

9575

```
#ifndef _ENV_H
#define _ENV_H

#include <stdint.h>

// Definir níveis de log
#define LOG_LEVEL_NONE 0 // Sem logs
#define LOG_LEVEL_ERROR 1 // Apenas erros
#define LOG_LEVEL_WARN 2 // Avisos e erros
#define LOG_LEVEL_INFO 3 // Informações, avisos e erros
#define LOG_LEVEL_DEBUG 4 // Mensagens de debug, informações, avisos e erros

// Definir qual o nível de log ativo
#define CURRENT_LOG_LEVEL LOG_LEVEL_ERROR

// Funções de log condicional com base no nível
#define LOG_LEVEL_ERROR 1
#define LOG_LEVEL_WARN 2
#define LOG_LEVEL_INFO 3
#define LOG_LEVEL_DEBUG 4

// Defina o nível de log atual
#define CURRENT_LOG_LEVEL LOG_LEVEL_DEBUG

// Macros de log condicional com suporte para mensagens simples e formatadas
#if CURRENT_LOG_LEVEL >= LOG_LEVEL_ERROR
#define LOG_ERROR(fmt, ...) \
    do \
    { \
        Serial.printf("[ERROR] " fmt "\n", ##__VA_ARGS__); \
        Serial.flush(); \
    } while (0)
#else
#define LOG_ERROR(fmt, ...)
#endif
```

```

#if CURRENT_LOG_LEVEL >= LOG_LEVEL_WARN
#define LOG_WARN(fmt, ...) \
    do \
    { \
        Serial.printf("[WARN] " fmt "\n", ##__VA_ARGS__); \
        Serial.flush(); \
    } while (0)
#else
#define LOG_WARN(fmt, ...)
#endif

#if CURRENT_LOG_LEVEL >= LOG_LEVEL_INFO
#define LOG_INFO(fmt, ...) \
    do \
    { \
        Serial.printf("[INFO] " fmt "\n", ##__VA_ARGS__); \
        Serial.flush(); \
    } while (0)
#else
#define LOG_INFO(fmt, ...)
#endif

#if CURRENT_LOG_LEVEL >= LOG_LEVEL_DEBUG
#define LOG_DEBUG(fmt, ...) \
    do \
    { \
        Serial.printf("[DEBUG] " fmt "\n", ##__VA_ARGS__); \
        Serial.flush(); \
    } while (0)
#else
#define LOG_DEBUG(fmt, ...)
#endif

// WiFi Network Credentials
constexpr char NETWORK_CLIENT[] = "SmartVac_Telemetria";
constexpr char PASSW[] = "br@skem#2023";

constexpr uint32_t DELAY_MS_READER_TASK = 300; //300ms para que os envios sejam feitos a cada
20s

// Define o atraso em milissegundos para tarefas de leitura (10.000 parece ser um número

```

mágico)

```
// Equipment Identifiers
```

```
namespace Equipment
```

```
{
```

```
    constexpr char TAG[] = "9575";
```

```
    constexpr char TOPIC[] = "v4/matr0569";
```

```
    constexpr char SENDING_SERVER[] = "web.smartvac.app";
```

```
    constexpr uint16_t SENDING_PORT = 1883;
```

```
    constexpr unsigned long SENDING_VELOCITY = 115200;
```

```
    constexpr uint16_t SENDING_KEEPALIVE = 200;
```

```
    constexpr uint32_t DELAY_MS = 500; // Delay time in milliseconds for tasks
```

```
}
```

```
// Voltage Calibration Constants
```

```
struct VoltageCalibration
```

```
{
```

```
    static constexpr float CAL_R = 80.57;
```

```
    static constexpr float CAL_S = 81.87;
```

```
    static constexpr float CAL_TT = 79.3;
```

```
};
```

```
// Current Calibration Constants
```

```
struct CurrentCalibration
```

```
{
```

```
    static constexpr int CAL_R = 18.83;
```

```
    static constexpr int CAL_S = 19.17;
```

```
    static constexpr int CAL_TT = 19.09;
```

```
};
```

```
// Pin Definitions
```

```
struct Pins
```

```
{
```

```
    static constexpr int CURRENT_R = 39;
```

```
    static constexpr int CURRENT_S = 33;
```

```
    static constexpr int CURRENT_TT = 35;
```

```
    static constexpr int TEMPERATURE = 16;
```

```
    static constexpr int VOLTAGE_R = 32;
```

```
    static constexpr int VOLTAGE_S = 34;
```

```
    static constexpr int VOLTAGE_TT = 36;
```

```
};
```

```

// Sensor Addresses
namespace Sensors
{
    constexpr char INS[ ] = "s100000243";
    constexpr char RET[ ] = "s100000244";
    constexpr char SUC[ ] = "s100000245";
    constexpr char LL[ ] = "s100000246";
    constexpr char ENT_CONDES[ ] = "s100000260";
    constexpr char SAD_CONDES[ ] = "xxxxx";// essa temp não ta sendo enviada, ignorar ela ou
adicionar nos envios se necessario

    constexpr char VOLT_R[ ] = "s100000247";
    constexpr char VOLT_S[ ] = "s100000256";
    constexpr char VOLT_TT[ ] = "s100000257";

    constexpr char CURR_R[ ] = "s100000248";
    constexpr char CURR_S[ ] = "s100000258";
    constexpr char CURR_TT[ ] = "s100000259";

    constexpr char BAT_INS[ ] = "s100000252";
    constexpr char BAT_RET[ ] = "s100000253";
    constexpr char BAT_SUC[ ] = "s100000254";
    constexpr char BAT_LL[ ] = "s100000255";

    constexpr char VIBR_X_SUC[ ] = "s100000249";
    constexpr char VIBR_Y_SUC[ ] = "s100000250";
    constexpr char VIBR_Z_SUC[ ] = "s100000251";

}

// BLE Sensor MAC Addresses
namespace BLEAddresses
{
    constexpr char TEMP_INSU[ ] = "bc: 57: 29: 13: fd: c8"; //Ble2
    constexpr char TEMP_RET[ ] = "bc: 57: 29: 13: fd: 13"; //Ble1
    constexpr char TEMP_SUC[ ] = "bc: 57: 29: 13: ff: 7f"; //Ble4
    constexpr char TEMP_LL[ ] = "bc: 57: 29: 13: ff: 80"; //Ble3
    constexpr char TEMP_ENT_CONDES[ ] = "bc: 57: 29: 13: fd: c6"; //Ble4
    constexpr char TEMP_SAI_CONDES[ ] = ""; //Ble4
};

```

```
#endif
```

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