GT-324
MANUAL

Met One Instruments, Inc

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GT-324 Manual

Technical Support

Should you require support, please consult your printed documentation to resolve your problem. If you are still experiencing difficulty, you may contact a Technical Service representative during normal business hours—7:00 a.m. to 4:00 p.m. Pacific Time, Monday through Friday.

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NOTICE

CAUTION—Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

WARNING—This product, when properly installed and operated, is considered a Class I laser product. Class I products are not considered to be hazardous.

There are no user serviceable parts located inside the cover of this device.

Do not attempt to remove the cover of this product. Failure to comply with this instruction could cause accidental exposure to laser radiation.

Table of Contents

1. Introduction

The GT-324 is a small lightweight four channel hand held particle counter. Key features include:

- Simple user interface with multifunction rotary dial (rotate and press)
- 8 hours continuous operation
- 4 count channels. All channels are user selectable to 1 of 7 preset sizes: (0.3μm, 0.5μm, 0.7μm, 1.0μm, 2.5μm, 5.0μm and 10μm)
- Concentration and total count modes
- Fully integrated temperature/relative humidity sensor
- Password protection for user settings

2. Setup

The following sections cover unpacking, layout and performing a test run to verify operation.

2.1. Unpacking

When unpacking the GT-324 and accessories, inspect the carton for obvious damage. If the carton is damaged notify the carrier. Unpack everything and make a visual inspection of the contents. Standard items (included) are shown in

Figure 1 – Standard Accessories. Optional accessories are shown in
Figure 2 – Optional Accessories.

ATTENTION:
A Silicon Labs CP210x Driver for the USB connection must be installed before connecting the GT-324 USB port to your computer. If this driver is not installed first, Windows may install generic drivers that are not compatible with this product. See section 6.1.

Driver download weblink: https://metone.com/usb-drivers/

GT-324 Standard Accessories

GT-324	Battery Charger	Power Cord	USB Cable
MOI P/N: GT-324	**MOI P/N: 390031**	**MOI P/N: 400113**	**MOI P/N: 500787**
Calibration Certificate	**GT-324 Manual**	**Zero Filter**	**Particle View Software USB Flash Drive**
MOI P/N: GT-324-9600	**MOI P/N GT-324-9800**	**MOI P/N G3111**	**MOI P/N Particle View**
Carrying Case	**IsoKinetic Probe**		
MOI P/N: 8517	**MOI P/N 83117**		
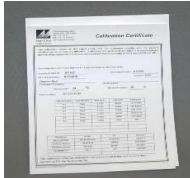
Figure 1 – Standard Accessories

