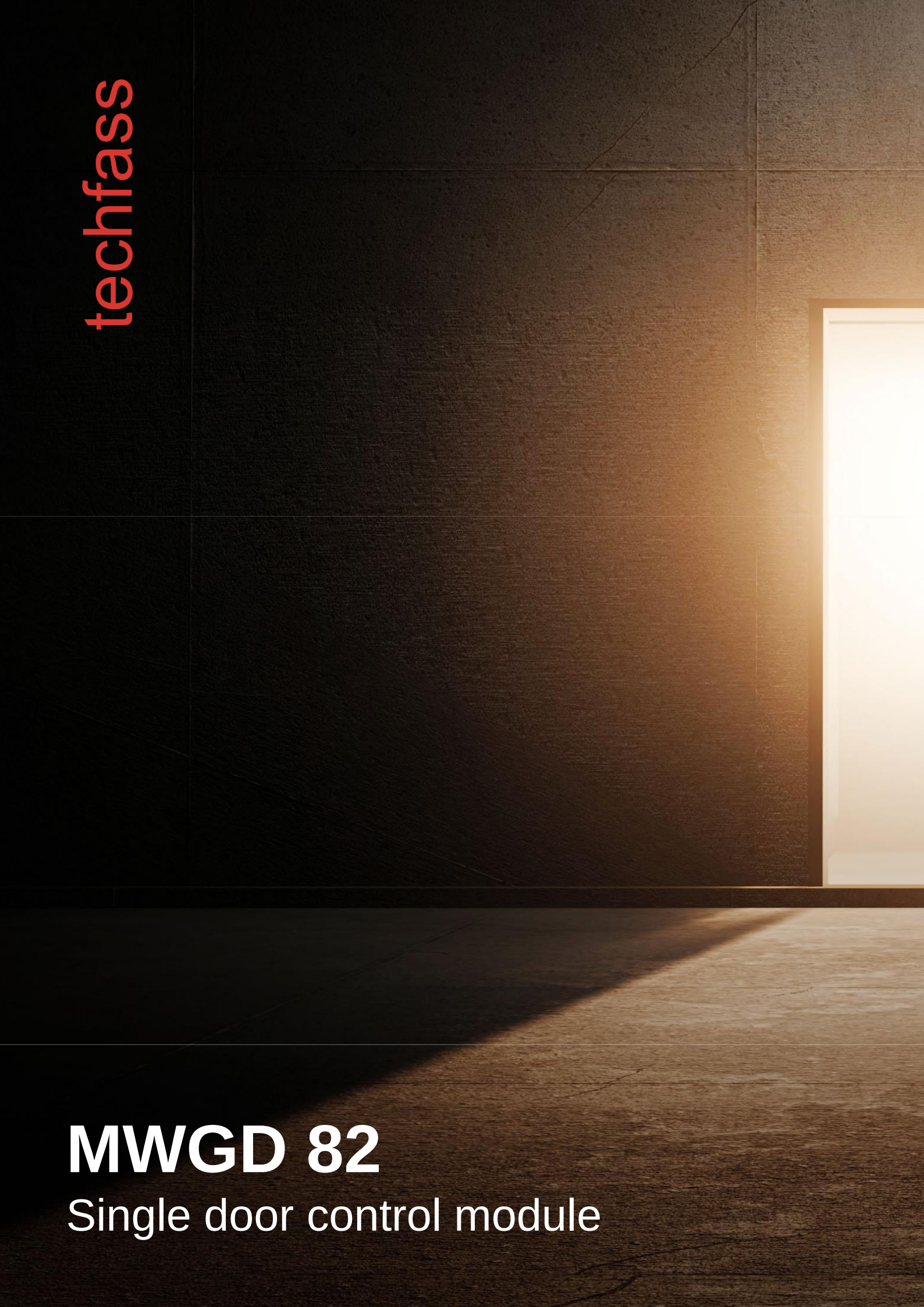
techfass



MWGD 82

Single door control module

Introduction

The MWGD 82 control module with wiegand interface to external reader is designed for safe control of doors, gates or barriers in the APS mini Plus system or autonomously. It is mounted on a DIN rail in the switchboard / rack, installation box above the door or in the ceiling. The output relay is controlled by a valid authorization, either by identification medium (card, key fob…) on an externally connected wiegand reader, or by ringing a GSM module with wiegand output or license plate recognition system with wiegand output or direct control from the WebHit web application or desktop application APS Hit, APS Administrator.

