lamaPLC: RP2040_ETH_Modul: I²C scanner

The program scans the addresses of devices connected via I²C.

Important: The Ethernet module is accessible by **RP2040_ETH** via **UART1** with the following configuration:

uart1 = UART(1, baudrate=115200, tx=Pin(20), rx=Pin(21), timeout=50)

```
import machine
from machine import Pin, I2C
import time

# I2C configuration for RP2040-ETH
# Using I2C port 0, SDA on Pin 4, SCL on Pin 5, at 100kHz frequency
i2c = I2C(0, sda=Pin(4), scl=Pin(5), freq=100000)

def scan_i2c():
    print("I2C Scanner starting...")
    print("Scanning bus I2C0 (SDA=GP4, SCL=GP5)...")

    # scan() returns a list of 7-bit decimal addresses of found devices
    devices = i2c.scan()

    if not devices:
        print("No I2C devices found. Check your wiring and pull-up
resistors.")
    else:
        print(f"Found {len(devices)} device(s):")
        for device in devices:
            # Print the address in both decimal and hexadecimal format
            print(f" - Decimal: {device}, Hex: {hex(device)}")

# Run the scanner
if __name__ == "__main__":
    while True:
        scan_i2c()
        # Wait 5 seconds before the next scan
        time.sleep(5)
```

Output example:

```
I2C Scanner starting...
Scanning bus I2C0 (SDA=GP4, SCL=GP5)...
```

```
Found 2 device(s):
 - Decimal: 90, Hex: 0x5a
 - Decimal: 119, Hex: 0x77
```

code!, micropython, 2026, RP2040 ETH, i2c, comunication