GT-324 Optional Accessories

Flow Meter

**MOI P/N:
Swift 6.0**

Flow Meter

MOI P/N: 9801

Figure 2 – Optional Accessories

2.2. Layout

The following figure shows the layout of the GT-324 and provides a description of the components.
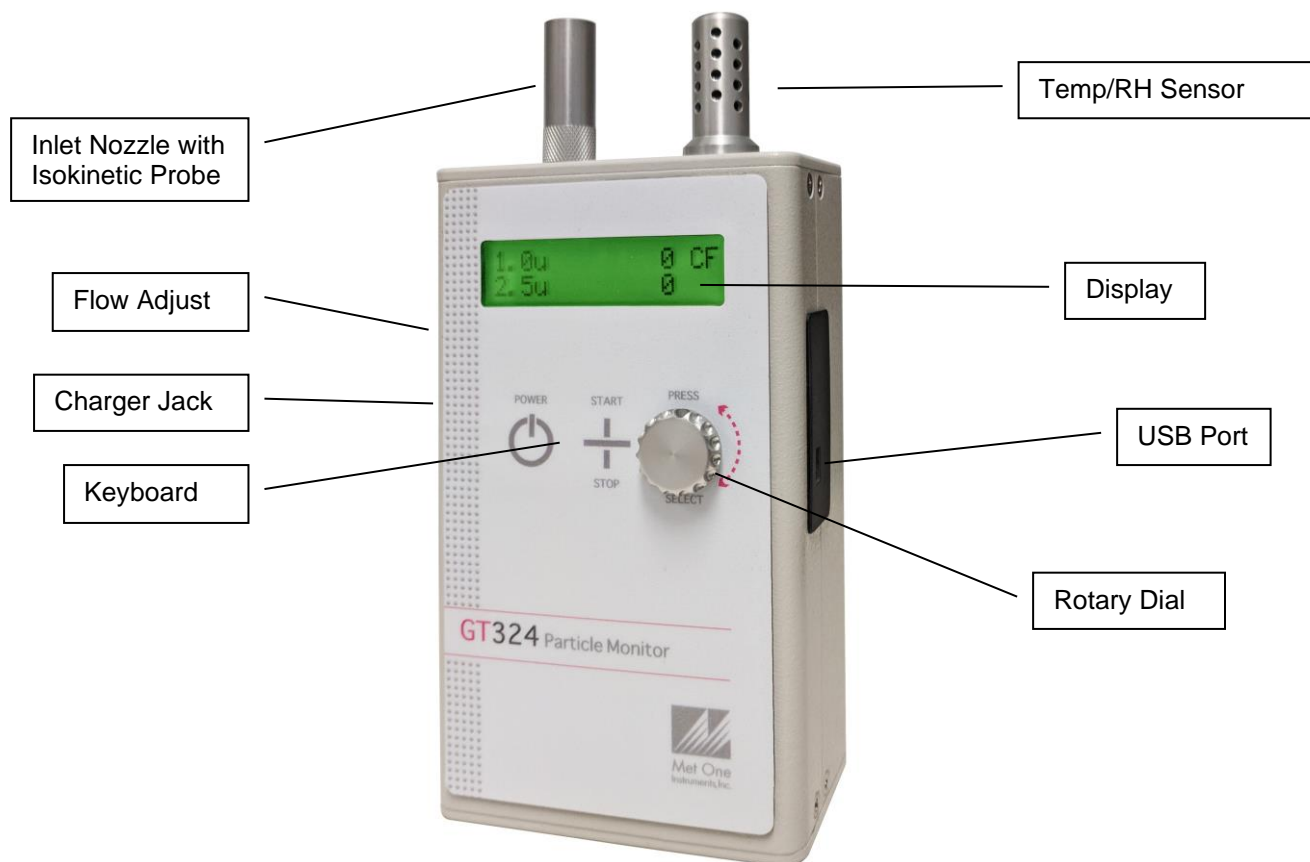
Figure 3 – GT-324 Layout

Component	Description
Display	2X16 character LCD display
Keyboard	2 key membrane keypad
Rotary dial	Multifunction dial (rotate and press)
Charger Jack	Input jack for external battery charger. This jack charges the internal batteries and provides continuous operating power for the unit.
Flow Adjust	Adjusts the sample flow rate
Inlet Nozzle	Sample nozzle
USB Port	USB communication port
Temp/RH Sensor	Integrated sensor that measures ambient temperature and relative humidity.

2.3. Default Settings

The GT-324 comes with the user settings configured as follows.

Parameter	Value
Sizes	0.3, 0.5, 5.0, 10 μm
Temperature	C
Sample Location	1
Sample Mode	Manual
Sample Time	60 seconds
Count Units	CF

2.4. Initial Operation

The battery should be charged for 2.5 hours prior to use. Refer to Section 7.1 of this manual for battery charging information.

Complete the following steps to verify proper operation.
1. Press the Power key for 0.5 seconds or more to turn on power.
2. Observe the Startup screen for 3 seconds then the Sample screen (Section 4.2)
3. Press Start / Stop key. The GT-324 will sample for 1 minute and stop.
4. Observe the counts on the display
5. Rotate the Select dial to view other sizes
6. The unit is ready for use

3. User Interface

The GT-324 user interface is composed of a rotary dial, 2 button keypad and an LCD display. The keypad and rotary dial are described in the following table.