a. Application

- Buildings, apartments, hotels
- Entrances, parking lots, barriers, campsites
- Dispensing boxes
- Home & Building automation

b. Parameters

- Input voltage 8 ÷ 28 Vdc
- Typical current consumption 53 mA @ 12 V
- Maximum input power 1,1 W
- 1x RS 485 (system bus APS mini Plus)
- 1x Wiegand (the possibility to connect external reader) / OEM RS485
- 1x Outpu relay (lock control, 30 V / 2 A)
- 2x Inputs (Door contact, exit button, ext. tamper)
- 1x Alert output (forced door, door ajar, …)
- 1x I/O port (LED & buzzer control of external reader)
- DIN rail mounting

c. Variants

KATALOGUE NUMBER	PART NUMBER	SYSTEM	VARIANT
53482089	MWGD 82 DISGRT	APS mini Plus	DIN rail

d. Marking

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
M	W	G	D		8	2			D	I	S	G	R	T									

System
M: APS mini Plus
N: APS 400

Product type
WGD: Wiegand door controller

HW Type

Mechanics
D: DIN rail

Environment
I: Indoor
range I: -10 ÷ +55°C

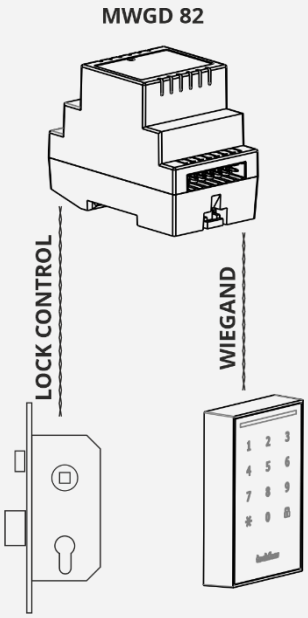
Design Standard

Colour
GR: Gray

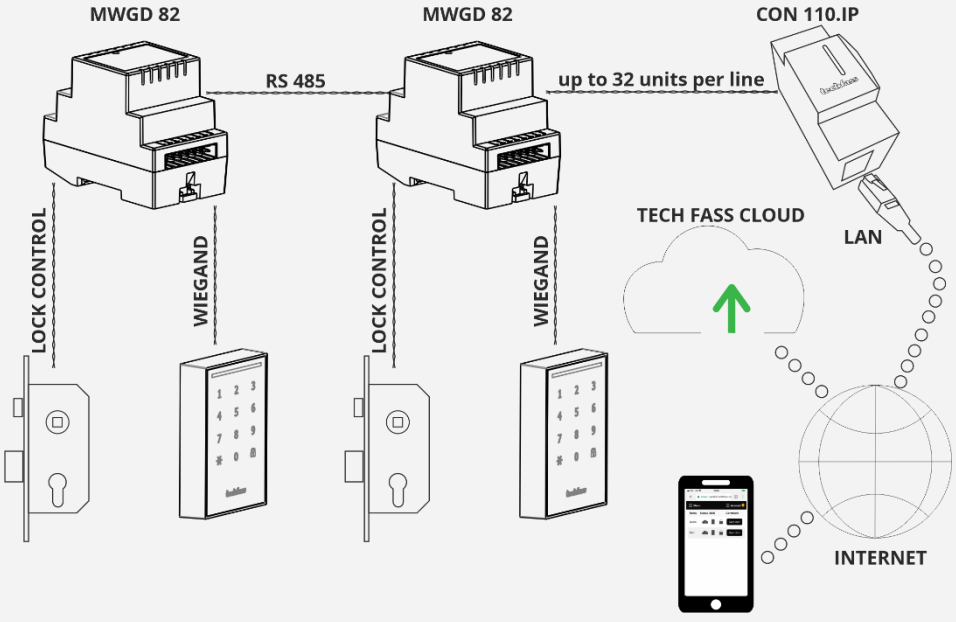
Connection
T: Terminal blocks

e. Wiring

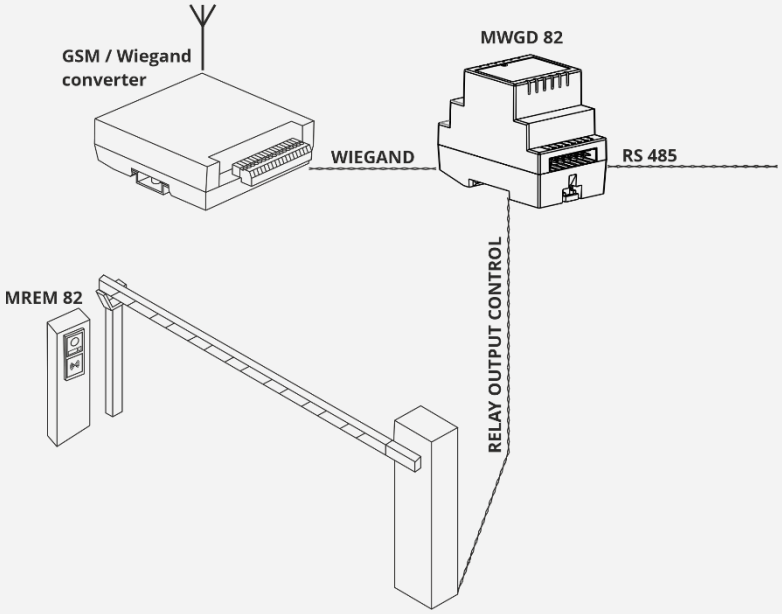
Single door control. After valid card red from WRE 121K reader, the lock is released.



