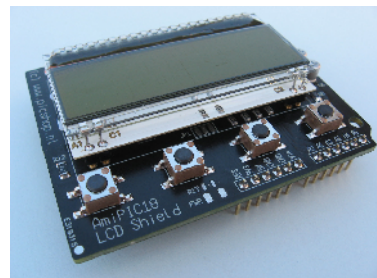
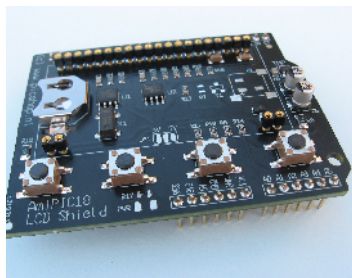
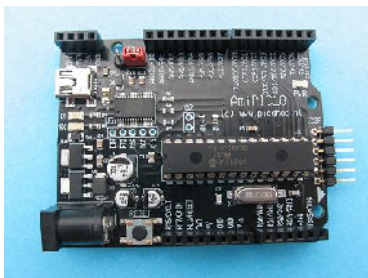


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1. **Ami18 Overview**
2. **Ami18 LCD Shield**
3. **Ami18 Schematics**



Ami18 Overview

The microcontroller used on the Ami18 is the Microchip PIC18F25K20, which has 32768 bytes of flash memory, 1536 bytes of RAM, and operates at 64MHz, which equates to 16 MIPS (Million Instructions per Second). The PIC micro has 25 universal Input / Outputs.

