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# IL MANUALE DI GEVINO opto v1.2

Compatible Arduino Zero  
Manual v1.0

GEVINO products have been designed for civil, domestic, corporate or industrial environments. They have high voltage and high current inputs and outputs, protected against disturbances, electrostatic discharges, magnetic fields, inductive loads, extra voltages and currents.

They comply with EC directives.

It is possible to customize them for more than 50 pieces.

To program Gevino simply connect it to your computer with a USB cable, write some instructions, and press the «Upload» button. It is very rich in libraries for an infinity of modules and sensors. The instructions are quite simple and understandable.

The programming software, also called IDE (Integrated Development Environment), contains many examples from which to take inspiration to write their own listings.

*I prodotti GEVINO sono stati progettati per ambienti civili, domestici, aziendali o industriali. Hanno ingressi e uscite ad alta tensione, alta corrente, protetti contro disturbi, scariche elettrostatiche, campi magnetici, carichi induttivi, extra tensioni e correnti.*

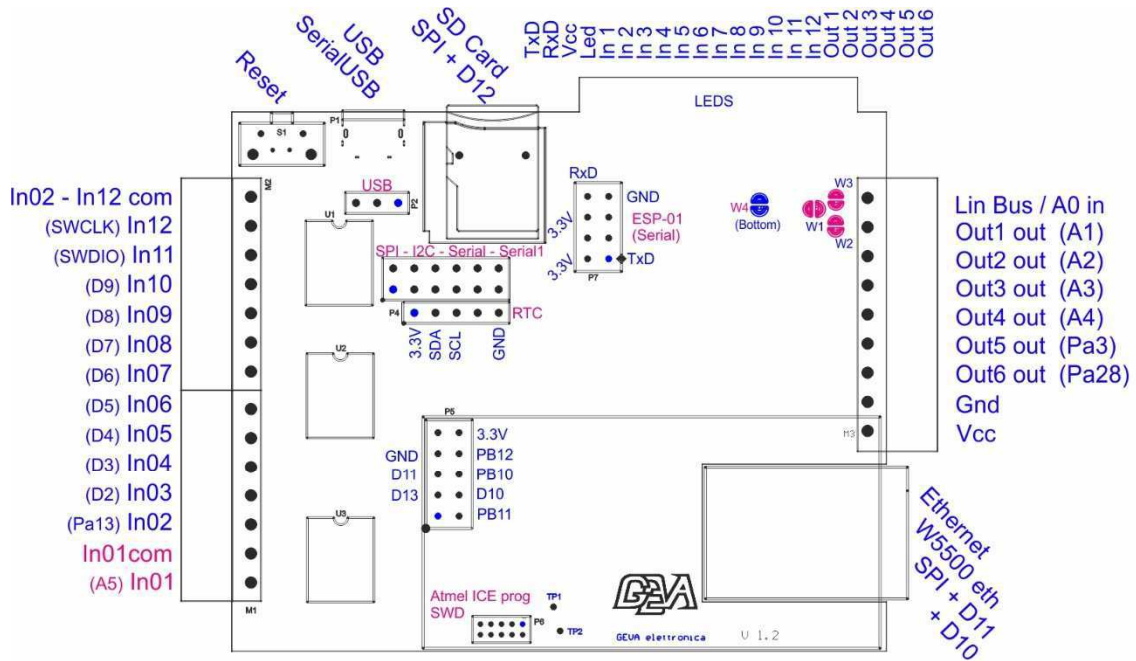
*Sono conformi alle direttive CE.*

*E' possibile personalizzarle per una quantità superiore a 50 pezzi.*

*Per programmare Gevino è sufficiente collegarlo al proprio computer con un cavo USB, scrivere qualche istruzione, e premere il tasto «Upload». E' ricchissimo di librerie per un' infinità di moduli e sensori. Le istruzioni sono abbastanza semplici e comprensibili.*

*Il software di programmazione, chiamato anche IDE (Ambiente Integrato di Sviluppo), contiene numerosi esempi da cui prendere spunto per scrivere i propri listati.*

## HARDWARE



## JUMPER

- W1 = Input analog 1V fs or 3.3V fs, used A0
- W1 + W3 = Input analog 0-20 mA, used A0
- W2 + W4 = LinBus, used A0, D0, D1

## SPECS / Specifiche

- Vcc from 7 to 28V
- Out 28V 6A
- Optoisolated Input, High level 5 to 40V, -5 to -40V, Low level -2.5 to +2.5V, DC or AC.
- All input can be interrupt. Except In5, In11, In12.
- 10Khz max input frequency
- CPU ATSAM21G18 - Arduino ZERO M0 compatible.
- 48 Mhz, 32-bit ARM® Cortex®-M0+ processor.
- Flash 256KB, RAM 32K
- -40°C +85°C Working temperature

## Utilization / Utilizzo

ARDUINO IDE <https://www.arduino.cc/en/main/software>  
Install zero Compiler <https://www.arduino.cc/en/Guide/ArduinoZero>  
Choose Board «Arduino/Genuino Zero (Native USB Port)»  
Use the Arduino Zero reference guide.  
See also the GEVINO zero manual



### 3 ENCLOSURES, of different thicknesses:

#### 3 CONTENITORI, con differente spessore:

Thin 17.5mm black, for the only card without accessories.  
Medium 22.5mm green, for accessories such as Ethernet, RTC, Wi-Fi, Bluetooth, GSM modem.  
Thick 35mm black, for accessories such as RS232 on DB9 female, Li-Po battery with battery charger.