Control	Description	
Power Key	Power the unit on or off. For power on, press for 0.5 seconds or more.	
Start / Stop Key	Sample Screen	START / STOP a sample event
	Settings Menu	Return to Sample screen
	Edit Settings	Cancel edit mode and return to the Settings Menu
Select Dial	Rotate the dial to scroll through selections or change values. Press the dial to select item or value.	

4. Operation

The following sections cover the basic operation of GT-324.

4.1. Power Up

Press the Power key to power up the GT-324. The first screen shown is the Startup Screen (Figure 4). The Startup Screen displays the product type and company website for approximately 3 seconds before loading the Sample Screen.
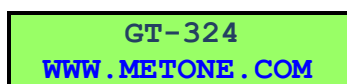
GT-324
WWW.METONE.COM

Figure 4 – Startup Screen

4.1.1. Auto Power Off

The GT-324 will power down after 5 minutes to preserve battery power providing the unit is stopped (not counting) and there is no keyboard activity or serial communications.

4.2. Sample Screen

The Sample Screen displays sizes, counts, count units, and time remaining. The time remaining is displayed during sample events. The Sample Screen is shown in Figure 5 below.
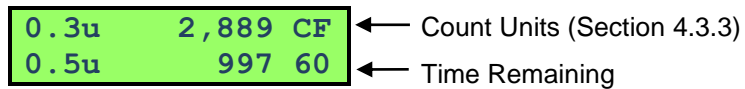
```
0.3u      2,889 CF  ←── Count Units (Section 4.3.3)
0.5u        997 60  ←── Time Remaining
```
Figure 5 – Sample Screen

Channel 1 (0.3μ) is displayed on Sample Screen Line 1. Rotate the Select dial to display channels 2-4, battery status, ambient temperature, and relative humidity on line 2 (Figure 6).
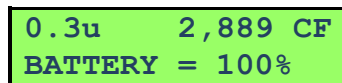
```
0.3u      2,889 CF
BATTERY = 100%
```
Figure 6 – Battery Status

4.2.1. Warnings / Errors

The GT-324 has internal diagnostics to monitor critical functions such as low battery, system noise and an optical engine failure. Warnings / errors are displayed on Sample Screen Line 2. When this occurs, simply rotate the Select dial to view any size on the top line.

A low battery warning occurs when there is approximately 15 minutes of sampling remaining before the unit stops sampling. A low battery condition is shown in Figure 7 below.

```
0.5u      6,735 CF
Low Battery!
```
Figure 7 – Low Battery

Excessive system noise can result in false counts and reduced accuracy. The GT-324 automatically monitors system noise and displays a warning when the noise level is high. The primary cause of this condition is contamination in the optical engine. Figure 7 shows the Sample screen with a System Noise warning.

```
0.5u      6,735 CF
System Noise!
```
Figure 8 – System Noise

A sensor error is reported when the GT-324 detects a failure in the optical sensor. Figure 9 shows a sensor error.
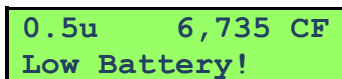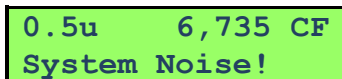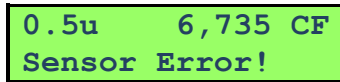
```
0.5u     6,735 CF
Sensor Error!
```

Figure 9 –Sensor Error

4.3.   Sampling

The following sub-sections cover sample related functions.

4.3.1. Starting/Stopping

Press the START/STOP key to start or stop a sample from the Sample Screen. Depending on the sample mode, the unit will either run a single sample or continuous samples. Sample modes are discussed in Section 4.3.2.

4.3.2. Sample Mode

The sample mode controls single or continuous sampling. The Manual setting configures the unit for a single sample. The Continuous setting configures the unit for nonstop sampling.

