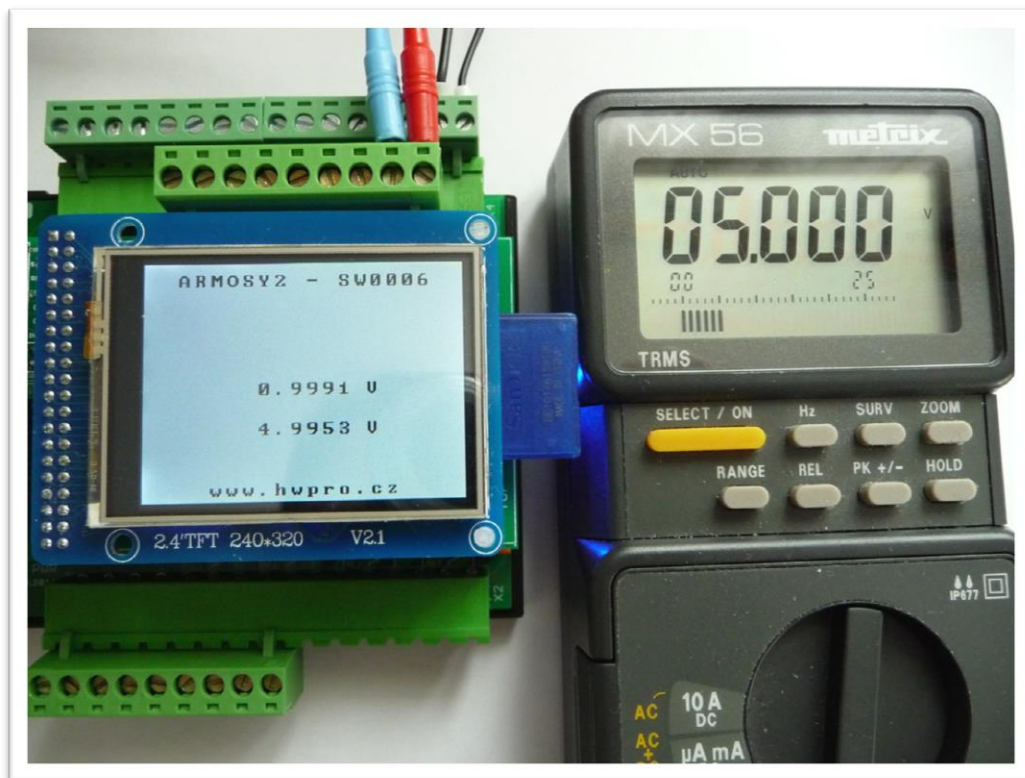


Example – SW0006

ADC Converter 0-10V, MCP3424



Universal Control System

ARMOSY-2

ARduino MOdule SYstem

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

```

/* ||||| ARMOSY-2 Example |||||
ADC Converter 0-10V, MCP3424
Hardware: ARMOSY-2
Version HW: 2.21
Create: 22.04.2016

||||| TERMINAL CONNECTION |||||
63 - IN POWER, VCC min 8V/1A!
64 - IN POWER, "-"
72 - IN+ Voltage 0~10V, CH1
73 - IN- Voltage 0~10V, CH1
*/

// | LIBRARY
#include <UTFT.h> //Driver UTFT
#include <Wire.h> // Library I2C
#include <MCP3424.h> // Library ADC MCP3424.h 18bit

// | DECLARATIONS
UTFT myGLCD(ITDB24,38,39,40,41); // RS, WR, CS, REST
extern uint8_t BigFont[]; // UTFT Fonds

MCP3424 adc_mcp(0x6B); // Address 107 DEC, 1101 011 BIN
double value_adc; // Value ADC
float volt; // Volt IN

// ||||| 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("ARMOSY2 - SW0006", CENTER, 10);
myGLCD.print("www.hwpro.cz", CENTER, 220);

// | I2C
Wire.begin(); // I2C Start

// | ADC MCP3424
adc_mcp.generalCall(GC_RESET);
adc_mcp.creg[CH1].bits = { GAINx1, SR16B, CONTINUOUS, CH1, 1 }; // Gain,
Resolutions 12,14, 16, 18 bits, Type Conv, Channel)
}

