%		Humidity < 80%	
Storage temp.		-20~50°C	
Storage RH%		Humidity < 90%	
Dimension(mm)		44x40x170	
Weight		150g	
Battery		9V battery x 1pc	
Optional		Pouch and wrist strap	
Standard Package		Meter/Battery/Manual/Paper box	



POUCH (SOFT CARRY CASE)
P/N: VM68926U
COLOR: BLACK
SIZE: 176x75x35mm



STRAP (WRIST STRAP)
P/N: VM68886A
COLOR: BLACK
SIZE: ~220MM



Ordering Code *Bulk order only*
VZ8859AZC, 8859 IR Thermometer
VZ8868AZ, 8868 IR Thermometer
VZ8869AZC, 8869 IR Thermometer

Mini Gun Type IR Thermometer 8875/8870/8871/8872

- The most popular IR gun and measure up to 500°C
- Quick and accurate response: 500ms
- Built-in laser beam (670nm) for targeting and complies with FDA class II
- Flip compartment, easy to replace battery
- 8875: Adjustable emissivity from 0.3 to 1.0 for metal and non-metal surface measurement
- D: S ratio up to 10:1



8875



8870



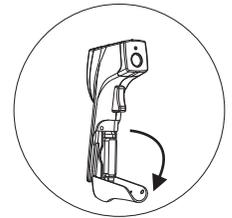
8871



8872



Backlight



Model	8870	8875	8871	8872
Temp. range	-20~260°C	-40~500°C		-40~320°C
Temp. resolution	1°C/°F	0.1°C/°F(-40~110°C), others 1°C/°F		
Temp. accuracy (Which is greater)	+/-3% or 3°C	+/-2% or 2°C at -20~200°C, others is +/-3% or 3°C		+/-2.5% or 3°C at -20~200°C, others is +/-3% or 3°C
Repeatability	+/-1°C	+/-1°C		+/-1°C
Emissivity	0.95	0.3~1.0 adjustable	0.85~0.90~0.95 selectable	0.95
D:S ratio	6:1		10:1	8:1
LCD size	21.8(H)x31.8(W)mm			
Operating temp.	0~50°C			
Operating RH%	Humidity < 80%			
Storage temp.	-20~50°C			
Storage RH%	Humidity < 90%			
Dimension	80x45x157(H) mm			
Weight	140g			
Battery	9V battery x 1pc			
Optional	Pouch and wrist strap			
Standard Package	Meter/Battery/Manual/Paper box			



POUCH (SOFT CARRY CASE)
P/N: VM68890A
COLOR: BLACK
SIZE: 152X84X45MM



STRAP (WRIST STRAP)
P/N: VM68886A
COLOR: BLACK
SIZE: ~220MM



Ordering Code

- VZ8875AZ, 8875 IR Thermometer
- VZ8870AZ, 8870 IR Thermometer
- VZ8871AZ, 8871 IR Thermometer
- VZ8872AZ, 8872 IR Thermometer



Non-Contact Infrared Thermometer 8877

- The most useful IR meter for surface temp. measuring
- Non-contact temp. checker designed for 22~41.5°C
- Easy, quick and hygienic solution for temperature check
- Fast response time: 500ms
- High accuracy +/-0.3°C and good resolution 0.1°C
- Temperature unit is factory default as °C . Temperature unit switchable function is available upon request
- For 22~41.5°C range, such as bath water, milk temp.....



MAX



Low Battery



Auto Power Off



Designed for checking surface temperature from 22~41.5°C

Popular model since Y2003!



Model	8877
Temp. range	22~41.5°C
Temp. resolution	0.1°C
Temp. accuracy	+/-0.3°C
Targeting distance	3~5cm
LCD size	27(W)x17(H)mm
Operating temp.	25+/-2°C
Operating RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Dimension	44x40x170(H) mm
Weight	140g
Battery	9V battery x 1pc
Standard Package	Meter/Battery/Manual/Pouch/Wrist strap/Paper box



POUCH (SOFT CARRY CASE)

P/N: VM68890A
COLOR: BLACK
SIZE:152X84X45MM



STRAP (WRIST STRAP)

P/N: VM68886A
COLOR: BLACK
SIZE:~220MM

Ordering Code *Bulk order only*
VZ8877BT1, 8877 IR Thermometer



Mini Gun Type IR Thermometer 8888/8889/8890

- The most popular IR gun and measure up to 500°C
- Quick and accurate response: 500ms
- Built-in laser beam (670nm) for targeting and complies with FDA class II
- Powered by 9V battery, Easy to replace battery
- Ergonomic hand grip
- D: S ratio up to 10:1



Model	8888	8889	8890
Temp. range	-20~260°C	-40~500°C	-40~320°C
Temp. resolution	1°C/°F	0.1°C/°F(-40~110°C), others 1°C/°F	
Temp. accuracy (Which is greater)	+/-3% or 3°C	+/-2% or 2°C at -20~200°C, others is +/-3% or 3°C	+/-2.5% or 3°C at -20~200°C, others is +/-3% or 3°C
Repeatability	+/-1°C	+/-1°C	+/-1°C
Emissivity	0.95	0.85-0.90-0.95 selectable	0.95
D:S ratio	6:1	10:1	8:1
LCD size	27(W)x17(H)mm		
Operating temp.	0~50°C		
Operating RH%	Humidity < 80%		
Storage temp.	-20~50°C		
Storage RH%	Humidity < 90%		
Dimension	44x40x170(H) mm		
Weight	140g		
Battery	9V battery x 1pc		
Optional	Pouch and wrist strap		
Standard Package	Meter/Battery/Manual/Paper box		



POUCH (SOFT CARRY CASE)
P/N: VM68890A
COLOR: BLACK
SIZE: 152X84X45MM



STRAP (WRIST STRAP)
P/N: VM68886A
COLOR: BLACK
SIZE: ~220MM



Ordering Code

VZ8888AZ, 8888 IR Thermometer
VZ8889AZ, 8889 IR Thermometer
VZ8890AZ, 8890 IR Thermometer

INFRARED THERMOMETER



High Temperature IR Thermometer 8895

- Designed for temperature up to 816 °C
- Built-in laser pointer (670nm, <1mw) to improve aim
- Quick response: 500ms
- Adjustable emissivity from 0.3 to 1.0
- D:S ratio is 12:1
- Easy flip battery compartment design



MAX



Low Battery



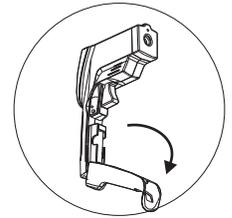
Metric/Imperial



Auto Power Off



Backlight



EMISSIVITY VALUES

Emissivity Values-Non-Metals
Refractory & Building Materials

SURFACE	EMISSIVITY
Red brick (rough)	0.75 to 0.9
Fire clay	0.75
Asbestos	0.95
Concrete	0.7
Marble	0.9
Carborundum	0.85
Plaster	0.9
Alumina (fine grain)	0.25
Alumina (coarse grain)	0.45
Silica (fine grain)	0.4
Silica (coarse grain)	0.55
Zirconium silicate up to 500°C	0.85
Zirconium silicate at 850°C	0.6
Quartz (rough)	0.9
Carbon (graphite)	0.75
Carbon (soot)	0.95
Timber (various)	0.8 to 0.9
Plastics films (.05 mm thick)	0.5 to 0.95
Polythene film (.03 mm thick)	0.2 to 0.3
Rubber (smooth)	0.9
Rubber (rough)	0.98
Plastics (varous, solid)	0.8 to 0.95
Plastics films (.05 mm thick)	0.5 to 0.95
Polythene film (.03 mm thick)	0.2 to 0.3
Paper and cardboard	0.9
Silicone polish	0.7
Miscellaneous	
Enamel (any color)	0.9
Oil paint (any color)	0.95
Lacquer	0.9
Matte black paint	0.95 to 0.98
Aluminum lacquer	0.5
Water	0.98
Rubber (smooth)	0.9
Rubber (rough)	0.98
Plastics (varors, solid)	0.8 to 0.95

*Emissivity varies with purity

Ordering Code

VZ8895AZ, 8895 IR Thermometer

*Available for EB project

Model	8895
Temp. range	-40~816°C
Temp. resolution	0.1°C/°F(<300°C), 1°C/°F(>300°C)
Temp. accuracy (Which is greater)	<0°C : +/-2°C ; 0~300°C: +/-2% or 2°C 300~500°C: +/-2.5% ; >500°C: +/-3%
Repeatability	+/-1°C
Emissivity	0.3~1.0 Adjustable
D:S ratio	12:1
LCD size	34(H)x37(W)mm
Operating temp.	10~40°C
Operating RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Dimension	195x134x50 mm
Weight	240g
Battery	AA battery x 2pcs
Standard Package	Meter/Battery/Manual/Hard carry case Wrist strap/ Soft carry pouch



POUCH (SOFT CARRY CASE)

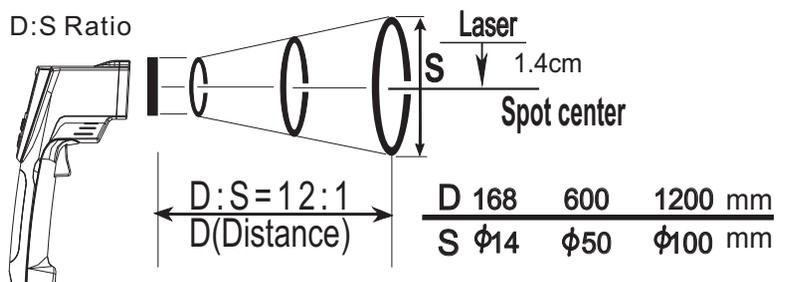
P/N: VM68895AL
COLOR: BLACK
SIZE: 200X133X42MM



STRAP (WRIST STRAP)

P/N: VM68886A
COLOR: BLACK
SIZE: ~220MM

D:S Ratio



IR THERMOMETER LOGGER/PRINTER



9812



9811



9611



9612

Ordering Code

VZ9611AZ, 9611 logger
 VZ9612AZ, 9612 logger
 VZ9811AZ, 9811 logger w/printer
 VZ9812AZ, 9812 logger w/printer
 VM69811B, thermo paper
 VZ981PAZ, ext. Probe for 9812/9612

Bulk order only

IR Thermometer Logger w/probe w/o printer:9611/9612 w/ printer:9811/9812

■ Measuring & recording non-contact infrared temp.

3 measurement modes:

- single point measurement
- manual record up to 99 points
- automatically record up to 12000 points (9611/9811) or 6000 points(9612/9812)

■ Built-in laser beam (650nm) for targeting

■ Laser beam selectable & complies with FDA classII

■ 9612/9812 extra feature: Thermistor probe



Auto Power Off



Manual Logging



Auto Logging



Low Battery



Memory Recall



PC Link



Backlight



DC jack



Dot matrix LCM



Tripod Hole



Printer

Model	9611/9811	9612/9812
IR Temp. range		-40~500°C
Temp. resolution	0.1°C/°F (-40~110°C), others 1°C/°F	
Temp. accuracy (Which is greater)	+/-2%or2°C at -20~200°C, others is +/-3%or3°C	
Repeatability	+/-1°C	
Emissivity	0.3~1.0 adjustable	
D:S ratio	10:1	
External temp. range	N/A	-20~150°C
Ext. temp. accuracy	N/A	+1.2°C (-20~0°C / -4~32°F) +0.8°C (0~50°C/32~122°F) +1.6°C (50~100°C/122~212°F) +3.0°C (100~150°C/212~302°F)
LCD size	26(H)x45(W)mm	
Operating temp.	0~50°C	
Operating RH%	Humidity < 80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm, LxWxT)	9611/9612: 170x70x40(H) mm	9811/9812: 208x70x53(H) mm
Weight	9611/9612:210g	9811/9812:370g
Battery	9611/9612: AAA battery x 4pcs or 9V adaptor	9811/9812: AA battery x 4pcs or 9V adaptor
Standard Package	Meter/Battery/Manual/software/cable/hard carry case External temp. probe (VZ981PAZ) in 9812 & 9612 Thermo paper in 9811 & 9812	

Three measurement modes

1.

```
Ext:30.5c
Ir: 29.8c
Press ON to IR Meas
[EXIT] [CALL]
```

Example:
9612 single point

2.

```
01:06:30 02:28:29
T:0.3c
02:06:30 02:28:45
T:26.7c
03:06:30 02:28:55
T:111c
Press ON to Measure
[EXIT] [EDIT] [CLR]
```

Example:
9611 manually record

3.

```
Begin: 30:06:05
Start: 02:28:55
End: 02:07:05
Suspend: 03:28:55
Rate: 60Sec(s)
Expect: 12000Point(s)
Remain: 11997Point(s)
[EXIT] [EDIT] [VIEW] [NEXT]
```

Example:
Logging function in processing



SPARE THERMO PAPER
 P/N: VM69811B
 SIZE: 38MM X 20M X 30@



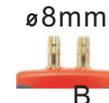
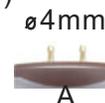
EXTERNAL TEMP. PROBE
 P/N: VZ981PAZ
 Color: black
 Size: 15cm probe w/handle
 3.8mm diameter probe
 Cable: 116cm w/2.5mm jack

MANOMETRE ÇEŞİTLERİ



Digital Manometer 8252/8205/8215 8230/82100

- Measure pressure gauge/differential pressure
- Over-range indication with error messages
- 11 units or 5 units for selection (metric, imperial)
- Accumulative time shows in recording period
- Plastics & metal & 2 size lug available
4mm, metal only (A)
8mm, metal or plastic(B, C)



Model	8252	8205	8215	8230	82100
Range & (Resolution)					
psi	± 2.000 ^(0.001)	± 5.000 ^(0.003)	± 15.00 ^(0.01)	± 30.00 ^(0.02)	± 100.0 ^(0.1)
kPa	± N/A	± 34.47 ^(0.02)	± 103.4 ^(0.1)	± 206.8 ^(0.2)	± 689.5 ^(0.4)
mmHg	± N/A	± 258.6 ^(0.2)	± 775.7 ^(0.5)	± 1551 ⁽¹⁾	± 5171 ⁽³⁾
Kg/cm2	± N/A	± 0.352 ^(0.001)	± 1.055 ^(0.001)	± 2.109 ^(0.002)	± 7.031 ^(0.004)
mbar(hpa)	± 137.9 ^(0.1)	± 344.7 ^(0.2)	± 1034 ⁽¹⁾	± 2068 ⁽²⁾	± 6895 ⁽⁴⁾
bar	± 0.138 ^(0.001)	± 0.345 ^(0.001)	± 1.034 ^(0.001)	± 2.068 ^(0.002)	± 6.895 ^(0.004)
inH2O	± 55.36 ^(0.01)	± 138.4 ^(0.1)	± 415.2 ^(0.3)	± 830.4 ^(0.5)	± 2768 ⁽²⁾
cmH2O	± N/A	± 350.2 ^(0.2)	± 1051 ⁽¹⁾	± 2101 ⁽²⁾	± 7004 ⁽⁴⁾
inHg	± N/A	± 10.18 ^(0.01)	± 30.54 ^(0.02)	± 61.08 ^(0.04)	± 203.6 ^(0.2)
ftH2O	± N/A	± 11.53 ^(0.01)	± 34.60 ^(0.02)	± 69.20 ^(0.04)	± 230.7 ^(0.2)
oz/inch2	± N/A	± 80.00 ^(0.05)	± 240.0 ^(0.2)	± 480.0 ^(0.3)	± 1600 ⁽¹⁾
mmH2O	± 1401 ⁽¹⁾	N/A	N/A	N/A	N/A

