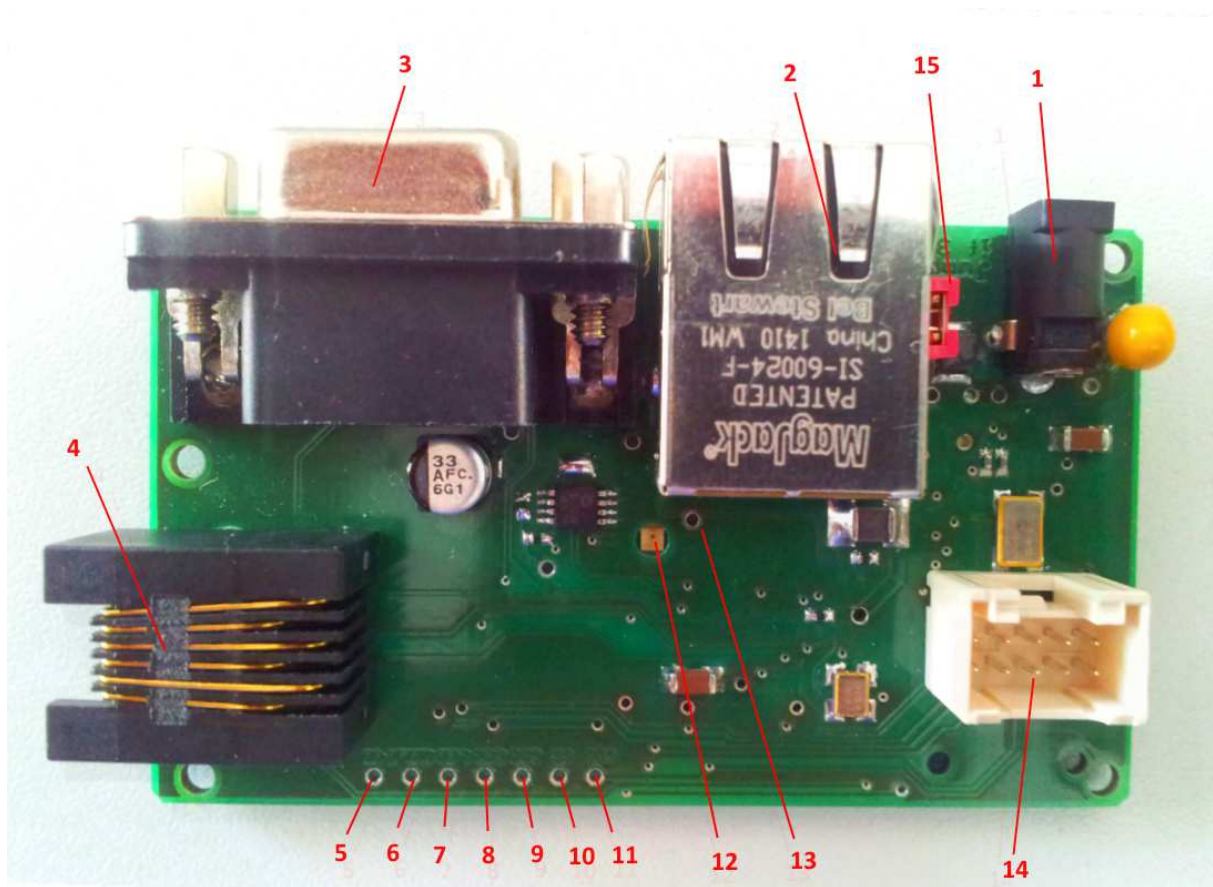


1. Jacks and test points on the PCB



1. Power supply. 500 mA.
- 1.a. For HTPA__x__L__M(LC) types: 5.0 VDC. **REMOVE 15!!!**
- 1.b. For HTPA__x__L__M(SPI) types: 3.0...3.3 VDC. **INSTALL 15!!!**
2. Ethernet jack. Connect CAT5 cable.
3. RS232. Printstatements for debugging and control of unit. Settings: 115200 baud; Parity none; Data 8 bit; Stop 1 bit; Flow control none.
4. Programming jack for Microchip's In-Circuit Debugger/Programmer.
5. Test point of #VD signal
6. Test point of MCLK signal
7. Test point of LEDR signal
8. Test point of the SCK of the SPI bus.
9. Test point for MOSI of the SPI bus.
10. Test point of the #SS signal of the SPI bus.
11. Test point of the MISO of the SPI bus.
12. LEDR. Can be used for debugging.
13. VSS test point.
14. Connector to the HTPA module.
15. Jumper to select input voltage. Install if incoming voltage <3.3VDC, remove if >3.3 VDC.



2. In Circuit Debuggers and Programmers

The used μ C is a Microchip PIC32MX575F512L-80I/PT. For compatible programmers and in circuit debuggers please check www.microchip.com.

Nevertheless, here is a list of compatible devices: PICKit3, ICD3, REAL ICE. Check the website for updates and details before purchasing and pick the programmer of your needs.

3. Getting started for measuring:

The SPI SDK comes already programmed; therefore it is possible to connect it instantly to a Ethernet switch or hub and start measuring with our GUI.

To do so, please follow these steps:

1. Connect a crossed CAT5 cable to the Ethernet jack of the SDK and to your PC's Ethernet jack. If you want to connect the device via a switch, you need a standard CAT5 cable (not included in delivery).
2. Connect the SPI module with the adapter cable to the SPI SDK.
3. Connect the power supply to the SDK.
4. The SDK now tries to reach a DHCP for 10 seconds. After that he gives up, using the default IP. For details see "Operating Manual for Arraysoft", which can also be found on the CD. The default IP of the SDK (and UDP modules, also) is 192.168.240.122. The default IP can be changed with the GUI, for details see the documentation of the GUI.
5. Start Cam.exe and connect to the module, as the "Operating Manual for Arraysoft" shows. Take care, that your local PC and the SDK is in the same subnet. If not, communication will not be possible.
6. Start measuring.

4. Getting started for debugging and adapting code:

1. Install the MPLAB IDE from www.microchip.com
2. Install the Microchip Application Libraries from www.microchip.com
3. The current TCPIP Stack version is 5.31.
4. Download and install the C32 compiler from microchip.com
5. Make a safety copy of the ENC28J60.c file, located in the (for example) C:\Users\Example\Microchip Solutions v2010-10-19\Microchip\TCPIP Stack
6. Either replace the original ENC28J60.c file with the one, located in this subdirectory or implement the lines "#ifndef STACKPOLLING"... on the arbitrary line in the original file
7. Open the ModToUDP.mcw in the IDE and be sure to set your project directories correct. (Project-->Build Options-->Project-->Directories-->Include Search Path
8. Do NOT change the MAC-ID which is given to your workspace in the file main.c (Variable const BYTE MID[]). Doing so might result in serious network problems. Be aware that the space of [00:97:FF:00:00:00]-[00:97:FF:FF:FF:FF] is Heimann Sensor GmbH reserved property. Using of any other MAC ID in this space except than the MAC ID the SDK was delivered with, is forbidden. Heimann Sensor subjects for legal measures in disregarding these terms.
9. Connect the Ethernet cable to the SDK and your PC or switch/hub.
10. Connect the RS232 to your PC with a standard serial RS232 cable.
11. Connect your in-circuit-debugger (not included in delivery) to the SDK.
12. Connect the power supply to the SDK.
13. Compile and have a lot of fun.