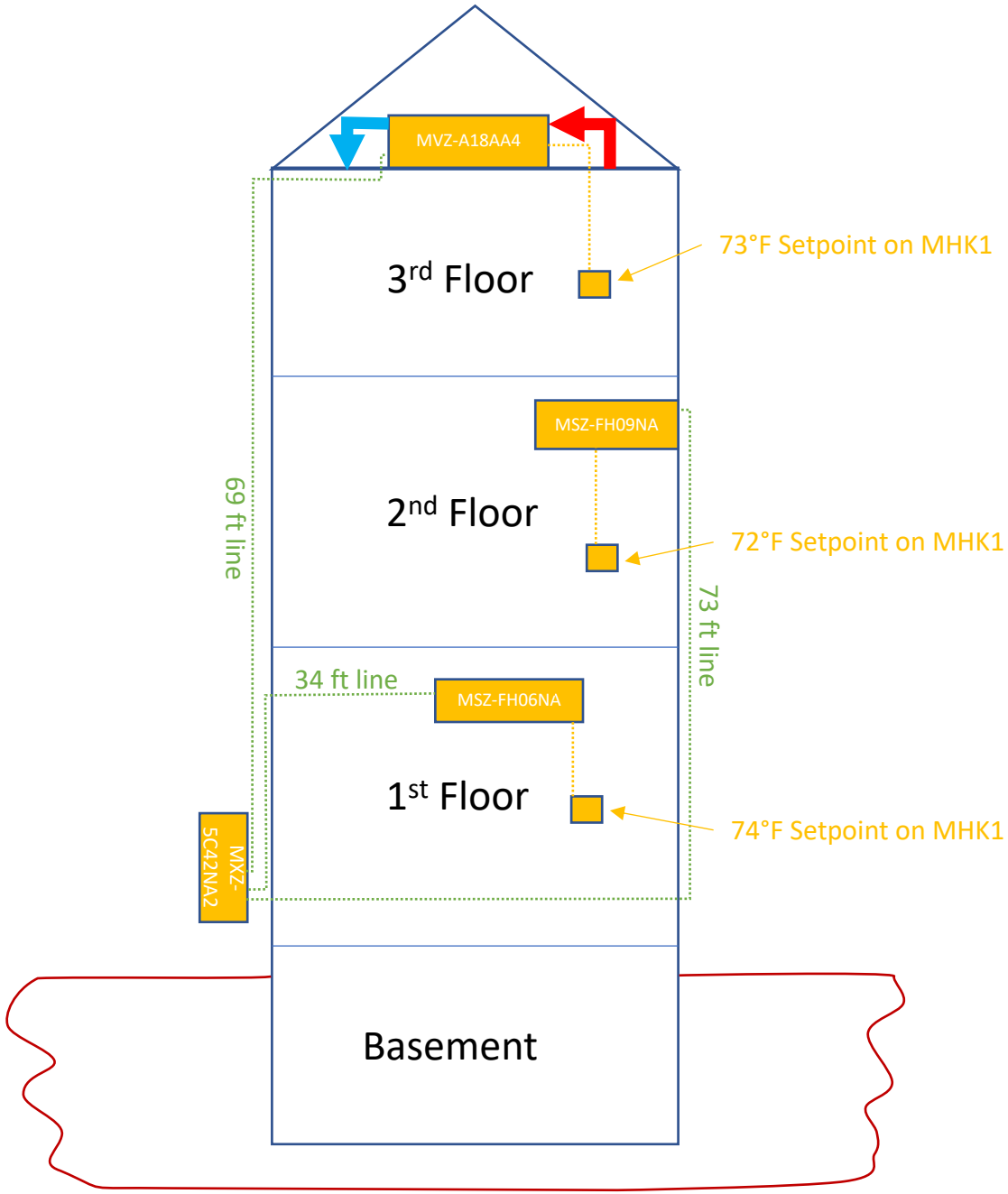
