

Project: Token
Software: v2.1.1.4
Board: CASH-Interface2
Date: 1. March 2019

SPECIFICATION:

With the TOKEN-Package it is possible to realize a simple vending machine for example sell car wash token. The control of the cash devices is done with the CASH-Interface2. This way its possible to connect a bill acceptor, a coin acceptor, and up to three hoppers as well as a receipt printer.

FEATURES:

- Simultaneous operation of a coin and bill validator and up to 3x hopper.
- Number of paid token is freely adjustable for each cash channel.
Thus, for example bonus tokens are possible with a larger purchase.
- Accumulate function or direct pay out on cash in.
- With only one type of token it can be paid out alternately from hopper 1 and hopper 2, or the hopper number is directly adjusted in the settings for each cash channel
- User screen can use and switch through individual images, loaded by timer setting.
- Print receipt via external push button (illuminated) possible.
The text for receipt is freely adjustable. The installed windows default printer is used.
- Bookkeeping with statistics.
- Log file.
- CSV file for all transactions.
- Status text file for external monitoring, refreshed every minute.
- Send e-mail with log file and statistics.
- Send e-mail on hopper empty.
- Works on the USB (with USB to Serial converter) or serial port.
Using a USB to Serial converter be sure to use one with FTDI chipset to avoid problems!
- Error indicator via OUT2, flushes if hopper empty.

OPERATION:

In normal mode the number of coins is paid directly when one of the 6 cash channels was detected. In accumulate mode every cash in is added and after a 5 second timeout the payout starts. The software calculates the optimal coins pay out for the customer, e.g. 5 EUR gives 5 token, 10 EUR gives 12 token, the customer inserts 4x 5 EUR, the software calculates 2x 10 EUR and pays out 24 token.

With the accumulate function it is possible to have for example token costs at 1 Euro, and the customer can insert smaller coins like 50 cent. As soon as we reach the costs of one channel the token number is bigger than 0 we do a payout.

The software can operate without or with a user screen. If the user screen is activated there is a screen visible for the user showing images. On cash in the sum of inserted cash is shown with image "credits.jpg". While pay out is done it shows the image "payout.jpg". In IDLE mode the images "1.jpg", "2.jpg", "3.jpg" and so on are showed by timer. The time can be adjusted in the settings. It is possible to load all images from a USB stick, so there can be different images just by using an other USB stick.

In special "hopper 3" mode all pay outs are done via hopper 3 with the separate hopper 3 token numbers. This can be selected by software setting or external input (a switch connected to CASH-Interface2 input IN2). There are even separate images used in "hopper 3" mode, e.g. "h3_1.jpg", "h3_2.jpg", "h3_3.jpg" and so on.

DEVICES:

The protocol for coin and bill validator must be PARALLEL.

We can monitor 6 channels, so using bill and coin validator we suggest this setup:

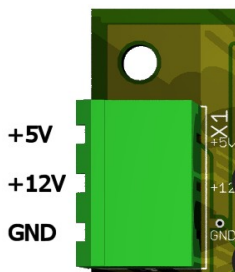
- #1 – 5 EUR bill
- #2 – 10 EUR bill
- #3 – 20 EUR bill
- #4 – 0,50 EUR coin
- #5 – 1 EUR coin
- #6 – 2 EUR coin

#7 – enter your own value, for example using bill validator with PULSE protocol you can enter 5000 here and use the 50 EUR bill, too.

- Bill validator of the type NV9, NV10 or pin compatible (like PYRAMID TRILOGY), GBA ST2 via adapter possible.
- Coin validator of the type NRI-G13 or RM5 or EMP800 or pin compatible (like MEI CASHFLOW 330) .
- Nayax credit card reader.
- Hopper of the type Azkoyen U-II, or NRI currenca h2 or HS-2012 (STD) via MK4 adapter or UNIVERSAL HOPPER MK2/3/4 via MK4-Adapter or ND300-Adapter. Protocol: PULSE.
- (Hopper) Note dispenser ND300KM or compatible via ND300KM adapter. Protocol: PULSE.
- Relays output NO 200 VDC, 15W (CI2 REL connector), Push button print receipt illumination.
- OUT 2, +12V DC / 1A output (CI2 OUT2 connector), Error illumination, flushing when active.

