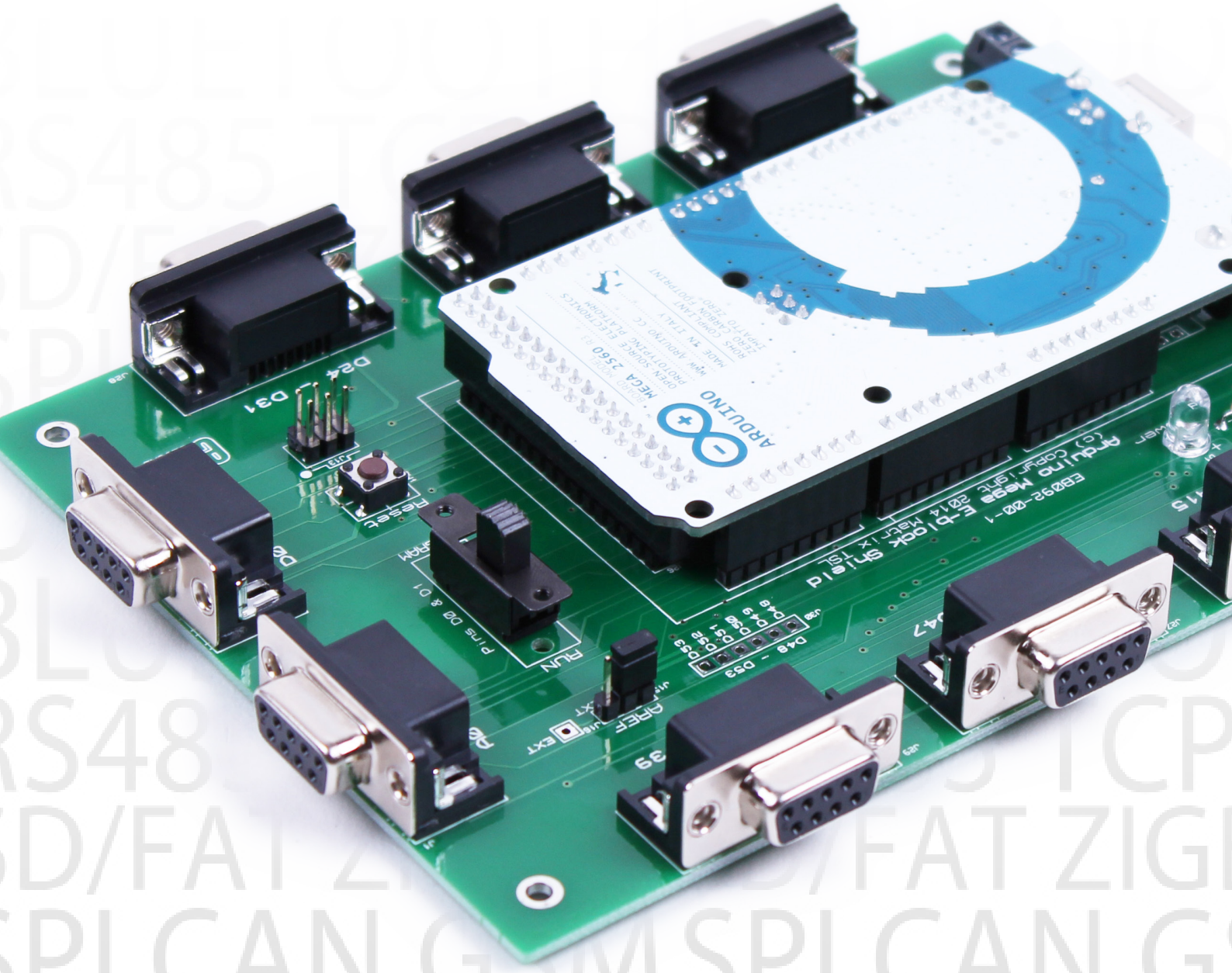
MATRIX

eBLOCKS®

Arduino Mega compatible shield



Contents

About this document

This document concerns the EB092 E-blocks Arduino Mega shield..

1. Trademarks and copyright

PIC and PICmicro are registered trademarks of Arizona Microchip Inc. E-blocks is a trademark of Matrix TSL Ltd. Arduino is a trademark of Arduino team.

2. Other sources of information

There are various other documents and sources that you may find useful:

- *Getting started with E-blocks.pdf* - This describes the E-block system and how it can be used to develop complete systems for learning electronics and for PICmicro programming
- *PPP help file* - This describes the PPP software and its functionality. PPP software is used for transferring hex code to a PICmicro microcontroller
- *C and Assembly strategies* - Not provided for this product

