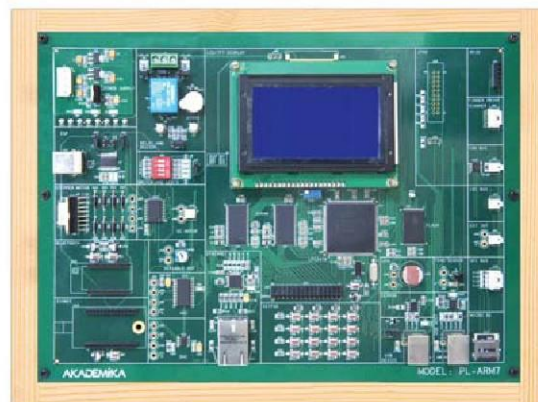


PL-ARM 7

32 Bit Embedded ARM7 Processor Trainer



SPECIFICATIONS

- Processor : LPC2478, ARM7 TDMI controller.
- ADC : AD7492 12bit parallel interface
- DAC : DAC 8512 12bit
- LCD / TFT : 128 X 64 Graphics LCD display, TFT Interface (Optional)
- Keyboard : 4 x 4 matrixes multi functional keyboard
- Relay : 5V Good Sky SPDT mechanical relay
- Memory : Flash 2M x16 Parallel
SDRAM 16 M x 32 Parallel
- SD Card : Micro SD
- Onboard motor interface
 - Stepper motor interface using 12-VDC
- LEDs : 4 user LEDs
- Switches : 4 Pin DIP
- Interfacing Port : USB 2.0
- Ethernet : 10/100 Ethernet RMII Interface
- Power Supply : +5V,+12V,GND

MODULES AND SENSOR

Temperature sensor LM35

- Operating temperature range : -55°C to +150°C
- Scale Factor: 10 mV/C

LDR

- Light luminance : 0 - 300 Lux
- DC voltage : 0 - 3V

Biometric Thumb Scanner (Optional)

- A finger print scanner, based upon biometric technology, is endowed with a n optical scanner

ZigBee Module (Optional)

ProBEE module (Ember EM250 core)

- integrated 2.4GHz, IEEE 802.15.4 compliant transceiver
- +20dBm transmit power
- 250kbps RF data rate
- -102dBm receiver sensitivity
- Working distance from 300m to 1.6Km' (Line of site)

RFID Module (Optional)

13.56MHz RFID module

- Transmitted power up to +10dBm
- Working distance up to 100mm

Blue tooth Module (Optional)

- Blue toothV2.0+EDR / Class 2
- Serial Port profile (SPP)
- 50m range with default antenna

• DC Motor : 5V DC gear motor

• Stepper Motor : +12V, 1.8° step angle

EXPERIMENTS

128 X 64 Graphics LCD Display

- To study memory organization, font creation for text display and graph plotting etc

Flash Memory

- To study interfacing parallel flash memory, memory organization and commands

Dynamic RAM

- To study interfacing technique memory organization and DMA interface

ADC

- Measurement of conversion time, Measurement of actual throughput of ADC and Effect of resolution of ADC in applications

DAC

- Measurement of settling time and Different waveform generation

Stepper motor

- Study of types of operating modes of stepper motor like two phase drive, wave drive, half step drive
- Generation of velocity profile

DC motor

- Generation of velocity profile

Interrupt

- Study of interrupt using external interrupt of device
- Study of interrupt latency using c code & assembly code
- Handling multiple interrupts
- PWM output for motor controller

RTOS Supported Experiments