There are nine 10-bit ADC (Analogue to Digital Converter) inputs, and two 10-bit PWM (Pulse Width Modulation) outputs, as well as two comparators, a USART (Universal Synchronous Asynchronous Receiver Transmitter), SPI (Serial Peripheral Interface), I2C (Inter-Integrated Circuit), and four timers, each with various internal operations attached to them.

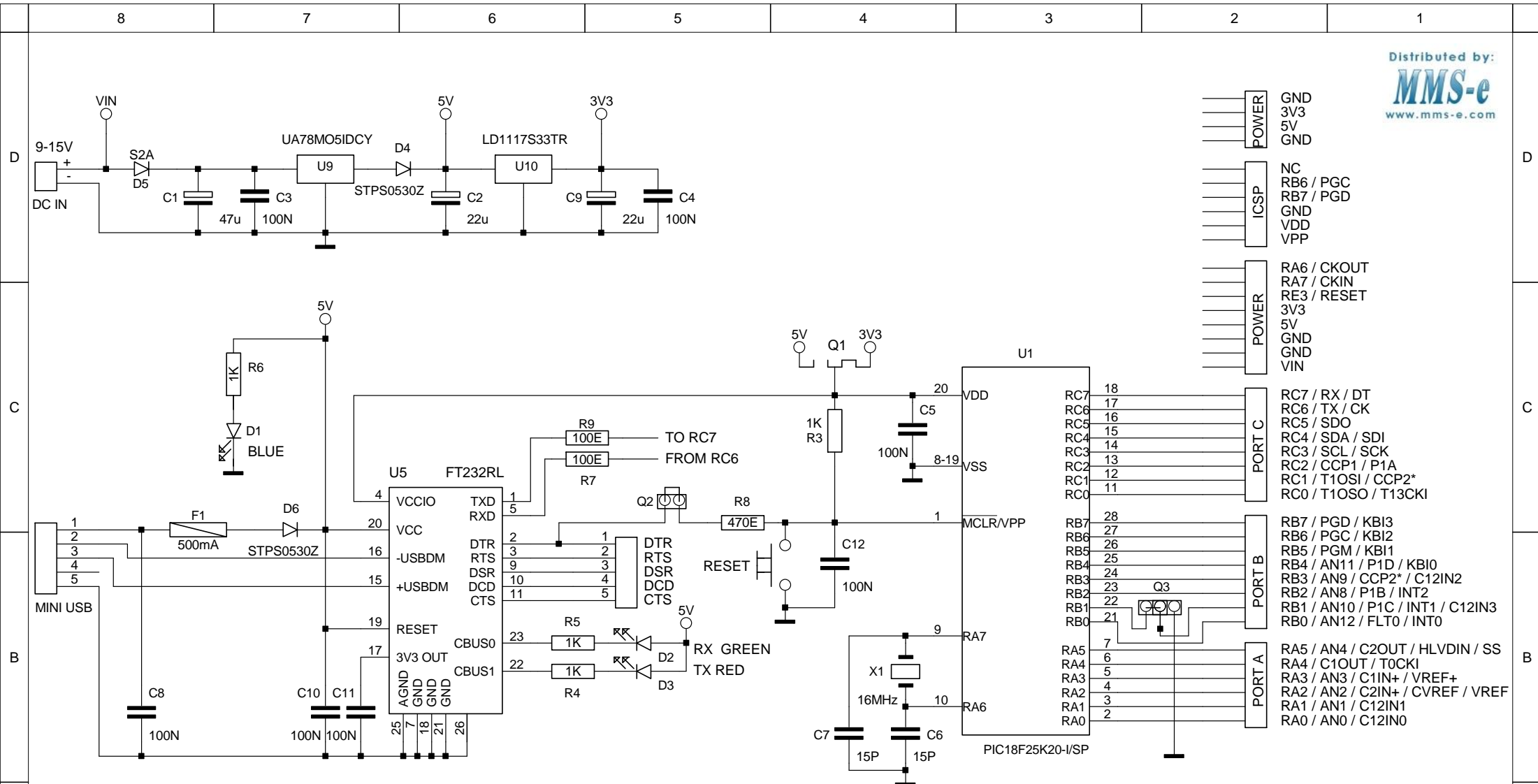
Each of the microcontroller's I/O lines are brought out for use with external devices such as LEDs, Servos, Potentiometers, LCDs etc. See also our selection of expansion boards Ami18 LCD Shield, Ami18 Proto Shield, Ami18 Graphic Shield and Ami18 I/O Shield.