4.3.3. Count Units

The GT-324 supports total counts (TC), particles per cubic foot (CF), particles per cubic meter (M3) and particles per liter (/L). Concentration values (CF, /L, M3) are time dependent. These values may fluctuate early in the sample; however, after several seconds the measurement will stabilize. Longer samples (e.g. 60 seconds) will improve concentration measurement accuracy.

4.3.4. Sample Time

Sample time determines the sample duration. Sample time is user settable from 3 to 60 seconds and is discussed in Sample Timing below.

4.3.5. Hold Time

The hold time is used when Samples is set for more than one sample. The hold time represents the time from the completion of the last sample to the start of the next sample. The hold time is user settable from 0 – 9999 seconds.

4.3.6. Sample Timing

The following figures depict the sample timing sequence for both manual and continuous sampling. Figure 10 shows the timing for manual sample mode. Figure 11 shows the timing for continuous sample mode. The Start section includes a 3 second purge time.
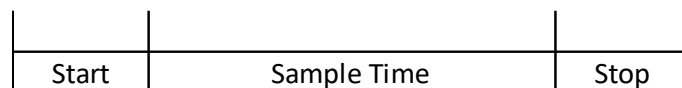
Figure 10 – Manual Sample Mode

Figure 11 – Continuous Sample Mode

5.   Settings Menu

Use the Settings Menu to view or change configuration options.

5.1.   View Settings

Press the Select dial to navigate to the Settings Menu. Rotate the Select dial to scroll through the settings in the following table. To return to the Sample screen, press Start/Stop or wait 7 seconds.

The Settings menu contains the following items.

Function	Description
LOCATION	Assign a unique number to a location or area. Range = 1 – 999
SIZES	The GT-324 has four (4) programmable count channels. The operator can assign one of seven preset sizes to each count channel. Standard sizes: 0.3, 0.5, 0.7, 1.0, 2.5, 5.0, 10.
MODE	Manual or Continuous. The Manual setting configures the unit for a single sample. The Continuous setting configures the unit for nonstop sampling.
COUNT UNITS	Total Count (TC), Particles / cubic foot (CF), particles / L (/L), particles / cubic meter (M3). See Section 4.3.3.
TEMP UNITS	Celsius (C) or Fahrenheit (F) temperature units. See Section 5.2.6
HISTORY	Display previous samples. See Section 5.1.1
SAMPLE TIME	See Section 4.3.4. Range = 3 – 60 seconds
HOLD TIME	See Section 4.3.5. Range 0 – 9999.

TIME	Display / enter time. Time format is HH:MM:SS (HH = Hours, MM = Minutes, SS = Seconds).
DATE	Display / enter date. Date format is DD/MMM/YYYY (DD = Day, MMM = Month, YYYY = Year)
FREE MEMORY	Display the percentage of memory space which is available for data storage. When Free Memory = 0%, the oldest data will be overwritten with new data.
PASSWORD	Enter a four (4) digit numeric number to prevent unauthorized changes to the user settings.
ABOUT	Display model number and firmware version

5.1.1. View Sample History

Press the Select dial to navigate to the Settings Menu. Rotate the Select dial to the History selection. Follow the steps below to view sample history. To return to the Settings Menu, press Start/Stop or wait 7 seconds.

Press to View HISTORY	Press Select to view history.
30/MAR/2018 L001 10:30:45 #2252	GT-324 will display the last record (Date, Time, Location, and Record Number). Rotate dial to scroll through records. Press to view record.
0.3u 2,889 CF 0.5u 997 60 5.0u 15 60 10u 5 60 Location 001 DATE 30/MAR/2018 TIME 10:30:45 Low Battery!	Rotate dial to scroll through record data (counts, date, time, alarms). Press Start/Stop to return to previous screen.

5.2. Edit Settings

Press the Select dial to navigate to the Settings Menu. Rotate the Select dial to scroll to the desired setting then press the Select dial to edit the Setting. A blinking cursor will indicate edit mode. To cancel edit mode and return to the Settings Menu, press Start/Stop.

Edit mode is disabled when the GT-324 is sampling (see below).