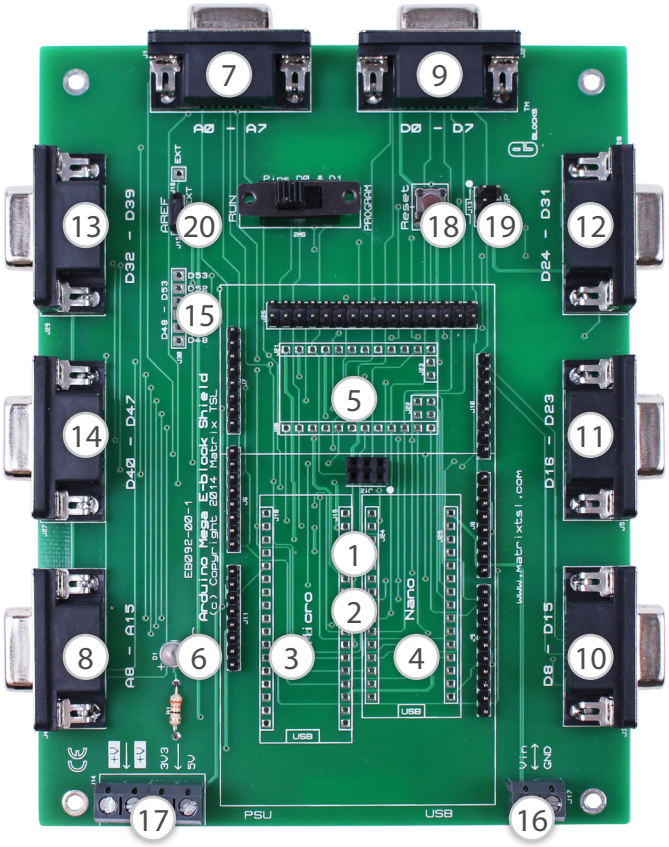
3. Disclaimer

The information provided within this document was correct at the time of going to press. Matrix TSL reserves the right to change specification from time to time. This product is for development purposes only and should not be used for any life-critical application.

4. Technical support

If you have any problems operating this product then please refer to the troubleshoting section of this document first. You will find the latest software updates, FAQs and other information on our website:
www.matrixtsl.com

Board layout



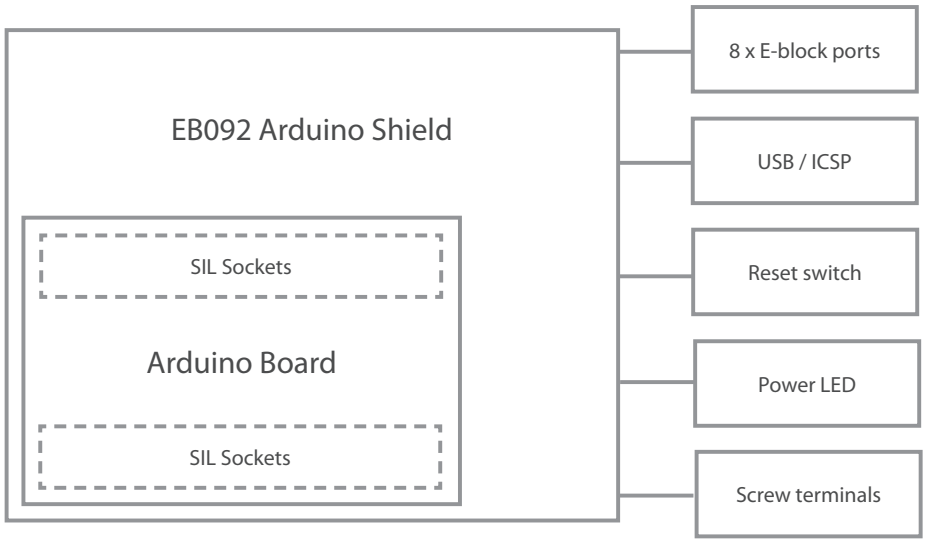
1. Arduino Mega socket
2. Arduino Uno / Leonardo socket
3. Arduino Micro socket
4. Arduino Nano socket
5. Arduino Mini socket
6. Power LED
7. Downstream E-blocks Port - A0 to A7
8. Downstream E-blocks Port - A8 to A15
9. Downstream E-blocks Port - D0 to D7
10. Downstream E-blocks Port - D8 to D15
11. Downstream E-blocks Port - D16 to D23
12. Downstream E-blocks Port - D24 to D31
13. Downstream E-blocks Port - D32 to D39
14. Downstream E-blocks Port - D40 to D47
15. Additional Digital Pins - D48 to D53
16. Power Supply Connections
17. 5V, 3V3 and VCC Connections
18. Reset Switch
19. ICSP Header
20. Analogue VREF

General information

The Arduino Shield is part of the E-blocks range of circuit boards. The board allows you to connect a standard Arduino module into an E-blocks system. The D-type connectors provide a bus system that enables 'clean' access to all I/O lines. This allows you to use standard E-blocks with the Arduino upstream microcontroller architecture. All the standard signals from the Arduino board are brought across onto the Shield board including the reset switch, power LED, microcontroller VCC, analogue reference, ICSP header and screw terminals to allow for east connection with e voltage regulators on the Arduino board.

Features:

- E-blocks compatible
- Protects your Arduino upstream board
- Brings out all the standard Arduino functionality
- Arduino programmable via USB or ICSP connections
- 5V and 3V3 voltage compatible
- Supports Arduino compatible platforms



Protective cover

Most of the boards in the E-blocks range can be fitted with a plastic cover as an optional extra. These covers are there to protect your E-blocks board therefore extending the life of the board. The covers also prevent the removal of external components while still allowing for the adjustment of applicable parts on the board.