Combined accuracy	± 1.0% of full scale
Accuracy	± 0.3% of full scale at ±25°C(77°F)
Repeatability	± 0.2%~0.5% of full scale
Linearity/Hysteresis	± 0.29% to 1% of full scale

Response time	0.5 second
Compensated temp. range	0~50°C
LCD size (mm, HxW)	29x51
Operating temp.	0~50°C
Operating RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Dimension(mm,LxWxT)	182x72x30
Weight	~150g
Battery	9V battery or adaptor
Standard Package	Meter/ battery/ manual/ connection hose/ hard carry case

UNITS CONVERSION :

1psi x 6.8947=kpa , 1psi x 68.947=mbar(hpa) , 1psi x 0.068966=bar ,
1psi x 703.069=mmH2O, 1psi x 51.715=mmHg , 1psix16=ozin² , 1psi x 51.71433=torr ,
1psi x 6894.757=pascal (pa)



TUBING FOR MANOMETERS

I: Withstand up to 100psi pressure/Orange color / fit 4mm lug/500mm long
P/N:VW88205B

II: Withstand 0~30 psi pressure/Black color / fit 8mm lug /500mm long
P/N:VW88205C

III: Withstand 30~100psi pressure/White color / fit 8mm lug /500mm long
P/N:VW88230A

Ordering Code

VZ8252AZ, 2psi 4mm metal manometer
VZ8205AZ, 5psi 4mm metal manometer
VZ8215AZ, 15psi 4mm metal manometer
VZ8230AZ, 30psi 4mm metal manometer
VZ82100AZ, 100psi 4mm metal manometer
*for 8mm metal:VZxxxxAZBM
*for 8mm plastic:VZxxxxAZB
VZUSBAZM, software kit

Optional



USB CABLE & SOFTWARE
P/N: VZUSBAZM



RUBBER HOLSTER / STAND
P/N:VM68601HA, BLUE
P/N:VM68601HS+VM68601HS1, RED
P/N:VM68601HS11+VM68601HSA, GREY

*Available for EB project



Handy Pressure Datalogger 9631/96315/9635/9632

- Measuring & recording differential pressure
3 measurement modes:
 - single point measurement
 - manual record up to 99 points
 - automatically record up to 12000 points
- 11 pressure units selectable
- Automatic recording is programmable
- Uploading pre-edited header from PC to meter



Auto Power Off



Manual Logging



Auto Logging



Low Battery



Memory Recall



A



B



PC Link



Backlight



DC jack



Dot matrix LCM



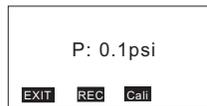
Tripod Hole



C

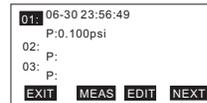
Three measurement modes

1.



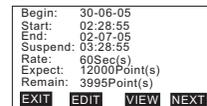
Example:
9635 single point measurement

2.

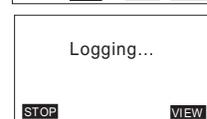


Example:
9635 manually record

3.



Example:
Logging function in processing



TUBING FOR MANOMETERS

I: Withstand up to 100psi pressure/Orange color / fit 4mm lug/500mm long
P/N: VW88205B

II: Withstand 0~30 psi pressure/Black color / fit 8mm lug /500mm long
P/N: VW88205C

III: Withstand 30~100psi pressure/White color / fit 8mm lug /500mm long
P/N: VW88230A

Ordering Code

Bulk order only

VZ9632AZ, 2psi 4mm metal logger
VZ9635AZ, 5psi 4mm metal manometer
VZ96315AZ, 15psi 4mm metal manometer
VZ9631AZ, 100psi 4mm metal manometer

*for 8mm metal: VZxxxxAZBM

*for 8mm plastic: VZxxxxAZB

Model	9632	9635	96315	9631
Range & (Resolution)				
psi	±	2.000 (0.001)	5.000 (0.003)	15.00 (0.01)
kPa	±	N/A	34.47 (0.02)	103.4 (0.1)
mmHg	±	N/A	258.6 (0.2)	775.7 (0.5)
Kg/cm2	±	N/A	0.352 (0.001)	1.055 (0.001)
mbar(hpa)	±	137.9 (0.1)	344.7 (0.2)	1034 (1)
bar	±	0.138 (0.001)	0.345 (0.001)	1.034 (0.001)
inH2O	±	55.36 (0.01)	138.4 (0.1)	415.2 (0.3)
cmH2O	±	N/A	350.2 (0.2)	1051 (1)
inHg	±	N/A	10.18 (0.01)	30.54 (0.02)
ftH2O	±	N/A	11.53 (0.01)	34.60 (0.02)
oz/inch2	±	N/A	80.00 (0.05)	240.0 (0.2)
mmH2O	±	1401 (1)	N/A	N/A

Combined accuracy	± 1.0% of full scale
Accuracy	± 0.3% of full scale at ±25°C(77°F)
Repeatability	± 0.2%~0.5% of full scale
Linearity/Hysteresis	± 0.29% to 1% of full scale

Response time	0.5 second
Compensated temp. range	0~50°C
LCD size (mm, HxW)	26x45
Operating temp.	0~50°C
Operating RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Dimension(mm, LxWxT)	171x70x39.5(H)
Weight	~260g
Battery	AAA battery x 4pcs or 9V adaptor
Standard Package	Meter, connection hoses x2, battery, manual, software CD & cable, hard carry case

UNITS CONVERSION :

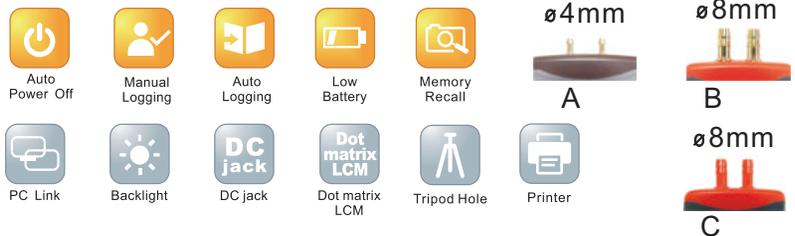
1psi x 6.8947=kpa , 1psi x 68.947=mbar(hpa) , 1psi x 0.068966=bar ,
1psi x 703.069=mmH2O, 1psi x 51.715=mmHg , 1psix16=ozin² , 1psi x 51.71433=torr ,
1psi x 6894.757=pascal (pa)





Pressure datalogger w/printer 9831/9835

- Measuring & recording differential pressure
 - 3 measurement modes:
 - single point measurement
 - manual record up to 99 points
 - automatically record up to 12000 points
- Built-in printer to print anytime, anywhere
- 11 pressure units selectable
- Automatic recording is programmable
- Uploading pre-edited header from PC to meter



Three measurement modes

1. Example: 9635 single point measurement
2. Example: 9635 manually record
3. Example: Logging function in processing



TUBING FOR MANOMETERS

- I: Withstand up to 100psi pressure/Orange color / fit 4mm lug/500mm long
P/N: VW88205B
- II: Withstand 0~30 psi pressure/Black color / fit 8mm lug /500mm long
P/N: VW88205C
- III: Withstand 30~100psi pressure/White color / fit 8mm lug /500mm long
P/N: VW88230A

Ordering Code

Bulk order only

- VZ9835AZ, 5psi 4mm metal manometer
- VZ9831AZ, 100psi 4mm metal manometer
- *for 8mm metal: VZxxxxAZBM
- *for 8mm plastic: VZxxxxAZB

Model	9835	9831
Range & (Resolution)		
psi	±	
kPa	5.000 (0.003)	100.0 (0.1)
mmHg	34.47 (0.02)	689.5 (0.4)
Kg/cm2	±	5171 (3)
mbar(hpa)	0.352 (0.001)	7.031 (0.004)
bar	±	6895 (4)
inH2O	0.345 (0.001)	6.895 (0.004)
cmH2O	±	2768 (2)
inHg	±	7004 (4)
ftH2O	±	203.6 (0.2)
oz/inch2	±	230.7 (0.2)
mmH2O	±	1600 (1)
	N/A	N/A

Combined accuracy	± 1.0% of full scale
Accuracy	± 0.3% of full scale at ±25°C(77°F)
Repeatability	± 0.2%~0.5% of full scale
Linearity/Hysteresis	± 0.29% to 1% of full scale

Response time	0.5 second
Compensated temp. range	0~50°C
LCD size (mm, HxW)	26x45
Operating temp.	0~50°C
Operating RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Dimension(mm, LxWxT)	208x70x53(H)
Weight	~370g
Battery	AA battery x 4pcs or 9V adaptor
Standard Package	Meter, connection hoses x2, battery, manual, thermo paper, software CD & cable, hard carry case

UNITS CONVERSION :

1psi x 6.8947=kpa , 1psi x 68.947=mbar(hpa) , 1psi x 0.068966=bar ,
1psi x 703.069=mmH2O, 1psi x 51.715=mmHg , 1psix16=ozin² , 1psi x 51.71433=torr ,
1psi x 6894.757=pascal (pa)

Optional



SPARE THERMO PAPER
P/N: VM69811B
SIZE: 38MM X 20M X 30@



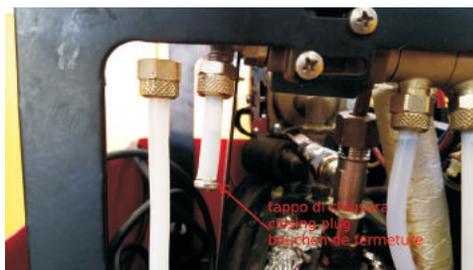


Economic Digital Manometer 82012/82062/82152

- Portable digital gauge/differential pressure meter
- Display pressure change from baseline
- Over-range indication with error message
- 11 units for selection (metric, imperial)
- Accumulative time shows in recording period
- 2 size metal lug available: 4mm & 8mm



PC link



Model	82012	82062	82152
Range & (Resolution)			
psi	± 1.000 ^(0.001)	± 6.000 ^(0.001)	± 15.000 ^(0.001)
kPa	± 6.89 ^(0.01)	± 41.37 ^(0.01)	± 103.42 ^(0.01)
mmHg	± 51.7 ^(0.1)	± 310.3 ^(0.1)	± 775.7 ^(0.1)
Kg/cm2	± 0.070 ^(0.001)	± 0.422 ^(0.001)	± 1.055 ^(0.001)
mbar(hpa)	± 68.9 ^(0.1)	± 413.7 ^(0.1)	± 1034.2 ^(0.1)
bar	± 0.069 ^(0.001)	± 0.414 ^(0.001)	± 1.034 ^(0.001)
inH2O	± 27.68 ^(0.01)	± 166.08 ^(0.01)	± 415.20 ^(0.01)
mmH2O	± 703 ⁽¹⁾	± 4218 ⁽¹⁾	± 10546 ⁽¹⁾
inHg	± 2.036 ^(0.001)	± 12.216 ^(0.001)	± 30.5 ^(0.001)
ftH2O	± 2.307 ^(0.001)	± 13.840 ^(0.001)	± 34.6 ^(0.001)
oz/inch2	± 16.00 ^(0.01)	± 96.00 ^(0.01)	± 240.00 ^(0.01)

Accuracy (10~30°C)	±1.0% of full scale
Response time	0.5 second
Compensated temp. range	10~30°C
LCD size (mm, HxW)	32.5 x 54
Operating temp.	0~50°C
Operating RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Dimension(mm,LxWxT)	169x78.3x 34.4
Weight	~200g
Battery	6PCS AAA batteries
Standard Package	Meter/ battery/ manual/ connection hose/ hard carry case

Optional



TUBING FOR MANOMETERS

I: Withstand up to 100psi pressure/Orange color / fit 4mm lug/500mm long
P/N:VW88205B
II: Withstand 0~30 psi pressure/Black color / fit 8mm lug/500mm long
P/N:VW88205C

Ordering Code

VZ82012AZ, 1psi 82012 manometer
VZ82062AZ, 6psi 82062 manometer
VZ82152AZ, 15psi 82152 manometer
*for 8mm metal:VZxxxxAZBM
VW88205B, orange tube 500mm
VW88205C, black tube 500mm
VZUSBAZM, software kit

UNITS CONVERSION :

1psi x 6.8947=kpa , 1psi x 68.947=mbar(hpa) , 1psi x 0.068966=bar ,
1psi x 703.069=mmH2O, 1psi x 51.715=mmHg , 1psix16=ozin² ,
1psi x 51.71433=torr , 1psi x 6894.757=pascal (pa)

*Available for EB project

PAR METRE ÇEŞİTLERİ



8583

Detachable full-spectrum PAR meter 8583

- Stable measurement of photosynthetically active radiation (PAR, PPFD Photosynthetic Photon Flux Density)
- High accuracy PAR measurement for 400 to 700nm under all light sources, including LEDs
- Provided with 2 high quality RJ11 ethernet cable:
 - *12 ft straight cable for extended stick and
 - *4.9 ft coil cable for handheld



HOLD



Manual Logging



Memory Recall



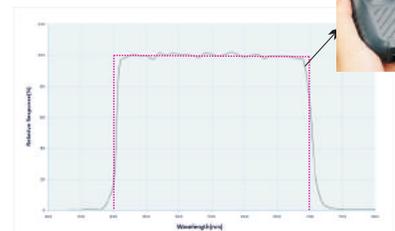
Low Battery



Auto Power Off



Tripod Hole



Package completed with 1 meter long selfie stick to reach wide distance, height and angle



Detachable RJ11 cable



Ordering Code

VZ8583AZ, detachable PAR meter
VZ8583PAZ, PAR sensor with coil cable and straight cable

*Available for EB project

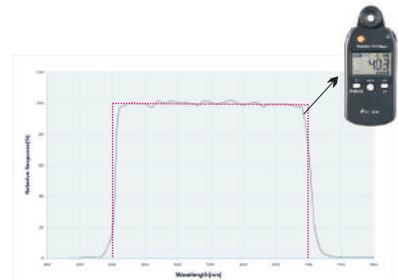
Model	8583
Spectral Range	400±10nm ~ 700±10nm
Measurement Range	0~4000µmol/m ² /sec
Display resolution	0.1µmol/m ² /sec for 0~999 , 1µmol/m ² /sec for 1000~4000
Accuracy	±5 or ± 5% of reading, whichever is greater
Repeatability & Non-linearity	±1 µmol/m ² /sec Less than 3 % (up to 4000 µmol/m ² /sec)
Long-term Drift per Year	Less than 2 % per year
LCD update time	0.5 second
Field of View	180°
Directional (Cosine) Response	± 5 % at 75° zenith angle
Calibration Uncertainty	±5%
Temperature Response	±0.02%/per °C
ZERO function	YES
RESET function	YES
LCD size	25(H)x40(W)mm
Operating temp.	0~50°C
Operating RH%	Humidity<80%
Storage temp.	-10~50°C
Storage RH%	Humidity < 90%, no condensation
Dimension	Meter:115(L)x60(W)x24(H)mm PAR sensor:80(L)x45.6(W)x26(H) mm
Cable	12 ft straight RJ11 cable , 4.9 ft coiled Rj11cable
Selfie stick	22 cm storage , 100cm extended
Weight	~115g (w/o battery and cable)
Power Supply/Consumption	AAA battery x 2pcs, less than 10mA
Standard Package	Meter/PAR sensor/Straight cable/Coiled cable/ Selfie stick/Battery/Manual/Hard carry case





