## Original EEPROM map (sprinklers\_avr):

|  |  |
| --- | --- |
| EEPROM Addesses | Description |
| 0-3 | Signature (“S1.2”) |
| 4 | Number of schedules |
| 5 | Flags |
| 6-19 | Appears to be unused |
| 20-949 | Zones block (zone structure size=ZONE\_INDEX, max number=NUM\_ZONES) |
| 950-1199 | Various settings |
| 1200-2047 | Schedules block (schedule structure size=SCHEDULE\_INDEX, max number=MAX\_SCHEDULES) |

NUM\_ZONES = 15  
MAX\_SCHEDULES = 10

The original EEPROM layout uses 2K space.

## New (multi-station) EEPROM map (SmartGarden):

|  |  |
| --- | --- |
| EEPROM Addesses | Description |
| 0-3 | Signature (“T2.3”) |
| 4 | Number of schedules |
| 5 | Flags |
| 6 | Unused |
| 7 | Number of Zones |
| 8 | Pump Station (or 255 if no pump configured) |
| 9 | Pump Channel |
| 10-19 | Reserved |
| 20-99 | Various settings (relocated from the original 950) |
| 100 | Number of direct IO channels (parallel zones hookup) - max 16 |
| 101-116 | Local direct IO mapping channels (parallel zones hookup pins) |
| 117 | Number of OpenSprinkler-style channels |
| 118-121 | OpenSprinkler-style local IO mapping (pins) |
| 122-127 | Reserved |
| 128-255 | Network config |
| 256-511 | Sensors config (sensors structure size=SENSORS\_INDEX, max number=MAX\_SENSORS) |
| 512-767 | Free |
| 768-1535 | Stations config (station structure size=STATION\_INDEX, max number=MAX\_STATIONS) |
| 1536-2047 | Schedules block (schedule structure size=SCHEDULE\_INDEX, max number=MAX\_SCHEDULES) – relocated from the original 1200 |
| 2048-4095 | Zones block (zone structure size=ZONE\_INDEX, max number=NUM\_ZONES) – relocated from the original 20 |

SENSOR\_INDEX=24 New structure to define Sensor information  
MAX\_SENSORS=10 Space for 10 “named” sensors.

ZONE\_INDEX = 32 Structure expanded to store station# and channel#  
NUM\_ZONES = 64 64 watering zones across all stations.

MAX\_SCHEDULES = 4 Reduced number of schedules to 4 to save space. Also too many schedules  
are not really required – too confusing.

SCHEDULE\_INDEX = 128 Due to increased number of zones we need to have a lot more space per schedule. This size also includes some padding for future use.

MAX\_STATIONS = 16 Max number of stations.  
STATION\_INDEX = 48 48 bytes config per station

Note: Max number of stations is 16, with up to 8 channels each, however total maximum number of zones for Arduino Mega-based version is limited to 64. More powerful hardware will allow lifting this restriction.

New SmartGarden EEPROM layout uses full Arduino Mega 4K EEPROM space.

## SmartGarden v1.5 EEPROM map:

|  |  |
| --- | --- |
| EEPROM Addesses | Description |
| 0-3 | Signature (“SG15”) |
| 4 | Number of schedules |
| 5 | System Flags |
| 6 | Unused |
| 7 | Number of Zones |
| 8 | Pump Station (or 255 if no pump configured) |
| 9 | Pump Channel |
| 10-19 | Reserved |
| 20-99 | Various settings |
| 100 | Number of direct IO channels (parallel zones hookup) - max 16 |
| 101-116 | Local direct IO mapping channels (parallel zones hookup pins) |
| 117 | Number of OpenSprinkler-style channels |
| 118-121 | OpenSprinkler-style local IO mapping (pins) |
| 122-127 | Reserved |
| 128-255 | Network config |
| 256 | Number of sensors |
| 257-641 | Sensors config (sensors structure size=SENSORS\_INDEX, max number=MAX\_SENSORS) |
| 642-656 | Last week water usage counters (sharded by the day of the week, 16bit each) |
| 657-660 | Lifetime water usage counter (32bit) |
| 661-689 | Date stamps of the last weekly water counter update, 4 bytes per counter, one counter per day of week (7 counters) |
| 690-768 | Free |
| 768-1535 | Stations config (station structure size=STATION\_INDEX, max number=MAX\_STATIONS) |
| 1536-2047 | Schedules block (schedule structure size=SCHEDULE\_INDEX, max number=MAX\_SCHEDULES) – relocated from the original 1200 |
| 2048-4095 | Zones block (zone structure size=ZONE\_INDEX, max number=NUM\_ZONES) |

SENSOR\_INDEX=24 Structure to define Sensor information  
MAX\_SENSORS=16 Space for 16 sensors.

ZONE\_INDEX = 32 Structure to define Zone information (also includes spare space for the future)  
NUM\_ZONES = 64 64 watering zones across all stations.

MAX\_SCHEDULES = 4 Reduced number of schedules to 4 to save space. Also too many schedules  
are not really required – too confusing.

SCHEDULE\_INDEX = 128 Due to increased number of zones we need to have a lot more space per schedule. This size also includes some padding for future use.

MAX\_STATIONS = 16 Max number of stations.  
STATION\_INDEX = 48 48 bytes config per station

Note: Max number of stations is 16, with up to 8 channels each, however total maximum number of zones for Arduino 1284p-based version is limited to 64. More powerful hardware will allow lifting this restriction.

SmartGarden EEPROM layout uses full Arduino 1284p 4K EEPROM space.