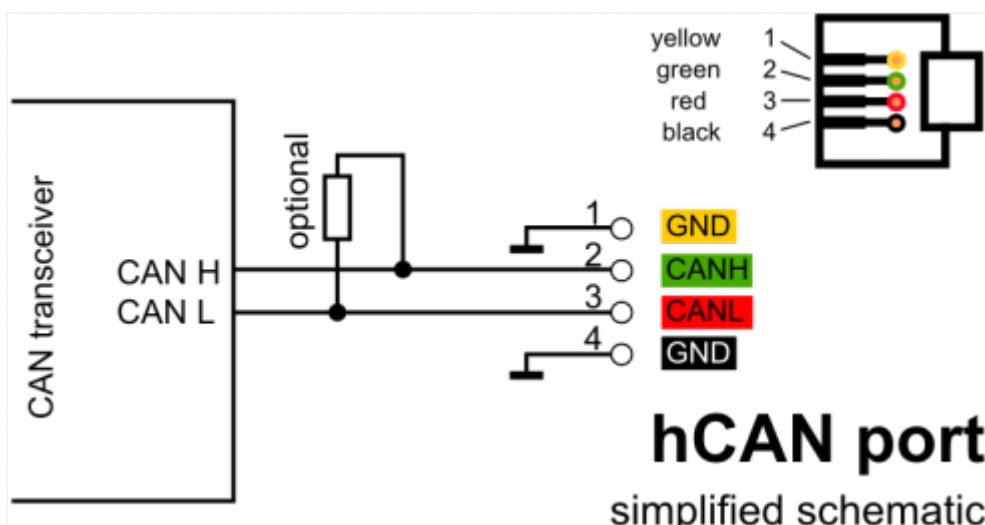


hCAN

Interface schematic



Basics

The CAN (Controller Area Network) is the best way to expand your robot with more than one RoboCORE or with other modules with a CAN interface. When two or more RoboCOREs are connected with hCAN they are able to send commands via a real-time network. One RoboCORE is not enough for your application? No problem! Use as many RoboCOREs as you need for your robot and connect one of them to the Internet - every command will be executed very quickly. One RoboCORE can be connected to the Internet while the others take care of all the sensors and motors.

Physical interface

For those who don't know what CAN is, it's a two-wire, bidirectional, differential bus, commonly used in automotive applications. You will find more on Wikipedia: [CAN_bus](#)

We used a non-standard connector. The industrial standard is a 9-pin DSUB connector, but of course these are too large, so we decided to use a 4p4c modular jack (also known as RJ9).

Termination

Communication via CAN requires terminated transmission line. For short distances, terminator can be connected only to the one end of the bus. RoboCORE has an optional jumper that connects a 100Ω resistor to the line. Two RoboCOREs with two terminators (jumper attached) can communicate with a full speed at long distances. If you need to connect more RoboCOREs, you can attach jumpers in two RoboCOREs and remove jumpers from others to keep the total impedance greater than 45Ω.