NETRONIX

Technical datasheet

UW-DNG

Document version: UW-DNG-man-en
Data of last revision: 2022-05-25
Valid from firmware version v2

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1 Summary

UW-DNG is reader module for RFID cards type of Unique, Q5, Hitag and HID built with intention to work with NACS access control system. Thanks to built-in memory of cards, groups of users and schedules reader properly programmed by system is able to work as well in offline and online mode. Readers can be grouped together by NACS software into readers set managing doorway without need to use any additional doors controllers, which allows to lower installation costs. This effect was achieved by special distinction during configuration of access control system of reader, witch has to perform role of master devices for other devices. Reader is equipped with events register, in witch are stored data about event, when system server is inactive. Transition between working modes from online to offline is practically unnoticeable. After connection has been restored server automatically reads stored events and writes them to database, so to preserve data integrity in the system.

Reader is equipped with following feature:

- support transponders Unique, Q5, Hitag and HID,
- configuration memory of access control limited to assigned doorway,
- CAN 2.0B with 250Kbps interface,
- unique serial number,
- build-in signaling outputs like buzzer and RGB led diode,
- build-in push-button on front panel,
- build-in tamper with spring,
- build-in relay and 6 input/output (open collector) ports,
- possibility of firmware update by CAN bus.

2 Wiring and electrical specification

2.1 Element location in housing

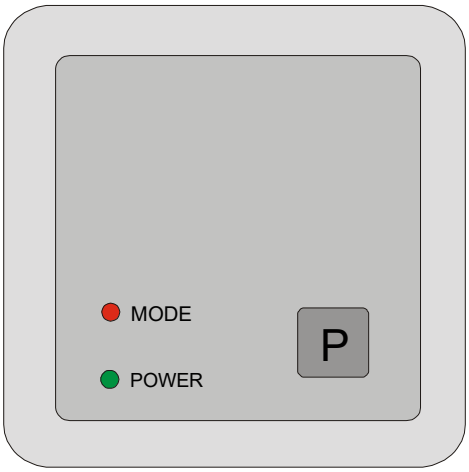

Illustration 1: Diagram of housing elements - front.

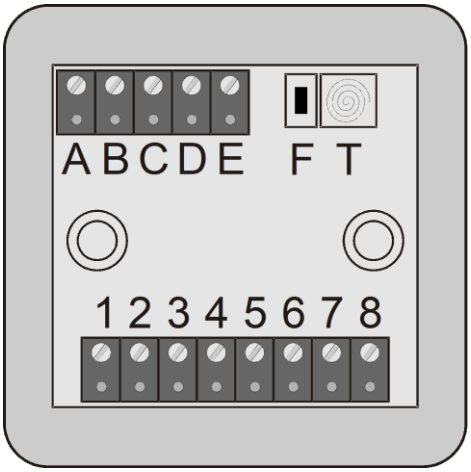

Illustration 2: Diagram of housing elements - rear.

Table 1: Housing elements

Indication in picture	***Function performed***
LED MODE	Tri-color LED Optical mode warning / configurable
LED POWER	Optical supply warning
P	Front key
1	IO 1
2	Synchronization of two proximity readers
3	CAN_H(1)
4	CAN_L(1)
5	Plus of module supply voltage
6	Ground and minus supply voltage of module
7	1st Output of relay contacts
8	2nd Output of relay contacts
T	Tamper with spring
A	IO 2

Indication in picture	*Function performed*
B	IO 3
C	IO 4
D	IO 5
E	IO 6
F	Back to manufacturer settings button

(1) – On both ends of CAN bus should be mounted terminating resistors considering size of the network. With short line it recommends to use 120 Ohm resistors.

2.2 Electrical specifications

Table 2: Module parameters

Module UW-DNG parameters	
Supply voltage	7-12 V
Maximum current consumption	120 mA
Operation temperature	-20°C - +65°C
Humidity	15% - 95%
Protection level	IP54
Rated operation radio frequency of the module	125kHz
Read-out distance of Unique transponders	do 12 cm
Maximum current of OC type outputs	500mA
Maximum total output current	2A
Maximum voltage of OC type outputs	24V
Maximum current of relay	2A
Maximum voltage of relay	17V
Transmission CAN 2.0B	250Kbps

Table 3: Electrical parameters

No.	Symbol	Characteristic	Characteristic			Units	Comment
			Min.	Typ.	Max.		
Power supply parameters							
1	VPower	Supply voltage	+7.0	-	+12.0	V	
2	IPower	Supply current	-	70	-	mA	Depending from load of serial interface.
Interface CAN parameters							
5	Vcanh(r), Vcanl(r)	CANH, CANL recessive line voltage	2.0	-	3.0	V	
6	Vcanh(d)	CANH dominant output voltage	2.75	-	4.5	V	
7	Vcanl(d)	CANL dominant output voltage	0.5	-	2.25	V	
8	Vdiff(r)(o)	Recessive differential output voltage	-500	-	+50	mV	
9	Vdiff(d)(o)	Dominant differential output voltage	1.5	-	3.0	V	
10	Vdiff(r)(i)	Recessive differential input voltage	-1.0	-	+0.5	V	
11	Vdiff(d)(i)	Dominant differential input voltage	0.9		5.0	V	
12	Rdiff	Differential input resistance	20	-	100	kΩ	

