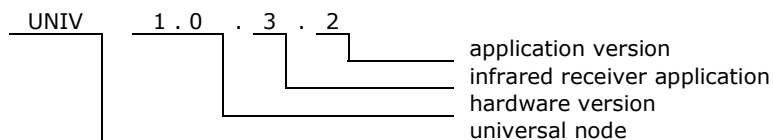


1. Features:

- The infrared receiver of universal remote controller
- Maximum transmission distance 35m
- Uses IR receiver TSOP4838
- Operation voltage 10-24V
- Current consumption from bus 15mA
- For back box mounting
- Types of received codes and operating of module depend on firmware uploaded into it.



2. Application version



3. Technical data

Bus side

Parameter	Symbol	Value	Unit
Power supply voltage	U_s	10-24V	V
Current consumption	I_s	15	mA

Receiver side

Parameter	Symbol	Value	Unit
Maximum transmission distance	d	≤ 35	m
Half range angle	$\phi_{1/2}$	± 45	$^\circ$
Maximum length of TSOP4838 connection	l	15	m

4. Hardware
4.1. Schematics

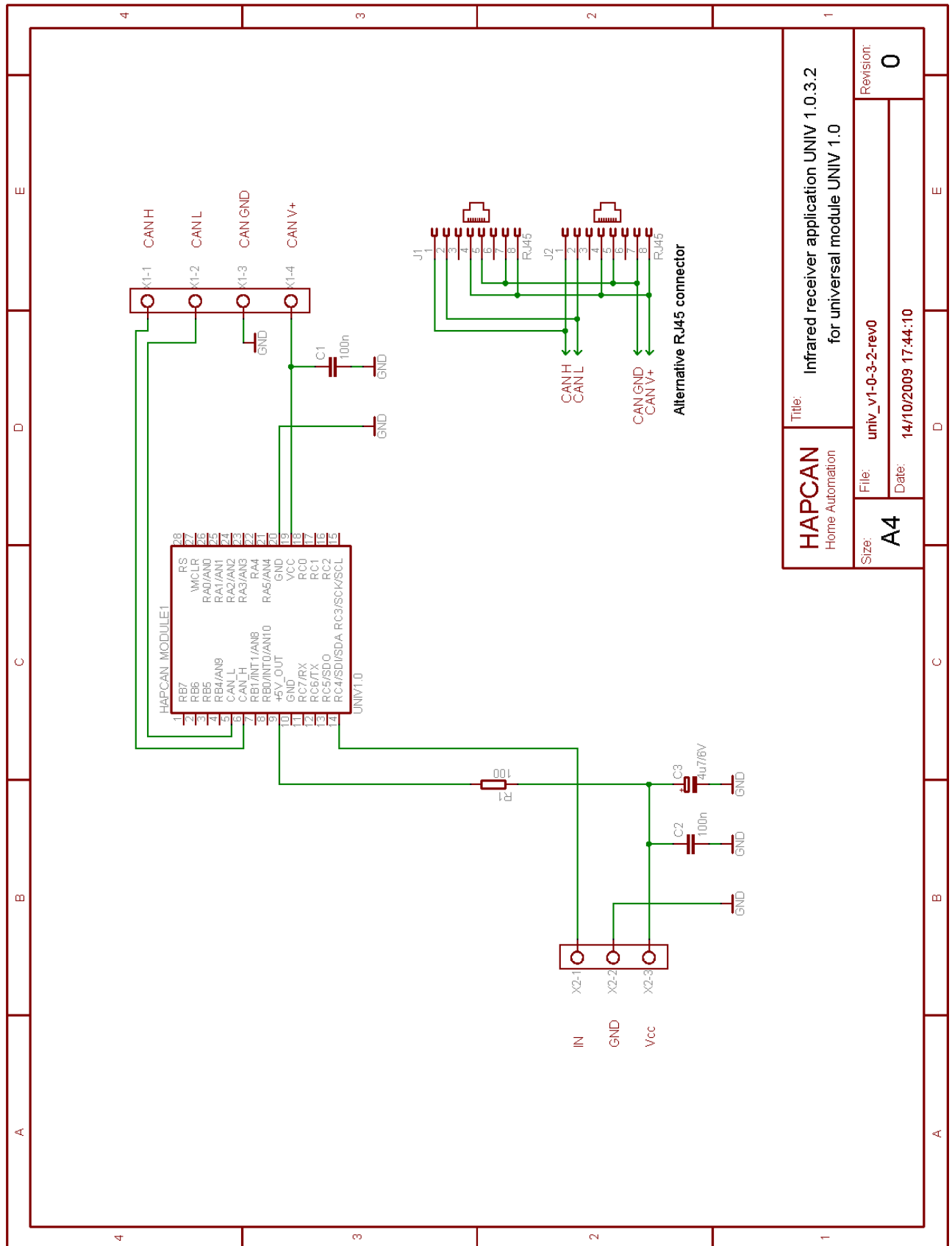
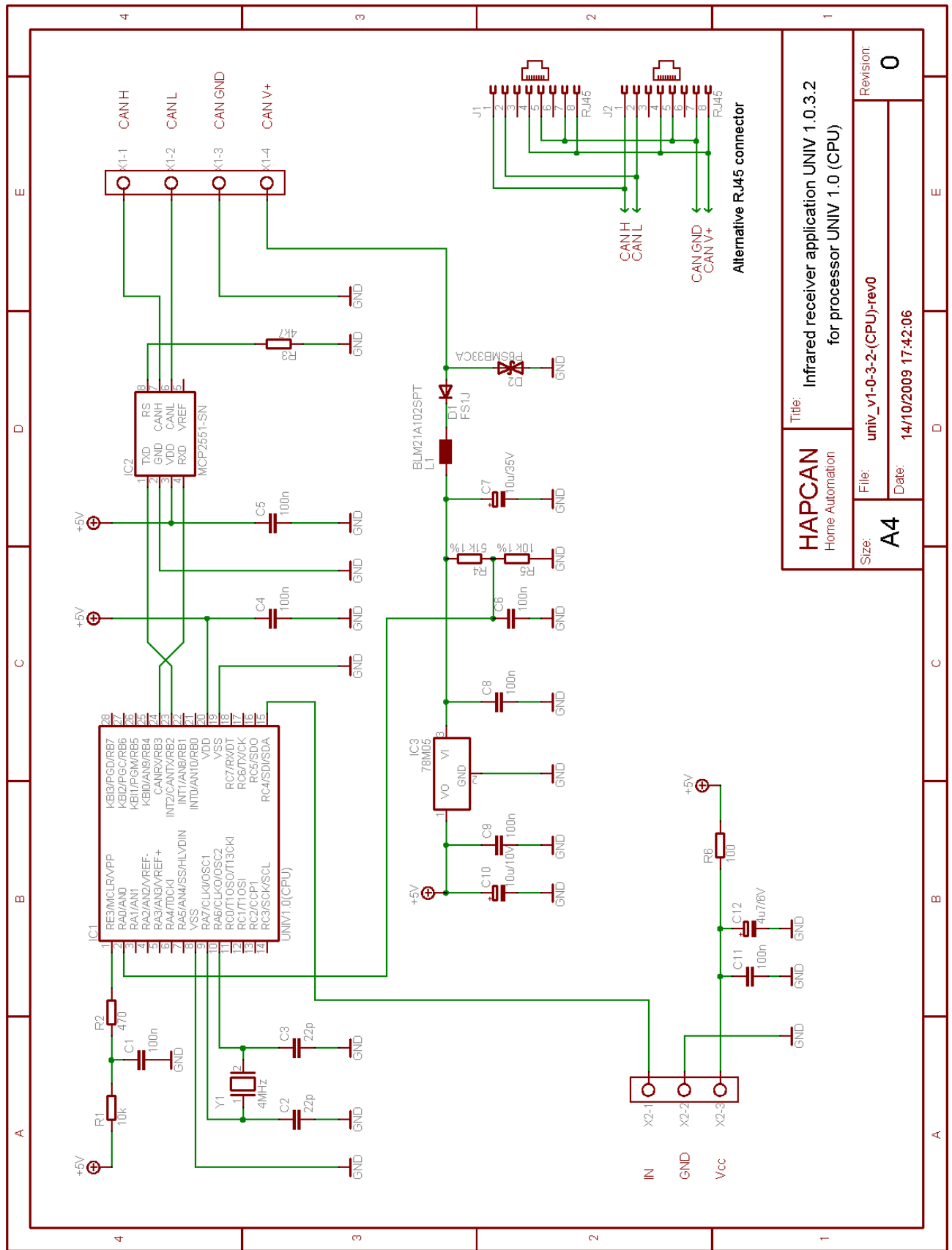