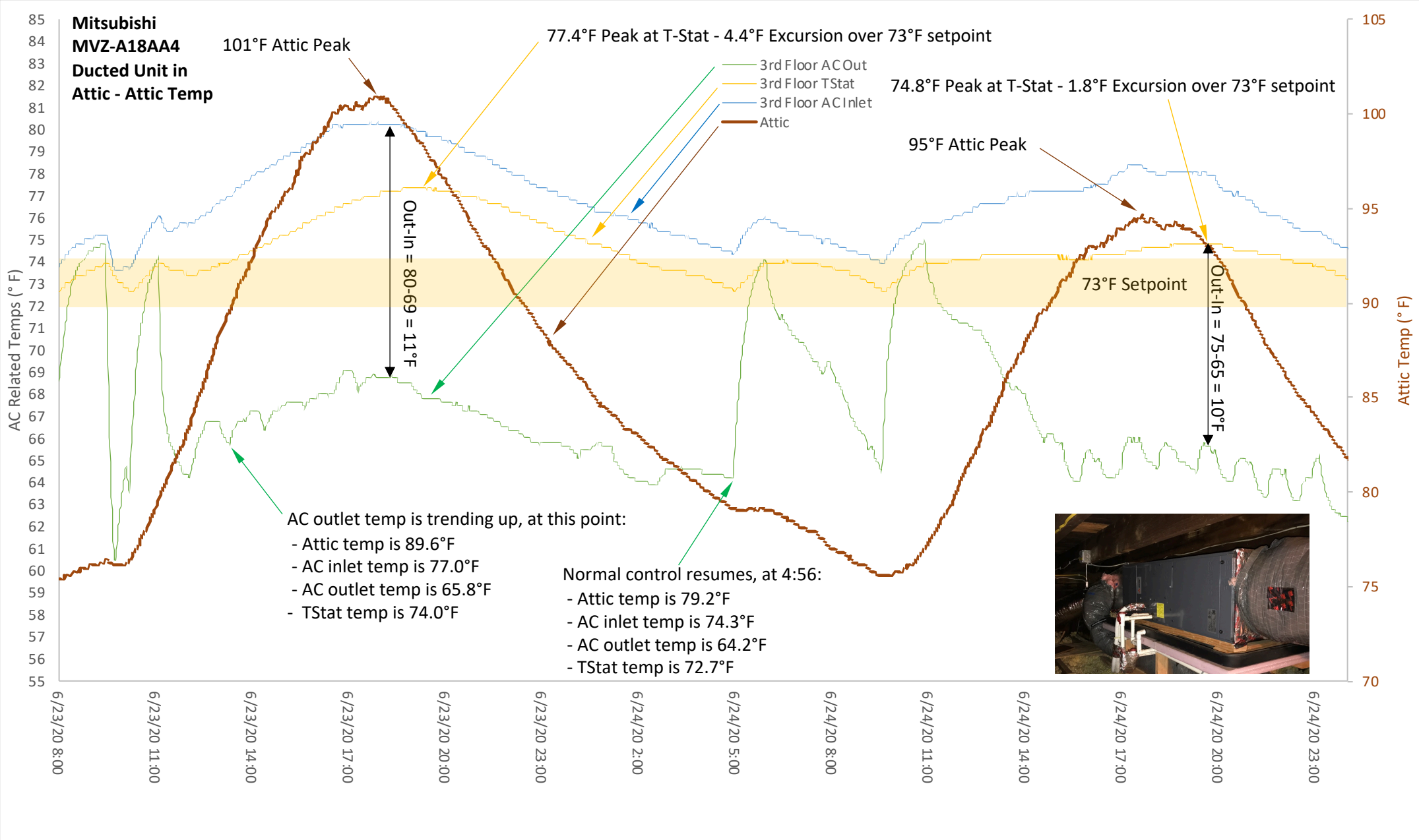