3 Dimensions and distance between montage holes

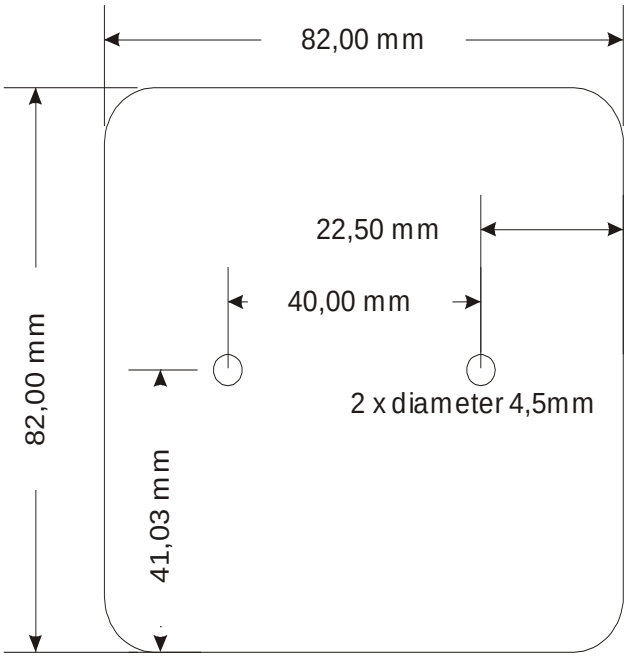

Illustration 3: Housing dimensions.

4 Connecting readers operating close to each other

The readers, which operate close to each other (with distance not higher than 50 cm) should be connected by means of synchronize link. Such connection provides the readers do not generate electromagnetic field in the same time.

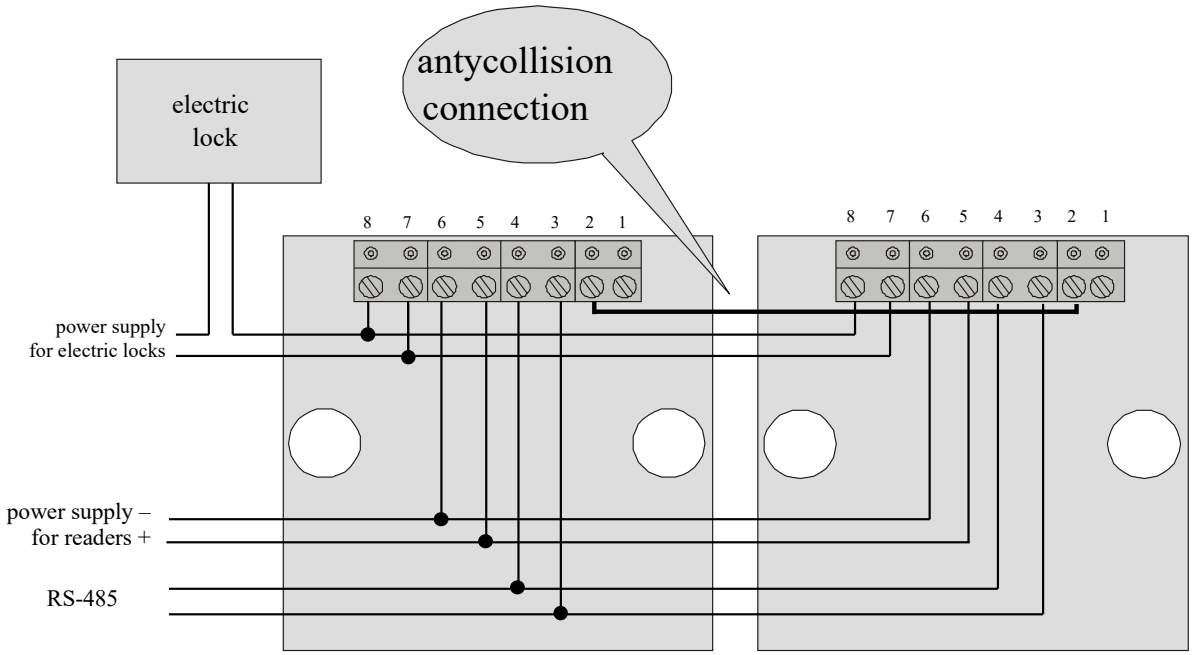

Illustration 4: Connection of two readers closed together in range closer than 30cm.