



M54120 Water Meter

Battery Powered

OVERVIEW

The ION M54120 wireless water meter monitors and records water consumption for tenant billing and leak detections principally in the multi-family housing industry.

The meter not only monitors usage in gallons, it also records the number of events, (such as every time a toilet flushes), duration of events in gallons and time along with temperature. This provides highly accurate leak detection for the entire apartment down to individual appliances such as toilets and showers. ION can provide a daily automated leak detection report to its clients.

Point of Entry-(POE)-water enters each apartment at one location. Typically before the hot water heater in the utility closet. One meter per apartment.

Point of Use-(POU)-riser pipe configuration, multiple points entering the apartment, feeding each toilet, sink, shower, etc. Multiple meters per apartment.

Applications

- Main Feed Hot or Cold Water
- Toilets Tub
- Clothes Washer Shower
- Sink w or w/o dishwasher

FEATURES

- The ION M54120 water meter is a battery powered device that communicates wirelessly on a 2.4 ghz network.
- The device provides a radio interface to remotely monitor and collect water consumption data from a flow sensor.
- The device collects and records five registers:
 - ◆ Gallons
 - ◆ Number of Events (Event is defined as each time water starts and then stops flowing)
 - ◆ Time water was flowing in minutes
 - ◆ Water temperature
 - ◆ Heat units (calculated as Therms)

All of the registers except temperature are cumulative or ever increasing registers. Even if the radio cannot transmit data, the water meter continues to record data.

- Radio is compatible with the ION secure wireless 2.4 GHz mesh network.
- By using a magnet, the installer can force a radio transmission and receive a LED sequence feedback on radio connectivity in real-time for ease and validation of commissioning.
- Type of packet data reported:
 - Data Packet Consumption (960 minute interval default.)
 - Health Packet (120 minute interval default.)
- Non-volatile memory maintains last reading in the event of a power failure.
- Five year warranty.



ORDERING INFORMATION 1/2016

Model	Description
M54120	Water Meter (Requires a Hose & Flow Sensor)
M54120-S	Water Meter w/Silicone Seal (Requires a Hose & Flow Sensor)
PL1000	Point of Entry Braided Hose Assembly (3/4") & Flow Sensor
PL1002	Toilet Supply Hose & Flow Sensor (12 inch)
PL1003	Sink Supply Hose & Flow Sensor
PL1004	Shower Hose Assembly & Flow Sensor
PL1007	Tub & Shower Braided Supply Line Hose (1/2") & Flow Sensor
PL1010	Point of Entry Falcon Hose Assembly (3/4") & Flow Sensor
PL1011-PEX	Point of Entry PEX 3/4" & Flow Sensor



M54120 Water Meter

Battery Powered - Technical Specifications

TECHNICAL SPECIFICATIONS

Electrical

DC lithium battery, minimum 5 year life (19,000 milli-amp hours)

Regulatory approvals

US Complies with FCC CFR Part 15
 European RADIO EN 300 328:v1.7.1
 European EMC EN 301 489-17:V2.1.1
 European SAFETY EN 60950-1:2005 (Ed. 2.0)

Radio

20 dBm output power
 High sensitivity -106 dBm
 16 channels (802.15.4 Channel 11 to 26)
 Data rate 250 kilo bytes per second
 2.4 GHz ISM band

Environmental

Operating temperature 0 to 70 degree C
 Storage temperature -25 to 80 degrees C

Measurement

WRAS approved
 NSF/ANSI-61G/NSF 372-2011
 Flow 0.26 – 7.9 gpm
 Accuracy +/- 1.5 percent
 Certification standard ASME A112.4.7-2002

Physical

(H x W x D) 3.375x 3.500 x 1.563 inch
 Color natural
 Weight / shipping weight < 10 oz. / 1 lbs.
 Shipping restrictions