Pocket size wide range full-spectrum PAR meter 8584

- Stable measurement of photosynthetically active radiation (PAR, PPFD Photosynthetic Photon Flux Density)
- High accuracy PAR measurement for 400 to 700nm under all light sources, including LEDs
- Big LCD to provide clear view for any angle
- Using HOLD function to check PAR in any emission direction and check later



Model	8584
Spectral Range	400±10nm ~ 700±10nm
Measurement Range	0~5000µmol/m²/sec
Display resolution	0.01µmol/m²/sec for 0~99.99 ,0.1 for 100~999, the rest is 1
Accuracy	±5 or ± 5% of reading, whichever is greater
Repeatability & Non-linearity	±1 µmol/m²/sec Less than 3 % (up to 4000 µmol/m²/sec)
Long-term Drift per Year	Less than 2 % per year
LCD update time	1 second
Field of View	180°
Directional (Cosine) Response	± 5 % at 75° zenith angle
Calibration Uncertainty	±5%
Temperature Response	±0.02%per °C
ZERO function	YES
RESET function	YES
LCD size	27(H)x48(W)mm
Operating temp.	0~50°C
Operating RH%	Humidity<80%
Storage temp.	-10~50°C
Storage RH%	Humidity < 90%, no condensation
Dimension	Meter:150(L)x65(W)x24(H)mm
Tripod mount hole	YES
Weight	~100g
Power Supply/Consumption	AAA battery x 2pcs, less than 5mA
Standard Package	Meter with built-in PAR sensor/Battery/Manual/soft carry pouch/paper box

Ordering Code
VZ8584AZ, Pocket PAR meter



PH, İLETKENLİK, TUZLULUK ÖLÇER



86P2
86P3
86P4

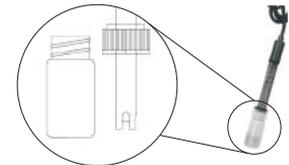
BNC connector pH probes

86P1/86P2/86P3/86P4/86P6/86P7/86P11

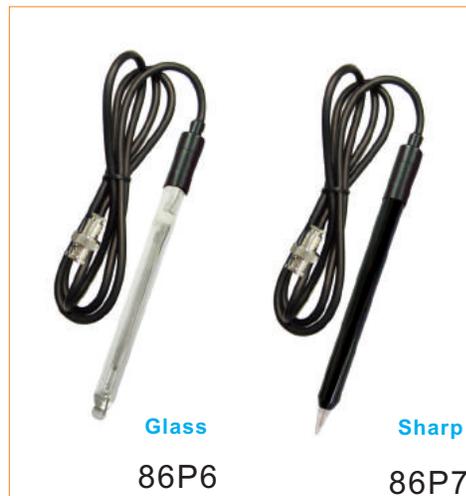
- 4 different shapes pH electrode for wide application
- Designed with BNC connector and 120cm long cable to work with pH meters on market
- Storage bottle to keep sensor wet & last life time (>6 months, with good maintenance)



Storage cap of 86P11



Storage Buffer
Bottle of 86P1-86P7



Glass

86P6

Sharp

86P7

Model	86P6	86P7	86P1	86P11
Body Material	Glass	Glass	PC	Glass
Reference	Single, Ag/AgCl	Single, Ag/AgCl	Single, Ag/AgCl	Single, Ag/AgCl, refillable
Junction / Flow Rate	Ceramic	Fiber	Ceramic	Ceramic
Electrolyte	Gel, 3.3M KCL	Gel, 3.3M KCL	Gel, 3.3M KCL	Gel, 3.3M KCL
Tip Shape	Spheric	Sharp tip	Flat surface	Spheric
pH range	0.00~14.00	2.00~12.00	2.00~12.00	0.00~14.00
pH accuracy	+/-0.1	+/-0.1	+/-0.1	+/-0.1
pH resolution	+/-0.01	+/-0.01	+/-0.01	+/-0.01
Temp. Sensor	N/A	N/A	N/A	N/A
Probe Diameter(mm)	12 mm	12 mm	12 mm	6 mm
Probe Length(mm)	145mm	143mm	134mm	145mm
Application	Laboratory general purpose	dairy, meat, milk, semi-solid foods, yogurt	agar plates, food, leather, paper, skin	test tubes, vials



Surface

86P1

6mm

86P11

Model	86P2	86P3	86P4
Body Material	PC	PC	PC
Reference	Single, Ag/AgCl	Single, Ag/AgCl	Single, Ag/AgCl
Junction / Flow Rate	Fiber	Fiber	Fiber
Electrolyte	Gel, 3.3M KCL	Gel, 3.3M KCL	Gel, 3.3M KCL
Tip Shape	Spheric	Spheric	Spheric
pH range	0.00~14.00	0.00~14.00	0.00~14.00
pH accuracy	+/-0.1	+/-0.1	+/-0.1
pH resolution	+/-0.01	+/-0.01	+/-0.01
Temp. Sensor	N/A	Built-in (thermistor)	N/A
Probe Diameter(mm)	12 mm	12 mm	12 mm
Probe Length(mm)	140 mm	140 mm	140 mm
Application	Laboratory general purpose	Laboratory general purpose	Low ionic strength water: well water, surface water, lake water, treated effluent water and boiler feed water

Ordering Code

- VZ86P11AZ, 6mm BNC pH probe, no temp.
- VZ86P2AZ, BNC pH probe, no temp.
- VZ86P3AZ, BNC pH probe, with temp.
- VZ86P4AZ, BNC pH probe, no temp., low ionic
- VZ86P6AZ, BNC pH probe, no temp., full glass
- VZ86P7AZ, BNC pH probe, no temp., sharp tip
- VZ86P1AZ, BNC pH probe, no temp., Surface

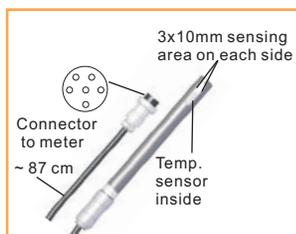




Cond./TDS/Salinity Meter 8301/8302/8303/8305/8306

- Big LCD with multiple parameters display and stability indicator
- Auto or manual temperature compensation
- Auto ranging or manual ranging
- Measuring parameters of each model:
 - 8301:Cond. & Temp.& PC link
 - 8303:Cond. & Temp.&99memory&PC link&IrDA&Clock
 - 8302:Cond.&Temp. & TDS& PC link
 - 8305:Cond.&Temp.&TDS &Salinity&PC link
 - 8306:Cond.&Temp.&TDS&Salinity&PC link&IrDA &memory&Clock

Optional:



REPLACEMENT COND. PROBE

- P/N: VZ830PAZ
- CELL CONSTANT: AROUND 1.0
 - ABS BODY, GRAPHITE CELL.
 - HIGHEST DURABILITY WITH RELIABLE MEASUREMENTS
 - INTEGRAL TEMPERATURE
 - TEMPERATURE STEADY TIME <10 SECONDS.



USB CABLE & SOFTWARE

P/N: VZUSBAZM

Ordering Code

- VZ8301AZ, 8301 meter w/ cond. Probe
- VZ8302AZ, 8302 meter w/ cond. Probe
- VZ8303AZ, 8303 meter w/ cond. Probe
- VZ8305AZ, 8305 meter w/ cond. Probe
- VZ8306AZ, 8306 meter w/ cond. Probe
- VZ830PAZ, 830P cond. Probe
- VZUSBAZM, USB software kit



Model	8301	8303	8302	8305	8306
Cond. range	0~19.99, 0~199.9, 0~1999uS/cm; 0~19.99, 0~199.9mS/cm				
Cond. accuracy	+/-1% F.S +/- 1 digit				
Cond. resolution	0.05% of Full Scale				
TDS range	N/A	N/A	0~19.99, 0~199.9, 0~1999ppm; 0~19.99, 0~199.9ppt		
TDS accuracy	N/A	N/A	+/-1% F.S +/- 1 digit		
TDS resolution	N/A	N/A	0.05% of Full Scale		
Salinity range	N/A	N/A	N/A	0.0~70.0ppt(KCL)	
Salinity accuracy	N/A	N/A	N/A	+/-1% F.S +/- 1 digit	
Salinity resolution	N/A	N/A	N/A	0.1	
Temp. range	0~80.0°C				
Temp. accuracy	+/-0.6°C(<50°C), other range +/-1°C				
Temp. resolution	0.1				
TDS factor	N/A	N/A	0.4~1.00		
Cell constant	~1.0				
Manual/Auto	Included				
Temp. coefficient	0~10.0%/°C				
Normalization temp.	15.0~30.0°C (adjustable)				
LCD size	44(H)x26(W)mm				
Operating temp.	0~50°C				
Operating RH%	Humidity<80%				
Storage temp.	0~60°C				
Storage RH%	Humidity < 90%				
Sensor life time	>6 months (with good maintenance)				
Dimension	175(L)x70(W)x33(H)				
Weight	150g				
Battery	AAA x 4pcs				
Standard Package	Meter/Battery/Probe(830P)/Manual/Carry case				

*Available for EB project



Conductivity/TDS/Salinity Pen 8352/8362/8372/8373

- Big LCD with dual display to update measuring
- Auto ranging in high concentration solution
- Calibration values are adjustable & calibration information can be reviewed
- Wider measuring range and more display unit:
 8352: Conductivity ($\mu\text{S}/\text{mS}$) & Temp.
 8362: Conductivity($\mu\text{S}/\text{mS}$)& TDS(ppm/ppt) & temp.
 8372: Salinity($\text{ppm}, \text{ppt}, \%, \text{specific gravity}$) & Temp.
 8373: TDS(ppm/ppt) Salinity($\text{ppm}, \text{ppt}, \%, \text{specific gravity}$) & Temp.



Model	8352	8362	8372	8373
Cond. range	0~1999 μS or 2.00~19.99mS or 20.0~160.0 mS		N/A	N/A
Cond. accuracy	+/-1%F.S +/- 1 digit		N/A	N/A
Cond. resolution	1 μS or 0.01mS or 0.1mS		N/A	N/A
TDS range	N/A	0~9999ppm or 10.0~160.0* ppt f is TDS factor	N/A	0~9999ppm or 10.0~160.0* ppt f is TDS factor
TDS accuracy	N/A	+/-1%F.S +/- 1 digit	N/A	+/-1%F.S +/- 1 digit
TDS resolution	N/A	1ppm or 0.1ppt	N/A	1ppm or 0.1ppt
Salinity range	N/A	N/A	0~9999ppm or 10.0~100.0 ppt or 0.0%~10.0% or 0.950~1.080(S.G) based on NaCl	
Salinity accuracy	N/A	N/A	+/-1%F.S +/- 1 digit	
Salinity resolution	N/A	N/A	1ppm or 0.1 ppt or 0.1% or 0.001(S.G)	
Temp. range	-5~60.0°C			
Temp. accuracy	+/-0.5°C			
Temp. resolution	0.1			
ATC	ATC			
TDS factor	N/A	0.3~1.00	Built-in NaCl conductivity to TDS conversion factor	0.3~1.00 Built-in NaCl conductivity to TDS conversion factor
Temp. coefficient	Fixed at 2.1%/°C		Built-in NaCl Temp. Coefficient	
Normalization temp.	Fixed at 25°C			
LCD size	30(H)x18(W)mm			
Operating temp.	0~50°C			
Operating RH%	Humidity<80%			
Storage temp.	0~60°C			
Storage RH%	Humidity < 90%			
Sensor life time	>6 months (with good maintenance)			
Dimension	165(L)x35(W)x32(H)mm			
Weight	115g			
Battery	LR44 x 4pcs			
Standard Package	Meter/Battery/Manual/Paper box			

Salinity in % unit is good for food industry



Salinity in specific gravity unit is good for artificially made sea water



Ordering Code

VZ8352AZ, 8352 EC pen
 VZ8362AZ, 8362 EC/TDS pen
 VZ8372AZ, 8372 Salinity pen
 VZ8373AZ, 8372 TDS/Salinity pen

*Available for EB project

DISSOLVED OXYGEN (D.O.) METER



Handheld Dissolved Oxygen Meter 8401/8402/8403

- Big LCD with D.O. & Temp. value display and stability indicator
- Easy 100% D.O. Value calibration
- Offered with most cost effective clark type electrode
- No need refill electrolyte often as gavalnic electrode
- Operation features of each model:
 - 8401: PC link
 - 8402: PC link&manually salt&barometric compensation
 - 8403: PC link&manually salt&barometric compensation/ memory/ IrDA output/real time display



Optional:



D.O. REPLACEMENT PROBE

P/N: VZ840PAZ
Size: 18.5~23(d) x 140mm(l)
Cable length : 3.5meters with mic connector

MEMBRANE PACK

P/N: VZ840AAZ
Replacement membrane & o-ring,
10 pieces /pack

SYRINGE PACK

P/N: VM78401A
Syringe for filling electrolyte into probe



USB CABLE & SOFTWARE

P/N: VZUSBAZM

Model	8401	8402	8403
DO range (in %)	0~199.9	0~199.9	0~199.9
DO accuracy	+/-1.5% F.S	+/-1.5% F.S	+/-1.5% F.S
DO resolution	0.1%	0.1%	0.1%
DO range (in ppm or mg/l)	0~19.99	0~19.99	0~19.99
DO accuracy	+/-1.5% F.S	+/-1.5% F.S	+/-1.5% F.S
DO resolution	0.01	0.01	0.01
Temp. range	0~50.0°C	0~50.0°C	0~50.0°C
Temp. accuracy	+/-0.5°C	+/-0.3°C	+/-0.3°C
Temp. resolution	0.1°C	0.1°C	0.1°C
Manual Compensation	N/A	INCLUDED	INCLUDED
Salinity range		0.0~50.0 ppt	
Salinity res.		0.1 ppt	
Barometric pressure		500~1499mmHg/66.6~199.9KPa	
Pressure res.		1mmHg/0.1KPa	
Coefficient. of membrane	ADJUSTABLE	ADJUSTABLE	ADJUSTABLE
MEMORY	N/A	N/A	99 POINTS
REAL TIME/RECALL	N/A	N/A	INCLUDED
IRDA PORT	N/A	N/A	INCLUDED
LCD size		44(H)x26(W)mm	
Operating temp.		0~50°C	
Operating RH%		Humidity<80%	
Storage temp.		0~60°C	
Storage RH%		Humidity < 90%	
Sensor life time		>6 months (with good maintenance)	
Dimension		175(L)x70(W)x33(H)	
Weight		150g	
Battery		AAA x 4pcs	

Standard Package Meter/Battery/Probe(840P)/Manual/Carry case
Electrolyte/Syringe/membrane/o-ring

Ordering Code

VZ8401AZ, 8401 meter w/D.O. probe
VZ8402AZ, 8402 meter w/D.O. probe
VZ8403AZ, 8403 meter w/D.O. Probe
VZUSBAZM, USB software kit
VZ840PAZ 8401~8403 Replacement D.O. Probe
VZ840AAZ, 840PAZ membrane+electrolyte kit

*Available for EB project

DISSOLVED OXYGEN (D.O.) PEN

NEW



Dissolved Oxygen Pen w/ long cable probe 8413

- Big LCD with D.O. & Temperature display
- 100% D.O. calibration in air. Chemical is not required
- Easy replaceable thin membrane kit with high sensitivity
- Refill electrolyte quickly. Simple to maintain
- Selectable % and mg/L unit for D.O. Value
- °C/°F automatic temperature compensation built-in
- Manual salinity and barometric pressure compensation
- Environment green re-chargable battery via type C port
- Brightness adjustable backlight for dark places



Auto Power Off



Low Battery



HOLD



Auto Temp. Compensation



Metric/Imperial



Backlight



IP65



USB TypeC for power charging



Robust Design

Clever probe design to ensure you get accurate reading without damaging sensing tip



Anti-collision cap (55mm L * 30mm dia.) Is included.