```

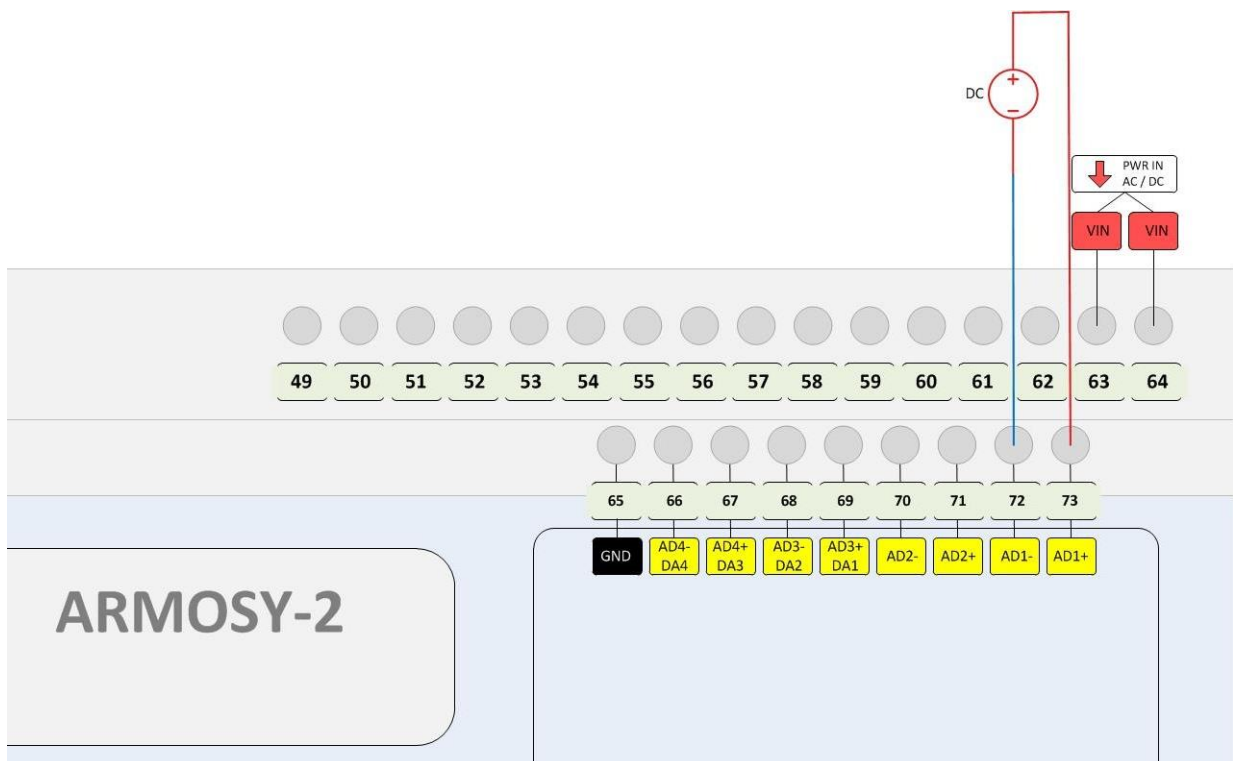
**HWPRO**

Vývoj a výroba elektronických zařízení

e-mail: info@hwpro.czweb: www.hwpro.cz

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

void loop()
{
    ConvStatus Xerr = adc_mcp.read(CH1, value_adc); // Read Conversion
    volt = value_adc * 5; // Gain Vout/Vin = 0.2, 2V = 10V
    myGLCD.printNumF(value_adc, 4, CENTER, 120); // Print Value UTFT
    myGLCD.print("V", 220, 120);
    myGLCD.printNumF(volt, 4, CENTER, 160); // Print Value UTFT
    myGLCD.print("V", 220, 160);
}
```


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 web: www.hwpro.cz