0 to 1000 PPM, alarm setting, pen type

CO METER

Model : PCO-350

Your purchase of this CO METER marks a step forward for you into the field of precision measurement. Although this METER is a complex and delicate instrument, its durable structure will allow many years of use if proper operating techniques are developed. Please read the following instructions carefully and always keep this manual within easy reach.

OPERATION MANUAL

TABLE OF CONTENTS

1. FEATURES

* Two function : CO (Carbon monoxide), Temperature.
* CO range : 0 to 1,000 PPM x 1 PPM.
* Temperature. : 0 to 50 ℃,℃/℉
* CO measurement with fast response time.
* High repeatability and high accuracy.
* Pen type, easy to carryout and operation.
* CO function with alarm setting.
* Data hold function for freezing the desired value on display.
* Microprocessor circuit assures maximum possible accuracy, provides special functions and features.
* Auto shut off function to prolong the battery life.
* Operates from DC 1.5V (UM4/AAA) x 4 PCs batteries.
* Durable and compact ABS-plastic housing.

2. SPECIFICATIONS

2-1 General Specifications

Circuit	Custom one-chip of microprocessor LSI circuit.	
Display	LCD size : 28 mm x 19 mm.	
Measurement	CO(Carbon dioxide), Temperature	
Unit	CO	PPM
	Temp.	℃ , ℉
Sensor Type	CO	Electrochemical
	Temperature	Thermistor
Temperature Compensation	Automatic temp. compensation for CO measurement.	
Alarm Setting Data Hold	For CO measurement only. Freeze the display reading.	
Sampling Time	Approx. 1 second.	
Power off	Auto shut off saves battery life.	

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Zero	Build in zero button for offsetting the zero value
Operating Temperature	0 to 50 ℃.
Operating Humidity	Less than 80% R.H.
Power Supply	DC 1.5 V battery (UM4/AAA) x 4 PCs.
Power Current	Approx. DC 4.0 mA
Weight	194 g/ 0.43 LB.
Dimension	180 x 40 x 40 mm (7.1" x 1.6" x 1.6")
Accessories Included	Instruction manual......................1 PC Soft carrying case (CA-52A).......1 PC

2-2 Electrical Specifications (23± 5 ℃)

CO (Carbon dioxide)

CO ** Carbon monoxide*	Range	0 to 1,000 PPM
	Resolution	1 PPM
	Accuracy	± (5% + 2 PPM)
	Response time *	< 30 seconds
	Repeatability	< 2%
	Zero drift in long term	< 5 PPM
	Sensitivity drift	< 5% per year
	* The response time value is specified to reach the 90% reading value.	

Temperature

Temperature	Range	0 ℃ to 50 ℃ ,32 ℉ to 122 ℉.	
	Resolution	0.1 degree.	
	Accuracy	℃	± 0.8 ℃
		℉	± 1.5 ℉.

@ Above specification tests under the environment RF Field Strength less than 3 V/M & frequency less than 30 MHz only.
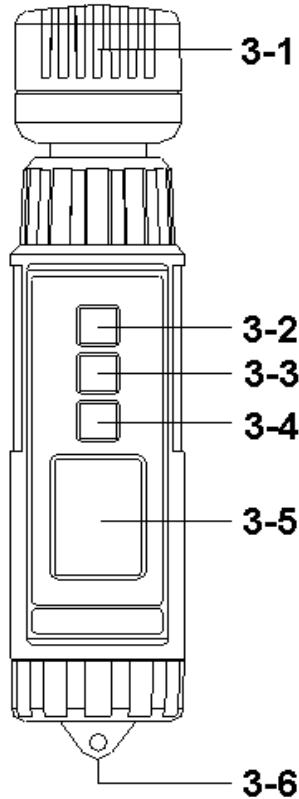
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3. FRONT PANEL DESCRIPTION

Fig. 1

3-1 CO Sensing Head

3-2 Power Button

3-3 Hold Button

3-4 Alarm Button

3-5 LCD Display

3-6 Battery Compartment/Cover

4. MEASURING PROCEDURE

4-1 CO measurement
1) Power on the meter by pressing the " Power Button "
   (3-2, Fig. 1) once,
   * Press the " Power Button " once again will power
     off.
2) Locate the " CO sensing head " (3-1, Fig. 1)
   to the position that intend to make the measurement.
   The upper Display (3-5, Fig. 1) will show the CO
   value in the unit of " PPM ". The lower Display (3-5,
   Fig. 1) will show the Temperature (Air Temp.) value
   in the unit of " ℃ " or " ℉ ".

4-2 Data hold
1) During the measurement, press the " Hold Button "
   (3-3, Fig. 1) momentarily to hold the measured
   value. The LCD will show a " HOLD " symbol.
2) Press the" Hold Button " once again to release the
   data hold function.

4-3 CO Alarm setting
Press the " Alarm Button " (3-4, Fig. 1) once in sequence
will present the Alarm setting value on the Display. Until
the desired Alarm value show on the Display, release the
" Alarm Button ", wait one second the Display will return to
normal screen. If the measurement CO value > Alarm
setting value, the Beeper will sound continuously.

 * The Alarm setting value are :
   25 PPM, 50 PPM 100 PPM, 200 PPM, 300 PPM, 400 PPM
   500 PPM and OFF.
 * If set the Alarm setting value to " OFF ", the Alarm
   function will switch to " OFF " (disable).

4-4 Auto power off
In order to prolong the battery life, the instrument has "Auto Power Off " function. The meter will switch off automatically if no buttons are pressed for around 10 minutes.

4-5 Set the Temp. unit (℃, ℉) with default
1) Power OFF the meter.
2) Press the " Hold Button " (3-3, Fig. 1) continuously, use another finger power ON the meter (press the " Power Button " once), until the Temp. unit (℃ or ℉) is presented on the Display then release the " Hold Button ", the Temp. unit will change From ℃ to ℉ (or ℉ to ℃) with default.

4-6 Zero adjustment
Put the meter into the clean air environment (not contain any CO value), power on the meter by pressing the " Power Button " (3-2, Fig. 1), wait about 30 seconds to warm up the meter.
If the display not show " Zero " CO value, then pressing " Alarm Button " (3-4, Fig. 1) continuously at least five seconds will offset the display value and show " 0 PPM ".

 * The zero adjustment procedures are effected only existing Display value is within 10 PPM.

5. BATTERY REPLACEMENT

1) Replace the batteries when the left corner of the LCD displays the low battery icon "   ".
2) Prepare 4 fresh 1.5 V (UM4, AAA) batteries.
3) To change the batteries, open (rotate clockwise direction) the " Battery Cover " (3-6, Fig. 1).
4) Make sure the " Battery cover " (3-6, Fig 1) is secured after changing the batteries.

6. CO VALUE VIA HEALTH INFORMATION

0 to 1 PPM	General environment
9 PPM	Max. exposure time : 8 hours *United States Environmental Protection Agency*
35 PPM	Max. exposure time : 1 hour *United States Environmental Protection Agency*
50 PPM	Max. exposure time : 8 hour *OSHA*
100 PPM	Max. exposure : 100 minutes *Circulation air * UL2034*
200 PPM	Headache, tired : Two to three hours
	Max. exposure : 35 minutes *UL2034*
400 PPM	Headache, tired : One to two hours
	Harm the life : Three hours
	Max. exposure : 15 minutes *UL2034*
800 PPM	Headache, tired : 45 minutes
	Death : Two to three hours.
1600 PPM	Death : One hour.

Attention :
* **Above health information are for reference only.**
* **The different age, sex, weight and personal heath condition will get the different effecting.**

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