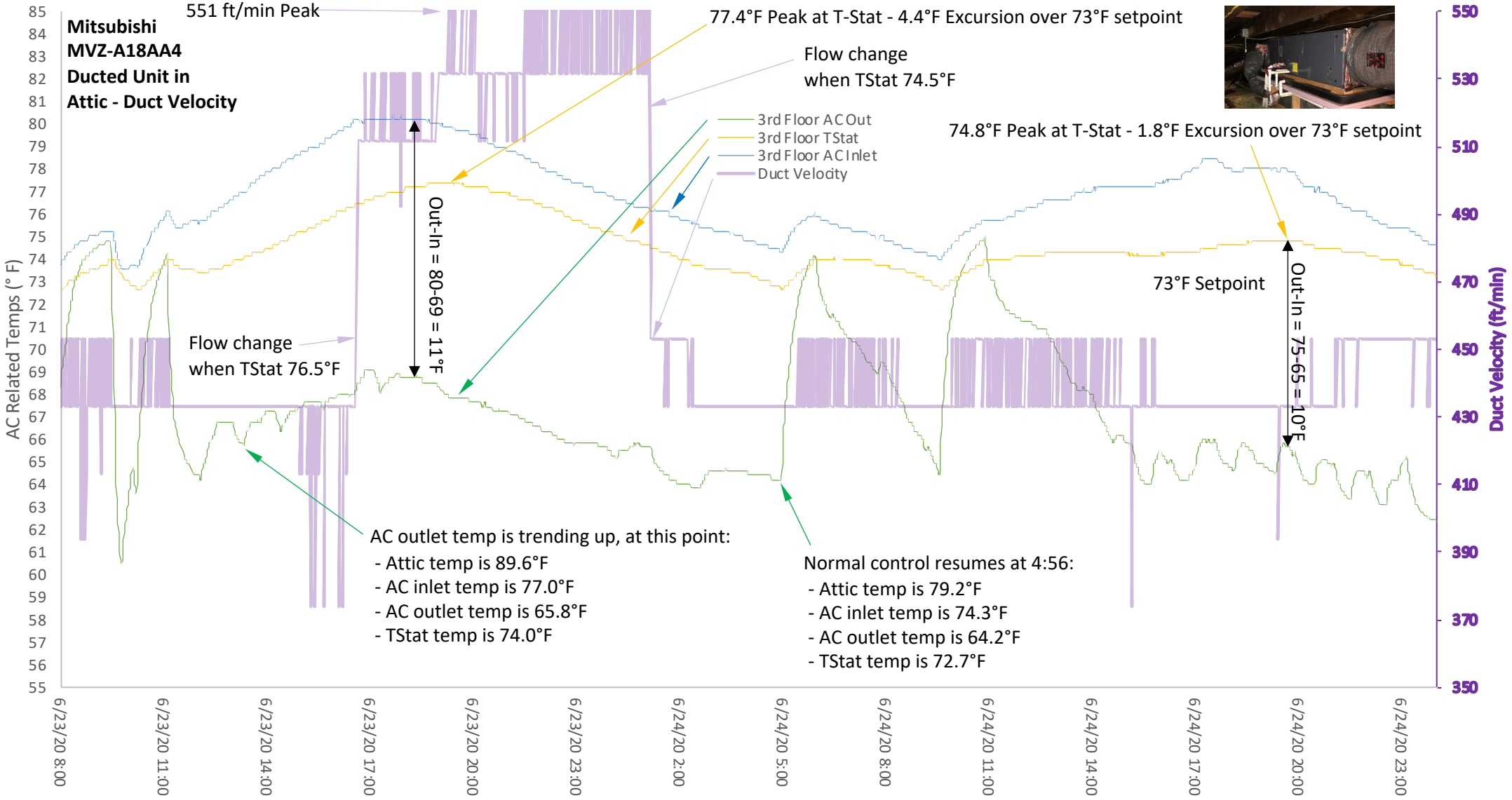
