

## 20 Pin PIC Development Board

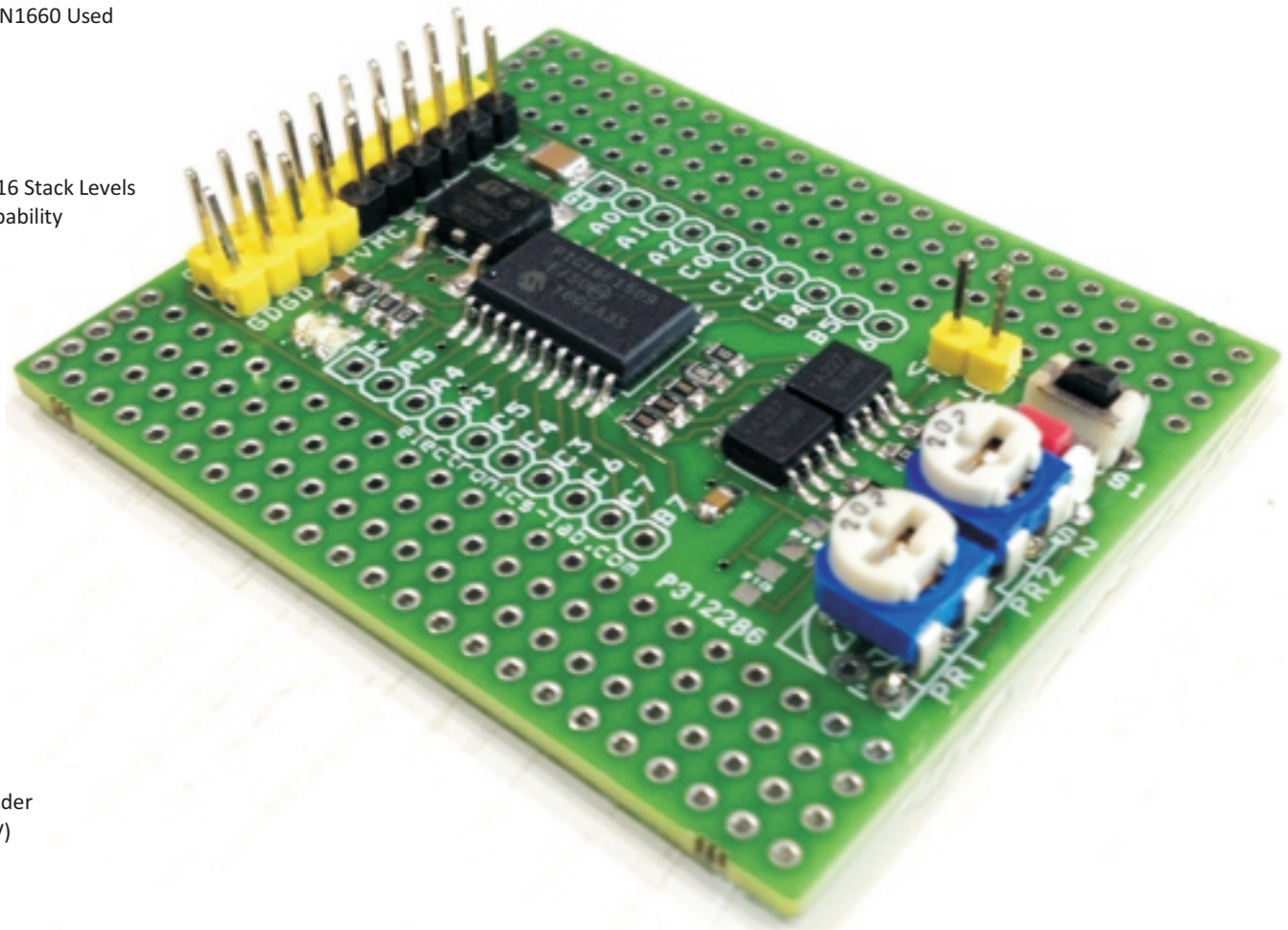
Small size multipurpose 20 Pin PIC Micro-Controller development board, includes onboard 5V regulator, prototyping area and ICSP programming port. The board provided with few more components which includes 4 optocoupler, 2 LEDs connected to RA5, RC7 with series resistors, 2 tactile switches and 2 Trimmer Potentiometer. These components help to implement Microchip AN1660 single phase AC Motor driver. Just need 3 Phase Inverter IPM module to complete the Motor driver, Code and documents can be obtained from Microchip website. However these components can be used to implement other application or can be left unsolder.

### Feature

- Supply 7-12V DC
- 20 PIN SO20 PIC16F1509 Micro-controller
- On Board 5V Regulator
- Connector for AN1660
- CN5 5V Isolated supply required if Microchip AN1660 Used
- On Board PIC programming ICSP port
- Two Connected LED on RC7, RA5 port Pin

### Microcontroller Features

- Enhanced Mid-range Core with 49 Instruction, 16 Stack Levels
- Flash Program Memory with self read/write capability
- High Endurance Flash Memory (HEF)
- 128 B of Non-volatile Data Storage
- Internal 16MHz oscillator
- 4x Standalone PWM
- Complementary Waveform Generator (CWG)
- Numerically Controlled Oscillator (NCO)
- 4x Configurable Logic Cell (CLC)
- Integrated Temperature Indicator
- 12 Channel 10-bit ADC with Voltage Reference
- 5-bit Digital to Analog Converter (DAC)
- MI2C, SPI, EUSART w/auto baud
- 25mA Source/Sink current I/O
- 2x 8-bit Timers (TMR0/TMR2)
- 1x 16-bit Timer (TMR1)
- Extended Watchdog Timer (WDT)
- Enhanced Power-On/Off-Reset
- Low-Power Brown-Out Reset (LPBOR)
- Programmable Brown-Out Reset (BOR)
- In Circuit Serial Programming (ICSP)
- Integrated In-Circuit Debug / or Use an ICD Header
- Wide Operation Voltage Variant 'F' (1.8V – 5.5V)





BOM			
SR	QNTY.	REF.	DESC.
1	1	CN1	4 PIN HEADER CONNECTOR
2	3	CN2,CN4,CN6	10 PIN HEADER CONNECTOR
3	1	CN3	6 PIN HEADER CONNECTOR
4	1	CN5	2 PIN HEADER CONNECTOR
5	2	C1,C3	1uF SMD 0805
6	1	C2	10uF SMD 0805
7	1	C4	0.1uF SMD 0805
8	2	D1,D2	LED SMD 0805
9	2	PR1,PR2	2K TRIMMER POT
10	2	R1,R2	470E SMD 0805
11	2	R3,R6	1K SMD 0805
12	2	R4,R10	OMIT
13	5	R5,R9,R11,R12,R13	390E SMD 0805
14	2	R7,R15	10K SMD 0805
15	1	R8	5.1K SMD 0805
16	1	R14	0E SMD 0805
17	1	SW1	TACT SWITCH
18	1	SW2	TACT SWITCH
19	1	U1	7805 SMD DPAK
20	1	U2	PIC16F1509 SO20
21	2	U3,U4	ACPL227 SMD S08