This high accuracy D.O. probe is made of dual precious metals.

D.O. REPLACEMENT PROBE
P/N: VZ8413PAZ
Size: 20(dia.) x 130mm(l)
Cable length : 3 meters

Optional:



This high accuracy D.O. probe is made of precious metals

Patented Design

D.O. REPLACEMENT PROBE -Patented floating probe
P/N: VZ84131PAZ
Size: 15(dia.) x 175mm(l)
Cable length : 3 meters
2pieces of spare membrane kits are included with each probe

Ordering Code

- VZ8413AZ, 8413 meter w/8413P D.O. Probe
- VZ8413AZ1, 8413 meter w/ 5M long 8413P Probe
- VZ8413PAZ, 3M long cable D.O probe with protection cap for 84131/8413, w/ 2 spare membrane kits.
- VZ84131PAZ, 3M long cable floating D.O probe for 84131/8413, w/ 2 spare membrane kits.

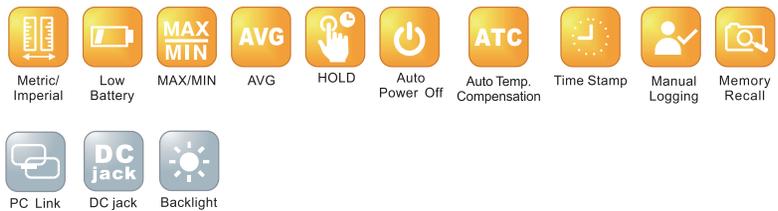
Model	8413
DO range (in mg/L)	0.00~20.00 mg/L
DO accuracy	+/-0.4 mg/L
DO resolution	0.01 mg/L
DO range (in %)	0.0~199.9
DO accuracy	+/-3% F.S
DO resolution	0.1 %
Temp. range	0~50.0°C/32~122°F
Temp. accuracy	+/-0.5°C/0.9°F
Temp. resolution	0.1°C
Auto Temp. Compensation	10~40.0°C/50~104°F
Manual Compensation	INCLUDED
Salinity range	0.0~45.0 ppt
Salinity res.	0.1 ppt
Barometric pressure	500~760mmHg/101.3~66.7Kpa
Pressure res.	1mmHg/0.1KPa
LCD size	30(H)x18(W)mm
Operating temp.	0~40°C
Operating RH%	Humidity<85%
Storage temp.	0~40°C
Storage RH%	Humidity < 80%
Sensor response time	<30 seconds
Sensor warmup time	<60 seconds after power up
Sensor life time	>6 months (with good maintenance)
Dimension	176(L)x39(W)x39(H)
Weight	265g
Battery	3.7V@500mAh re-chargable battery
Power consumption	60 hours operation (no backlight condition)
Re-charging time	1.5 hours
Standard Package	Meter (with bat. Built-in)/D.O. Probe/Electrolyte /2pcs membrane kits/USB-type C charging cable/ hard storage case/manual





Handheld pH/ORP Meter w/PC link 8551/8651

- Big LCD with multiple display
- Up to 99 manual logging memories
- pH One touch auto-calibration up to 5 points(8651 only)
- pH Calibration values are adjustable(8651 only)
- pH electrode status indication (8651 only)



Model	8551	8651
pH range	N/A	0.00~14.00
pH accuracy	N/A	+/-0.02
pH resolution	N/A	0.01
mV range	+/-1999mV	
mV accuracy	+/-0.2mV(-199.9~199.9mV) or +/-2mV(others)	
mV resolution	+/-0.1mV(-199.9~199.9mV) or +/-1mV(others)	
Temp. range	0~60.0°C	0~60.0°C
Temp. accuracy	+/-0.3°C	+/-0.3°C
Temp. resolution	0.1	0.1
ATC	N/A	ATC
pH calibration	N/A	Up to 5 points
99 points memory	YES	YES
Real time clock	YES	YES
Compatible probe	850P (ORP) 86P5 (ORP)	850P/86P5 (ORP) 86P2/86P3/86P4..... (pH)
LCD size(mm)	26(H)x44(W)	
Operating temp.	0~50°C	
Operating RH%	Humidity<80%	
Storage temp.	-10~50°C	
Storage RH%	Humidity < 90%	
Sensor life time	>6 months (with good maintenance)	
Dimension(mm)	175(L)x70(W)x33(H)	
Weight	150g	
Battery	AAA x 4pcs	
Optional	Software & cable	
Standard Package	Meter/Battery/Manual/Carry Case/Cal. Solution	

Optional:



ORP PROBE
P/N:VZ850PAZ (PLATINUM PIN TYPE)
P/N:VZ86P5AZ(PT. BAND TYPE, For High performance ORP Measurement purposes)
Size:12dia. X 120mm(L)
Cable length : 90 cm - 100cm
BNC connector

Ordering Code

VZ8551AZ, 8551 meter+850P ORP probe
VZ8651AZ, 8651 meter +pH probe+ORP probe
VZ8651AZ1, 8651 meter +pH probe
VZ8651AZ2, 8651 meter only
VZUSBAZM, USB software kit



PH PROBE
P/N:VZ86P3AZ (ATC PROBE)
P/N:VZ86P2AZ (W/O ATC PROBE)
Size:12dia.x140mm,
Cable length 1238mm,
BNC connector

Find more part numbers in pH probe page



USB CABLE & SOFTWARE
P/N: VZUSBAZM

*Available for EB project

ORP PEN (OXIDATION REDUCTION POTENTIAL)



IP65 Low Cost ORP Pen 8552

- Big LCD with real time ORP display in mV
- storage solution bottle to keep sensor wet & last life time
- Application:
 - excellent to use in waste water treatment
 - excellent to use in water disinfection process
 - excellent to use in laboratory



What is ORP?

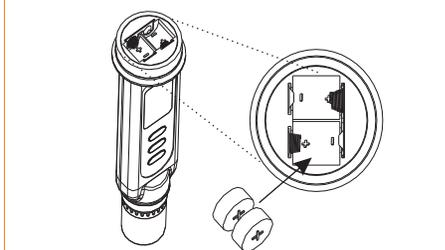
The best water quality combo index

ORP is a term used frequently in the water treatment & food processing industry. ORP stands for Oxidation-Reduction Potential. So what is that? The best definition is ORP is a measure of the cleanliness of the water & its ability to break down contaminants.

Here are some common applications.

- 0-150mV: No practical use
- 150-250mV: Aquaculture
- 250-350mV: Cooling Towers
- 400-475mV: Swimming pools
- 450-600mV: Hot Tubs
- 600mV: Water Disinfection
- 800mV: Water Sterilization
- Negative 300mV: Alkaline Water

Install the battery with correct polarity:



Ordering Code
VZ8552AZ, 8552 ORP pen

*Available for EB project

Model	8552
mV range	-999mV~+999mV
mV accuracy	+/- 4mV
mV resolution	1 mV
LCD size	30(H)x18(W)mm
Operating temp.	0~60°C
Operating RH%	Humidity<80%
Storage temp.	-10~60°C
Storage RH%	Humidity < 90%
Sensor life time	>6 months (with good maintenance)
Dimension	165(L)x35(W)x32(H)mm
Weight	115g
Battery	LR44 x 4pcs
Optional	N/A
Standard Package	Meter/Battery/Manual/Paper box



Waste water treatment



Water disinfection



Aquaculture



Alkaline water generator

PH /ORP(OXIDATION REDUCTION POTENTIAL)



ORP&pH meter

8651

Handheld pH/ORP Meter w/PC link 8601/8651

- Big LCD with multiple display
- One touch auto-calibration up to 5 points
- Calibration values are adjustable
- pH electrode status indication (8651 only)
- 99 points manual logging feature (8651 only)



PH meter

8601

Model	8601	8651
pH range	0.00~14.0	0.00~14.00
pH accuracy	+/-0.02	+/-0.02
pH resolution	0.01	0.01
mV range	+/-499mV	+/-1999mV
mV accuracy	+/-0.2mV(+/-0.1~195.0)or +/-2mV(+/-190~499)	+/-0.2mV(-199.9~199.9mV) or +/-2mV(others)
mV resolution	+/-0.1mV(+/-0.1~195.0)or +/-1mV(+/-190~499)	+/-0.1mV(-199.9~199.9mV) or +/-1mV(others)
Temp. range	0~60.0°C	0~60.0°C
Temp. accuracy	+/-0.3°C	+/-0.3°C
Temp. resolution	0.1	0.1
ATC	ATC	ATC
pH calibration	Up to 3 points	Up to 5 points
99 points memory	N/A	YES
Real time clock	N/A	YES
Compatible probe	86P2 (pH)/86P4 86P3 (pH)/86P5	850P/86P5 (ORP) 86P2/86P3/86P4/86P5 (pH)
LCD size(mm)	29(H)x50(W)	26(H)x44(W)
Operating temp.	0~50°C	
Operating RH%	Humidity<80%	
Storage temp.	-10~50°C	
Storage RH%	Humidity < 90%	
Sensor life time	>6 months (with good maintenance)	
Dimension(mm)	182(L)x72(W)x30(H)	175(L)x70(W)x33(H)
Weight	150g	150g
Battery	9V x 1pc	AAA x 4pcs
Optional	Rubber boot/Software & cable	Software & cable
Standard Package	Meter/Battery/Manual/Carry Case/Cal. Solution	

Optional:



ORP PROBE
P/N: VZ850PAZ (PLATINUM PIN TYPE)
P/N: VZ86P5AZ (PT. BAND TYPE, For High performance ORP Measurement purposes)
Size: 12dia. X 120mm(L)
Cable length : 90 cm - 100cm
BNC connector

Ordering Code

VZ8651AZ, 8651 meter +pH probe+ORP probe
VZ8651AZ1, 8651 meter +pH probe
VZ8651AZ2, 8651 meter only
VZ8601AZ, 8601 meter +pH probe
VZ8601AO, 8601 meter only
VZUSBAZM, USB software kit
Find more part numbers in pH probe page



PH PROBE
P/N: VZ86P3AZ (ATC PROBE)
P/N: VZ86P2AZ (W/O ATC PROBE)
Size: 12dia.x140mm,
Cable length 1238mm,
BNC connector

Find more part numbers in pH probe page



RUBBER HOLSTER
P/N: VM68601HB, FOR 8601
Rubber boots with magnetic stand and probe holder
Color: grey



USB CABLE & SOFTWARE
P/N: VZUSBAZM

NEW



Big Display Battery operated pH/Temp. Monitor 8605

- Large display with smart backlight
- Name card compact size for all locations
- Accurate pH and temperature reading
- Low battery indicator.
- °C/°F unit switchable.
- Power by 4pcs AA batteries.
- Multi points calibration.
- One touch only for calibration.



Metric/Imperial



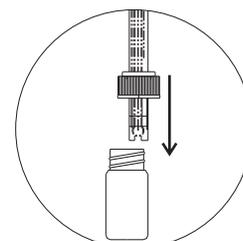
Low Battery



Auto Temp. Compensation



Backlight



SENSOR PROTECTION BOTTLE TO EXTEND STORAGE LIFE TIME

Wall mount hook to fix monitor and pH probe to water tank



Wall mount hanger & nylon screw x 2

Various types of pH probes



Low ionic
86P4

Glass
86P6

Sharp
86P7

Surface
86P1



Aquaculture

Ordering Code

VZ8605AZ, 8605 pH/Temp. Monitor
 VZ8605PNL, 8605 pH probe
 VZ86P2AZ, general use pH probe
 VZ86P4AZ, low ionic use pH probe
 VZ86P6AZ, full glass pH probe
 VZ86P7AZ, sharp tip pH probe
 VZ86P1AZ, flat surface pH probe

*Available for EB project

Model	8605
pH range	0.00~14.00
pH accuracy	+/-0.1
pH resolution	0.01
Temp. range	-5.0~60.0°C
Temp. accuracy	+/-0.5°C
Temp. resolution	0.1
ATC	ATC
LCD size	26(H)x44(W)mm
Operating temp.	0~50°C
Operating RH%	Humidity<80%
Storage temp.	-10~50°C
Storage RH%	Humidity < 90%
Sensor life time	>3 months (with good maintenance)
Dimension	90(L)x63(W)x31(H)mm
Weight	130g
Battery	AA x 4pcs
Backlight	Green Backlight
Standard Package	Meter/pH probe (8605 pH probe)/Battery/Manual /Paper box





IP65 low cost pH pen 8680/8681/8682

- Clear LCD with dual display
- pH/ Temperature dual display
- Measuring stability indicator
- One touch auto-calibration up to 3 points
- Calibration values are adjustable
- Cap to keep sensor wet & last life time