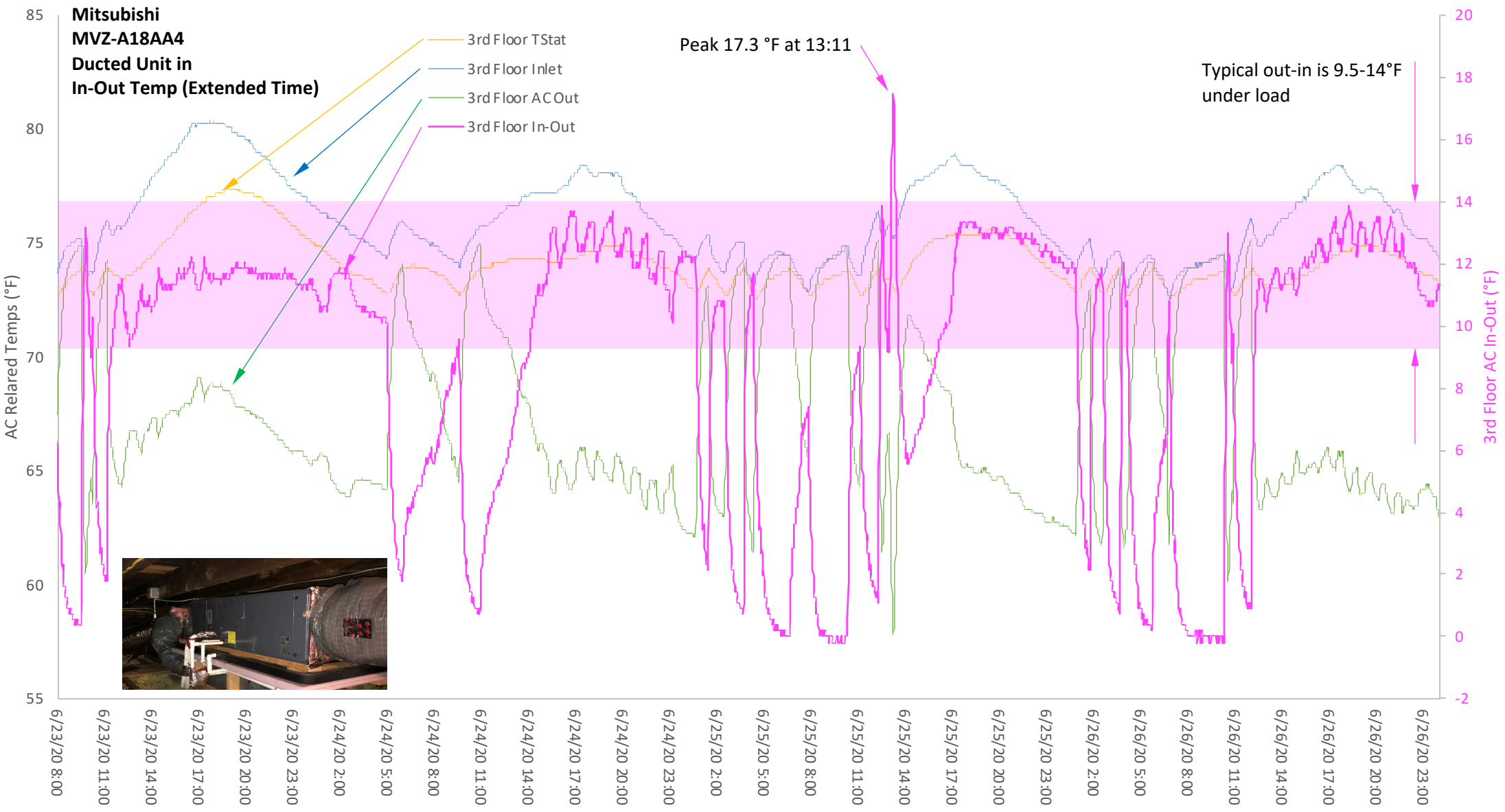