Microprocessor	PIC18F25K20 at 64 MHz (16Mhz crystal)
Flash	32K Flash (Max 64k if PIC18F26K20 is used)
SRAM / EEROM	1536 bytes SRAM and 256 byte EEPROM
Digital Inputs / Outputs	25 input/outputs (6 can be used as PWM) 25mA max.
Analog Inputs	9 10-bit analogue inputs
Analog Outputs	2 10-bit analogue outputs
Interface	UART, 3- wire SPI™ and I ² C™
Timers	4 Timers 8 / 16-bit
Programming port	ICSP™ or via USB with bootloader
Power supply	9-15V DC (Onboard 3V and 5V regulator provided)
Dimensions	69 x 54 x 12 mm (L x W x H)
Compatible	Arduino™ and Amicus18™ compatible
Option Expansion shields	Ami18 LCD Shield for 1x8, 2x16 or 3x16 EA DOGM display
	Ami18 Graphic Shield 128x64 graphic EA DOGM128 display
	Ami18 Proto Shield
	Ami18 I/O Shield

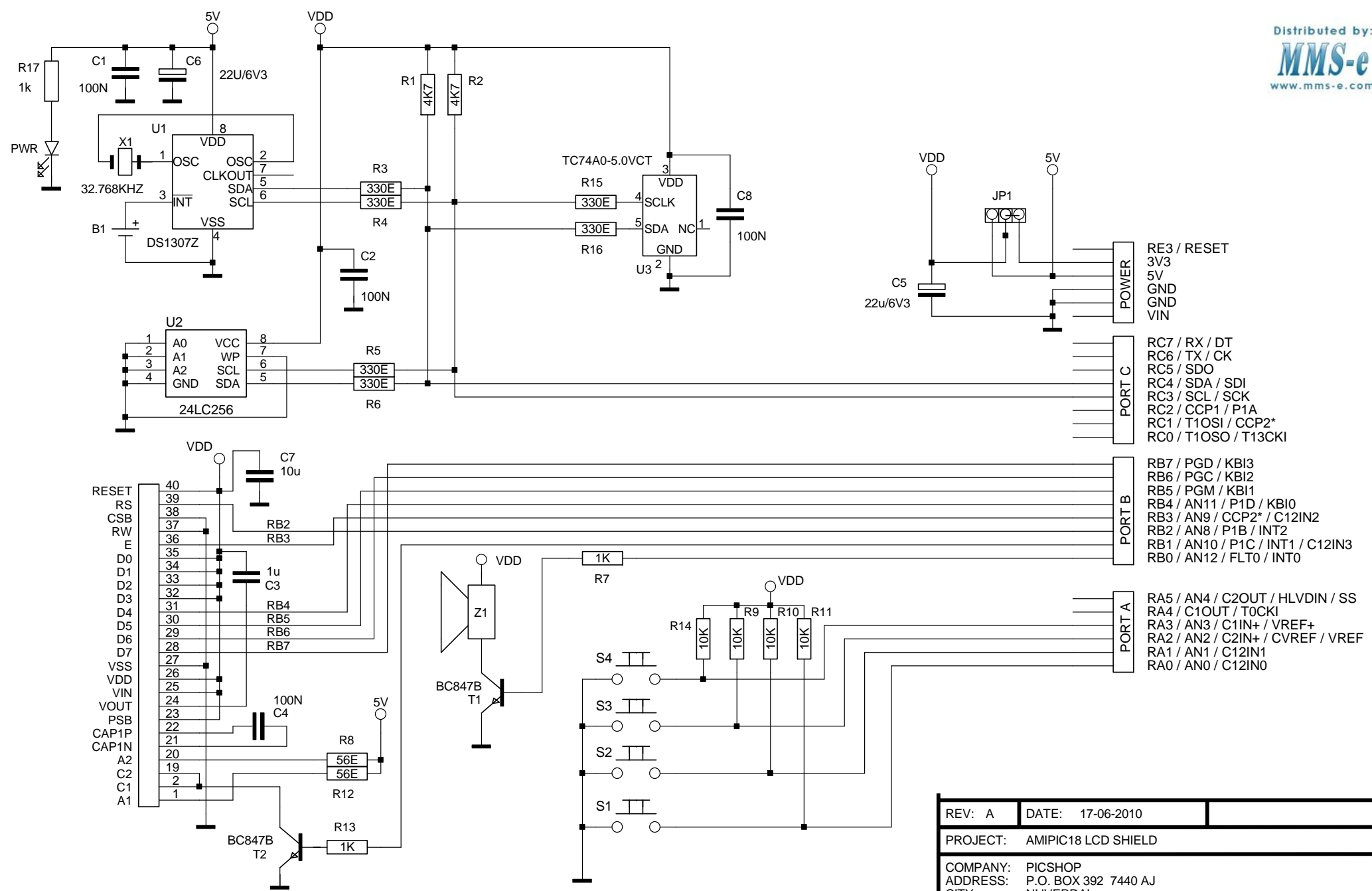
Ami18 LCD Shield

The combination of the LCD Shield with the Ami18 board adds additional control and monitoring functions. The LCD Shield can be fitted with a 1x8, 2x16 or 3x16 LCD display with an optional backlight. For a personalized effect different LCD displays and backlights can be fitted. The LCD display uses a ST7036 (Instruction compatible with HD44780)

- High Contrast LCD with backlight option.
- LCD colour variations available.
- LED Backlight control (On/Off/PWM) by RB1
- LCD contrast control by firmware
- 4 Push buttons. Control of RA0-RA3
- Real Time Clock (DS1307Z) with battery (CR1220)
- Microchip EEPROM 24LC256 (32K) for store (log) data
- Microchip TC74A4-3,3V temperature sensor
- Optional Power LED
- Optional Buzzer
- Optional Anti-glare LCD bezel with 5mm black printed border