Auto Power Off



Auto Temp. Compensation



Metric/ Imperial



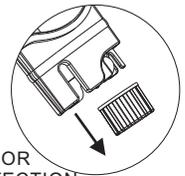
Low Battery



HOLD



IP65

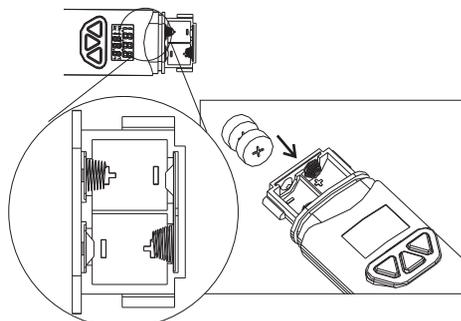


SENSOR PROTECTION CAP



Model	8680	8681	8682
pH range	2.0~12.0	0.0~14.0	0.00~14.00
pH accuracy	+/-0.3	+/-0.2	+/-0.05
pH resolution	0.1	0.1	0.01
Temp. range	N/A	0~60.0°C	0~60.0°C
Temp. accuracy	N/A	+/-1°C	+/-0.5°C
Temp. resolution	N/A	0.5	0.1
ATC	N/A	ATC	ATC
LCD size	9(H)x20(W)mm	11(H)x20(W)mm	
Operating temp.	0~50°C		
Operating RH%	Humidity<80%		
Storage temp.	-10~50°C		
Storage RH%	Humidity < 90%		
Sensor life time	>6 months (with good maintenance)		
Dimension	151(L)x36(W)x24(H)mm		
Weight	100g		
Battery	LR44 x 4pcs		
Optional	N/A		
Standard Package	Meter/Battery/Manual/Paper box		

Install the battery with correct polarity:



Ordering Code
 VZ8680AZ, 8680 pH pen
 VZ8681AZ, 8681 pH pen
 VZ8682AZ, 8682 pH pen

PH /TEMPERATURE PEN



8686

IP65 pH pen/Low Ionic Strength pH Pen 8684/8685/8686/86851

- Big LCD with dual display
- pH/ Temperature dual display
- Measuring stability indicator
- One touch auto-calibration up to 3 points
- Calibration values are adjustable
- Cap to keep sensor wet & last life time
- Perfect for well water, surface water, lake water, treated effluent water and boiler feed water (86851 only)



Auto Power Off



Auto Temp. Compensation



Metric/ Imperial



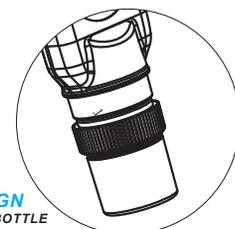
Low Battery



HOLD



IP65



NEW DESIGN
PROTECTION BOTTLE



8684

8685

Model	8684	8685/86851	8686
pH range	2.0~12.0	0.0~14.0	0.00~14.00
pH accuracy	+/-0.3	+/-0.2	+/-0.05
pH resolution	0.1	0.1	0.01
Temp. range	N/A	0~60.0°C	0~60.0°C
Temp. accuracy	N/A	+/-1°C	+/-0.5°C
Temp. resolution	N/A	0.5	0.1
ATC	N/A	ATC	ATC
LCD size	30(H)x18(W)mm		
Operating temp.	0~50°C		
Operating RH%	Humidity<80%		
Storage temp.	-10~50°C		
Storage RH%	Humidity < 90%		
Sensor life time	>6 months (with good maintenance)		
Dimension	165(L)x35(W)x32(H)mm		
Weight	115g		
Battery	LR44 x 4pcs		
Optional	N/A		
Standard Package	Meter/Battery/Manual/Paper box		



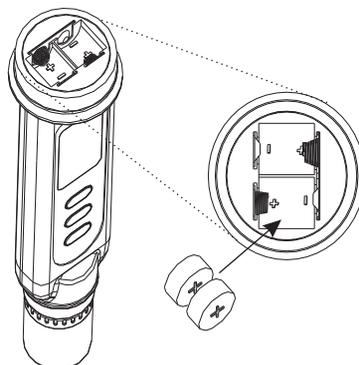
Low Ionic
Strength
pH Pen

86851

Ordering Code
 VZ8684AZ, 8684 pH pen
 VZ8685AZ, 8685 pH pen
 VZ8686AZ, 8686 pH pen
 VZ86851AZ, 86851 low ionic strength pH pen

*Available for EB project

Install the battery with correct polarity:





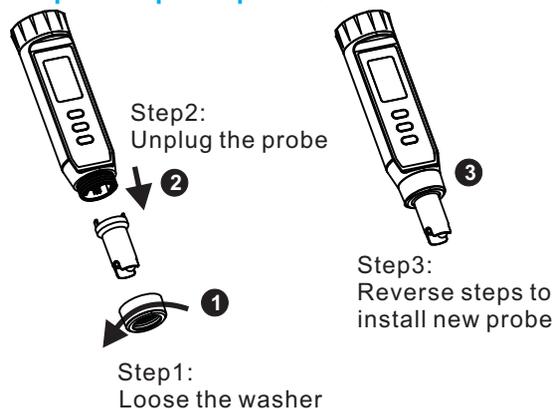
IP65 Detachable probe pH pen 8687/8688/8689

- Big LCD for pH/ temperature real time display
- Electrode status indication
- Easy electrode replacement
- Stability indicator
- One touch auto-calibration up to 3 points
- Calibration values are adjustable
- Cap to keep sensor wet & last life time



Model	8687	8688	8689
pH range	2.0~12.0	0.0~14.0	0.00~14.00
pH accuracy	+/-0.3	+/-0.2	+/-0.05
pH resolution	0.1	0.1	0.01
Temp. range	0~50.0°C	0~50.0°C	0~50.0°C
Temp. accuracy	+/-1°C	+/-1°C	+/-0.5°C
Temp. resolution	0.1	0.1	0.1
ATC	ATC	ATC	ATC
LCD size	30(H)x18(W)mm		
Operating temp.	0~60°C		
Operating RH%	Humidity<80%		
Storage temp.	0~60°C		
Storage RH%	Humidity < 90%		
Sensor life time	>6 months (with good maintenance)		
Dimension	176(L)x39(W)x39(H)mm		
Weight	110g		
Battery	LR44 x 4pcs		
Optional	Detachable pH electrode		
Standard Package	Meter/Battery/Manual/Wrist strap/Paper box		

3 steps to replace probe:



Optional:



PH ELECTRODE
FOR 8687/8688/8689
P/N: VZ86P8AZ

Ordering Code

- VZ8687AZ, 8687 pH pen
- VZ8688AZ, 8688 pH pen
- VZ8689AZ, 8689 pH pen
- VZ86P8AZ, pH replacement probe

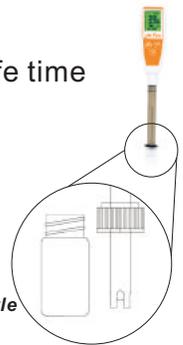


IP65 Long Tube pH pen/Low Ionic Strength pH Pen 8691/8692/86921

- 12cm long pH probe
- Big LCD with dual display: pH & Temperature
- Perfect low cost pH pen to measure pH value in below water body: well water, surface water, lake water, treated effluent water and boiler feed water (86921 only)
- One touch auto-calibration up to 3 points
- Calibration values are adjustable
- Storage bottle to keep sensor wet & last life time



Storage Buffer Bottle



Low Ionic Strength pH Pen

Model	8691	8692 / 86921
pH range	0.00~14.00	0.00~14.00
pH accuracy	+/-0.2	+/-0.1
pH resolution	0.01	0.01
Temp. range	N/A	0~60.0°C
Temp. accuracy	N/A	+/-1°C
Temp. resolution	N/A	0.5°C
ATC	N/A	ATC
LCD size	29(H)x22.5(W)mm	
Operating temp.	0~50°C	
Operating RH%	Humidity<80%	
Storage temp.	-10~50°C	
Storage RH%	Humidity < 90%	
Sensor life time	>6 months (with good maintenance)	
Dimension	226(L)x36(W)x20(H)mm	
Weight	115g	
Battery	CR2032 x 2pcs	
Optional	N/A	
Standard Package	Meter/Battery/Manual/Paper box	

86921 is perfect for well water, surface water, lake water, treated effluent water and boiler feed water



Ordering Code

VZ8691AZ, 8691 long tube pH pen
 VZ8692AZ, 8692 long tube pH pen
 VZ86921AZ, 86921 low ionic pH pen

*Available for EB project



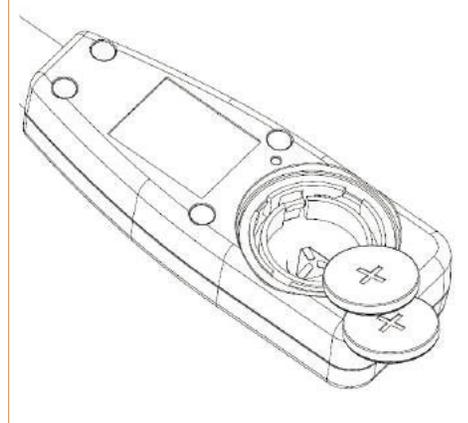
Designed for testing sample container with limited opening size:

PH /TEMPERATURE PEN



Designed for testing sample container with limited opening size

Install the battery with correct polarity:



Ordering Code

VZ8693AZ, 8693 long tube pH in glass electrode
 VZ8694AZ, 8694 long tube pH in sharp electrode
 VZ8695AZ, 8695 long tube pH in surface electrode
 VZ8696AZ, 8696 long tube pH in 6mm diameter

*Available for EB project

IP65 Long Tube pH pen 8693/8694/8695/8696

- 4 different shapes ph electrode for wide application
- Big and clear LCD provide real time pH and Temp. Display
- Measuring stability indicator
- One touch auto-calibration up to 3 points
- Calibration values are adjustable
- Storage bottle to keep sensor wet & last life time



Auto Power Off



Low Battery



HOLD



Auto Temp. Compensation

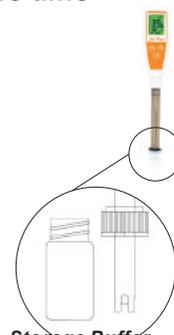


Metric/Imperial



IP65

Storage cap of 8696



Storage Buffer Bottle of 8693~8695

Model	8693	8694	8695	8696
Body Material	Glass	Glass	PC	Glass
Reference	Single, Ag/AgCl	Single, Ag/AgCl	Single, Ag/AgCl	Single, Ag/AgCl, refillable
Junction / Flow Rate	Ceramic	Fiber	Ceramic	Ceramic
Electrolyte	Gel, 3.3M KCL	Gel, 3.3M KCL	Gel, 3.3M KCL	Gel, 3.3M KCL
Tip Shape	Spheric	Sharp tip	Flat surface	Spheric
pH range	0.00~14.00	2.00~12.00	2.00~12.00	0.00~14.00
pH accuracy	+/-0.1	+/-0.1	+/-0.1	+/-0.1
pH resolution	+/-0.01	+/-0.01	+/-0.01	+/-0.01
Temp. Sensor	Built-in	Built-in	Built-in	N/A
Probe Diameter(mm)	12 mm	12 mm	12 mm	6 mm
Probe Length(mm)	130mm	132mm	125mm	125mm
LCD size	29(H)x22.5(W)mm			
Operating temp.	0~80°C			
Operating RH%	Humidity<80%			
Storage temp.	-10~50°C			
Storage RH%	Humidity < 90%			
Sensor life time	>6 months (with good maintenance)			
Meter Dimension	94(L)x36(W)x20(H)mm			
Weight	115g			
Battery	CR2032 x 2pcs			
Standard Package	Meter/Battery/Manual/Paper box			

Application Laboratory general purpose dairy, meat, milk, semi-solid foods, yogurt agar plates, food, leather, paper, skin test tubes, vials



PH DATALOGGER/PRINTER



9861



9661

pH/mV datalogger w/printer: 9861 w/o printer: 9661

- Measuring & recording pH, Temperature & mV
- 3 measurement modes:
 - single point measurement
 - manual record up to 99 points
 - automatically record up to 4000 points
- Auto power off time selectable
- Automatic recording is programmable
- Uploading pre-edited header from PC to meter



Model	9661	9861
PC interface		YES
Backlight		YES
pH range	0.00~14.0	
pH accuracy	+/-0.02	
pH resolution	0.01	
mV range	+/-999.9mV	
mV accuracy	+/-0.2mV(+/-0.1~99.9)or +/-2mV at other range	
mV resolution	+/-0.1mV	
Temp. range	0~80.0°C	
Temp. accuracy	+/-0.3°C	
Temp. resolution	0.1	
ATC	ATC	
pH calibration	Up to 3 points	
LCD size (mm, HxW)	26(H)x45(W)mm	
Operating temp.	0~50°C	
Operating RH%	Humidity < 80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm, LxWxT)	170x70x40(H) mm	208x70x53(H) mm
Weight	210g	370g
Battery	AAA battery x 4pcs or 9V adaptor	AA battery x 4pcs or 9V adaptor

Standard Package Meter, pH probe, battery, manual, pH calibration buffer, software CD & cable, hard carry case, thermo paper (9861)

Optional Accessory pH probe



PH PROBE
P/N: VZ86P3AZ (ATC PROBE)
P/N: VZ86P2AZ (W/O ATC PROBE)
Size: 12dia.x140mm,
Cable length 1238mm, BNC connector

Find more part numbers in pH probe page



SPARE THERMO PAPER
P/N: VM69811B
SIZE: 38MM X 20M X 30@

Three measurement modes

1. Example: 9661 single point measurement

2. Example: 9661 manually record

3. Example: Logging function in processing

Ordering Code (Bulk order only)

VZ9631AZ, pH logger

VZ9831AZ, pH logger w/ printer

VM69811B, Thermo paper

Find more part numbers in pH probe page



Handheld combo pH/EC/TDS/SALT/D.O. 84051

- Large LCD to display multiple parameters in turns: PH, Conductivity or TDS or Salinity, Dissolved oxygen & Temperature (by using different probes in turns)
- Fast D.O. Measuring
- Accurate replaceable probes with anti-collision cap
- Auto ranging for conductivity measurement
- Manually altitude/salinity compensation for D.O. Reading
- Multiple points calibration: 3 points for pH, 1point for D.O., 4 points for conductivity



Auto Power Off



Auto Temp. Compensation



Memory Recall



Manual Logging



Metric/Imperial



Low Battery



Backlight



Probes



Accessory

Model	84051
pH range/resolution	2.00~12.00/resolution :0.01
pH accuracy	+/-0.1
Cond. range	0~199.9, 0~1999uS/cm, 0~19.99, 0~150.0mS/cm
Cond. accuracy	+/-1% F.S +/- 1 digit
Cond. resolution	0.1uS/cm, 1uS/cm, 0.01mS/cm, 0.1mS/cm
TDS. Range (f is TDS factor)	0~199.9*f, 0~1999*f ppm, 0~19.99*f, 0~150.0*f ppt
TDS. Accuracy/res.	+/-1% F.S +/- 1 digit; res.:0.1,1ppm;0.01, 0.1ppt
TDS Factor	0.30~1.00
Salinity range	0~10.00ppt; 0~42.0ppt(SEA WATER)
Salinity accuracy/res.	+/-1% F.S +/- 1 digit; res.: 0.01 ppt, 0.1ppt
D.O. range	0.0~199.9% (0.0~30.0mg/L)
D.O. Accuracy/res.	+/-3% of F.S. +1 digit ; res.: 0.1
Temp. range	-5~60.0°C
Temp. Accuracy/res.	+/-0.5°C ; 0.1
Compatible probe	pH probe, EC probe and D.O probe Could be all used on one meter at the same time
LCD size(mm)	26(H)x44(W)
Operating temp.&RH%	0~50°C, Humidity<80%
Storage temp.&RH%	0~60°C, Humidity < 90%
Dimension(mm)	175(L)x70(W)x33(H)
Weight	200g
Power	4PCS AAA Batteries
Standard Package	Meter/Manual/Carry case/Battery
Standard Probe	PH probe/Cond. Probe/D.O.Probe/D.O. Electrolyte/ 2 Membrane set/Cable clip (User can decide which probe to be included as standard)