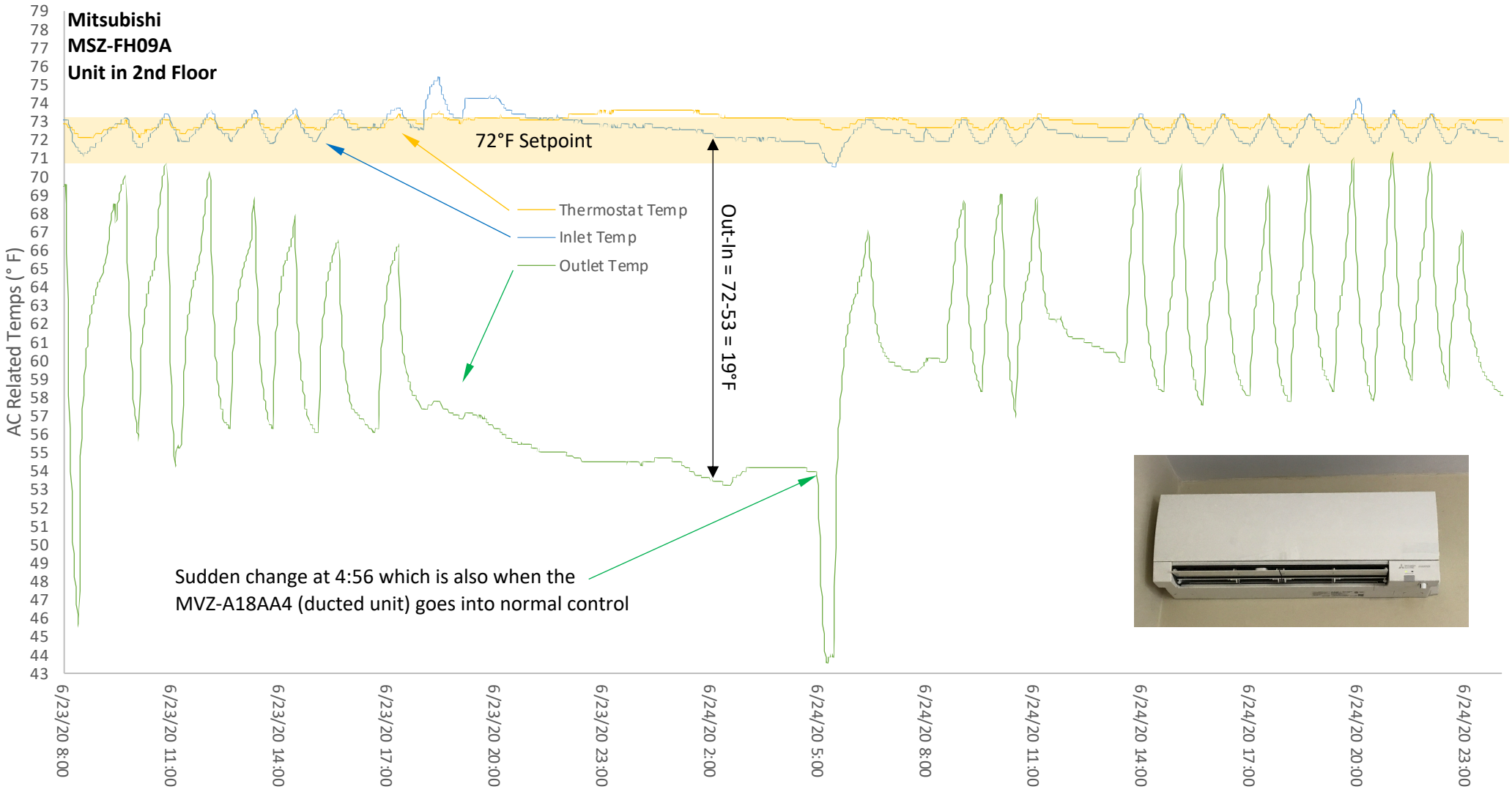