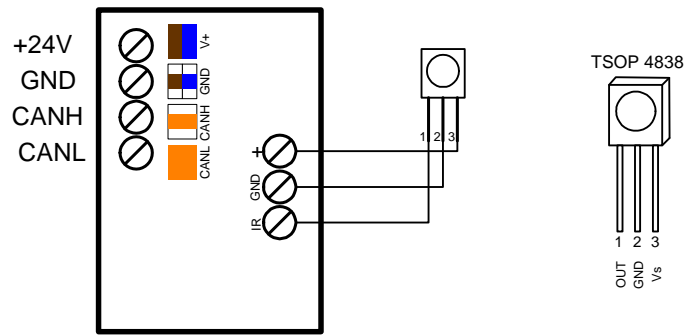
Figure 1. Schematic of infrared receiver application for universal module UNIV 1.0



HAPCAN Home Automation		Title: Infrared receiver application UNIV 1.0.3.2 for processor UNIV 1.0 (CPU)	
Size: A4	File: univ_v1-0-3-2-(CPU)-rev0	Revision: 0	Date: 14/10/2009 17:42:06

Figure 2. Schematic of infrared receiver application for processor UNIV 1.0 (CPU).

4.2. Wiring

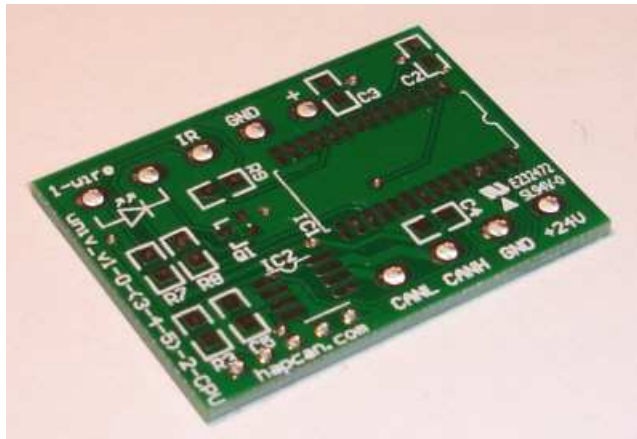


HAPCAN Bus wiring
 white-orange - **CAN H**
 orange - **CAN L**
 blue - **V+**
 white-blue - **GND**
 white-brown - **GND**
 brown - **V+**