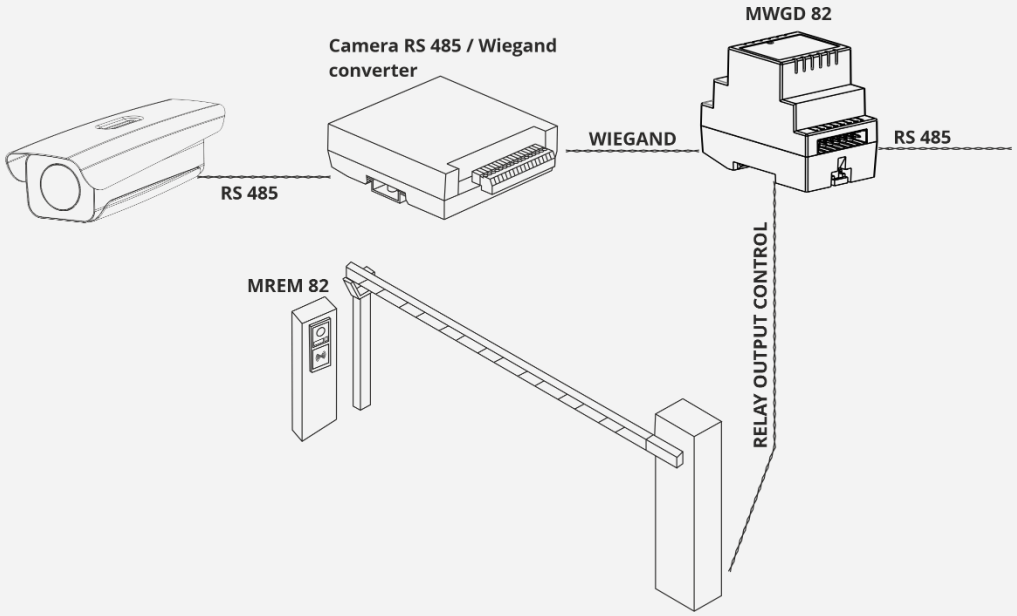
- For central administration of several units, connect them to system via RS485. If you need more than 32 units, please add next parallel lan line. You can use CON 110.IP to be able to administrate from web browser.



- Barrier controlled by GSM ring. GSM modem will not answer the call, just forward the phone number, which is used as a standard user in the system.



- Barrier controlled by license plate reading. The license plate is used as a standard user in the system.



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1Technical parameters

1.1 Electrical parameters

PARAMETR	PODMÍNKA	MIN	MAX	JEDNOTKA
Input voltage Vin		8	28	V
Typical consumption Iin	Vin = 8 V Vin = 12 V Vin = 24 V		75 53 30	mA mA mA
Peak current consumption Iin	Vin = 8 V Vin = 12 V Vin = 24 V		106 73 42	mA mA mA
Typical input power			0,7	W
Maximum input power			1,1	W
RTC	Backup	24		h
Memory	ID media Events Time plans		2000 3400 64	pc
Signalization	RGB led Piezo		1 1	pc

1.2 Communication interface

POPIS ROZHRANÍ	TECHNOLOGIE	VLASTNOSTI
System data bus	RS 485	19 200 bit / s, 8 data bits, even parity, 1 stop bit
Wiegand	Wiegand / RS 485	Formats 26, 32, 34, 37, 44, 46, 56 bits, custom

