

BonRoll

technical specification for the electric vehicle- / wheelchair control and operating unit

Input unit *BonRoll Touch*

Keypad with 12 Buttons & double digit display

- Housing-material: ABS
- L x W x H: 20mm x 80mm x 110mm
- Compressive force: 2 Newton
- Every button has a LED to show the status
- Turn indicators / Warning lights
- Power on / off
- Horn
- Mode
- Light
- Additional, free programmable buttons



- The input unit is connected by a wire with the length of 100mm over a plug and socket connection
- The *BonRoll Stick* is connected with the *BonRoll Touch* by a ball and socket joint
- For the flexible installation of the *BonRoll Touch* it is possible to buy the ball and socket joint separately

Input unit *BonRoll Stick*

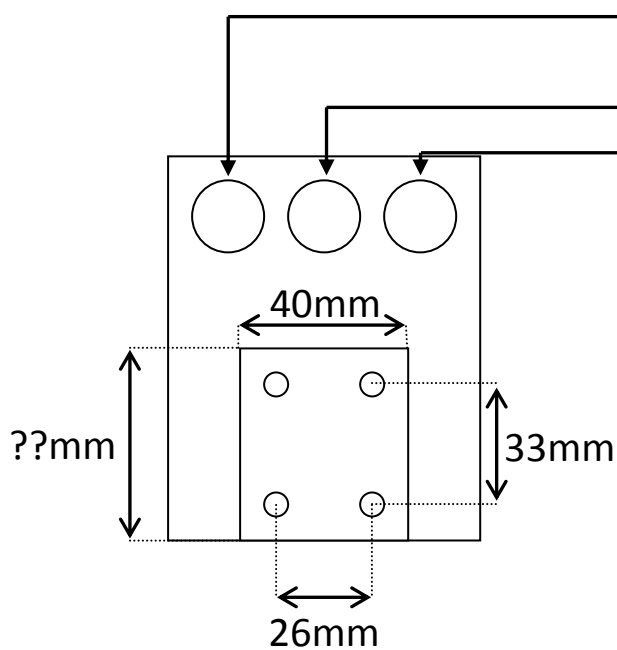
Contactless, inductive Joystick

- Housing-material: ABS
- L x W x H: 120mm x 80mm x 80mm
- Height of lever: 45mm
- Connection (ball) to *BonRoll Touch*
- Head (Phenolic): Diameter 32mm, Rate 30mm
- Gaiter



Schematic view from below

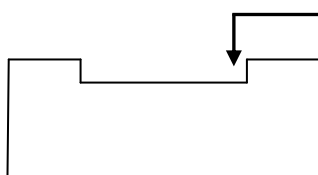
- Connection for the cable to program or charge
- Connection for *BonRoll Touch*
- Connection for *BonRoll Control*