Ordering Code

VZ84051AZ0, 84051 meter only
 VZ84051AZ1, 84051 meter +DO probe
 VZ84051AZ2, 84051 meter +pH+EC probe
 VZ84051AZ3, 84051 meter +pH+EC+DO probe
 VZ863PAZ, low ion pH probe for 86031/86021/84051
 VZ833PAZ, EC probe for 86031/86021/84051
 VZ843PAZ, DO probe for 86031/86021/84051
 VZ84PAAZ, DO membrane+electrolyte for 843P,8413P



(PATENTED) DISSOLVED OXYGEN (D.O.) PEN

NEW



Dissolved Oxygen Pen w/ long cable floating probe 84131

- Big LCD with D.O. & Temperature display
- 100% D.O. calibration in air. Chemical is not required
- Easy replaceable thin membrane kit with high sensitivity
- Refill electrolyte quickly. Simple to maintain
- Selectable % and mg/L unit for D.O. Value
- °C/°F automatic temperature compensation built-in
- Manual salinity and barometric pressure compensation
- Environment green re-chargable battery via type C port
- Brightness adjustable backlight for dark places



Patented Design

Clever design to ensure you always get reading from water not from sand



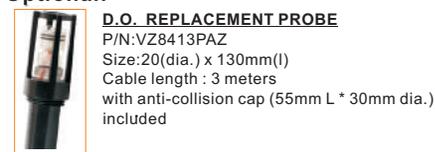
Standard:



D.O. REPLACEMENT PROBE

P/N: VZ84131PAZ
 Size: 15(dia.) x 175mm(l)
 Cable length: 3 meters
 2 pieces of spare membrane kits are included with each probe

Optional:



D.O. REPLACEMENT PROBE

P/N: VZ8413PAZ
 Size: 20(dia.) x 130mm(l)
 Cable length: 3 meters
 with anti-collision cap (55mm L * 30mm dia.) included

Ordering Code

VZ84131AZ, 84131 meter w/84131P D.O. Probe
VZ84131PAZ, 3M long cable floating D.O probe for 84131/8413, w/ 2 spare membrane kits.
VZ8413PAZ, 3M long cable D.O probe with protection cap for 84131/8413, w/ 2 spare membrane kits.

Model	84131
DO range (in mg/L)	0.00~20.00 mg/L
DO accuracy	+/-0.4 mg/L
DO resolution	0.01 mg/L
DO range (in %)	0.0~199.9
DO accuracy	+/-3% F.S
DO resolution	0.1 %
Temp. range	0~50.0°C/32~122°F
Temp. accuracy	+/-0.5°C/0.9°F
Temp. resolution	0.1°C
Auto Temp. Compensation	10~40.0°C/50~104°F
Manual Compensation	INCLUDED
Salinity range	0.0~45.0 ppt
Salinity res.	0.1 ppt
Barometric pressure	500~760mmHg/101.3~66.7Kpa
Pressure res.	1mmHg/0.1KPa
LCD size	30(H)x18(W)mm
Operating temp.	0~40°C
Operating RH%	Humidity<85%
Storage temp.	0~40°C
Storage RH%	Humidity < 80%
Sensor response time	<30 seconds for D.O., <90 seconds for Temp.
Sensor warmup time	<60 seconds after power up
Sensor life time	>6 months (with good maintenance)
Dimension	176(L)x39(W)x39(H)
Weight	265g
Battery	3.7V@500mAh re-chargable battery
Power consumption	60 hours operation (no backlight condition)
Re-charging time	1.5 hours

Standard Package Meter (with bat. Built-in)/D.O. Probe/Electrolyte /2pcs membrane kits/USB-type C charging cable/ hard storage case/manual



*Available for EB project

COMBO WATER TESTER



IP67 Handheld pH/EC/TDS/SALT/D.O. 86021

- Big LCD to display multiple parameters in turns: PH, Conductivity or TDS or Salinity, Dissolved oxygen & Temperature (by using different probes in turns)
- Fast D.O. Measuring
- Accurate replaceable probes with anti-collision cap
- Auto ranging for conductivity measurement
- Manually altitude/salinity compensation for D.O. Reading
- Multiple points calibration: 3 points for pH, 1 point for D.O., 4 points for conductivity



Auto Power Off



Auto Temp. Compensation



Memory Recall



Manual Logging



Metric/Imperial



Low Battery



IP67



Model	86021
pH range/resolution	2.00~12.00/resolution :0.01
pH accuracy	+/-0.1
Cond. range	0~199.9, 0~1999uS/cm, 0~19.99, 0~150.0mS/cm
Cond. accuracy	+/-1% F.S +/- 1 digit
Cond. resolution	0.1uS/cm, 1uS/cm, 0.01mS/cm, 0.1mS/cm
TDS. Range (f is TDS factor)	0~199.9*f, 0~1999*f ppm, 0~19.99*f, 0~150.0*f ppt
TDS. Accuracy/res.	+/-1% F.S +/- 1 digit; res.:0.1, 1ppm;0.01, 0.1ppt
TDS Factor	0.30~1.00
Salinity range	0~10.00ppt; 0~42.0ppt(SEA WATER)
Salinity accuracy/res.	+/-1% F.S +/- 1 digit; res.: 0.01 ppt, 0.1ppt
D.O. range	0.0~199.9% (0.0~30.0mg/L)
D.O. Accuracy/res.	+/-3% of F.S. +1 digit ; res.: 0.1
Temp. range	-5~60.0°C
Temp. Accuracy/res.	+/-0.5°C ; 0.1
Compatible probe	pH probe, EC probe and D.O probe Could be all used on one meter at the same time
LCD size(mm)	32.5(H)x54(W)
Operating temp.&RH%	0~50°C, Humidity<80%
Storage temp.&RH%	0~60°C, Humidity < 90%
Dimension(mm)	169(L)x78.3(W)x43.4(H)
Weight	200g
Power	4PCS AAA Batteries
Standard Package	Meter/Manual/Carry case/Battery
Standard Probe	PH probe/Cond. Probe/D.O.Probe/D.O. Electrolyte/ 2 Membrane set/Cable clip (User can decide which probe to be included as standard)

Ordering Code

- VZ86021AZ0, 86021 meter only
- VZ86021AZ1, 86021 meter +DO probe
- VZ86021AZ2, 86021 meter +pH+EC probe
- VZ86021AZ3, 86021 meter +pH+EC+DO probe
- VZ863PAZ, low ion pH probe for 86031/86021/84051
- VZ833PAZ, EC probe for 86031/86021/84051
- VZ843PAZ, DO probe for 86031/86021/84051
- VZ84PAAZ, DO membrane+electrolyte for 843P,8413P



OPTICAL DISSOLVED OXYGEN METER

NEW



86022

Labortary grade optical D.O.

Excellent for:



Pharmaceutical



Biotechnology

Wine applications

Standard probe:



D.O. REPLACEMENT PROBE
P/N: VZ86022PAZ
Size: 12(dia.) x 130mm(L)
Cable length : 2 meters long

Ordering Code

VZ86022AZ, 86022 meter w/optical D.O. Probe
VZ86022PAZ, 2M long cable D.O probe with probe tip storage protection cap

*Available for EB project

86022 Dissolved Oxygen meter w/ fluorescent optical D.O probe

- Great for low flow and small volume sample
- Remain accuracy in low oxygen range and won't be affected by acid gases
- No polarization time and no probe maintenance work
- Big LCD with D.O. & Temperature display
- Selectable % and mg/L unit for D.O. Value
- °C/°F automatic temperature compensation built-in
- Manual salinity and auto pressure compensation
- 3 points D.O. calibration and 1 point temp. Adjustment



Model	86022
DO range (in mg/L)	0.0~50.0 mg/L
DO accuracy	±0.1mg/L(<10mg/L), ±0.2mg/L(10 ~ 20mg/L), ±0.2~1.5mg/L(20~50mg/L)
DO resolution	0.0001mg/L(0 ~ 0.5mg/L), 0.001mg/L(0.5 ~ 1mg/L), 0.01mg/L(1 ~ 50mg/L)
DO range (in %)	0.0%~500.0%
DO accuracy	±1% of range(<10mg/L), ±1% of range(10~20mg/L), ±1~3% F.S (20~50mg/L)
DO resolution	0.1 %
Temp. range	0~50.0°C/32~122°F
Temp. accuracy	+/-0.2°C/0.4°F
Temp. resolution	0.1°C
Auto Temp. Compensation	0.0~50.0°C/32~122°F
Manual Compensation	INCLUDED
Salinity range	0.0~55.0 ppt
Salinity res.	0.1 ppt
Barometric pressure	Auto compensation (50.0 ~ 115.0 kPa)
Pressure res./accuracy	0.1 kPa ; ±0.2kPa
D.O. Calibration points	0.0% , 4.78% and 100.0%
LCD size	32.5(H)x54(W)
Operating temp.	0~50°C
Operating RH%	Humidity<85%
Storage temp.	0~50°C
Storage RH%	Humidity < 80%
Sensor life time	> 1 year (with good maintenance)
Dimension	169(L)x78.3(W)x43.4(H)
Weight	200g
Battery	6pcs AAA
Power consumption	10 hours operation
Standard Package	Meter /D.O. Probe/6pcs AAA batteries/ hard carry case/manual



IP67 Handheld pH/EC/TDS/SALT/D.O. 86031

- Big LCD with multiple parameters simultaneously:
PH, Conductivity or TDS or Salinity, Dissolved oxygen & Temperature
- Fast D.O. Measuring
- Accurate replaceable probes with anti-collision cap
- Auto ranging for conductivity measurement
- Manually altitude/salinity compensation for D.O. Reading
- Multiple points calibration: 3 points for pH, 1point for D.O., 4 points for conductivity



Auto Power Off



Auto Temp. Compensation



Memory Recall



Manual Logging



Metric/Imperial



Low Battery



IP67



PH

EC/TDS/SALT

D.O.

Probes



Accessory

Model	86031
pH range/resolution	2.00~12.00/resolution :0.01
pH accuracy	+/-0.1
Cond. range	0~199.9, 0~1999uS/cm, 0~19.99, 0~150.0mS/cm
Cond. accuracy	+/-1% F.S +/- 1 digit
Cond. resolution	0.1uS/cm, 1uS/cm, 0.01mS/cm, 0.1mS/cm
TDS. Range (f is TDS factor)	0~199.9*f, 0~1999*f ppm, 0~19.99*f, 0~150.0*f ppt
TDS. Accuracy/res.	+/-1% F.S +/- 1 digit; res.:0.1,1ppm;0.01, 0.1ppt
TDS Factor	0.30~1.00
Salinity range	0~10.00ppt; 0~42.0ppt(SEA WATER)
Salinity accuracy/res.	+/-1% F.S +/- 1 digit; res.: 0.01 ppt, 0.1ppt
D.O. range	0.0~199.9% (0.0~30.0mg/L)
D.O. Accuracy/res.	+/-3% of F.S. +1 digit ; res.: 0.1
Temp. range	-5~60.0°C
Temp. Accuracy/res.	+/-0.5°C ; 0.1
Compatible probe	pH probe, EC probe and D.O probe Could be all used on one meter at the same time
LCD size(mm)	32.5(H)x54(W)
Operating temp.&RH%	0~50°C, Humidity<80%
Storage temp.&RH%	0~60°C, Humidity < 90%
Dimension(mm)	169(L)x78.3(W)x43.4(H)
Weight	200g
Power	4PCS AAA Batteries
Standard Package	Meter/Manual/Carry case/Battery
Standard Probe	PH probe/Cond. Probe/D.O.Probe/D.O. Electrolyte/ 2 Membrane set/Cable clip (User can decide which probe to be included as standard)

Ordering Code

- VZ86031AZ0, 86031 meter only
- VZ86031AZ1, 86031 meter +DO probe
- VZ86031AZ2, 86031 meter +pH+EC probe
- VZ86031AZ3, 86031 meter +pH+EC+DO probe
- VZ863PAZ, low ion pH probe for 86031/86021/84051
- VZ833PAZ, EC probe for 86031/86021/84051
- VZ843PAZ, DO probe for 86031/86021/84051
- VZ84PAAZ, DO membrane+electrolyte for 843P,8413P



*Available for EB project

BENCHTOP WATER TESTER

Benchtop PH/ORP/COND./TDS/SALT 86501/86502/86503/86504/86505



86505

- Durable electrode holder for left & right side placement
- Auto or manual temperature compensation
- Auto ranging or manual ranging
- Up to 5 points calibration points. Calibration & electrode information review
- Measuring parameters of each model:
86501: pH & mV & Temp.
86502: pH & mV & ORP & Temp.
86503: Cond. & Temp.
86504: pH & mV & ORP & Cond. & Temp.
86505: pH & mV & ORP & Cond. & TDS & Salt & Temp.



86501

86502

86503

86504



Model	86501	86502	86503	86504	86505
pH range	0.00~14.00		N/A		0.00~14.00
pH accuracy	+/-0.02		N/A		+/-0.02
pH resolution	0.01		N/A		0.01
mV range	+/-1999mV		N/A		+/-1999mV
mV accuracy	+/-0.2mV(-199.9~199.9mV) or +/-2mV(others)		N/A		+/-0.2mV(-199.9~199.9mV) or +/-2mV(others)
mV resolution	+/-0.1mV(-199.9~199.9mV) or +/-1mV(others)		N/A		+/-0.1mV(-199.9~199.9mV) or +/-1mV(others)
Cond. range	N/A			0~19.99, 0~199.9, 0~1999uS/cm; 0~19.99, 0~199.9mS/cm	
Cond. accuracy	N/A			+/-1% F.S +/- 1 digit	
Cond. resolution	N/A			0.05% of Full Scale	
TDS range	N/A		N/A	0~19.99, 0~199.9, 0~1999ppm; 0~19.99, 0~199.9ppt	
TDS accuracy	N/A		N/A	+/-1% F.S +/- 1 digit	
TDS resolution	N/A		N/A	0.05% of Full Scale	
Salinity range	N/A		N/A	0~11.38ppt 0~80.0ppt(NaCl)	
Salinity accuracy	N/A		N/A	+/-1% F.S +/- 1 digit	
Salinity resolution	N/A		N/A	0.1	
TDS Factor	N/A		N/A	0.3~1.00	
Temp. coefficient	N/A		0~10.0%/°C		
Temp. range	0~80.0°C				
Temp. accuracy	+/-0.5°C				
Temp. resolution	0.1				
Compatible probe	PH	PH ORP	COND.	PH ORP COND.	PH ORP COND.
LCD size(mm)	40(H)x105(W)				
Operating temp.&RH%	0~50°C, Humidity<80%				
Storage temp.&RH%	-20~60°C, Humidity < 90%				
Dimension(mm)	260(L)x168(W)x58(H)				
Weight	150g				
Power	9V adaptor				

Standard Package Meter/ USA plug type adaptor/manual/probe/ solution/cable/software CD/probe stand

Probe list in standard package:

	86501	86502	86503	86504	86505
PH	✓	✓		✓	✓
COND.			✓	✓	✓

Optional:

3 PLUG UNIVERSAL ADAPTOR P/N:VB1099EX
ORP Probe
 P/N:VZ850PAZ (Pt Pin type)
 P/N:VZ86P5AZ (Pt Band type)

Ordering Code

VZ86501AZ, 86501 meter+ probe set
 VZ86502AZ, 86502 meter+ probe set
 VZ86503AZ, 86503 meter+ probe set
 VZ86504AZ, 86504 meter+ probe set
 VZ86505AZ, 86505 meter+ probe set
 For changing to VB1099EX, it is VZxxxxAZ1
 Find more part numbers in pH probe page

*Available for EB project

BENCHTOP WATER PRINTER

Benchtop PH/ORP/COND./TDS/SALT 86551/86552/86553/86554/86555



- Durable electrode holder for left & right side placement
- Auto or manual temperature compensation
- Auto ranging or manual ranging
- Up to 5 points calibration points. Calibration & electrode information review
- Measuring parameters of each model:
86551: pH & mV & Temp.
86552: pH & mV & ORP & Temp.
86553: Cond. & Temp.
86554: pH & mV & ORP & Cond. & Temp.
86555: pH & mV & ORP & Cond. & TDS & Salt & Temp.



