

Monitoring Report of Ahmet Aga Mansion, Izmir

between 07.02 – 09.03.2020

Indoor and outdoor temperature (T) and relative humidity (RH) values of Ahmet Aga Mansion were monitored between 07.02.2020 at 11:20 and 09.03.2020 03:00 PM at before COVID 19 related measures for office use were regulated in Turkey. Nearly 40 users of İzmir Metropolitan Municipality, Department of Survey and Project, Directorate of Historical Environment and Cultural Properties were occupied the building during the monitoring period. The office hours were 08:30-12:00 and 13:00-17:00 during weekdays. The building had been heated at workdays from 08:30 to 17:00.

Monitoring was conducted with five different U-12 HOBO data-loggers in five different locations which are out of building (O3), office area Z01 (O1) and office area Z13 (O2) on the ground floor, and office area 110 (O4) and meeting room 107 (O5) on the first floor. Their locations can be seen at the ground and first floor plans [Figure 1], below. Data-loggers were located at a height around of 200 cm above the ground level.

Graphical representation of the **outdoor temperature** and **relative humidity** measurements by data-logger at O3 location can be seen in Figure 2. During the period, minimum recorded temperature was 4.17°C and maximum was 22.27°C with average temperature was 12.87°C. On the other hand, minimum recorded relative humidity was 37% while maximum was 84.14% with average relative humidity of 62.76%.

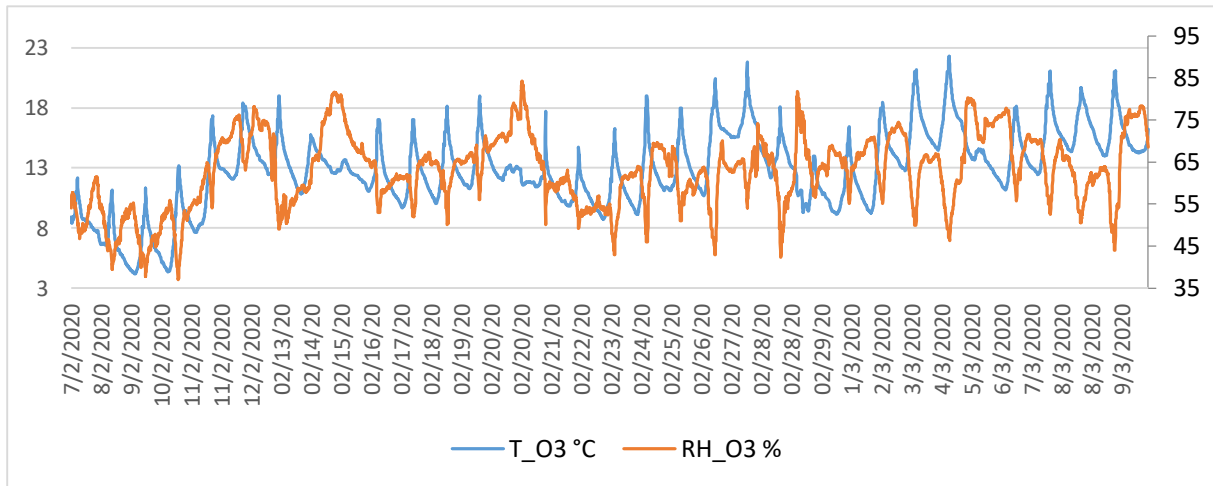


Figure 2. Measurement results of outdoor climate (O3) between 07.02.2020 and 09.03.2020

Graphical representation of the indoor temperature and relative humidity measurements at **office area Z01 (O1)** on the ground floor can be seen in Figure 3. During the period, minimum recorded temperature was 15.19°C and maximum was 30.46°C with average temperature was 21.4°C. On the other hand, minimum recorded relative humidity was 15% while maximum was 54.26% with average relative humidity being 39.15%.