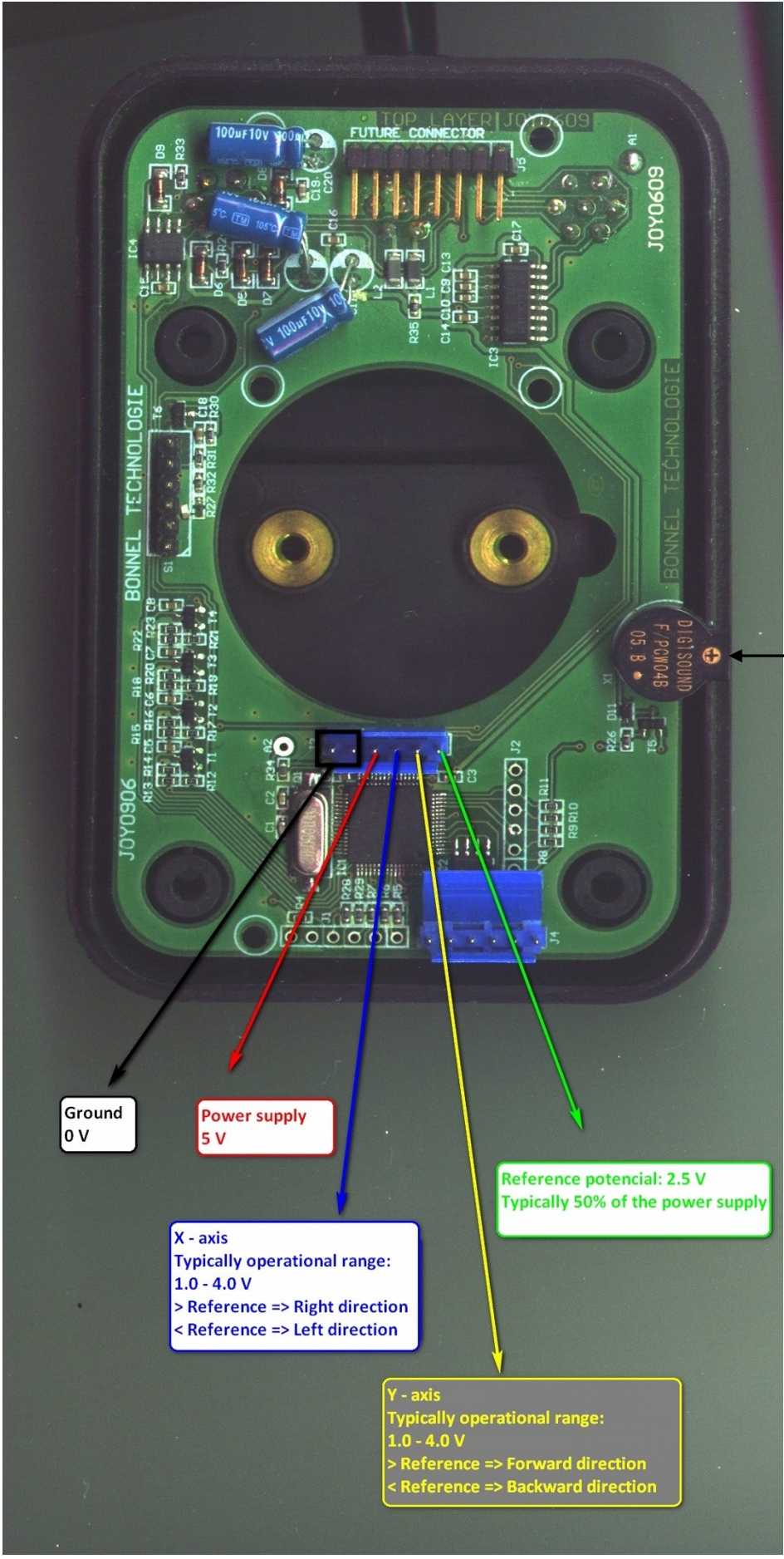
- Head (Phenolic): Diameter 32mm, Rate 30mm

Schematic view from behind

- Deepening: 3,2mm



Input unit *BonRoll Stick*



Beeper with notch in housing

Ground
0 V

Power supply
5 V

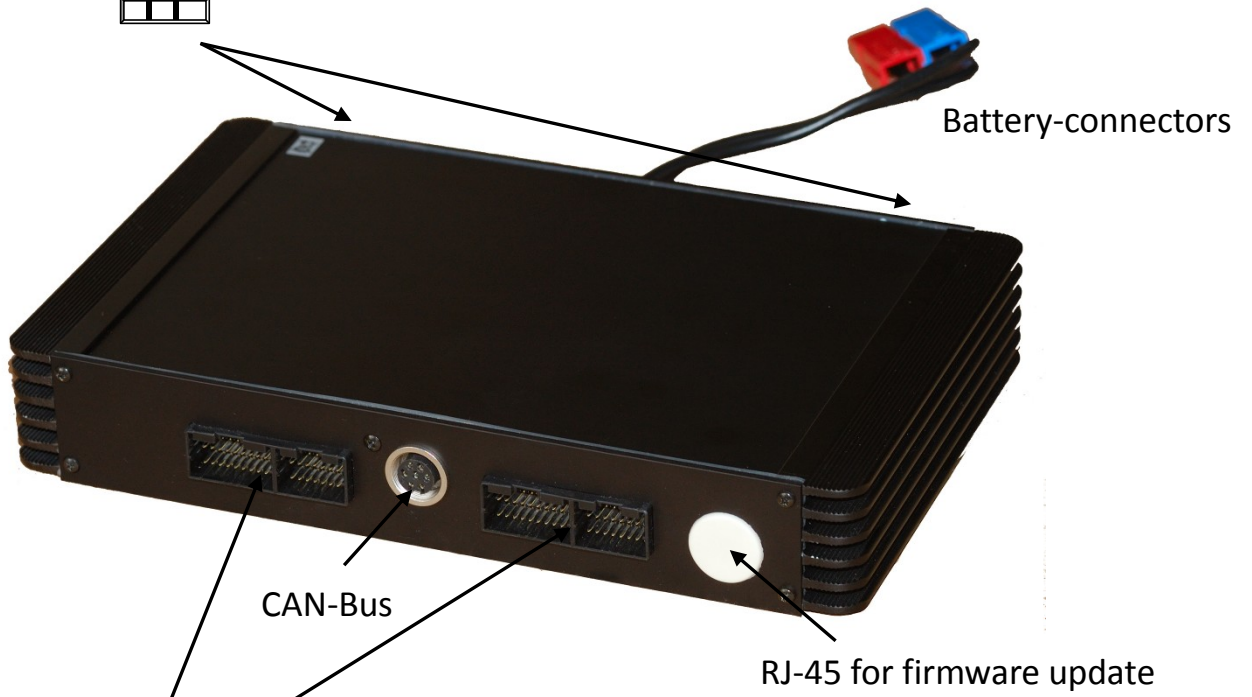
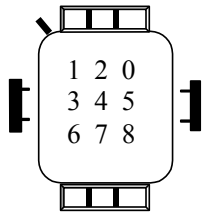
X - axis
Typically operational range:
1.0 - 4.0 V
> Reference => Right direction
< Reference => Left direction

