## Tutorial

****MCU-PRO Library:**** [Download](https://robotdyn.com/pub/downloads/comp_docs/MCUPROXPRO/MCU-PRO_Lib.rar%22%20%5Ct%20%22https%3A//robotdyn.com/blank)

****DESCRIPTION****

This library is the extension of Arduino IDE for MCU-PRO Mega 2560 with additional pins. It includes several pins:

|  |  |  |
| --- | --- | --- |
| Board Pin | MCU Port | MCU #Pin |
| D70 | PJ7 | 79 |
| D71 | PJ6 | 69 |
| D72 | PJ5 | 68 |
| D73 | PJ4 | 67 |
| D74 | PJ3 | 66 |
| D75 | PJ2 | 65 |
| D76 | PD6 | 49 |
| D77 | PD5 | 48 |
| D78 | PD4 | 47 |
| D79 | PG4 | 29 |
| D80 | PG3 | 28 |
| D81 | PH7 | 27 |
| D82 | PH2 | 14 |
| D83 | PE7 | 9 |
| D84 | PE6 | 8 |
| D85 | PE2 | 4 |

****Note:**** D85 have addition function for Analog IN

1. ****HOW TO INSTALL****

For successful programming MCU-PRO in “Arduino IDE”

1. Download and open zip-archive “MCU-PRO Lib.zip”;
2. Open folder “MCU-PRO Lib” in archive;
3. Copy folder “mcupro” from archive into “Arduino IDE” path:
“C:\Program Files\Arduino\hardware\arduino\avr\variants” – 32-bit Windows;
“C:\Program Files (x86)\Arduino\hardware\arduino\avr\variants” – 64-bit Windows;
4. Find a file boards.txt in “\hardware\arduino\avr\”, add to end of file this code:

##############################################################

mcupro.name=RobotDyn MCU-PRO

mcupro.vid.0=0x2341

mcupro.pid.0=0x0010

mcupro.vid.1=0x2341

mcupro.pid.1=0x0042

mcupro.vid.2=0x2A03

mcupro.pid.2=0x0010

mcupro.vid.3=0x2A03

mcupro.pid.3=0x0042

mcupro.vid.4=0x2341

mcupro.pid.4=0x0210

mcupro.vid.5=0x2341

mcupro.pid.5=0x0242

mcupro.upload.tool=avrdude

mcupro.upload.maximum\_data\_size=8192

mcupro.bootloader.tool=avrdude

mcupro.bootloader.low\_fuses=0xFF

mcupro.bootloader.unlock\_bits=0x3F

mcupro.bootloader.lock\_bits=0x0F

mcupro.build.f\_cpu=16000000L

mcupro.build.core=arduino

mcupro.build.variant=mcu\_pro

# default board may be overridden by the cpu menu

mcupro.build.board=AVR\_MEGA2560

## RobotDyn Mega CPU w/ ATmega2560

## -------------------------

mcupro.menu.cpu.atmega2560=ATmega2560

mcupro.menu.cpu.atmega2560.upload.protocol=wiring

mcupro.menu.cpu.atmega2560.upload.maximum\_size=253952

mcupro.menu.cpu.atmega2560.upload.speed=115200

mcupro.menu.cpu.atmega2560.bootloader.high\_fuses=0xD8

mcupro.menu.cpu.atmega2560.bootloader.extended\_fuses=0xFD

mcupro.menu.cpu.atmega2560.bootloader.file=stk500v2/stk500boot\_v2\_mega2560.hex

mcupro.menu.cpu.atmega2560.build.mcu=atmega2560

mcupro.menu.cpu.atmega2560.build.board=AVR\_MEGA2560

1. Restart “Arduino IDE”;
2. Choose menu “Tools->Board->RobotDyn MCU-PRO”.



1. ****Test**** ****& Example****

For testing all MCU-PRO board pins

1. Find folder “Cycle\_blink” zip-archive “MCU-PRO Lib.zip” and extract it;
2. Open sketch “Cycle\_blink.ino” and start it.

All the pins will serially raise its state to HIGH and LOW.