`Sampling…` `Press Stop Key`	Screen displayed for 3 seconds then return to Settings Menu

5.2.1. Password Feature

The following screen is displayed if you attempt to edit a setting when the password feature is enabled. The unit will remain unlocked for a period of 5 minutes after a successful password unlock code is entered.

`Press to Enter` `UNLOCK     ####`	Press Select to enter Edit mode. Return to Sample screen if no Select key in 3 seconds
`Rotate and Press` `UNLOCK     0###`	Blinking cursor indicates Edit mode. Rotate dial to scroll value. Press dial to select next value. Repeat action until last digit.
`Rotate and Press` `UNLOCK     0001`	Rotate dial to scroll value. Press dial to exit Edit Mode.
`Incorrect` `Password!`	Screen displayed for 3 seconds if the password is incorrect.

5.2.2. Edit Location Number

`Press to Change` `LOCATION    001`	View screen. Press Select to enter Edit mode.
`Rotate and Press` `LOCATION    001`	Blinking cursor indicates Edit mode. Rotate dial to scroll value. Press dial to select next value. Repeat action until last digit.
`Rotate and Press` `LOCATION    001`	Rotate dial to scroll value. Press dial to exit Edit Mode and return to view screen.

5.2.3. Edit Sizes

`Press to View` `CHANNEL SIZES`	Press Select to view Sizes.
`Press to Change` `SIZE 1 of 4 0.3µ`	Sizes view screen. Rotate dial to view channel sizes. Press dial to change setting.

`Rotate and`
`Press`
`SIZE 1 of 4 0.5µ`
	Blinking cursor indicates Edit mode. Rotate dial to scroll values. Press dial to exit Edit mode and return to view screen.

5.2.4. Edit Sample Mode

`Press to Change`
`MODE`
`CONTINUOUS`
	View screen. Press Select to enter edit mode.

`Rotate and`
`Press`
`MODE`
`CONTINUOUS`
	Blinking cursor indicates Edit mode. Rotate dial to toggle value. Press dial to exit Edit mode and return to view screen.

5.2.5. Edit Count Units

Press to Change COUNT UNITS CF	View screen. Press Select to enter edit mode.
Rotate and Press COUNT UNITS CF	Blinking cursor indicates Edit mode. Rotate dial to toggle value. Press dial to exit Edit mode and return to view screen.

5.2.6. Edit Temp Units

Press to Change TEMP UNITS C	View screen. Press Select to enter edit mode.
Rotate and Press TEMP UNITS C	Blinking cursor indicates Edit mode. Rotate dial to toggle value. Press dial to exit Edit mode and return to view screen.

5.2.7. Edit Sample Time

Press to Change SAMPLE TIME 60	View screen. Press Select to enter Edit mode.
Rotate and Press SAMPLE TIME 60	Blinking cursor indicates Edit mode. Rotate dial to scroll value. Press dial to select next value.
Rotate and Press SAMPLE TIME 10	Rotate dial to scroll value. Press dial to exit Edit Mode and return to view screen.

5.2.8. Edit Hold Time

Press to change HOLD TIME 0000	View screen. Press Select to enter Edit mode.
Press to change HOLD TIME 0000	Blinking cursor indicates Edit mode. Rotate dial to scroll value. Press dial to select next value. Repeat action until last digit.

5.2.9. Edit Time

Press to Change TIME 10:30:45	View screen. Time is real time. Press Select to enter edit mode.

Rotate and Press TIME **1**0:30:45	Blinking cursor indicates Edit mode. Rotate dial to scroll values. Press dial to select next value. Repeat action until last digit.
Rotate and Press TIME 10:30:4**5**	Last digit. Rotate dial to scroll values. Press dial to exit Edit mode and return to view screen.

