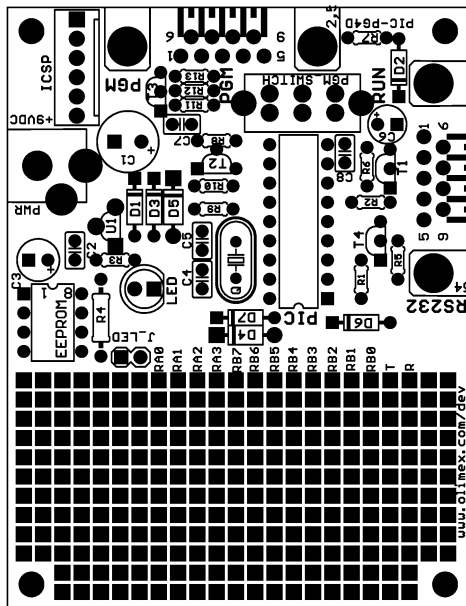


## PIC-PG4D EASY START PIC16F84/PIC16F628 MICROCONTROLLER DEVELOPMENT BOARD

### Features:

PIC-PG4D is everything you need to start developing with PIC microcontrollers and have following features:

- PIC16F84A-20MHz or PIC16F628-20Mhz microcontroller on DIL18 socket
- extension slot on every PIC port
- build-in programmer, just connect to RS232 port and program the PIC in PIC-PG4D without any external power supply
- ICSP programming interface connector + cable for in-circuit programming PICs on other boards like PIC-Pxx prototype boards
- I2C EEPROM memory
- LED with jumper
- RESET circuit
- RS232 interface and connector
- 20MHz oscillator circuit
- power supply with LM78L05 voltage regulator
- sea of pads on grid 0.1" with GND bus
- four mounting holes
- dimensions: 61x76 mm



### Power supply:

Must be in range +7.5-12VDC.

### Programming:

PIC-PG4D works with ICPROG software, written by Bonny Gijzen. The latest release of ICPROG may be download for free from <http://www.icprog.com>

### ICPROG installation:

Setup the Hardware settings as "JDM programmer" with direct IO access if you are using Windows 95/98 and Windows API if you are working with Windows NT. Select Device PIC16F84A or PIC16F628.

**IMPORTANT!** When programming the PIC via the PGM serial port: move switch in PGM position. POWER supply must be disconnected! When you want to run the program in PIC, disconnect the PGM RS232 port, move switch in RUN position and apply power supply. Don't put and pull the PIC microcontroller from the socket when PGM serial cable is connected!

### RS232 PGM (programming) port:

Your RS232 cable must provide the following signals for properly operation of PIC-PG4D: Tx, Rx, CTS, DTR, RTS and GND.

### RS232 (normal) interface:

This is used for communication between PIC on board and other computers with RS232 interface. Connections are: Tx – RB2, Rx – RB1. With PIC16F628 you can use internal UART.

### EEPROM interface:

The EEPROM SCL/SDA lines have pads on the bottom side for direct connection to RA0 and RA1 PIC ports.

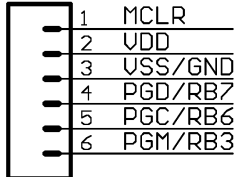
### LED:

Red LED 5mm is connected to RA2 via jumper J\_LED.

**ICSP connector layout:**

The ICD/ICSP connector is 6 pin with 0,1" step. It may be used to program other boards with PICs via PIC-PG4D. The PIN.1 is marked with square pad on bottom and arrow on top. ICSP signals are: 1- MCLR, 2- VDD, 3- VSS/GND, 4- PGD/RB7, 5- PGC/RB6, 6- PGM/RB3.

PIC-ICSP/ICD

**ICSP programming:**

Please note that in your target circuit MCLR should be not directly connected to VCC, as programmer try to rise MCLR to 13VDC to enter in programming mode. If MCRL on target board is connected to VCC and you attempt to do ICSP programming you may destroy PIC-PG4D programmer.

**Ordering codes:**

PIC-PG4D-84 - assembled and tested with PIC16F84A microcontroller  
PIC-PG4D-628 - assembled and tested with PIC16F628 microcontroller

