



Modular Embedded Development Platform

Nvis 5004B



Nvis Technologies Modular Embedded Development Platform Nvis 5004B serves as a 32-bit development platform and provides means for code development. This Development Platform is based on ARM7TDMI Microcontroller (LPC2148) with 512KB on-chip memory. This platform is designed to explore ARM architecture and supporting peripherals, an ideal platform for extensive Embedded product development. The Nvis 5004B provides USB connection that can be used to download firmware, allows users to evaluate, prototype and create application-specific designs.

Features

- ARM7 controller based on LPC 2148.
 - On-board USB programmer.
 - USB 2.0 full-speed compliant device controller with 2KB of endpoint RAM.
 - Learning of USB protocol like HID, CDC and MSD.
 - Master reset/restart key for hardware reset.
 - RTOS supported (RTX, mC/OS-II).
 - On-board USB (UART0) and UART1 interface.
 - On-board temperature sensor.
 - On-board 16X2 LCD display.
 - On-board 10-bit DAC provides variable analog output.
 - On-board PWM and interrupt.
 - On-board facility to connect JTAG programming and debugging.
 - All GPIO's are provided on 6 connectors (10X2).
 - Wireless module adapter for optional-2.4GHz. ZigBee (Xbee) / Bluetooth / Wi-Fi connectivity.
 - Motor driver circuit for DC and stepper motor.
 - I2C and SPI interface connector.
 - On-board 8 LED.
 - On-board 4X4 Hex keypad interface.
 - Inbuilt real-time clock with battery holder.
 - On-board switch.
 - 128-byte of I2C external EEPROM.
 - RS485 interface connector.
 - Expansion connectors for plug-in modules and prototyping area.
- Controller module is detachable, user can use other controller as well.



Modular Embedded Development Platform

Nvis 5004B

Scope of Learning

- Study of ARM7(LPC2148) microcontroller architecture.
- Pin to pin study of MCU.

Study and Interface :

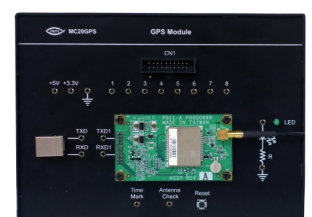
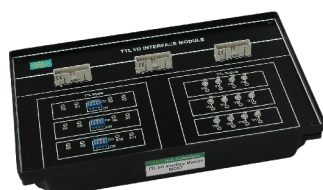
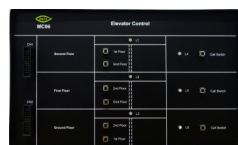
- Serial protocol(I2C,SPI,UART).
- Internal PWM, Timer, Interrupt.
- LED and temperature sensor.
- Internal Real Time Clock (RTC).
- EEPROM memory.
- Study of internal ADC and DAC.
- Study and interface of stepper motors.
- Study and interface of 4X4 Hex keypad.
- Study and interface 16X2 LCD.
- Study of RTOS signal, semaphore, mutex, mailbox and priority scheduling.
- Study and interface various external MCXX series modules.

Technical Specifications

MCU	:LPC2148
External memory	:EEPROM
Crystal Frequency	:12 MHz
LEDs	:8 nos.
ADC	:14nos. Internal 10 bit ADC
DAC	:10 bit internal DAC
Interrupts	:4 nos
Variable Supply	:0-3.3 volt
RTC	:32.768KHz, 3.3V battery
PWM	:7 nos.
Sensor	:LM35
Display	:16X2 LCD display
Motor Drive	:L293D 600mA (5-12V)
GPIO's	:All GPIO pins
Communication interfaces	:USB 2.0 full speed device control
Programmer	:USB interface
Programmer Mode	:Run/ISP switch selection
Baud rate	:9600 bps (default)
Interconnections	:2 mm patch chords with FRC cables
Dimensions (mm)	:W 326 x D 252 x H 52
Power Supply	:230V AC, 50Hz
Weight	:1.5Kg (approximately)
Operating conditions	:0-40 ⁰ C, 80% RH
OS Support	:Windows XP, 7 & 8 (32bit and 64 bit)
Package contains	:USB cable, mains cord, 2mm patch cords, 20 pin FRC cable, stepper motor.

Optional

Nvis Technologies makes MCXX Series extension module to interface with this platform.



Designed & Manufactured in India by

Nvis Technologies Pvt. Ltd.

141-A, Electronic Complex, Pardesipura, Indore-452010, India.

© +91-731-4211500, ✉ info@nvis-tech.com, 🌐 www.NvisTech.com