*Sottile 17.5mm nera, per la sola scheda senza accessori.  
Media 22.5mm verde, per accessori quali l'Ethernet, l'RTC, il Wi-Fi, il Bluetooth, il modem GSM.  
Spessa 35.0mm nera, per accessori quali RS232 su DB9 femmina, Batteria Li-Po con caricabatteria.*

## ACCESSORIES /ACCESSORI

<p><b>ESP-01 Wi-Fi module</b></p> <p><a href="https://github.com/ekstrand/ESP8266wifi">https://github.com/ekstrand/ESP8266wifi</a></p>	
<p><b>W5500 ETH module</b></p> <p>Install Ethernet2 library from library manager.</p> <pre>#include &lt;Ethernet2.h&gt; setup() {   pinMode(11, OUTPUT); // Reset Pin D11   digitalWrite(11, LOW);   delay(200);   digitalWrite(11, HIGH); }</pre>	
<p><b>SIM800L</b></p> <p>Quad-band: AutoBand, GSM 850, EGSM 900, DCS 1800, PCS 1900. Compliant to GSM Phase 2/2+ Class 4 (2W) at GSM 850 and EGSM 900 Class 1 (1W) at DCS 1800 and PCS 1900 GPRS multi-slot class 12 GPRS data downlink transfer: max. 85.6 kbps GPRS data uplink transfer: max. 85.6 kbps Coding scheme: CS-1, CS-2, CS-3 and CS-4 PAP protocol for PPP connect. Integrate the TCP/IP protocol. Support Packet Broadcast Control Channel (PBCCH) CSD trasmission rates: 2.4, 4.8, 9.6, 14.4 kbps Support SIM card: 1.8V, 3V</p>	

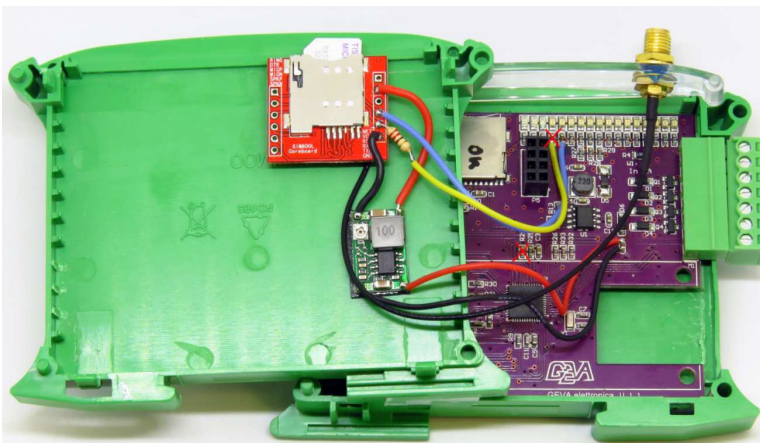
Six Serial Communication Interfaces, each configurable to operate as either:

- USART with full-duplex and single-wire half-duplex configuration
- I2C up to 3.4MHz
- SPI
- LIN slave

## SIM800L GSM Modem

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Assembled in the box, with an internal or external antenna, on Serial or Serial1.



### INSTRUCTIONS (v1.1)

1. Connection for Serial1, it needs to remove R14 and R24 in smd
2. For Serial, take Rx and Tx from P5 ESP
3. Set at 4V the regulator module.

## Disassembly / Smontaggio

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Remove the red hook – *Rimuovere il gancetto rosso*



## CHANGE FROM PCB v.1.1 AND v.1.2

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In01 from D0 to A5

In02 from D1 to Pa13

4 input common to 2 input common

Removed D13 from W5500-INT

Added: In11, In12, Out5, Out6, RTC connector, Bluetooth soldering pitch, LED D13, LIN BUS

Added P3 connector for wire for: Serial, Serial1, SPI, I2C.

## VERY INTERESTING LIBRARY, LIBRERIE MOLTO INTERESSANTI

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Facebook

<https://www.facebook.com/GEVAelettronica>

Master slave communication, for RS485, LinBus

<https://zoetrope.io/tech-blog/serial-communication-library-arduinos-1/>

Connessione PLC Siemens, tramite ethernet.

<http://settimino.sourceforge.net>

Control via smartphone, in wifi, Bluetooth, internet.