MVZ-A18AA4
3rd Floor
73°F Setpoint on MHK1
MSZ-FH09NA
2nd Floor
72°F Setpoint on MHK1
69 ft line
73 ft line
34 ft line
MSZ-FH06NA
1st Floor
74°F Setpoint on MHK1
MXZ-5C42NA2
Basement

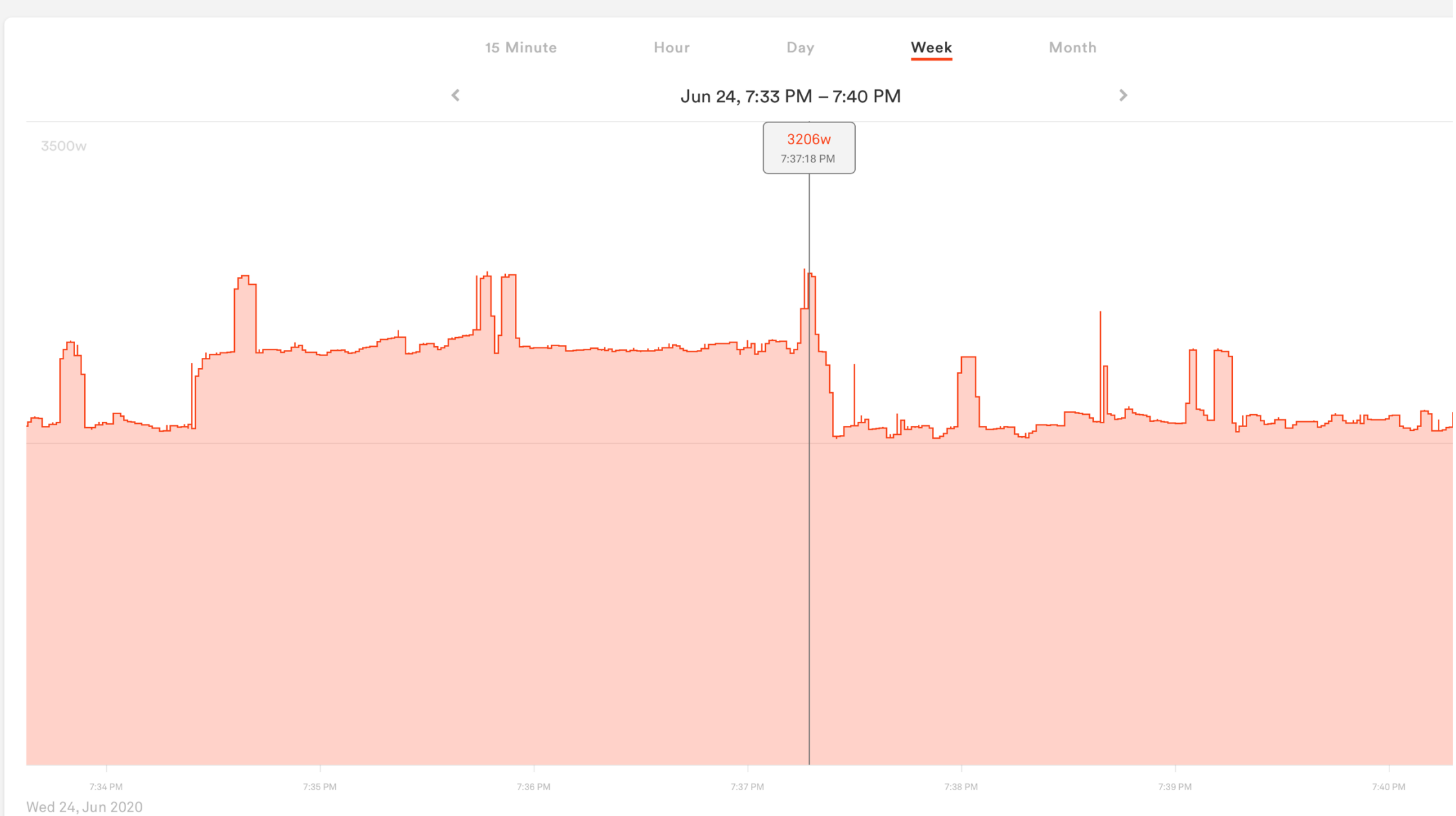

Mitsubishi
MVZ-A18AA4
Ducted Unit in
Attic - Attic Temp
101°F Attic Peak
77.4°F Peak at T-Stat - 4.4°F Excursion over 73°F setpoint
3rd Floor AC Out
3rd Floor TStat
3rd Floor AC Inlet
Attic
74.8°F Peak at T-Stat - 1.8°F Excursion over 73°F setpoint
95°F Attic Peak
Out-In = 80-69 = 11°F
73°F Setpoint
Out-In = 75-65 = 10°F
AC outlet temp is trending up, at this point:
- Attic temp is 89.6°F
- AC inlet temp is 77.0°F
- AC outlet temp is 65.8°F
- TStat temp is 74.0°F
Normal control resumes, at 4:56:
- Attic temp is 79.2°F
- AC inlet temp is 74.3°F
- AC outlet temp is 64.2°F
- TStat temp is 72.7°F
AC Related Temps (° F)
Attic Temp (° F)
85
84
83
82
81
80
79
78
77
76
75
74
73
72
71
70
69
68
67
66
65
64
63
62
61
60
59
58
57
56
55
105
100
95
90
85
80
75
70
6/23/20 8:00
6/23/20 11:00
6/23/20 14:00
6/23/20 17:00
6/23/20 20:00
6/23/20 23:00
6/24/20 2:00
6/24/20 5:00
6/24/20 8:00
6/24/20 11:00
6/24/20 14:00
6/24/20 17:00
6/24/20 20:00
6/24/20 23:00


Mitsubishi
MVZ-A18AA4
Ducted Unit in
Attic - Duct Velocity
551 ft/min Peak
77.4°F Peak at T-Stat - 4.4°F Excursion over 73°F setpoint
Flow change
when TStat 74.5°F
3rd Floor AC Out
3rd Floor TStat
3rd Floor AC Inlet
Duct Velocity
74.8°F Peak at T-Stat - 1.8°F Excursion over 73°F setpoint