12mm M3 spacers, anti-slip M3 nuts and 25mm M3 bolts can be used to attached the cover to the board. These are not included but can be bought separately from our website.

The order code for the EB092 Arduino Shield board is EB792.

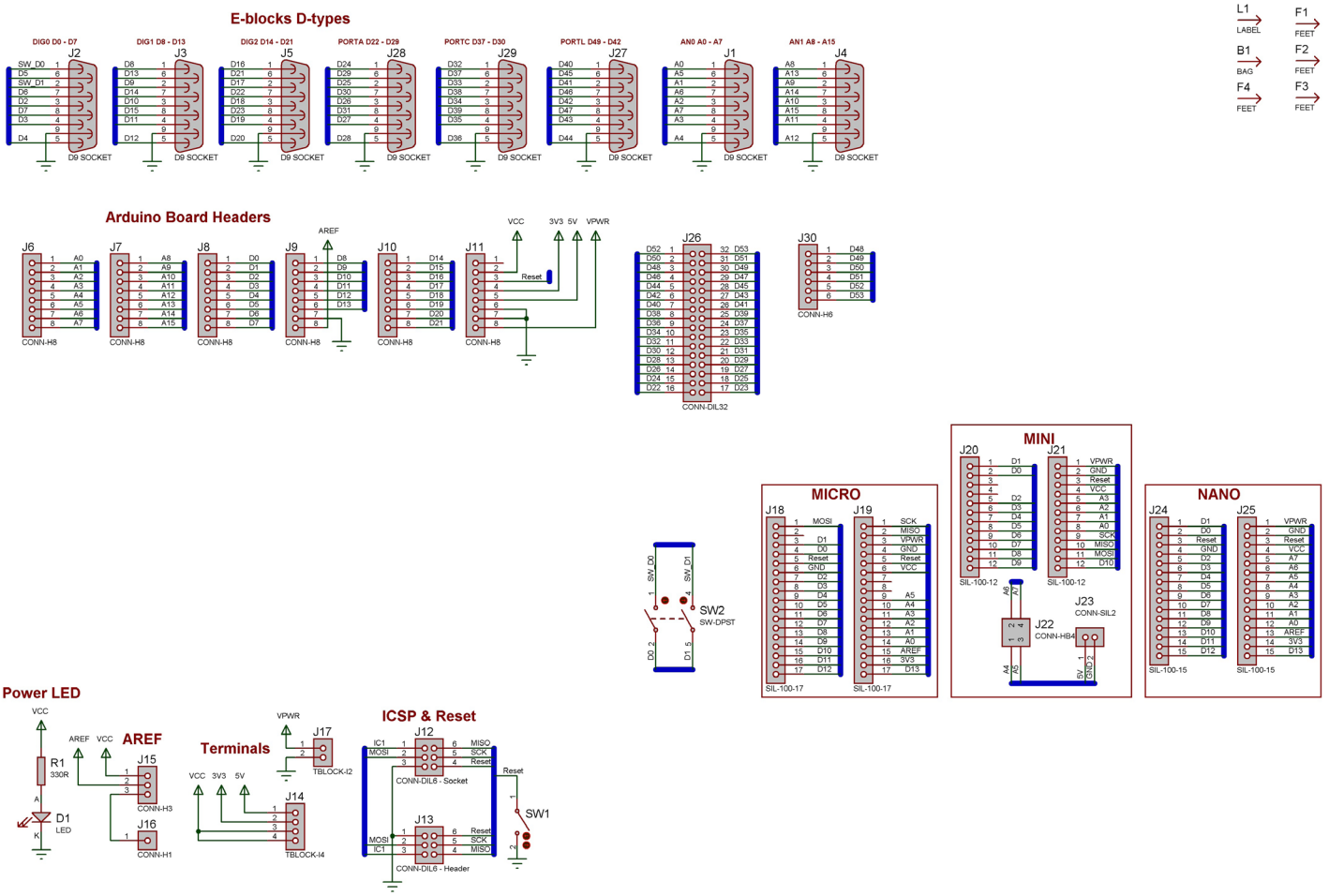
Circuit description

The circuit board consists of a set of SIL headers which are designed to fir into the SIL sockets provided on the Arduino board. A similar DIL socket is provided to allow the ICSP DIL header on the Arduino board to be bussed across onto another ICSP header allowing ICSP based programming without having to remove the Arduino from the E-blocks shield.

The AREF jumper allows the Arduino's analogue positive reference voltage to either be connected to the microcontrollers VCC which is marked +V or to another input voltage which can be supplied via the pad marked EXT.

The board is compatible with 3.3V systems.

Circuit diagram



Matrix Ltd.
The Factory
33 Gibbet Street
Halifax, HX1 5BA, UK

t: +44 (0)1422 252380
e: sales@matrixtsl.com

www.matrixtsl.com

EB092-30-1