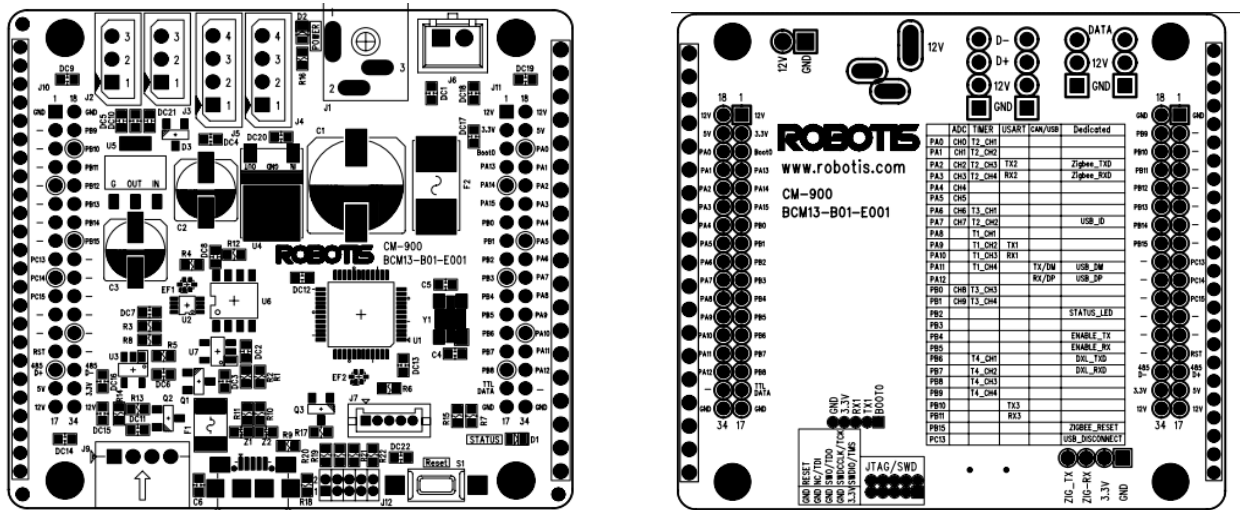


CM-900 Picture



3. Schematics & gerber

- Schematics: [CM-900 REV B Schematic.pdf](#)
- Gerber: [CM900-B-gerber.pdf](#)

4. Power Source

- The CM-900 can be powered by the micro USB connection(5V) or with an AC-DC 12V SMPS power supply. The power source is selected automatically. But if you use a dynamixel, you have to provide the power source as 12V SMPS power supply or 12V battery.

12V	Used for Dynamixel
5V	Used for the 3.3V regulator and other components on the board
3.3V	Used for the STM32F103C8 Microcontroller
GND	Ground pins

5. Input and Output

- 37 I/Os, all mappable on 16 external interrupt vectors and almost all 5V tollerant.
- 2 x 12-bit, 1us A/D converters(up to 16 channels), it has ranges from 0 to 3.6V and dual-sample and hold capability and internal temperature sensor.
- Three 16-bit timers, each with up to 4 IC/OC/PWM or pulse counter and quadrature(incremental) encoder input. 16-bit, motor control PWM timer with dead-time generation and mergency stop. It also has 2 watchdog timers(independent and window) and systick timer(24-bit downcounter)

6. Communication

- Up to 2 x I2C interfaces(SMBus/PMBus)
- Up to 3 USARTs(ISO 816 interface, LIN, IrDA capability, modem control)
- Up to 2 SPIs(18 Mbit/s)
- CAN interace(2.0B Active)
- USB 2.0 full-speed interface

7. DMA

- 7-channel DMA controller can be supported for periperals(ADC, SPIs, I2Cs and USARTs)

8. Programming

- The CM-900 provides powerful and easy way to download a firmware for user. It is enabled by USB Virtual CDC driver. On Windows, a.inf file is required. It is simply appear as serial communication over USB and can be possible to download a binary file programmed without an external hardware programmer. When embeded bootloader can not work properly, JTAG-SWD(Serial-Wire Debug) port is also provided to restore the original bootloader or to bypass it.

9. USB Overcurrent Protection

- The CM-900 has a resettable polyfuse that protect your computer's USB port from short and overcurrent. If over the maximum USB current(500mA) is applied to CM-900, the connection will be cut off automatically until the problem is resolved.