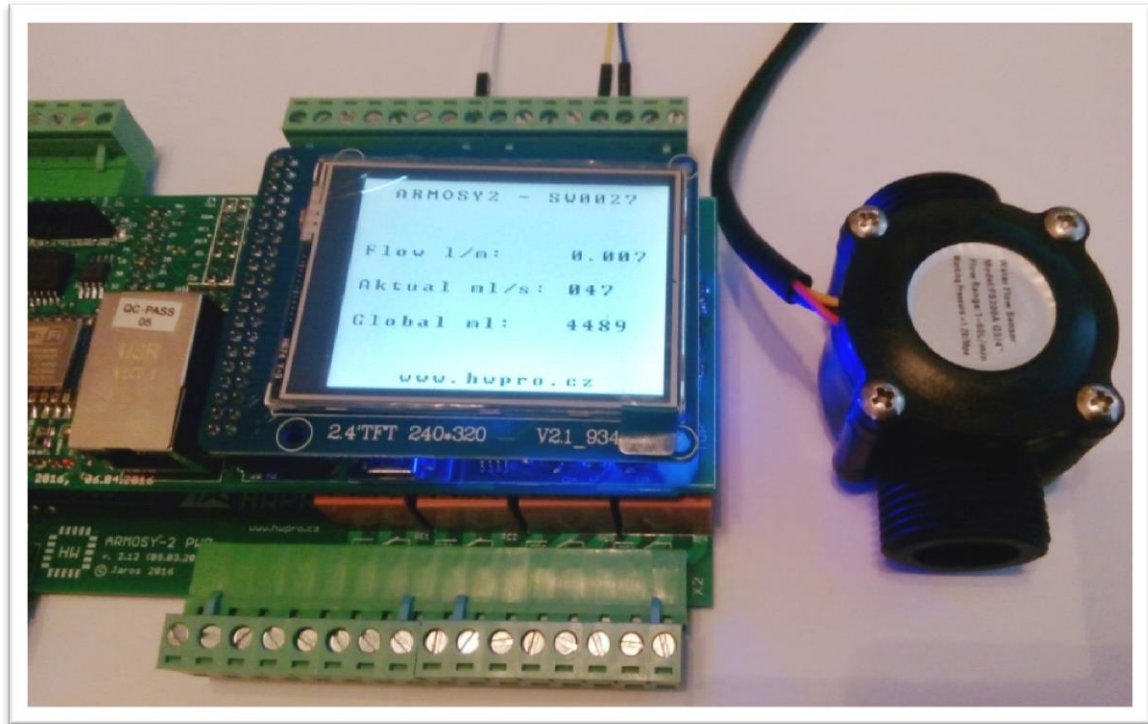


Example – SW0027

Flow Meter FS-300A, LCD



Universal Control System		ARMOSY-2		ARduino MOdule SYstem		
<p>ARM, 32 bit 84MHz, 512k FLASH</p>	<p>Arduino DUE 3.3V Technology</p>	<p>EEPROM, I2C 256 kB</p>	<p>RTC, DS3231, I2C temper.compensation Battery CR2032</p>	<p>SD CARD, SPI Slot In TFT LCD</p>	<p>2.4" COLOR LCD 240x320 px</p>	<p>NF amplifier, DAC OPTION Audio</p>
<p>2x RS-232 115 kbps</p>	<p>Two Wire RS-485 115 kbps</p>	<p>OPTION Mini USB, FTB232 USB 1 Mbps</p>	<p>ESP8266, UART OPTION WiFi 2 Mbps</p>	<p>W5500, SPI OPTION Ethernet 10/100 Mb, 2 LED</p>	<p>GSM, UART OPTION GSM SIM800L</p>	<p>Two I2C BUS 1-wire DALLAS BUS 1Wire BUS</p>
<p>8x INPUT Optocoupler 6 MODE</p>	<p>8x OUTPUT Optocoupler 3 MODE, PWM</p>	<p>8x IN / OUT Universal I/O Direct CPU</p>	<p>2x OPTION 0 – 30A Current measurement</p>	<p>4x AD OPTION 0 – 10V 18b AD Converter</p>	<p>4x DA OPTION 0 – 10V 12b DA Converter</p>	<p>4x OPTION 10A, 250V, AC</p>
<p>POWER INPUT 8V ~ 72V, 3W AC, DC, USB</p>	<p>Measurement System Voltage 3.3V / 5V</p>	<p>OTHERS 2x Buttons 2 x LED Buzzer</p>	<p>User Design PCB Size 10x4 cm</p>	<p>DIN OPTION 12 modul</p>	<p>Programming Free Software</p>	<p>CZ, EN User manual Examples</p>

```

/* ||| ARMOZY-2 Example |||
Iniciale Flow Meter - FS300A
Hardware: ARMOZY-2
Version: HW 2.21
Create: 16.07.2018

| TERMINAL CONNECTION
56 - U8 Flow Meter (yellow)
62 - 0 V (black)
61 - +3.3V (red)*/

// | LIBRARY
#include <UTFT.h>

// | DECLARATIONS
UTFT myGLCD(ILI9341_8,38,39,40,41); // ILI9325D, RS, WR,CS,REST
extern uint8_t SmallFont[]; // Type Font Small
extern uint8_t BigFont[]; // Type Font Big

#define Pin_Flowmeter 2 // IRQ pin
#define P_IRQ 2 // IRQ Set D2

const float Calibre_F = 5.5; // Calibre factory 5.5 Hz/1s = 11/60s

volatile byte Num_Pulse = 0;
float Flow = 0.0;
unsigned int Flow_ML = 0;
unsigned long Total_ML = 0;
unsigned long Old_Time = 0;

// ||| SETUP |||

void setup() {

// ■ UTFT
myGLCD.InitLCD(); // Initialization LCD
myGLCD.clrScr(); // Clear Screen
myGLCD.fillScr(VGA_WHITE); // VGA Background Transparency
myGLCD.setColor(0, 0, 0); // Black Fonds
myGLCD.setBackColor(255, 255, 255); // White Background
myGLCD.setFont(BigFont); // Select Font

// ■ HEADER
myGLCD.print("ARMOZY2 - SW0027", CENTER, 10);
myGLCD.print("www.hwpro.cz", CENTER, 220);

// ■ IRQ
pinMode(Pin_Flowmeter, INPUT); // Setings INPUT pin
attachInterrupt(P_IRQ, ADD_Puls, FALLING); //IRQ FALLING => H to L => CALL ADD_Puls
}

```

```
// ||| MAIN |||

void loop() {

  // 1s measure
  if ((millis() - Old_Time) > 1000) {
    detachInterrupt(P_IRQ); // Disable IRQ
    Flow = ((1000.0 / (millis() - Old_Time)) * Num_Pulse) / Calibre_F; // results
    Flow_ML = (Flow / 60) * 1000; // results ml
    Total_ML += Flow_ML; // Add ml + Actual ml

    // UTFT Print
    myGLCD.print("Flow l/m:", 10, 80);
    myGLCD.printNumF(Flow, 2, 220, 80);
    myGLCD.print("Actual ml/s:", 10, 120);
    myGLCD.printNumI(Flow_ML, 220, 120);
    myGLCD.print("Global ml:", 10, 160);
    myGLCD.printNumI(Total_ML, 220, 160);

    Num_Pulse = 0; // Reset num. pulse
    Old_Time = millis(); // Save Actual Time
    attachInterrupt(P_IRQ, ADD_Puls, FALLING); // Enable detection IRQ
  }
}

//Subroutine
void ADD_Puls() {
  Num_Pulse++; // increment puls
}
```

**HWPRO**

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