5.2.10. Edit Date

Press to Change DATE 30/MAR/2018	View screen. Date is real time. Press Select to enter edit mode.
Rotate and Press DATE **3**0/MAR/2018	Blinking cursor indicates Edit mode. Rotate dial to scroll values. Press dial to select next value. Repeat action until last digit.
Rotate and Press DATE 30/MAR/201**8**	Rotate dial to scroll values. Press dial to exit Edit mode and return to view screen.

5.2.11. Clear Memory

Press to Change FREE MEMORY 80%	View screen. Available memory. Press Select to enter edit mode.
Press and Hold to Clear Memory	Hold Select dial for 3 seconds to clear memory and return to view screen. Return to view screen if no action for 3 seconds or key hold time is less than 3 seconds.

5.2.12. Edit Password

Press to Change PASSWORD NONE	View screen. #### = Hidden password. Press Select to enter Edit mode. Enter 0000 to disable password (0000 = NONE).
Rotate and Press PASSWORD **0**000	Blinking cursor indicates Edit mode. Rotate dial to scroll value. Press dial to select next value. Repeat action until last digit.
Rotate and Press PASSWORD 000**1**	Rotate dial to scroll value. Press dial to exit Edit Mode and return to view screen.

6.   Serial Communications

Serial communications, firmware field upgrades and real time output are provided via the USB port located on the side of the unit.

6.1.   Connection

ATTENTION:
A Silicon Labs CP210x Driver for the USB connection must be installed before connecting the GT-324 USB port to your computer.

Driver download weblink: https://metone.com/usb-drivers/

6.2.   Comet Software

The Comet software is a utility for extracting information (data, alarms, settings, etc.) from Met One Instruments products. The software is designed for the user to easily access information within a product without having to know underlying communications protocol for that device.

The Comet software can be downloaded at https://metone.com/software/ .

6.3.   Commands

The GT-324 provides serial commands for accessing stored data and settings. The protocol is compatible with terminal programs such as Comet, Putty or Windows HyperTerminal.

The unit returns a prompt ('*') when it receives a carriage return to indicate a good connection.   The following table lists the available commands and descriptions.

	SERIAL COMMANDS	

Protocol Summary:
- 38,400 Baud, 8 Data bits, No Parity, 1 Stop Bit
- Commands (CMD) are UPPER or lower case
- Commands are terminated with a carriage return <CR>
- To view setting = CMD <CR>
- To change setting = CMD <SPACE> <Value> <CR>

CMD	Type	DESCRIPTION
?,H	Help	View the help menu
1	Settings	View the settings
2	All data	Returns all available records.
3	New data	Returns all records since last '2' or '3' command.
4	Last data	Returns the last record or last n records (n = <Value>)
D	Date	Change date. Date is format is MM/DD/YY
T	Time	Change time. Time format is HH:MM:SS
C	Clear data	Displays a prompt for clearing the stored unit data.
S	Start	Start a sample
E	End	Ends a sample (abort the sample, no data record)
ST	Sample time	View / change the sample time. Range 3-60 seconds.
ID	Location	View / change the location number. Range 1-999.
CS w x y z	Channel Sizes	View / change channel sizes where w=Size1, x=Size2, y=Size3 and z=Size4. Values (w x y z) are 1=0.3, 2=0.5, 3=0.7, 4=1.0, 5=2.5, 6=5.0, 7=10
SH	Hold Time	View / change the hold time. Values are 0 – 9999 seconds.
SM	Sample mode	View / change sample mode. (0=Manual, 1= Continuous)
CU	Count units	View / change count units. Values are 0=CF, 1=/L, 2=TC
OP	Op Status	Replies OP x, where x is "S" Stopped or "R" Running
RV	Revision	View Software Revision
DT	Date Time	View / change date and time. Format = DD-MM-YY HH:MM:SS

6.4.   Real Time Output

The GT-324 outputs real time data at the end of each sample. The output format is a comma separated values (CSV). The following sections show the format.

6.5.   Comma Separated Value (CSV)

A CSV header is included for multiple record transfers like Display All Data (2) or Display New Data (3).