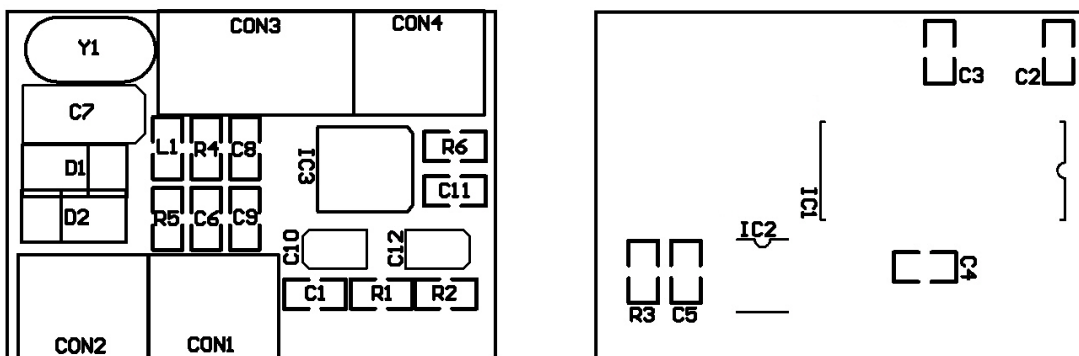
Figure 3. Wiring diagram

4.3. Printed Circuit Board

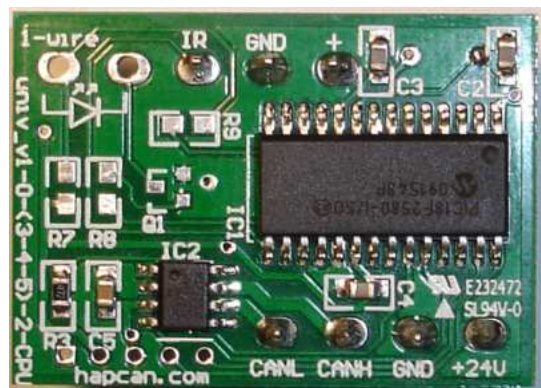
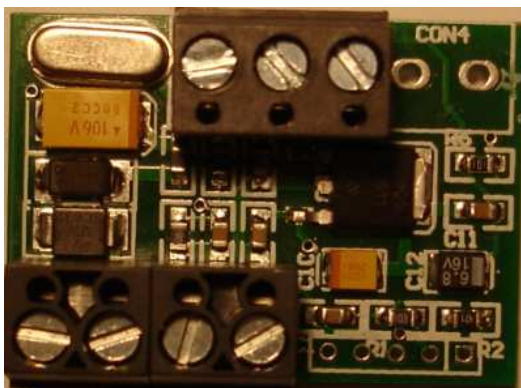
- Printed circuit board for infrared receiver application UNIV 1.0.3.2 with use of processor UNIV 1.0 (CPU)
- PCB dimensions: 38mm x 27mm



4.3.1. Assembly schematic



4.3.2. Assembled PCB



4.3.3. Components

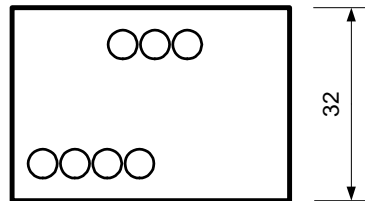
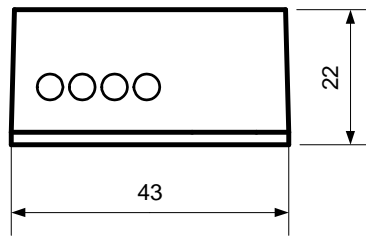
Designator	Type	Footprint	Description
C1, C4, C5, C6, C8, C9, C11	100nF	0805	Capacitor
C2, C3	22pF	0805	Capacitor
C7	10uF/35V	SME	Electrolytic Capacitor
C10	10uF/16V	SMB	Electrolytic Capacitor
C12	4.7uF/6V	SMB	Electrolytic Capacitor
R1	10k	0805	Resistor
R2	470 Ohm	0805	Resistor
R3	4k7	0805	Resistor
R4	51k 1%	0805	Resistor
R5	10k 1%	0805	Resistor
R6	100 Ohm	0805	Resistor
L1	BLM21A102SPT	0805	Choke
Y1	4MHz	HC49-S	Quartz crystal
D1	FS1J	DO-214	Diode
D2	P6SMB33CA	DO-214	Transil diode
IC1	UNIV 1.0 (CPU)	SOIC-28	Processor of HAPCAN universal module
IC2	MCP2551-SN	SOIC-8	CAN Transceiver
IC3	78M05	DPAK	Voltage regulator
X1	2x ARK2	H=12,5mm raster=5mm	Terminal block
X2	ARK3	H=12,5mm raster=5mm	Terminal block
	TSOP4838		Infrared receiver module