Reference potential: 2.5 V
Typically 50% of the power supply

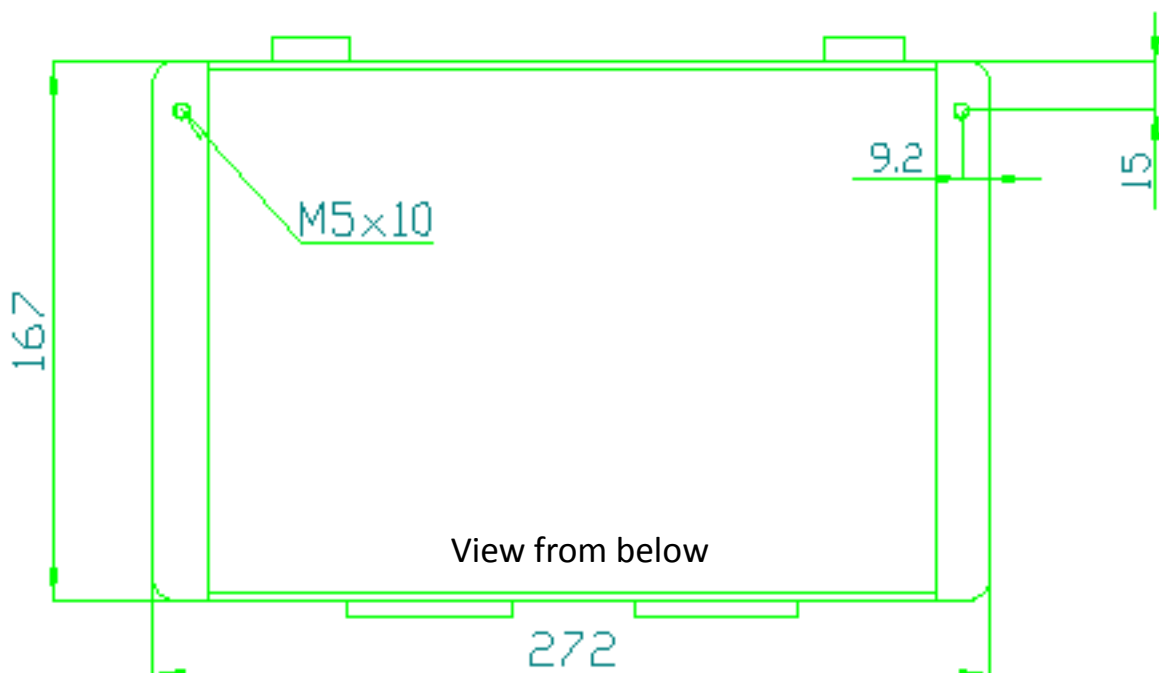
Y - axis
Typically operational range:
1.0 - 4.0 V
> Reference => Forward direction
< Reference => Backward direction

Activity unit *BonRoll Control*

Motor-connectors



Connectors for input units
(*BonRoll Stick* & *BonRoll Touch*)



Specifications *BonRoll*

Power unit - inputs:

Input for steering sensor 0-5 VDC (only in conjunction with the steering motor enabled)

Input for main switch (e.g. key switch towards ground)

Input for charging control (switch contact towards ground in the charging plug)

Input for braking control (switch contact towards ground)

4 x universal inputs (contact towards ground, customized solutions adjustable)

Analogue input 0-5 VDC (towards ground, customized solutions adjustable)

Power unit - outputs:

Screw-saved connector for the connection of the operating unit (joystick, display with pushbuttons), CAN-Bus

Electrical power supply 24 VDC, plug connector REMA MC75 (fuse protection external necessary)

2 x main drive motor

DC voltage 24 VDC, power 0,32 kW, carry current 30 A, 50 A for max. 5s (parameters can be set)