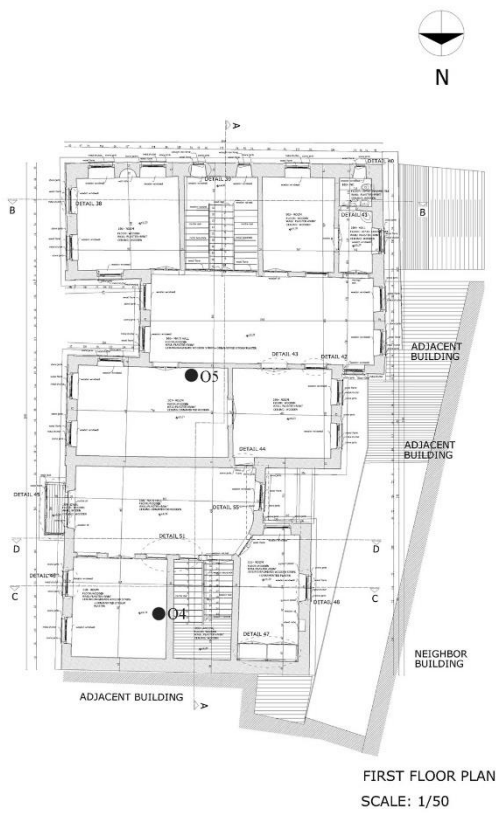
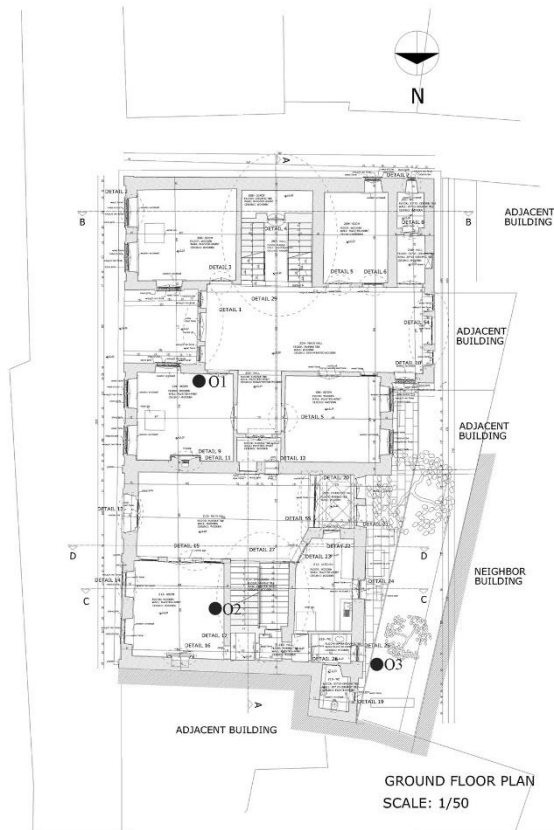


Figure 1: Locations of data-logger devices in plans

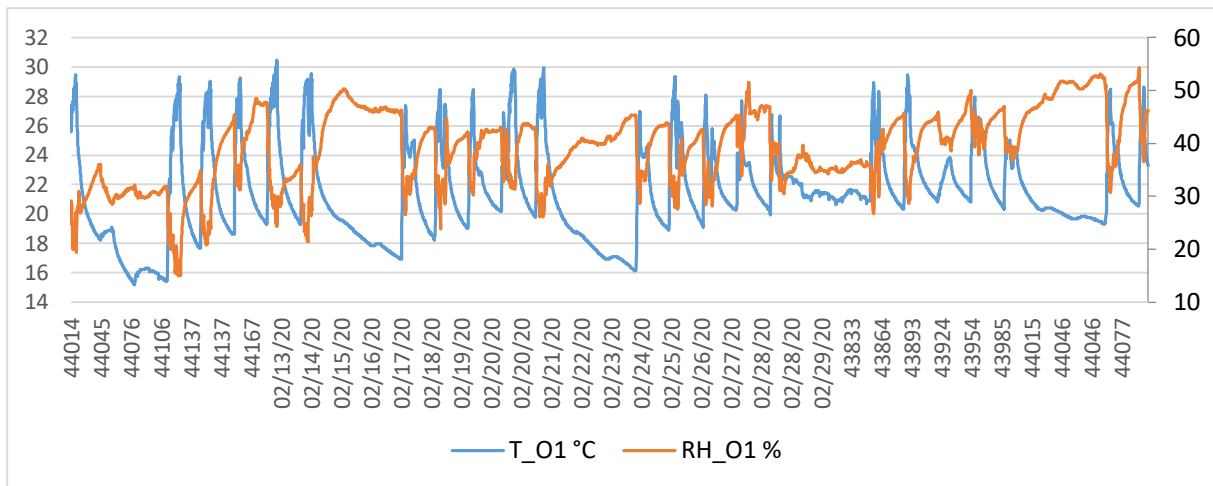


Figure 3. Measurement Results of office area Z01 (O1) between 07.02.2020 and 09.03.2020