<https://www.blynk.cc>

ModBus

<https://github.com/smarmengol/Modbus-Master-Slave-for-Arduino>

<https://github.com/andresarmento/modbus-arduino>

[Link3](#)

FreeRTOS

<https://github.com/Makeblock-official/FreeRTOS-Arduino>

<https://github.com/greiman/FreeRTOS-Arduino>

LoRa - Long Range Radio

<https://github.com/sandeepmistry/arduino-LoRa>

Firmata – Communication with the PC

<https://github.com/firmata/arduino>

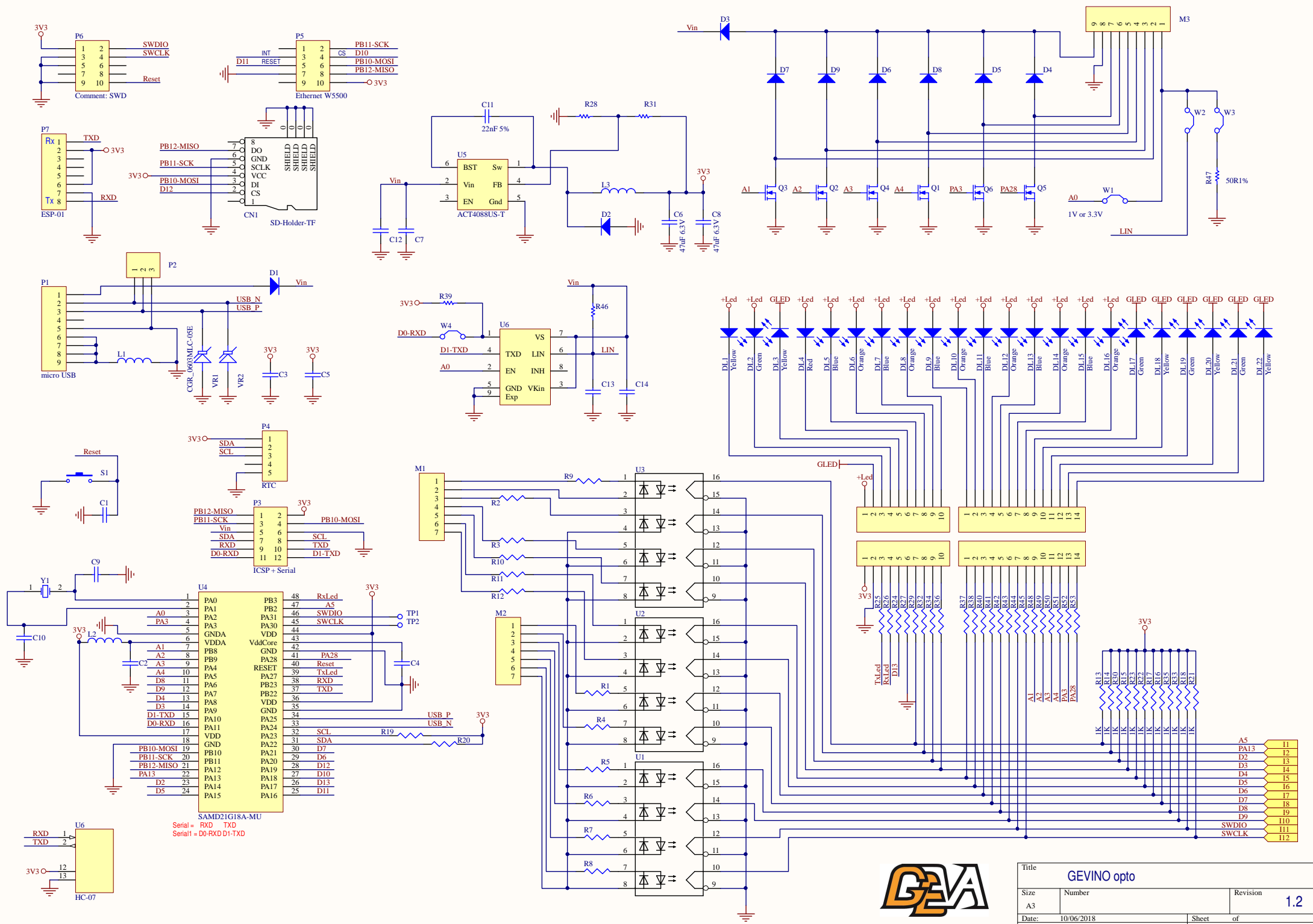
On the site <https://github.com/>

doing the search with Arduino, you can find anything that comes to mind.

ModBus Master Slave RTU RS485 RS232 IP

Profibus, LinBus, OBD, PID, Python





Title		GEVINO opto	
Size	Number	Revision	
A3		1.2	
Date:	10/06/2018	Sheet	of
File:	C:\Users\... \GEVINO Opto_simplified S...	Drawn By:	