

Specification

Doc Title	4TV Product Specification	Number	
		Version	1.0

16X2 LCD Shield Specification

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HISTORY

Version	Date	Description	Author
1.0	12/12/2012	Initial specification draft	
1.1	03/18/2013	Added brightness adjustment in features	

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1. Overview

LinkSprite's LCD Shield provides a handy 16-character by 2-line display with controllable backlight. It can be plugged to an Arduino board or other Arduino shield boards. The LCD display is on the back of the shield. The board includes are panel mounting screw holes.

This shield makes it easy to build a stand-alone project with its own user interface. With this shield, a computer is not required to send commands to your Arduino. The 4 direction buttons ("left", "right", "up", "down", and "select") plus the selection button allow basic user control and input.

This shield works perfectly in 4-bit mode. With the "Liquid Crystal" library included in the Arduino IDE, the shield allows control of the LCD through only six digital I/O pins. Pins D4-D9 are deliberately selected to avoid possible interference with the pins of other popular Arduino products, e.g., the Ethernet shield and the EtherTen. Therefore, this shield can be stacked on top of other shields to provide a local display.

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2. Hardware Specification

2.1 Highlights of Hardware Features

- 16x2 LCD using HD44780-compatible display module (black characters on green background).
- 5 buttons on one analog input (A0).
- LCD with current limiting, adjustable brightness, and on/off control by software through a PWM pin.
- LCD contrast adjustable with a potentiometer.
- Recessed LCD, panel mount screw holes and button layout suitable for panel or cabinet mounting.
- Reset button.
- Power supply smoothing capacitor.

2.2 Pin Definition

- A0: Buttons
- D4: LCD bit 4
- D5: LCD bit 5
- D6: LCD bit 6
- D7: LCD bit 7
- D8: LCD RS
- D9: LCD Enable
- D10: LCD backlight brightness adjustment

2.3 Specification of the LCD Shield

Item	Min	Typical	Max	Unit
Voltage	4.3	5.0	5.5	V
Current	39.6	53.3	65.0	mA
Dimension	81.1 × 55.8 × 22.7			mm
Net Weight	55.0			g

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3 Software Specification

- Supported Arduino: Duemilanove, Uno, ...
- Supported Arduino IDE: 1.0, 1.0.1
- Library: LiquidCrystal