Graphical representation of the indoor temperature and relative humidity measurements by data-logger at **office area Z13 (O2)** on the ground floor can be seen in Figure 4. During the period minimum recorded temperature was 15.28°C and maximum was 27.46°C with average temperature was 20.90°C. On the other hand, minimum recorded relative humidity was 15% while maximum was 54.43% with average relative humidity being 37.26%.

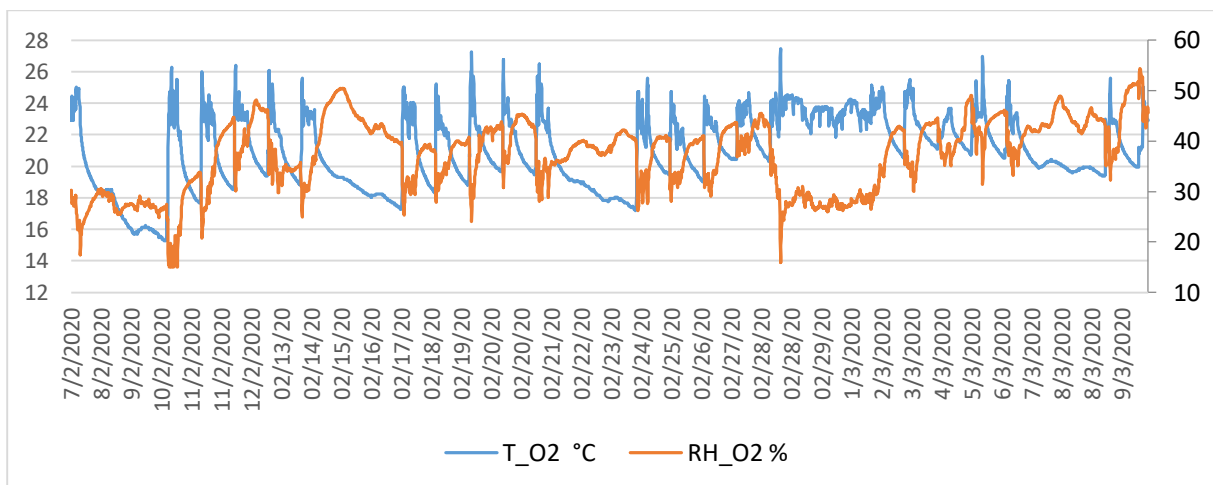


Figure 4. Measurement Results of office area Z13 (O2) between 07.02.2020 and 09.03.2020

Graphical representation of the indoor temperature and relative humidity measurements by data-logger at **office area 110 (O4)** on the first floor can be seen on Figure 5. During the period, minimum recorded temperature was 18.04°C and maximum was 26°C with average temperature was 22.18°C. On the other hand, minimum recorded relative humidity was 20.6% while maximum was 50.09% with average relative humidity being 35.32%.