Warranty

Five Years

Point of Entry Installation



Point of Use Installation



Leak Detection Reports

ION Point of Entry Single Meter Leak Report
Diagnostic Report for Mountain Brook
 Reported for 4 days only
 Minimum Days Over Daily Consumption Threshold : 3
 Past Days Examined : 6
 Daily Consumption Threshold : 1500
 Single Day High Use Threshold : 300

Property	Building	Apartment	Unit #	Location	Serial	Number of Days	30 Day Consumption
Mountain Brook	18	1108	0002090905000211	Main Floor-Cat 4	28190	1	28190
Mountain Brook	18	1108	0002090905000212	Main Floor-Cat 4	28191	1	28191
Mountain Brook	18	1108	0002090905000213	Main Floor-Cat 4	28192	1	28192
Mountain Brook	18	1108	0002090905000214	Main Floor-Cat 4	28193	1	28193
Mountain Brook	18	1108	0002090905000215	Main Floor-Cat 4	28194	1	28194
Mountain Brook	18	1108	0002090905000216	Main Floor-Cat 4	28195	1	28195
Mountain Brook	18	1108	0002090905000217	Main Floor-Cat 4	28196	1	28196
Mountain Brook	18	1108	0002090905000218	Main Floor-Cat 4	28197	1	28197
Mountain Brook	18	1108	0002090905000219	Main Floor-Cat 4	28198	1	28198
Mountain Brook	18	1108	0002090905000220	Main Floor-Cat 4	28199	1	28199
Mountain Brook	18	1108	0002090905000221	Main Floor-Cat 4	28200	1	28200
Mountain Brook	18	1108	0002090905000222	Main Floor-Cat 4	28201	1	28201
Mountain Brook	18	1108	0002090905000223	Main Floor-Cat 4	28202	1	28202
Mountain Brook	18	1108	0002090905000224	Main Floor-Cat 4	28203	1	28203
Mountain Brook	18	1108	0002090905000225	Main Floor-Cat 4	28204	1	28204
Mountain Brook	18	1108	0002090905000226	Main Floor-Cat 4	28205	1	28205
Mountain Brook	18	1108	0002090905000227	Main Floor-Cat 4	28206	1	28206
Mountain Brook	18	1108	0002090905000228	Main Floor-Cat 4	28207	1	28207
Mountain Brook	18	1108	0002090905000229	Main Floor-Cat 4	28208	1	28208
Mountain Brook	18	1108	0002090905000230	Main Floor-Cat 4	28209	1	28209
Mountain Brook	18	1108	0002090905000231	Main Floor-Cat 4	28210	1	28210
Mountain Brook	18	1108	0002090905000232	Main Floor-Cat 4	28211	1	28211
Mountain Brook	18	1108	0002090905000233	Main Floor-Cat 4	28212	1	28212
Mountain Brook	18	1108	0002090905000234	Main Floor-Cat 4	28213	1	28213
Mountain Brook	18	1108	0002090905000235	Main Floor-Cat 4	28214	1	28214
Mountain Brook	18	1108	0002090905000236	Main Floor-Cat 4	28215	1	28215
Mountain Brook	18	1108	0002090905000237	Main Floor-Cat 4	28216	1	28216
Mountain Brook	18	1108	0002090905000238	Main Floor-Cat 4	28217	1	28217
Mountain Brook	18	1108	0002090905000239	Main Floor-Cat 4	28218	1	28218
Mountain Brook	18	1108	0002090905000240	Main Floor-Cat 4	28219	1	28219
Mountain Brook	18	1108	0002090905000241	Main Floor-Cat 4	28220	1	28220
Mountain Brook	18	1108	0002090905000242	Main Floor-Cat 4	28221	1	28221
Mountain Brook	18	1108	0002090905000243	Main Floor-Cat 4	28222	1	28222
Mountain Brook	18	1108	0002090905000244	Main Floor-Cat 4	28223	1	28223
Mountain Brook	18	1108	0002090905000245	Main Floor-Cat 4	28224	1	28224
Mountain Brook	18	1108	0002090905000246	Main Floor-Cat 4	28225	1	28225
Mountain Brook	18	1108	0002090905000247	Main Floor-Cat 4	28226	1	28226
Mountain Brook	18	1108	0002090905000248	Main Floor-Cat 4	28227	1	28227
Mountain Brook	18	1108	0002090905000249	Main Floor-Cat 4	28228	1	28228
Mountain Brook	18	1108	0002090905000250	Main Floor-Cat 4	28229	1	28229
Mountain Brook	18	1108	0002090905000251	Main Floor-Cat 4	28230	1	28230
Mountain Brook	18	1108	0002090905000252	Main Floor-Cat 4	28231	1	28231