Out-In = 80-69 = 11°F
73°F Setpoint
Out-In = 75-65 = 10°F
Flow change
when TStat 76.5°F
AC outlet temp is trending up, at this point:
- Attic temp is 89.6°F
- AC inlet temp is 77.0°F
- AC outlet temp is 65.8°F
- TStat temp is 74.0°F
Normal control resumes at 4:56:
- Attic temp is 79.2°F
- AC inlet temp is 74.3°F
- AC outlet temp is 64.2°F
- TStat temp is 72.7°F
AC Related Temps (° F)
Duct Velocity (ft/min)
85
84
83
82
81
80
79
78
77
76
75
74
73
72
71
70
69
68
67
66
65
64
63
62
61
60
59
58
57
56
55
550
530
510
490
470
450
430
410
390
370
350
6/23/20 8:00
6/23/20 11:00
6/23/20 14:00
6/23/20 17:00
6/23/20 20:00
6/23/20 23:00
6/24/20 2:00
6/24/20 5:00
6/24/20 8:00
6/24/20 11:00
6/24/20 14:00
6/24/20 17:00
6/24/20 20:00
6/24/20 23:00


Mitsubishi
MVZ-A18AA4
Ducted Unit in
In-Out Temp (Extended Time)
3rd Floor TStat
3rd Floor Inlet
3rd Floor AC Out
3rd Floor In-Out
Peak 17.3 °F at 13:11
Typical out-in is 9.5-14°F
under load
AC Relared Temps (°F)
3rd Floor AC In-Out (°F)
85
80
75
70
65
60
55
20
18
16
14
12
10
8
6
4
2
0
-2
6/23/20 8:00
6/23/20 11:00
6/23/20 14:00
6/23/20 17:00
6/23/20 20:00
6/23/20 23:00
6/24/20 2:00
6/24/20 5:00
6/24/20 8:00
6/24/20 11:00
6/24/20 14:00
6/24/20 17:00
6/24/20 20:00
6/24/20 23:00
6/25/20 2:00
6/25/20 5:00
6/25/20 8:00
6/25/20 11:00
6/25/20 14:00
6/25/20 17:00
6/25/20 20:00
6/25/20 23:00
6/26/20 2:00
6/26/20 5:00
6/26/20 8:00
6/26/20 11:00
6/26/20 14:00
6/26/20 17:00
6/26/20 20:00
6/26/20 23:00