Model	86551	86552	86553	86554	86555
pH range	0.00~14.00		N/A		0.00~14.00
pH accuracy	+/-0.02		N/A		+/-0.02
pH resolution	0.01		N/A		0.01
mV range	+/-1999mV		N/A		+/-1999mV
mV accuracy	+/-0.2mV(-199.9~199.9mV) or +/-2mV(others)		N/A		+/-0.2mV(-199.9~199.9mV) or +/-2mV(others)
mV resolution	+/-0.1mV(-199.9~199.9mV) or +/-1mV(others)		N/A		+/-0.1mV(-199.9~199.9mV) or +/-1mV(others)
Cond. range	N/A			0~19.99, 0~199.9, 0~1999uS/cm; 0~19.99, 0~199.9mS/cm	
Cond. accuracy	N/A			+/-1% F.S +/- 1 digit	
Cond. resolution	N/A			0.05% of Full Scale	
TDS range	N/A		N/A	0~19.99, 0~199.9, 0~1999ppm; 0~19.99, 0~199.9ppt	
TDS accuracy	N/A		N/A	+/-1% F.S +/- 1 digit	
TDS resolution	N/A		N/A	0.05% of Full Scale	
Salinity range	N/A		N/A	0~11.38ppt 0~80.0ppt(NaCl)	
Salinity accuracy	N/A		N/A	+/-1% F.S +/- 1 digit	
Salinity resolution	N/A		N/A	0.1	
TDS Factor	N/A		N/A	0.3~1.00	
Temp. coefficient	N/A		0~10.0%/°C		
Temp. range	0~80.0°C				
Temp. accuracy	+/-0.5°C				
Temp. resolution	0.1				
Compatible probe	PH	PH ORP	COND.	PH ORP COND.	PH ORP COND.
LCD size(mm)	40(H)x105(W)				
Operating temp.&RH%	0~50°C, Humidity<80%				
Storage temp.&RH%	-20~60°C, Humidity < 90%				
Dimension(mm)	317(L)x169(W)x56.8(H)				
Weight	200g				
Power	4pcs AA or 9V adaptor				

Standard Package Meter/ batteries/manual/probe/ solution/cable/software CD/probe stand/thermo paper

Probe list in standard package:

	86551	86552	86553	86554	86555
PH	✓	✓		✓	✓
COND.			✓	✓	✓

Optional:

3 PLUG UNIVERSAL ADAPTOR P/N:VB1099EX
ORP Probe
 P/N:VZ850PAZ (Pt Pin type)
 P/N:VZ86P5AZ (Pt Band type)
PAPER ROLL P/N:VM68898A (58mm x20m x40

Ordering Code

VZ86551AZ, 86551 meter+ probe set
 VZ86552AZ, 86552 meter+ probe set
 VZ86553AZ, 86553 meter+ probe set
 VZ86554AZ, 86554 meter+ probe set
 VZ86555AZ, 86555 meter+ probe set
 VM68898A, paper roll

Find more part numbers in pH probe page

SES, GÜRÜLTÜ VE DESİBEL ÖLÇERLER

Professional Sound Level Meter 8921/8922



- Meet IEC60651, type 2 standard
- Deluxe super large LCD display
- Easy to calibrate by using AZ 8930 sound calibrator
- Unique background noise absorber
- Features w/digital display and analog bar graph
- Auto/manual ranging, 6 measurement ranges in 10 steps
- Max hold and Fast / Slow response mode
- A /C weighting is selectable
- AC/DC analog output



MAX/MIN



Low Battery



PC Link



Backlight
(8922 only)



Tripod Hole

Model	8921	8922
Measure range	A weight: 30dB~130dB C weight: 35dB~130dB	
Digital display (6 ranges)	30~80, 40~90, 50~100, 60~110, 70~120, 80~130dB	
Digital display resolution	0.1dB	
Digital updating time	160mS	
Quasi-analog bar (6 ranges)	30~80, 40~90, 50~100, 60~110, 70~120, 80~130dB	
Quasi-analog bar resolution	1dB	
Bar updating time	40mS	
Accuracy at 94dB, 1KHz	+/-1.5dB	
Analog output	AC 0.707Vrms(at full scale); DC 10mV/dB	
Microphone	Dia.6mm electric condenser microphone	
Frequency range	31.5Hz~8KHz	
Battery life time	30 hours typical	
Windscreen	YES	
LCD size (mm)	42(H)x62(W)	
LCD backlight	NO	YES
Operating temp.	0~50°C	
Operating RH%	Humidity < 80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	254x77x37	
Weight	~200g	
Battery	9V battery x 1pc or 9VDC adaptor	
Standard Package	Meter/Battery/Manual/carry case	
Optional Accessory	PC software&cable kit/8930 sound calibrator	

Optional



USB CABLE & SOFTWARE
P/N: VZUSBAZM



SOUND CALIBRATOR
P/N: VZ8930BAZ
- IEC 60942:2018 CLASS II SOUND CALIBRATOR
- FOR MICROPHONE HEAD MECHANICAL DIMENSIONS COMPLIANT WITH IEC 61094-1 OR 61094-4

Ordering Code

VZ8921AZ, 8921 sound level meter
VZ8922AZ, 8922 sound level meter
VZUSBAZM, software kit
VZ8930BAZ, class II sound calibrator

*Available for EB project





Portable Digital Sound Level Meter 8925/8928

- The most cost-effective best selling meter
- Features w/digital display and analog bar graph
- Auto / manual ranging ,4 measurement ranges in 10 steps
- Max hold and fast / slow response is selectable
- A / C weighting is selectable
- Easy to calibrate by using AZ 8930 sound calibrator
- Max/Min recording for a specific period
- Analog output



MAX/MIN



Low Battery



Tripod Hole



Model	8925	8928
Measure range	A weight: 40dB~130dB C weight: 45dB~130dB	
Digital display (4 ranges)	40~70dB, 60~90dB, 80dB~110dB, 100dB~130dB.	
Digital display resolution	0.1dB	
Digital updating time	160mS	
Quasi-analog bar (4 ranges)	40~70dB, 60~90dB, 80dB~110dB, 100dB~130dB.	
Quasi-analog bar resolution	1dB	
Bar updating time	40mS	
Accuracy at 94dB, 1KHz	+/-2dB	
Analog output	AC 0.707Vrms(FS)	
Microphone	Dia.6mm electric condenser microphone	Dia.10mm electric condenser microphone
Frequency range	31.5Hz~8KHz	
Battery life time	60 hours typical	30 hours typical
Windscreen	YES	N/A
LCD size (mm)	30(H)x35(W)	32(H)x42(W)
Operating temp.	0~50°C	
Operating RH%	Humidity < 80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm)	57x230x44	72x182x30
Weight	~130g	~150g
Battery	AAA x 4pcs	9V x 1pc
Standard Package	Meter/Battery/Manual/Paper box	
Optional Accessory	N/A	PU pouch

Optional



POUCH (SOFT CARRYING CASE)
P/N: VM68926U
FOR 8928
COLOR: BLACK
SIZE:176X75X35MM



SOUND CALIBRATOR
P/N: VZ8930BAZ

IEC 60942:2018 CLASS II
SOUND CALIBRATOR

FOR MICROPHONE HEAD
MECHANICAL DIMENSIONS
COMPLIANT WITH IEC 61094-1
OR 61094-4

Ordering Code

VZ8925AZ, 8925 sound level meter
VZ8928AZ, 8928 sound level meter
VZ8930BAZ, class II sound calibrator

*Available for EB project





Professional Sound Level Calibrator 8930

- Certified to meet IEC 60942:2018, class 2 standard
- Stay accurate even in extreme room humidity condition and high altitude places
- Suitable for sound level meter with 13.2mm diameter microphone head which is mechanical compliant with IEC 61094-1 or IEC 61094-4
- Calibration frequency at 1K Hz with three level 114dB, 94dB and 104dB
- Vivid LED display with stability and low power indicator
- Power up by batteries, easy to carry around
- Compatible with AZ made sound level meter, includes model 8922, 8921 and 8925.



Model	8930		
Calibration frequency	1000Hz		
Frequency accuracy	+/-1.7%		
Sound pressure level	94dB	104dB	114dB
Sound pressure accuracy	+/-0.4dB		
Stabilization time	10 Seconds		
Total distortion	<3%		
Ambient condition influence	Temperature and humidity influence: < 0.4 dB @ 0...40 °C and 25...90%RH Static pressure influence:< 0.1 dB @ 65...108 kPa		
Stability levels	Short-term stability (<60s): ±0.15 dB Stability after 1 year with normal use: ±0.35 dB		
Battery life time	50 hours typical		
LED indicator	1 Green/Red: ready/low power 3 Green:114/104/94dB		
Operating temp.	0~40°C		
Operating RH%	25~ 90% RH		
Storage temp.	-20~50°C		
Storage RH%	Humidity < 90%		
Dimension(mm)	60*130*37.5		
Microphone head cavity (dia. mm)	8930B 13.2mm		
Weight	~400g		
Battery	2pcs AA Alkaline Batteries		
Standard Package	Meter/Battery/Manual/paper box		

Ordering Code

VZ8930BAZ, class II sound calibrator.
13.2mm diameter.
For most 1/2" microphone head

*Available for EB project



PROBLU SICAKLIK ÖLÇERLER



IP65 Thermometer w/time counter 8800K

- The most cost effective waterproof temperature monitor with LCD and external probe
- Count down timer with red LED timer up indicator
- Wall mounted design for long time using
- Temperature unit °C display
- 2 alkaline AAA batteries provides 6 months battery life time
- Stainless probe & long external temperature probe
 - length:30mm
 - diameter:3.8mm
 - cable length:10cm~200cm (depends)

Reliable and Quick way to measure temperature precisely!!!

Count down timer is made for any refillable cooling system as **reminder**

Light, compact and IP65 design is suitable for small space application!!



Ordering Code
VZ8800KAZ, 8800K thermometer timer



LED Alarm



IP65

Model	8800K
Temp. Range (thermistor)	-30~70°C
Temp. Resolution	0.1°C(0.1°F)
Temp. Accuracy	+/-0.6°C(+/-0.9°F)
Temp. Response time	2 minutes typical
LCD update time	2 seconds
LCD size (mm, HxW)	32x19
Operating temp.	0~50°C
Operating RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Meter Dimension(mm)	Dia. 76x17(H)
Meter Weight	~50g
Probe size(mm)	
Length	30
Diameter	3.8
Cable length(mm)	100~2000 (depends)
Battery	AAA ALKALINEx 2pcs
Standard Package	Meter (probe built-in),battery, manual, plain box



THERMOCOUPLE THERMOMETER

K Type Thermocouple Thermometer 8801/8803/8811



8801



8803



Rubber protective sensor cap prevents water permeating into meter

IP66

8811

■ Fashion design and the most popular & fast K type thermocouple measuring meter

■ Big LCD for easy reading

■ LCD updates every one second

■ 8811 features: max/min/ back light/relative temp./ single K input/Waterproof(IP66)

8801 features: max. Hold/single K input

8803 features: max. Hold/dual K input/t1-t2 Differential temperature



Auto Power Off



HOLD



MAX/MIN



Metric/Imperial



Backlight



IP66

(8811 only)



Model	8801	8803	8811
K temp. range	-50~1300°C	-50~1300°C	-200~1300°C
K temp. resolution			
-200~650 °C	0.1°C	0.1°C	0.1°C
640~1370 °C	1°C	1°C	1°C
-328~1000 °F	0.1°F	0.1°F	0.1°F
990~2498 °F	1°F	1°F	1°F
K temp. accuracy (under 18~28°C ambient temp.)	-50°C~1000°C ±(0.3% rdg +1°C) 1000°C~1300°C ±(0.5% rdg +1°C) -58°F~1800°F ±(0.3% rdg +2°F) 1800°F~2000°F ±(0.5% rdg +2°F)	-200°C~1000°C: ±(0.3% rdg +1°C) 1000°C~1300°C: ±(0.5% rdg +1°C)	-200°C~1000°C: ±(0.3% rdg +1°C) 1000°C~1300°C: ±(0.5% rdg +1°C)
Sampling rate	2 times per seconds		
LCD size (mm, HxW)	37x42	37x42	26x46
Operating temp.	0~50°C		
Operating RH%	Humidity < 80%		
Storage temp.	-20~50°C		
Storage RH%	Humidity < 90%		
Dimension(mm,LxWxT)	180x67x30	180x67x30	174x64x33
Weight	~100g	~110g	~110g
Battery	9V x 1pc	9Vx 1pc	9V x 1pc or 9V adaptor (optional)
Standard Package	Meter, K type thermocouple, battery, manual. rubber cap (8811 only)		
Optional Accessory	K type thermocouple (custom made thermocouple is available upon request)		



K BEAD TYPE THERMOCOUPLE
P/N:VE60A000 (1 METER LONG)
P/N:VE60A0YK(4 METERS LONG)
Other custom made probe
: immersion, penetrate, surface.....
etc are available upon request



K THERMOCOUPLE FOR HIGH TEMP.
P/N:VE6SF013A
Probe: 4.8mm dia. * 150mm long, Material: Inconel 600
Operation Temp.: -200 to 1200°C
Accuracy: class 1 (JIS C1602-1995, correspond to former JIS class 0.
Handle:12.7mm dia * 50mm long, Material: SUS316
Operation Temp.:105°C
Wire:1.3M, coated with Fluorinated ethylene propylene (FE yellow color

Ordering Code

VZ8801AZ, 8801 one K type thermometer

VZ8803AZ, 8803 Two K type thermometer

VZ8811AZ, IP66 one K type thermometer

VE6SF013A, K probe for high temp.