Using a coin sorter the external control via hopper full signal is done by coin validator output line 5.
e.g. EMP 800.00/P V6 /O or /N /X Pin4 Low sorter control and SRT 800.2X or SRT 800.3X

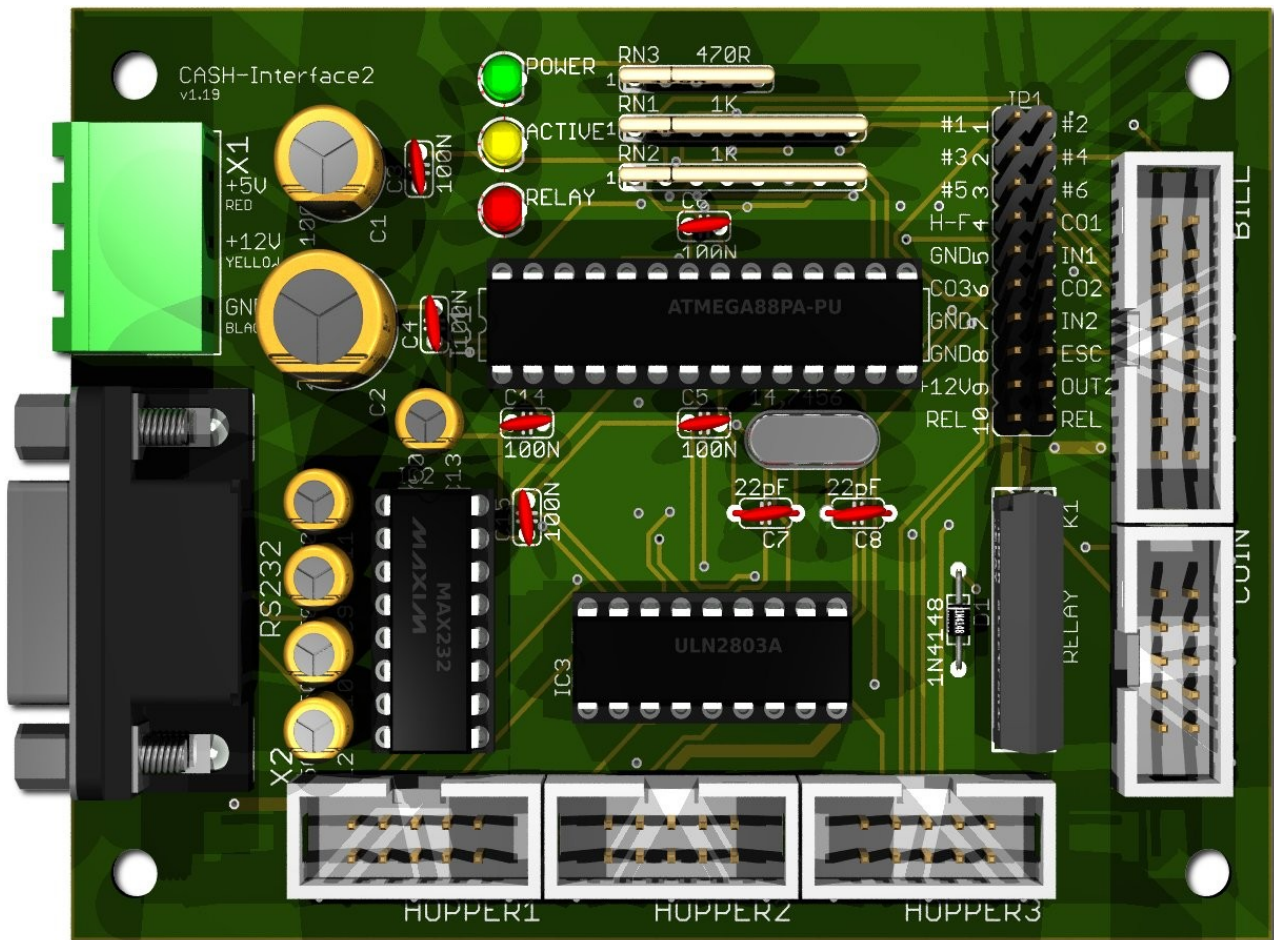
POWER SUPPLY:



The power supply is connected to clamp X1.

The CASH-Interface2 needs a supply voltage of +5V and +12V DC. The ground connections (GND) of both voltage must be connected. The interfacing of +5V, +12V and GND is printed on the board.

