

# Proximity Card Reader with USB Interface

## Protocol

The image shows a large grid of binary digits (0s and 1s) arranged in a diagonal pattern from the top-left towards the bottom-right. This grid represents the raw data read from a proximity card. The data is organized into several distinct vertical columns, each likely corresponding to a specific field or command in the card's memory. The binary values range from 00 to 11, representing different data bytes or address ranges.



Velleman® nv has been an important wholesaler and developer of electronics for over 36 years. Our warehouses contain more than 18 000 different products of 50 brands. The distribution network includes more than 1700 distributors in well over 85 countries. Velleman® nv has built up an excellent service reputation towards retailers. To meet the ever increasing growth, Velleman® nv expanded with new offices and showrooms as well as a new warehouse of 35 000m<sup>3</sup> equipped with the latest in order picking technology. This represents an investment of over € 5 500 000.



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The K8019 communicates in bytes, not with text, don't use telnet

# A packet looks like this:

<42> = always 42 hex  
<??> = size (in bytes) of the entire packet  
<??> = command byte  
<ff> = always ff hex  
<??>...<??> = optional extra data

NOTE: <42> is the hexadecimal number 42, contained in 1 byte

## Card swipe event

**receive:** card swiped  
<42><09><07><ff><??><??><??><??><??> (= tag of 5 bytes)

## Reading all cards

**send:** read database  
<42><04><02><ff>  
**receive:** transfer started  
<42><05><03><ff><??> (= index of master card)  
**receive:** card  
<42><04><04><ff><??><??><??><??><??> (= tag of 5 bytes)  
**receive:** transfer complete  
<42><04><05><ff>

## Adding a single card

**send:** add card  
<42><09><07><ff><??><??><??><??><??> (= tag of 5 bytes)

## Clearing the database and adding multiple cards

**send:** start database update  
<42><05><06><ff><??> (=index of master card)  
**send:** card (repeat for each card)  
<42><09><07><ff><??><??><??><??><??> (= tag of 5 bytes)  
**receive:** card added (for each card)  
<42><04><08><ff>  
**send:** end database update  
<42><04><09><ff>



## **NOTE:**

# PROXIMITY CARD READER WITH USB INTERFACE

## Features

- store up to 250 tags
- with USB interface for config-management
- free tag management application for PC
- fully documented protocol, write your own application
- tags can also be entered using a 'mastercard'
- toggle or pulse NO/NC relay output
- adjustable pulse time: 1s to 4 min. approx.
- 3 status leds and buzzer
- two tags supplied (card-type)
- works standalone
- optional access card HAA2866/TAG

# K8019

## Specifications

- EM4100 compatible: HAA2866/TAG, HAA2866/TAG2
- relay contact: 3A/24VDC
- power supply: 12VDC or 5VDC (USB)\*
- power consumption: 100mA max.
- dimensions: 69x80x47mm / 2.71x3.15x1.85"





**Velleman N.V.**  
**Legen Heirweg 33**  
**9890 Gavere (België)**