Main drive motors run disconnected from each other over TYCO plugs type MATE-N-LOCK

Following voltages and signals run over two TYCO plugs type Multilock each with 20+16 poles

1 x steering motor (can be enabled und disabled by software)

DC-voltage 24 VDC, max. current 5 A

6 x auxiliary motors (adjustable by software, optional usable, e.g. for seating control, foot rests)

DC-voltage 12 VDC or 24VDC (adjustable), max. current 5 A

Auxiliary motors are individual adjustable:

- controlling of the current limiting can be enabled and disabled by software
- limit switch active „ON“ (limit switch output towards ground)
- limit switch active „OFF“ (limit switch output towards ground)

Current outputs (e.g. for lighting system):

2 x front lights (halogen), current 6 VDC/max. 1 A

2 x rear lights 12 VDC

4 x turn signals (right, left) 12 VDC

Universal outputs (customized solutions adjustable):

3 x open collector, max. 24 VDC/max. 0,3 A towards ground

Auxiliary current output 5 VDC/max. 1A

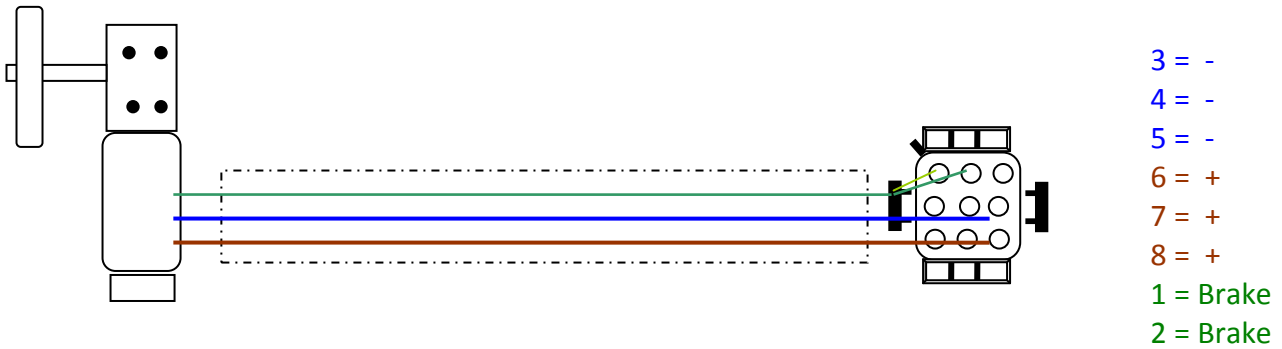
Auxiliary current output 12 VDC/max. 10A (DC/DC converter, also supplies the auxiliary motors and the lighting system, this should be considered at the current drain)

The individual functions, relating to the application, are adjustable as package by the software. This means, that by an small adjustment of the software, customized solutions could be enabled.

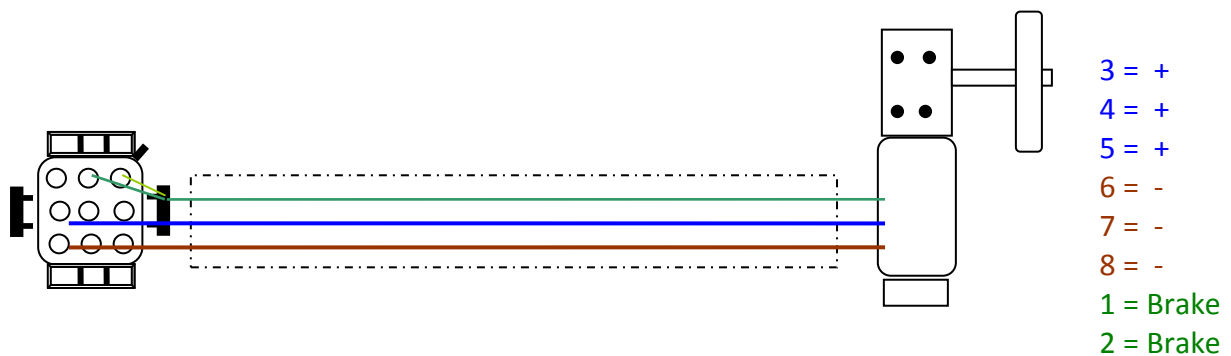
Options: The optional feature of the multifunctional operating unit integrates the use of standard components such as a second operating unit for an assistant, operating unit for the digital environment, a suck and blow control, a chin-operating unit, a touch unit etc.

Activity unit *BonRoll Control*

Wiring of the left motor regarding a direction of rotation LEFT



Wiring of the right motor regarding a direction of rotation RIGHT



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