BOARD v1.19:



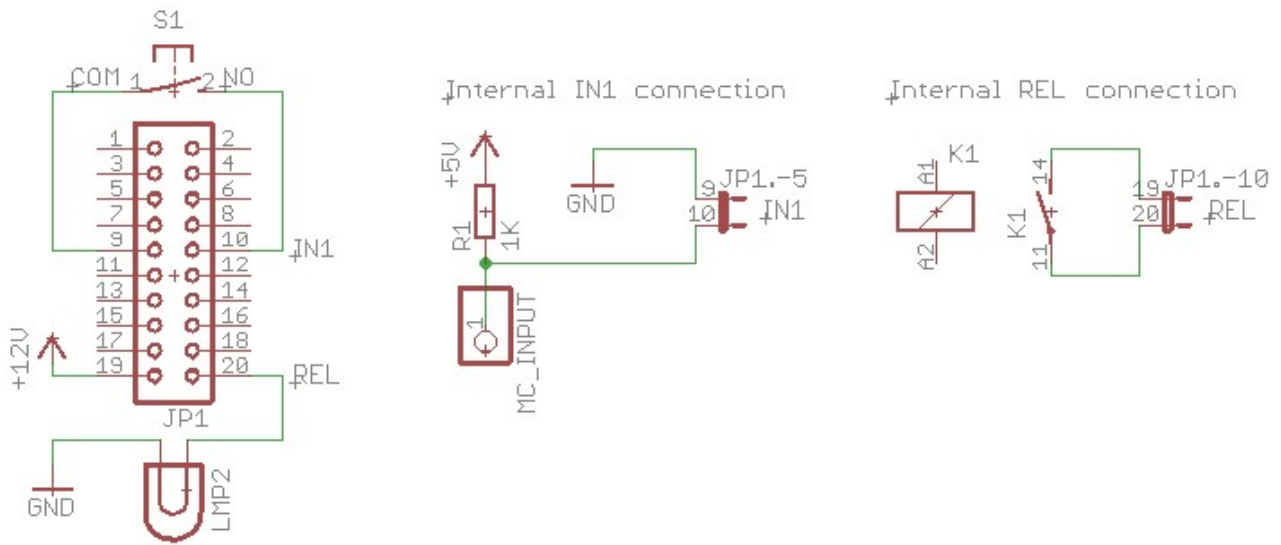
JUMPER:

JP1.5 – IN1
JP1.7 – IN2

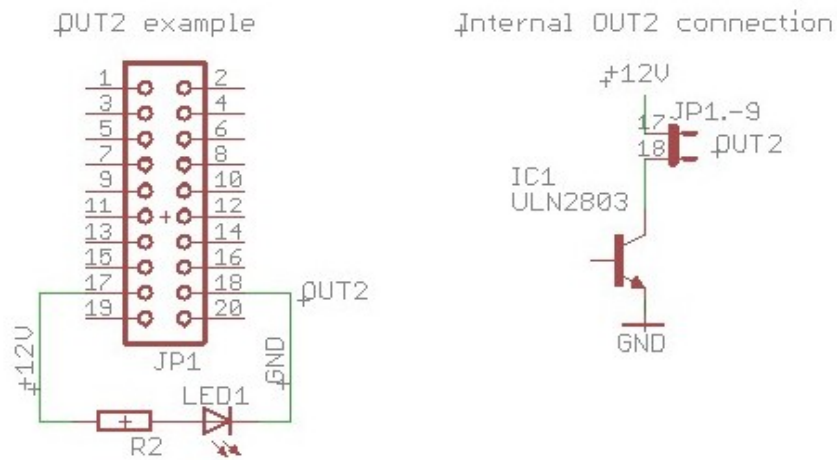
JP1.9 – OUT2
JP1.10 – RELAYS

external push button, print receipt
external push button, select hopper3 mode
or “out of order”
illumination error (blinker)
illumination print receipt push button

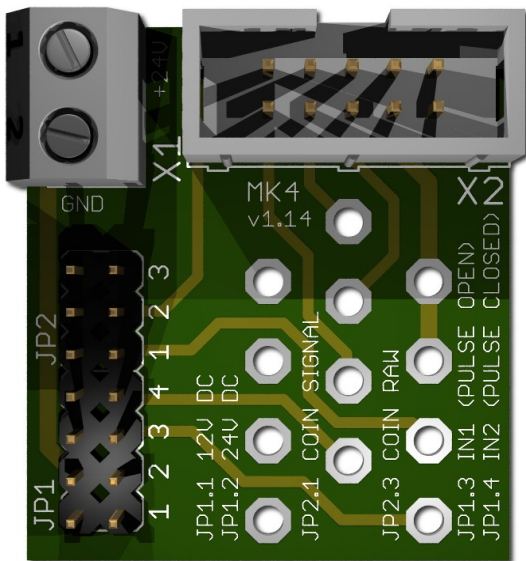
Print Ticket button (IN1) + illumination (REL):



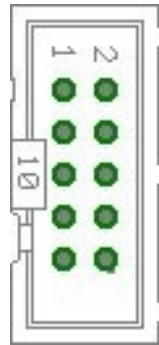
Error signal (OUT2):



MK4-ADAPTER:



Occupation of the 10 pole plug (Azkoyen compatible):