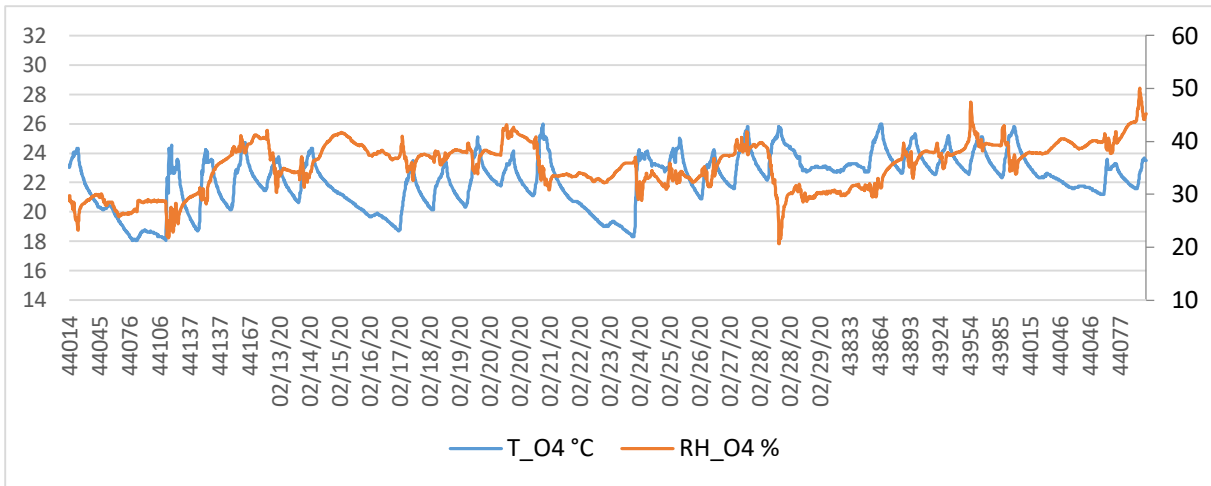


Figure 5. Measurement Results of office area 110 (O4) between 07.02.2020 and 09.03.2020

Graphical representation of the indoor temperature and relative humidity measurements by data-logger at **meeting room 107 (O5)** on the first floor can be seen on Figure 6. During the period, minimum recorded temperature was 16.62°C and maximum was 27.17°C with average temperature was 20.59°C. On the other hand, minimum recorded relative humidity was 15% while maximum was 47.15% with average relative humidity being 37.15%.

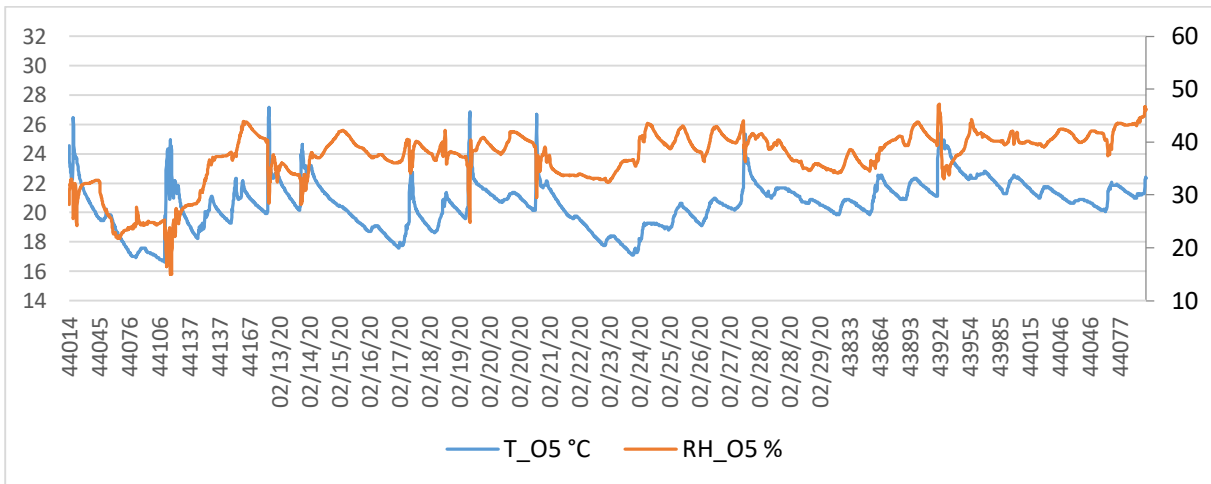


Figure 6. Measurement results of meeting room 107 (O5) between 07.02.2020 and 09.03.2020

The comparison of indoor temperatures indicates that the offices on the ground floor show more temperature fluctuations in terms of heated and unheated hours (Figure 7). Almost all office areas are heated quite over the comfort temperature of 21°C. The relative humidity values of office areas are also quite lower than the comfort band of 40-60% (Figure 8).