CSV Header:
Time, Location, Sample Time, Size1, Count1 (units), Size2, Count2 (units), Size3, Count3 (units), Size4, Count4 (units), Ambient Temperature, RH, Status

CSV Example Record:
31/AUG/2010 14:12:21, 001,060,0.3,12345,0.5,12345,5.0,12345,10,12345,22.3, 58,000<CR><LF>

Note: Status bits: 000 = Normal, 016 = Low Battery, 032 = Sensor Error, 048 = Low battery and Sensor Error.

7.   Maintenance

WARNING: There are no user serviceable components inside this instrument. The covers on this instrument should not be removed or opened for servicing, calibration or any other purpose except by a factory-authorized person. To do so may result in exposure to invisible laser radiation that can cause eye injury.

7.1.   Charging the Battery

> **Caution:**
> **The provided battery charger is designed to work safely with this device. Do not attempt to connect any other charger or adapter to this device. Doing so may result in equipment damage.**

To charge the battery, connect the battery charger module AC power cord to an AC power outlet and the battery charger DC plug to the socket on the side of the GT-324. The universal battery charger will work with power line voltages of 100 to 240 volts, at 50/60 Hz. The battery charger LED indicator will be Red when charging and Green when fully charged. A discharged battery pack will take approximately 2.5 hours to fully charge.

There is no need to disconnect the charger between charging cycles because the charger enters a maintenance mode (trickle charge) when the battery is fully charged.

7.2.   Service Schedule

Although there are no customer serviceable components, there are service items which ensure the proper operation of the instrument. Table 1 shows the recommended service schedule for the GT-324.

Item To Service	Frequency	Done By
Flow rate test	Monthly	Customer or Factory Service
Zero test	Optional	Customer or Factory Service
Inspect pump	Yearly	Factory service only
Test battery pack	Yearly	Factory service only
Calibrate Sensor	Yearly	Factory service only

Table 1 Service Schedule

7.2.1. Flow Rate Test

The sample flow rate is factory set to 0.1cfm (2.83 lpm). Continued use can cause minor changes in flow which can reduce measurement accuracy. A flow calibration kit is available separately that includes everything needed to test and adjust the flow rate.

To test the flow rate: remove the Isokinetic inlet. Attach the tubing connected to the flow meter (MOI# 9801) to the instrument inlet. Start a sample, and note the flow meter reading. The flow rate should be 0.10 CFM (2.83 LPM) ±5%.

If the flow is not within this tolerance, it can be adjusted by a trim pot located in an access hole in the side of the unit. Turn the adjustment pot clockwise to increase the flow and counter-clockwise to decrease the flow.

7.2.1. Zero Count Test

Air leaks or debris in the particle sensor can cause false counts which may result in significant count errors when sampling in clean environments. Perform the following zero count test weekly to ensure proper operation:

1. Attach zero count filter to the inlet nozzle (PN G3111).
2. Configure the unit as follows: Samples = MANUAL, Sample Time = 60 seconds, Volume = Total Count (TC)
3. Start and complete a sample.
4. The smallest particle size should have a count <= 1.

7.2.2. Annual Calibration

The GT-324 should be sent back to Met One Instruments yearly for calibration and inspection. Particle counter calibration requires specialized equipment and training. The Met One Instruments calibration facility uses industry accepted methods such as ISO.

In addition to calibration, the annual calibration includes the following preventative maintenance items to reduce unexpected failures:

- Inspect filter
- Inspect / clean optical sensor
- Inspect pump and tubing
- Cycle and test the battery
- Verify RH and Temperature measurements

7.3. Flash Upgrade

Firmware can be field upgraded via the USB port. Binary files and the flash program must be provided by Met One Instruments.

8. Troubleshooting

WARNING: There are no user serviceable components inside this instrument. The covers on this instrument should not be removed or opened for servicing, calibration or any other purpose except by a factory-authorized person. To do so may result in exposure to invisible laser radiation that can eye injury.

The following table covers some common failure symptoms, causes and solutions.