VE60A000, 1M long bead K wire

VE60A0YK, 4M long bead K wire

THERMOCOUPLE THERMOMETER



IP67 HACCP K Type Thermocouple Thermometer 8802/8804

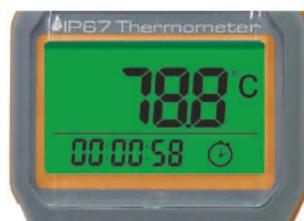
- Rigid housing design and the fast response K type probe
- Twice data updating in 1 second time interval
- Follow HACCP principle to check food safety by using Green/Red backlight to indicate temperature hazards
- One touch to display temperature change from baseline
- Temperature high alarm threshold is programmable
- Count down timer is included in device
- 99 manual memory is included in device (8804 only)



Follow **HACCP** principle, using Green/Red backlight to indicate temp. hazards!



Measured temp.: 4~60°C



Measured temp.: <4°C or >60°C



Ordering Code

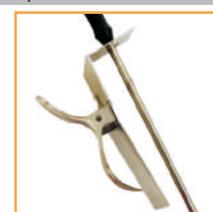
VZ8802AZ, 8802 K type thermometer
 VZ8804AZ, 8804 K type thermometer
 VZ8802PAZ, IP67 K type probe
 VM4889PD, stainless probe holder

Model	8802	8804
Measuring Range	-50~200°C(-58~392°F)	
Resolution	0.1°C/0.1°F	
Accuracy (under 18~28°C ambient temp.)	+/- (1% of reading + 1°C)	
IP rating	IP 67	
Temp. Response time	60 seconds typical	
99 memories	NO	YES
LCD update time	2 times update every second	
LCD size (mm, HxW)	54 x 32.5	
Probe size(mm)		
Length	150	
Diameter	3.2	
Handle length(mm)	85	
Cable length(mm)	1100	
Probe Weight	~50g	
Operating temp.	0~50°C	
Operating RH%	Humidity < 80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm, LxWxT)	169 x 78.3 x 34.4	
Weight	~200g	
Battery	6pcs AAA battery	
Standard Package	Meter, K probe, stainless holder, battery, manual	
Optional Accessory	Custom made K probes are available upon request	



K TYPE PENETRATE PROBE

P/N: VZ8802PAZ
 Temp. Range: -50~200°C
 Length: 150mm
 Diameter: 3.2mm
 Handle length: 85mm
 Cable length: 1100mm



STAINLESS PROBE HOLDER

P/N: VM4889PD
 Included in standard package to offer you steady probe support!

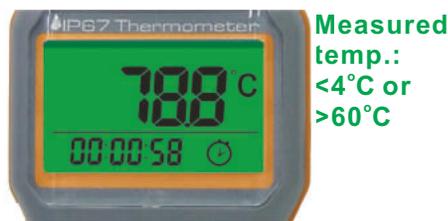


IP67 HIGH ACCURACY Pt100 Thermometer 8821/8822

- Rigid housing design and the most accurate Pt100 probe
- High accuracy $\pm 0.15^{\circ}\text{C}$ & 0.01°C resolution for full range
- Unique plug & lock pre-calibrated Pt100 IP67 probe.
- Follow HACCP principle to check food safety and using Green/Red dual color backlight to indicate temperature hazards
- One touch to display temperature change from baseline
- Temperature high alarm threshold programmable
- Count down timer is included in device (8822 only)



Follow **HACCP** principle, using Green/Red backlight to indicate temp. hazards!



Model	8821	8822
Measuring Range	-100.00~300.00°C (-148.00~572.00°F)	
Resolution	0.01°C/0.01°F	
Accuracy	$\pm 0.15^{\circ}\text{C}$	
IP rating	IP 67	
Temp. Response time	3 mins typical	
99 memories	NO	YES
LCD update time	every second	
LCD size (mm, HxW)	54 x 32.5	
Probe size(mm)		
Length	150	
Diameter	3.2	
Handle length(mm)	100	
Cable length(mm)	1100	
Probe Weight	~50g	
Operating temp.	10~35°C	
Operating RH%	Humidity < 80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm, LxWxT)	169 x 78.3 x 34.4	
Weight	~200g	
Battery	6pcs AAA battery	
Standard Package	Meter, RTD (Pt)probe, stainless holder, battery, manual	
Optional Accessory	Custom made RTD probes are available upon request	



PT100 PENETRATE PROBE
 P/N: VZ882PNL
 Temp. Range: -100~300°C
 Length: 150mm
 Diameter: 3.2mm
 Handle length: 100mm
 Cable length: 1100mm



STAINLESS PROBE HOLDER
 P/N: VM4889PD
 Included in standard package to offer you steady probe support!

Ordering Code

VZ8821AZ, 8821 Pt100 thermometer
 VZ8822AZ, 8822 Pt100 thermometer
 VY882PNL, Pt100 probe
 VM4889PD, stainless probe holder

*Available for EB project

THERMOCOUPLE THERMOMETER

Thermocouple Thermometer w/PC Link 8851/8852/8855/8856



Optional



RUBBER HOLSTER / STAND
P/N: VM68601HA, BLUE COLOR
P/N: VM68601HS+VM68601HS1
RED COLOR
P/N: VM68601HS11+VM68601HSA
GREY COLOR

Ordering Code

VZ8851AZ, 8851 Thermometer
VZ8852AZ, 8852 Thermometer
VZ8855AZ, 8855 Thermometer
VZ8856AZ, 8856 Thermometer
VE6SF013A, K probe for high temp.
VE60A000, 1 METER LONG bead K
VE60A0YK, 4 METERS LONG bead K
VZUSBAZM, USB software kit

*Available for EB project

- Fashion design and the most popular & fast multiple type thermocouple measuring meter
- Super big LCD for easy reading
- Data records stamped with real time clock
- Features of each model:
8851: single input &K/J/T probe compatible
8852: dual input &K/J/T probe compatible
8855: single input &K/J/T/R/S/E probe compatible
8856: dual input &K/J/T/R/S/E probe compatible



Auto Power Off



HOLD



Metric/Imperial



Backlight



PC Link



DC jack

Model	8851	8852	8855	8856
K temp. Range & Accuracy (under 18~28°C ambient temp.)		-200~1370°C ; ±(0.1% rdg +0.7°C) -328~2498°F ; ±(0.1% rdg +1.4°F)		
Resolution	-200~650°C/640~1370°C -328~1000°F/990~2498°F		0.1°C/1°C 0.1°F/1°F	
J temp. Range & Accuracy (under 18~28°C ambient temp.)		-200~760°C ; ±(0.1% rdg +0.7°C) -328~1400°F ; ±(0.1% rdg +1.4°F)		
Resolution	-200~500°C/490~760°C -328~940°F/930~1400°F		0.1°C/1°C 0.1°F/1°F	
T temp. Range & Accuracy (under 18~28°C ambient temp.)		-200~390°C ; ±(0.1% rdg +0.7°C) -328~730°F ; ±(0.1% rdg +1.4°F)		
Resolution	-200~390°C -328~730°F		0.1°C 0.1°F	
R temp. Range & Accuracy (under 18~28°C ambient temp.)		N/A	0~1760°C ; ±(0.3% rdg +0.7°C) 32~3200°F ; ±(0.3% rdg +1.4°F)	
Resolution	0~1000°C/990~1760°C 32~1000°F/990~3200°F	N/A	0.1°C/1°C 0.1°F/1°F	
S temp. Range & Accuracy (under 18~28°C ambient temp.)		N/A	0~1760°C ; ±(0.3% rdg +0.7°C) 32~3200°F ; ±(0.3% rdg +1.4°F)	
Resolution	0~1000°C/990~1760°C 32~1000°F/990~3200°F	N/A	0.1°C/1°C 0.1°F/1°F	
E temp. Range & Accuracy (under 18~28°C ambient temp.)		N/A	-200~736°C ; ±(0.1% rdg +0.7°C) -328~1356°F ; ±(0.1% rdg +1.4°F)	
Resolution	-200~404°C/370~736°C -328~760°F/710~1356°F	N/A	0.1°C/1°C 0.1°F/1°F	
LCD size (mm, HxW)			30x51	
Operating temp.			0~50°C	
Operating RH%			Humidity < 80%	
Storage temp.			-20~50°C	
Storage RH%			Humidity < 90%	
Dimension(mm,LxWxT)			182x72x30	
Weight			~150g	
Battery			9V x 1pc or adaptor	
Standard Package			Meter, K bead thermocouple x1, battery, manual.	
Optional Accessory			K type thermocouple (custom made thermocouple is available upon request) Rubber boot	



IP67

8891



Safe, Quick and Easy to read the boiler temperature in faraway place!!



IP67

EXTERNAL PROBE

P/N: VZ889PNL
Length: 500mm
Diameter: 5mm
Handle length: 65mm
Cable length: 1500mm



IP65: protected against jets of water

IP66: protected against strong jets of water

Ingress Protection

Solids (Dust etc.)

Liquids (Water etc.)

IP67: protected against immersion in water up to 1 meter for 30 minutes

IP68: protected against immersion in water under pressure for long periods

Ordering Code

VZ8891AZ, 8891 long probe thermometer
VZ889PNL, 8891 long probe
VM4889PD, stainless probe holder

*Available for EB project

IP67 Waterproof Thermometer with Long Probe 8891

- The most cost effective waterproof temperature monitor with super large LCD and long probe
- 0.1 degree resolution and high accuracy
- IP67 waterproof meter and external probe
- Wall mounted design for long time using
- 4 alkaline AAA batteries provides 1 year battery life
- Stainless long & durable external probe
 - length:0.5m
 - diameter:5mm
 - handle length(nylon+glass fiber)
 - cable length(silicon):1.5m



Metric/Imperial



Low Battery



IP67

Model	8891
Temp. Range (thermistor)	-10~110°C(-14~230°F)
Temp. Resolution	0.1°C(0.1°F)
Temp. Accuracy	+/-1°C(+/-1.6°F)
Temp. Response time	2 minutes typical
LCD update time	10 seconds
LCD size (mm, HxW)	45x96
Operating temp.	0~50°C
Operating RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Meter Dimension(mm,LxWxT)	122x85x30
Meter Weight	~200g
Probe size(mm)	
Length	500
Diameter	5
Handle length(mm)	65
Cable length(mm)	1500
Probe Weight	~80g
Battery	AAA ALKALINEx 4pcs
Standard Package	Meter, probe, probe holder, battery, manual, plain box
Optional Accessory	External probe



STAINLESS PROBE HOLDER

P/N:P/N:VM4889PD
Included in standard package to offer you steady probe support!



THERMOCOUPLE LOGGER/PRINTER

DUAL INPUT



9881



9882

DUAL INPUT



9681



9682

Three measurement modes

1. Example: 9881 single point measurement

```

T2: 29.7C      T1-T2: 10.0C
T1: 39.7C
EXIT  TYPE K  PRN
    
```

2. Example: 9881 manually record

```

01: 06:30 23:56:49
T1: 56.1F
T2: 86.1F
T1-T2: 30F
02:
T1:
T2:
EXIT  MEAS  EDIT  NEXT
    
```

3. Example: Logging function in processing

```

Begin: 30-06-05
Start: 02:28:55
End: 02:27:05
Suspend: 03:28:55
Rate: 60Sec(s)
Expect: 4000Point(s)
Remain: 3995Point(s)
EXIT  EDIT  VIEW  NEXT
    
```

Logging...

```

STOP  VIEW
    
```

Thermocouple Thermometer Logger w/o printer:9681/9682 with printer:9881/9882

- Measuring & recording temperature via thermocouple 3 measurement modes:
 - single point measurement
 - manual record up to 99 points
 - automatically record up to 4000 points
- Built-in printer to print anytime, anywhere
- Automatic recording is programmable
- Uploading pre-edited header from PC to meter



Auto Power Off



Manual Logging



Auto Logging



Low Battery



Memory Recall



PC Link



Backlight



DC jack



Dot matrix LCM



Tripod Hole



Printer

Model	9681/9881	9682/9882
K temp. Range & Accuracy (under 18~28°C ambient temp.)	-200~1370°C ; ±(0.3% rdg +0.7°C) -328~2498°F ; ±(0.3% rdg +1.4°F)	
Resolution	0.1°C/0.1°F	
J temp. Range & Accuracy (under 18~28°C ambient temp.)	N/A	-200~760°C ; ±(0.3% rdg +0.7°C) -328~1400°F ; ±(0.3% rdg +1.4°F)
Resolution	N/A	0.1°C/0.1°F
T temp. Range & Accuracy (under 18~28°C ambient temp.)	N/A	-200~390°C ; ±(0.3% rdg +0.7°C) -328~730°F ; ±(0.3% rdg +1.4°F)
Resolution	N/A	0.1°C/0.1°F
R temp. Range & Accuracy (under 18~28°C ambient temp.)	N/A	0~1760°C ; ±(0.3% rdg +0.7°C) 32~3200°F ; ±(0.3% rdg +1.4°F)
Resolution	N/A	0.1°C/0.1°F
S temp. Range & Accuracy (under 18~28°C ambient temp.)	N/A	0~1760°C ; ±(0.3% rdg +0.7°C) 32~3200°F ; ±(0.3% rdg +1.4°F)
Resolution	N/A	0.1°C/0.1°F
E temp. Range & Accuracy (under 18~28°C ambient temp.)	N/A	-200~736°C ; ±(0.3% rdg +0.7°C) -328~1356°F ; ±(0.3% rdg +1.4°F)
Resolution	N/A	0.1°C/0.1°F
LCD size (mm, HxW)	26(H)x45(W)mm	
Operating temp.	0~50°C	
Operating RH%	Humidity < 80%	
Storage temp.	-20~50°C	
Storage RH%	Humidity < 90%	
Dimension(mm, LxWxT)	9681/9682: 170x70x40(H) mm	9881/9882: 208x70x53(H) mm
Weight	9681/9682:210g 9881/9882:370g	
Battery	9681/9682: AAA battery x 4pcs or 9V adaptor	9881/9882: AA battery x 4pcs or 9V adaptor
Standard Package	Meter, K bead thermocouple x2, battery, thermo paper, manual, software CD & cable, hard carry case	
Optional Accessory	K type thermocouple (custom made thermocouple is available upon request), spare thermo paper	

Ordering Code

VZ9681AZ, 9681 logger
VZ9682AZ, 9682 logger
VZ9881AZ, 9881 logger w/printer
VZ9882AZ, 9882 logger w/printer
VM69811B, thermo paper

Bulk order only



SPARE THERMO PAPER
P/N: VM69811B
SIZE: 38MM X 20M X 30@



K BEAD TYPE THERMOCOUPLE
P/N: VE60A000 (1 METER LONG)
P/N: VE60A0YK (4 METERS LONG)
Other custom made probe
: immersion, penetrate, surface....
etc are available upon request