4.4. Enclosure

- Enclosure type KM-1
- Dimensions: 43mm x 32mm x 22mm

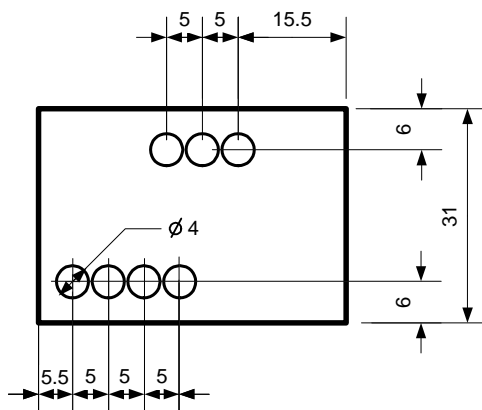
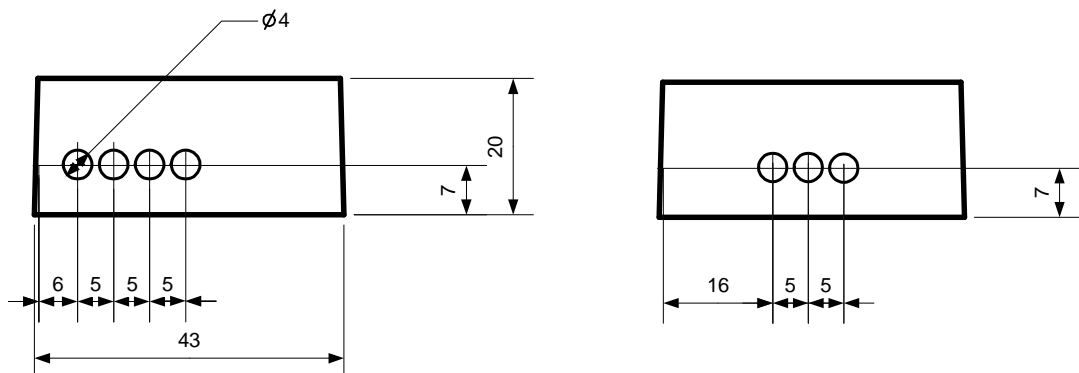


4.4.1. Dimensions



4.4.2. Mechanical processing

4.4.2.1. Main part

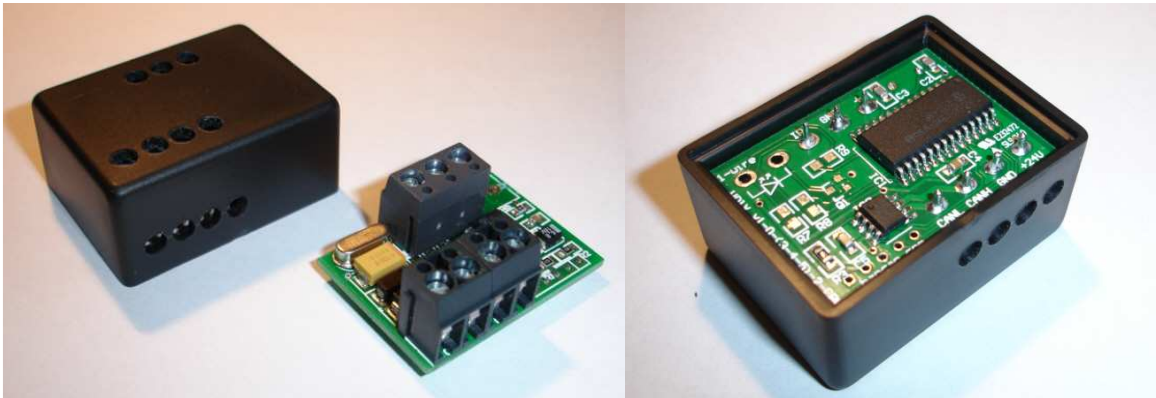


4.4.2.2. Lid

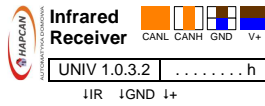
Does not need processing.

4.4.3. Assembling

The lid has to be glued to main part.



4.4.4. Labels



5. Document version

File	Description	Date
univ_v1-0-3-2-pcba.pdf	Original version	May 2010