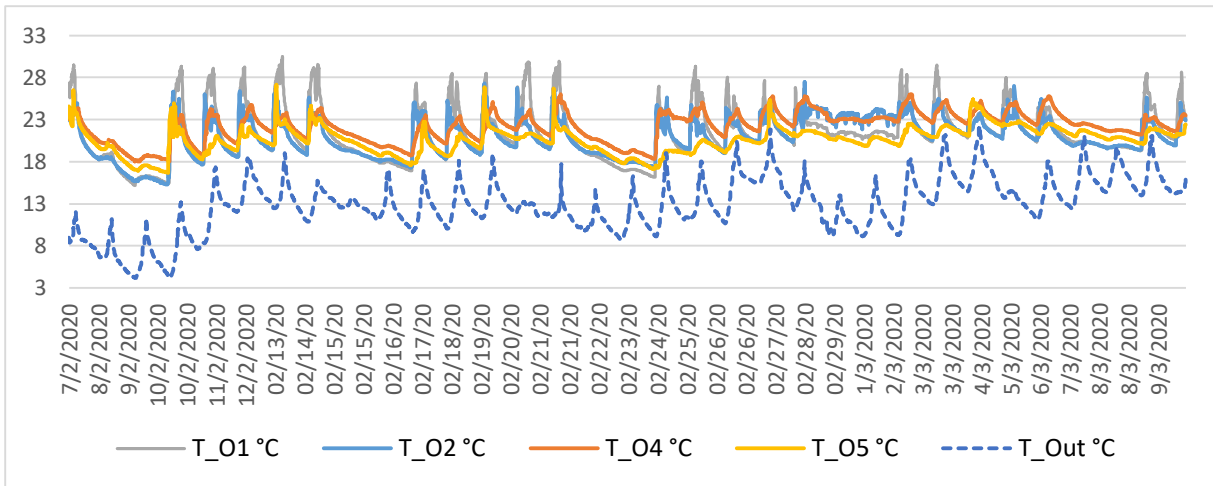


Figure 7. Temperature differences among office areas between 07.02.2020 and 09.03.2020

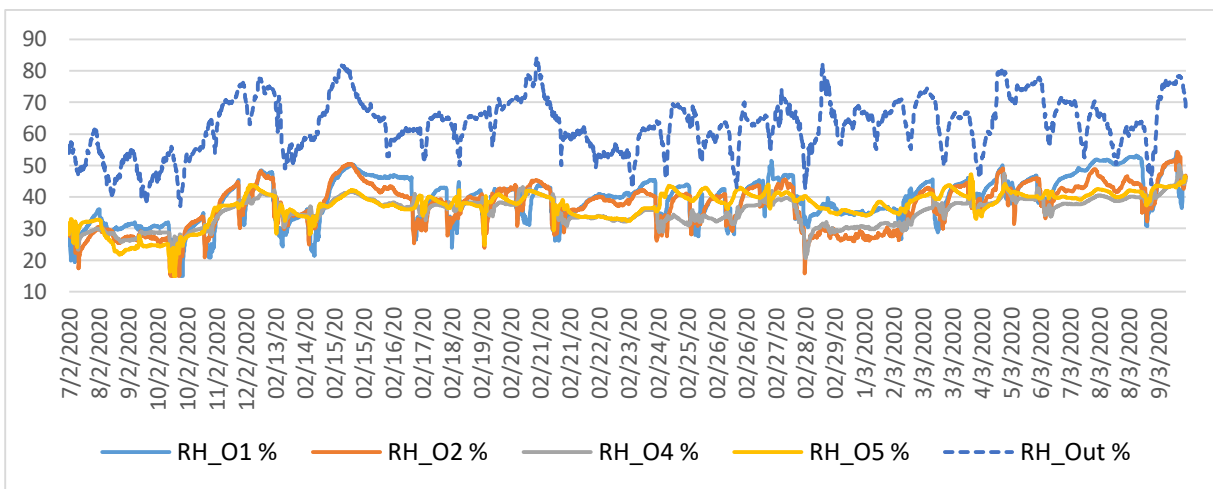


Figure 8. Relative humidity differences among office areas between 07.02.2020 and 09.03.2020