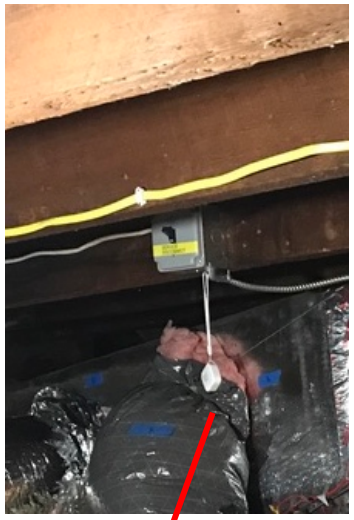

Mitsubishi
MSZ-FH09A
Unit in 2nd Floor
72°F Setpoint
Thermostat Temp
Inlet Temp
Outlet Temp
Out-In = 72-53 = 19°F
Sudden change at 4:56 which is also when the
MVZ-A18AA4 (ducted unit) goes into normal control
AC Related Temps (° F)
79
78
77
76
75
74
73
72
71
70
69
68
67
66
65
64
63
62
61
60
59
58
57
56
55
54
53
52
51
50
49
48
47
46
45
44
43
6/23/20 8:00
6/23/20 11:00
6/23/20 14:00
6/23/20 17:00
6/23/20 20:00
6/23/20 23:00
6/24/20 2:00
6/24/20 5:00
6/24/20 8:00
6/24/20 11:00
6/24/20 14:00
6/24/20 17:00
6/24/20 20:00
6/24/20 23:00

House Power Usage at Time of Peak Temp – No Obvious Large Power Spikes



Temp Measurement Locations in Ducted Unit

AC Out Temp



Attic Temp

AC In Temp
(filter is in ceiling below, not here)

Note:
Temp measurement devices are suspended so that they are not in contact with surfaces, only measuring air temps

Sensors: Govee
H5074 (±0.36°F accuracy)

Anemometer for Checking for Changes in Airflow

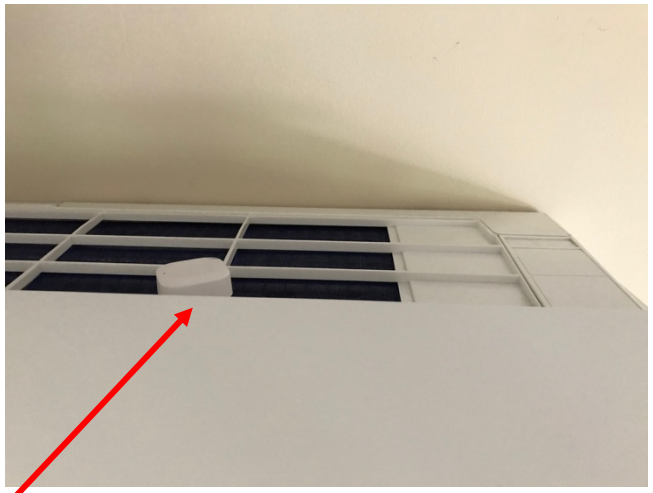
Note:

- Only used to get an idea of air flow changes.
- Signal is a bit noisy so probably not ideal for this purpose but could detect when the fan speed increased

Model:
AOPUTTRIVER AP-007-APP

Temp Measurement Locations in 2nd Floor Ducted Unit

AC Out Temp



AC Out Temp

Sensors: Govee
H5074 (±0.36°F accuracy)

Thermostat Measurement Locations

Tstat Temp for
3rd Floor –
Located on Shelf
in Bedroom
During Test
(Ducted Unit)

Tstat Temp for
2nd Floor
(Ductless Unit)

Sensors: Govee
H5074 (±0.36°F accuracy)