- Pin 1,2,3 = +V (+12V o. +24V DC)
- Pin 4,5 = -V (GND)
- Pin 6 = Full Sensor
- Pin 7 = Motor run
- Pin 8 = Not used
- Pin 9 = Coin signal
- Pin 10 = Empty sensor

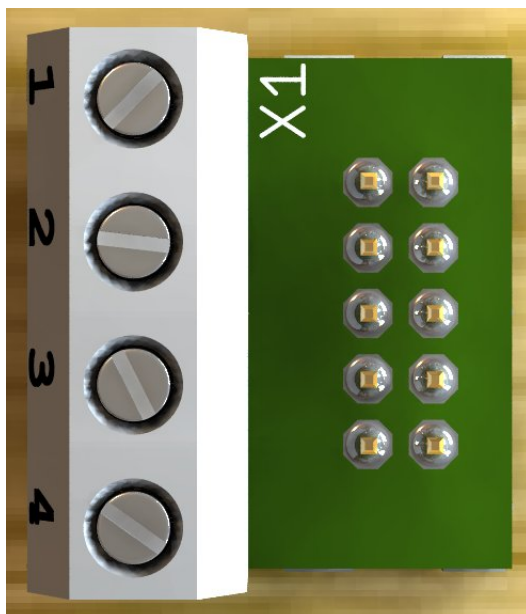
X1-1: +24V DC
X1-2: GND

- JP1.1 : +12V Hopper, power from CASH-Interface
- JP1.2 : +24V Hopper, power from external power supply on plug X1
- JP1.3 : IN1 (mode selector)
- JP1.4 : IN2 (mode selector)

- Mode 0 (Direct switching 24V) : JP1.3 open + JP1.4 open
- Mode 1 (Logic control / motor run) : JP1.3 closed + JP1.4 closed
- Mode 2 (Coin counting / pulse) : JP1.3 open + JP1.4 closed

- JP2.1 : Coin (μ P Sensor Output) => short JP2.1 and JP2.2
- JP2.3 : Coin raw (Raw Sensor Output) => short JP2.3 and JP2.2

ND300-ADAPTER:



Connects a ND300 note dispenser on the HOPPER plug.

- 1 - +12V DC (GRAY)
- 2 - GND (BLACK)
- 3 - Motor run / pulse (ORANGE)
- 4 - Empty (GREEN)

OTHER

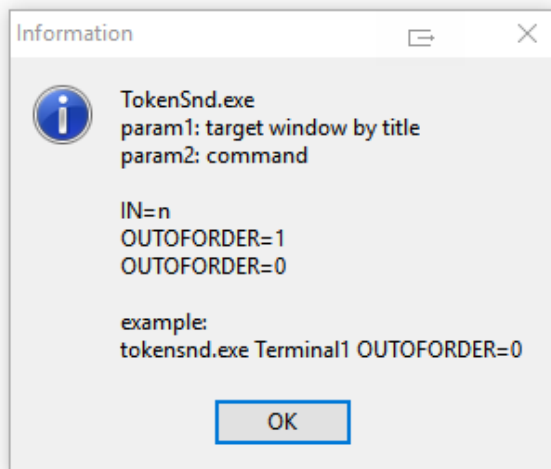
status.txt file

- One feature of the token software is to write a status.txt file.
The status.txt file can be used to monitor the work of the token software and detect problems.
The status.txt file is refreshed every 60 seconds and looks like this:

```
STATUS_TIME=01.01.2019 - 12:00:00
COMPORT=0
TOTALBLOCKING=0
HOPPER1_EMPTY=0
HOPPER2_EMPTY=UNKNOWN
HOPPER3_EMPTY=UNKNOWN
WATCHDOG=1
WATCHDOGDUMMY=1
WATCHDOG_RESET=UNKNOWN
OUTOFORDER=0
IN1(500)=0 = 0,00 EUR
IN2(1000)=0 = 0,00 EUR
IN3(2000)=0 = 0,00 EUR
IN4(50)=0 = 0,00 EUR
IN5(100)=0 = 0,00 EUR
IN6(200)=0 = 0,00 EUR
TOTAL_IN=0,00 EUR
OUT_HOPPER1=0
OUT_HOPPER2=0
OUT_HOPPER3=0
TOTAL_OUT=0
```

tokensnd.exe

- It is possible to send messages to the Token software via the tokensnd.exe



This way a pay in can be made thru an other system by simply calling, e.g. "tokensnd.exe Terminal1 IN=500"

An other message could be "tokensnd.exe Terminal1 OUTOFORDER=1" or "tokensnd.exe Terminal1 OUTOFORDER=0" to deactivate or activate the system.

For example use an alarm clock or timer to have the system only active accepting cash at desired times.