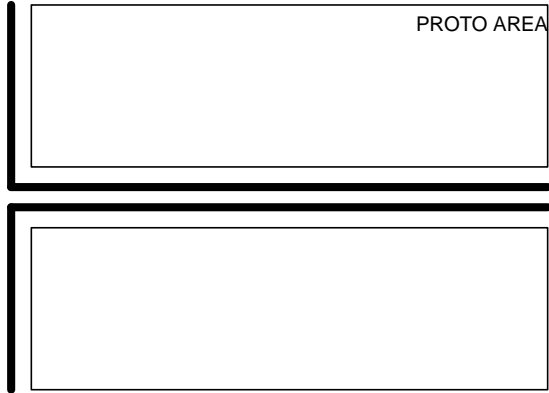
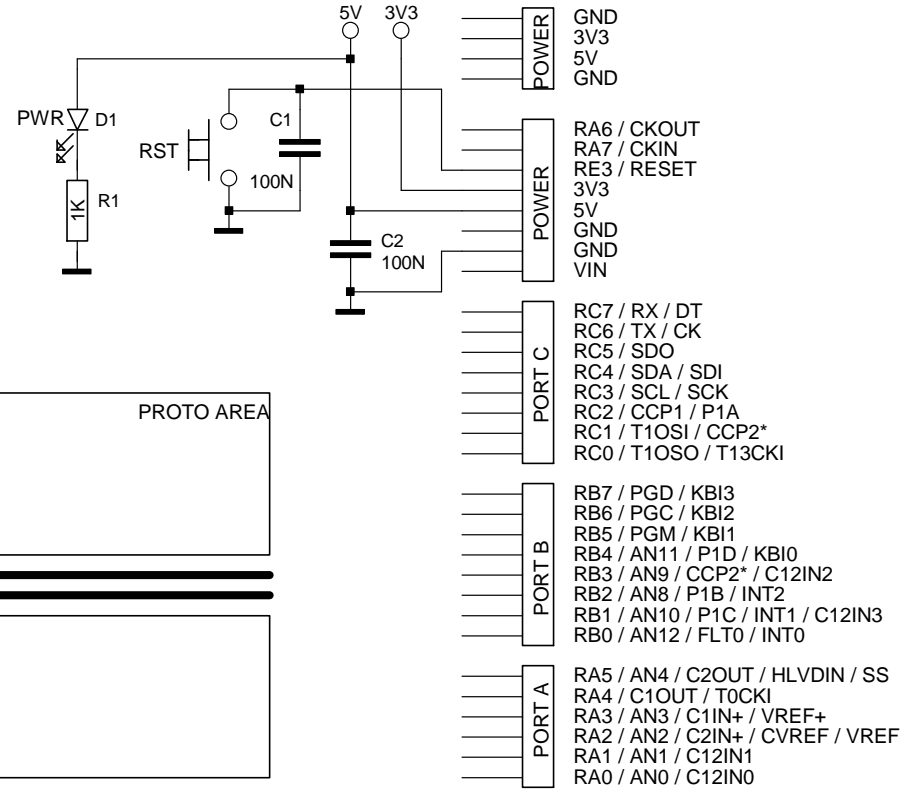


REV: 1.0	DATE: 06-07-2010	
PROJECT: AMIPIC18 BOARD		
COMPANY: WWW.PICSHOP.NL		
ADDRESS: P.O. BOX 392 NL-7440AJ		
CITY: NIJVERDAL		
COUNTRY: NETHERLANDS		
INITIAL	GH	PAGE: 1 OF: 1



- POWER
 - RE3 / RESET
 - 3V3
 - 5V
 - GND
 - GND
 - VIN
- PORT C
 - RC7 / RX / DT
 - RC6 / TX / CK
 - RC5 / SDO
 - RC4 / SDA / SDI
 - RC3 / SCL / SCK
 - RC2 / CCP1 / P1A
 - RC1 / T1OSI / CCP2*
 - RC0 / T1OSO / T13CK1
- PORT B
 - RB7 / PGD / KBI3
 - RB6 / PGC / KBI2
 - RB5 / PGM / KBI1
 - RB4 / AN11 / P1D / KBI0
 - RB3 / AN9 / CCP2* / C12IN2
 - RB2 / AN8 / P1B / INT2
 - RB1 / AN10 / P1C / INT1 / C12IN3
 - RB0 / AN12 / FLT0 / INTO
- PORT A
 - RA5 / AN4 / C2OUT / HLVDIN / SS
 - RA4 / C1OUT / T0CK1
 - RA3 / AN3 / C1IN+ / VREF+
 - RA2 / AN2 / C2IN+ / CVREF / VREF
 - RA1 / AN1 / C12IN1
 - RA0 / AN0 / C12IN0

REV: A	DATE: 17-06-2010	
PROJECT: AMIPIC18 LCD SHIELD		
COMPANY: PICSHOP		
ADDRESS: P.O. BOX 392 7440 AJ		
CITY: NIJVERDAL		
COUNTRY: NL		
INITIAL	GH	PAGE: 1 OF: 1



REV: 1.1	DATE: 29-09-2010	
PROJECT: AMPIC18 PROTO SHIELD		
COMPANY: WWW.PICSHOP.NL		
ADDRESS: P.O. BOX 392 NL-7440AJ		
CITY: NIJVERDAL		
COUNTRY: NETHERLANDS		
INITIAL: GH	PAGE: 1	OF: 1