Mountain Brook	18	1108	0002090905000253	Main Floor-Cat 4	28232	1	28232
Mountain Brook	18	1108	0002090905000254	Main Floor-Cat 4	28233	1	28233
Mountain Brook	18	1108	0002090905000255	Main Floor-Cat 4	28234	1	28234
Mountain Brook	18	1108	0002090905000256	Main Floor-Cat 4	28235	1	28235
Mountain Brook	18	1108	0002090905000257	Main Floor-Cat 4	28236	1	28236
Mountain Brook	18	1108	0002090905000258	Main Floor-Cat 4	28237	1	28237
Mountain Brook	18	1108	0002090905000259	Main Floor-Cat 4	28238	1	28238
Mountain Brook	18	1108	0002090905000260	Main Floor-Cat 4	28239	1	28239
Mountain Brook	18	1108	0002090905000261	Main Floor-Cat 4	28240	1	28240
Mountain Brook	18	1108	0002090905000262	Main Floor-Cat 4	28241	1	28241
Mountain Brook	18	1108	0002090905000263	Main Floor-Cat 4	28242	1	28242
Mountain Brook	18	1108	0002090905000264	Main Floor-Cat 4	28243	1	28243
Mountain Brook	18	1108	0002090905000265	Main Floor-Cat 4	28244	1	28244
Mountain Brook	18	1108	0002090905000266	Main Floor-Cat 4	28245	1	28245
Mountain Brook	18	1108	0002090905000267	Main Floor-Cat 4	28246	1	28246
Mountain Brook	18	1108	0002090905000268	Main Floor-Cat 4	28247	1	28247
Mountain Brook	18	1108	0002090905000269	Main Floor-Cat 4	28248	1	28248
Mountain Brook	18	1108	0002090905000270	Main Floor-Cat 4	28249	1	28249
Mountain Brook	18	1108	0002090905000271	Main Floor-Cat 4	28250	1	28250
Mountain Brook	18	1108	0002090905000272	Main Floor-Cat 4	28251	1	28251
Mountain Brook	18	1108	0002090905000273	Main Floor-Cat 4	28252	1	28252
Mountain Brook	18	1108	0002090905000274	Main Floor-Cat 4	28253	1	28253
Mountain Brook	18	1108	0002090905000275	Main Floor-Cat 4	28254	1	28254
Mountain Brook	18	1108	0002090905000276	Main Floor-Cat 4	28255	1	28255
Mountain Brook	18	1108	0002090905000277	Main Floor-Cat 4	28256	1	28256
Mountain Brook	18	1108	0002090905000278	Main Floor-Cat 4	28257	1	28257
Mountain Brook	18	1108	0002090905000279	Main Floor-Cat 4	28258	1	28258
Mountain Brook	18	1108	0002090905000280	Main Floor-Cat 4	28259	1	28259
Mountain Brook	18	1108	0002090905000281	Main Floor-Cat 4	28260	1	28260
Mountain Brook	18	1108	0002090905000282	Main Floor-Cat 4	28261	1	28261
Mountain Brook	18	1108	0002090905000283	Main Floor-Cat 4	28262	1	28262
Mountain Brook	18	1108	0002090905000284	Main Floor-Cat 4	28263	1	28263
Mountain Brook	18	1108	0002090905000285	Main Floor-Cat 4	28264	1	28264
Mountain Brook	18	1108	0002090905000286	Main Floor-Cat 4	28265	1	28265
Mountain Brook	18	1108	0002090905000287	Main Floor-Cat 4	28266	1	28266
Mountain Brook	18	1108	0002090905000288	Main Floor-Cat 4	28267	1	28267
Mountain Brook	18	1108	0002090905000289	Main Floor-Cat 4	28268	1	28268
Mountain Brook	18	1108	0002090905000290	Main Floor-Cat 4	28269	1	28269
Mountain Brook	18	1108	0002090905000291	Main Floor-Cat 4	28270	1	28270
Mountain Brook	18	1108	0002090905000292	Main Floor-Cat 4	28271	1	28271
Mountain Brook	18	1108	0002090905000293	Main Floor-Cat 4	28272	1	28272
Mountain Brook	18	1108	0002090905000294	Main Floor-Cat 4	28273	1	28273
Mountain Brook	18	1108	0002090905000295	Main Floor-Cat 4	28274	1	28274
Mountain Brook	18	1108	0002090905000296	Main Floor-Cat 4	28275	1	28275
Mountain Brook	18	1108	0002090905000297	Main Floor-Cat 4	28276	1	28276
Mountain Brook	18	1108	0002090905000298	Main Floor-Cat 4	28277	1	28277
Mountain Brook	18	1108	0002090905000299	Main Floor-Cat 4	28278	1	28278
Mountain Brook	18	1108	0002090905000300	Main Floor-Cat 4	28279	1	28279