Symptom	Possible Cause	Correction
Low battery message	Low battery	Charge battery 2.5 hrs
System noise message	Contamination	1. Blow clean air into nozzle (low pressure, do not connect via tubing) 2. Send to service center
Sensor error message	Sensor failure	Send to service center
Does not turn on, no display	1. Dead battery 2. Defective Battery	1. Charge battery 2.5 hrs 2. Send to service center
Display turns on but pump does not	1. Low Battery 2. Defective pump	1. Charge battery 2.5 hrs 2. Send to service center
No counts	1. Pump stopped 2. Laser diode bad	1. Send to service center 2. Send to service center
Low counts	1. Incorrect flow rate 2. Calibration drift	1. Check flow rate 2. Send to service center
High counts	1. Incorrect flow rate 2. Calibration drift	1. Check flow rate 2. Send to service center
Battery pack does not hold a charge	1. Defective battery pack 2. Defective charger module	1. Send to service center 2. Replace charger

9. Specifications

Features:

Size Range:	0.3 to 10.0 microns
Count Channels:	4 channels preset to 0.3, 0.5, 5.0 and 10.0 μm
Size Selections:	0.3, 0.5, 0.7, 1.0, 2.5, 5.0 and 10.0 μm
Accuracy:	± 10% to traceable standard
Concentration Limit:	3,000,000 particles/ft^3
Temperature	± 3 °C
Relative Humidity	± 5%
Flow Rate:	0.1 CFM (2.83 L/min)
Sampling Mode:	Single or Continuous
Sampling Time:	3 – 60 seconds
Data Storage:	2200 records
Display:	2 line by 16-character LCD
Keyboard:	2 button with rotary dial
Status Indicators:	Low Battery
Calibration	NIST, ISO

Measurement:

Method:	Light scatter
Light Source:	Laser Diode, 35 mW, 780 nm

Electrical:

AC Adapter/Charger:	AC to DC module, 100 – 240 VAC to 8.4 VDC
Battery Type:	Li-ion rechargeable Battery
Battery Operating Time:	8 hours continuous use
Battery Recharge Time:	2.5 hours typical
Communication:	USB Mini B Type

Physical:

Height:	6.25" (15.9 cm)
Width:	3.65" (9.3 cm)
Thickness:	2.00" (5.1 cm)
Weight	1.6 lbs – (0.73 kg)

Environmental:

Operating Temperature:	0º C to +50º C
Humidity	0 – 90%, noncondensing
Storage Temperature:	-20º C to +60º C

Warranty / Service Information

Warranty

Products manufactured by Met One Instruments, Inc. are warranted against defects and workmanship for a period of one (1) year from the ship date.

Any product found to be defective during the warranty period will, at the option of Met One Instruments, Inc., be replaced or repaired. In no case shall the liability of Met One Instruments, Inc. exceed the purchase price of the product.

This warranty may not apply to products that have been subject to misuse, negligence, accident, acts of nature, or that have been altered or modified other than by Met One Instruments, Inc. Consumable items such as filters, bearings pumps and batteries are not covered under this warranty.

Other than the warranty set forth herein, there shall be no other warranties, whether expressed, implied or statutory, including warranties of fitness of merchantability.

Service

Any product being returned to Met One Instruments, Inc. for service, repair or calibration, including items sent for warranty repair, must be assigned a return authorization (RA) number. Please call (541) 471-7111 or send an email to service@metone.com requesting an RA number and shipping instructions.

All returns must be shipped to the factory, freight pre-paid. Met One Instruments, Inc. will pay the shipping charge to return the product to the end user after repair or replacement of an item covered by warranty.

All instruments sent to the factory for repair or calibration must be free of contamination resulting from sampling chemicals, biological matter, or radioactive materials. Any items received with such contamination will be disposed and the customer will be billed a disposal fee.

Replacement parts or service/repair work performed by Met One Instruments, Inc. are warranted against defects in material and workmanship for a period of ninety (90) days from the date of shipment, under the same conditions as stated above.

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