Property	Building	Apartment	Unit #	Location	Serial	Number of Days	30 Day Consumption
Mountain Brook	18	1108	0002090905000301	Main Floor-Cat 4	28280	1	28280
Mountain Brook	18	1108	0002090905000302	Main Floor-Cat 4	28281	1	28281
Mountain Brook	18	1108	0002090905000303	Main Floor-Cat 4	28282	1	28282
Mountain Brook	18	1108	0002090905000304	Main Floor-Cat 4	28283	1	28283
Mountain Brook	18	1108	0002090905000305	Main Floor-Cat 4	28284	1	28284
Mountain Brook	18	1108	0002090905000306	Main Floor-Cat 4	28285	1	28285
Mountain Brook	18	1108	0002090905000307	Main Floor-Cat 4	28286	1	28286
Mountain Brook	18	1108	0002090905000308	Main Floor-Cat 4	28287	1	28287
Mountain Brook	18	1108	0002090905000309	Main Floor-Cat 4	28288	1	28288
Mountain Brook	18	1108	0002090905000310	Main Floor-Cat 4	28289	1	28289
Mountain Brook	18	1108	0002090905000311	Main Floor-Cat 4	28290	1	28290
Mountain Brook	18	1108	0002090905000312	Main Floor-Cat 4	28291	1	28291
Mountain Brook	18	1108	0002090905000313	Main Floor-Cat 4	28292	1	28292
Mountain Brook	18	1108	0002090905000314	Main Floor-Cat 4	28293	1	28293
Mountain Brook	18	1108	0002090905000315	Main Floor-Cat 4	28294	1	28294
Mountain Brook	18	1108	0002090905000316	Main Floor-Cat 4	28295	1	28295
Mountain Brook	18	1108	0002090905000317	Main Floor-Cat 4	28296	1	28296
Mountain Brook	18	1108	0002090905000318	Main Floor-Cat 4	28297	1	28297
Mountain Brook	18	1108	0002090905000319	Main Floor-Cat 4	28298	1	28298
Mountain Brook	18	1108	0002090905000320	Main Floor-Cat 4	28299	1	28299
Mountain Brook	18	1108	0002090905000321	Main Floor-Cat 4	28300	1	28300
Mountain Brook	18	1108	0002090905000322	Main Floor-Cat 4	28301	1	28301
Mountain Brook	18	1108	0002090905000323	Main Floor-Cat 4	28302	1	28302
Mountain Brook	18	1108	0002090905				