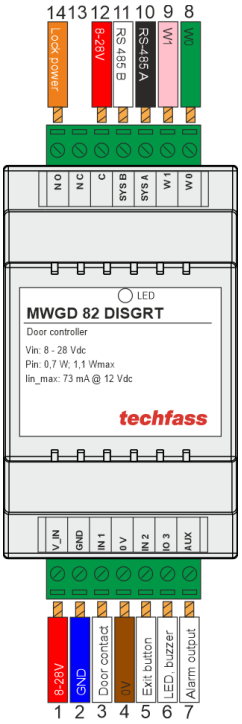
1.3 Mechanical parameters

INTERFACE DESCRIPTION	VALUE	UNIT
Weight	120	g
Dimensions X x Y x Z	53 x 90 x 71	mm
Mechanical mounting	DIN rail	
Colour	Grey	
Material	Plastic	ABS
Environmental class	Indoor device general	
Temperature range	-10 ÷ + 55	^{o}C

2 Assembly

2.1 Connection of the terminals MWGD 82 DISGRT

The device has 12 poles of detachable screw terminal block.



MRMC 82 DISGRT

NUMBER	TERMINAL DESCRIPTION	WHERE IT LEADS*
1	Input voltage Vin 8 ÷ 28 Vdc	Power supply
2	Power ground GND	Power supply
3	IN 1	WRE 120 BK
4	Signal ground 0 V	0 V
5	IN 2	WRE 120 BK
6	Port I/O 3	WRE: LED & buzzer
7	Alert output	Alarm
8	Wiegand input W 0	WRE 120
9	Wiegand input W 1	WRE 120
10	Signal A system data bus	device APS mini Plus
11	Signal B system data bus	device APS mini Plus
12	Relay contact C	+ 12 V
13	Relay contact N C	Not connected
14	Relay contact N O	Lock + 12 V

* Just an example.

2.2 Installation instructions

2.2.1 Module installation

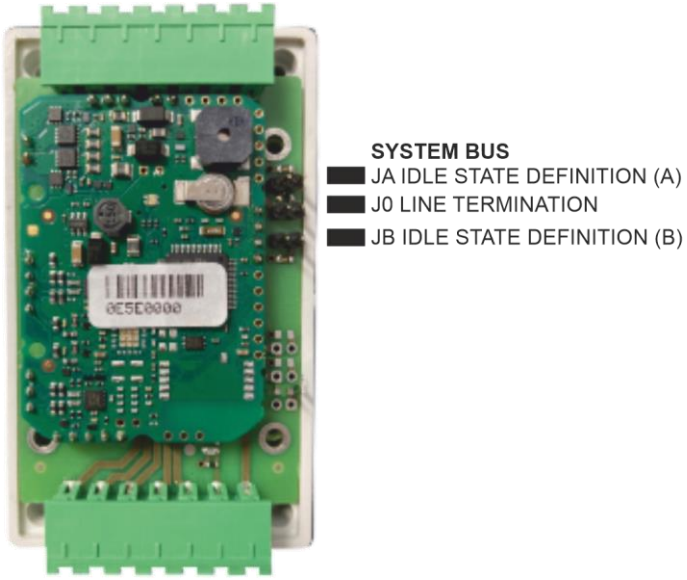
Place the MWGD 82 module on a DIN rail using a flexible lock, then connect the plug-in counterparts of the terminal blocks with screwed cables. You can place the module into the installation box above the door on the safety side as well.

2.2.2 RS 485 bus termination

If the RS 485 system bus is long enough that a reflection on the line could occur, it is advisable to terminate it. This can be done by jumper J0, which connects an already assembled termination resistor. It is necessary to unscrew the 4 screws and open the plastic cover. By default, the termination resistor is disconnected.

2.2.3 RS 485 idle states

With the MWGD 82 it is also possible to set the idle states (connect a pull-up and pull-down resistor to A, B) to the system bus. This can be done by jumpers JA, JB. It is necessary to unscrew the 4 screws and open the plastic cover. By default, idle states are disconnected.



Termination and idle states settings with jumpers.

3Wiring diagram

3.1 Wiring of MWGD 82 DISGRT

The MWGD 82 door controller is able to fully operate the control of one door, barrier, gate, etc. An external wiegand reader sends him, for example, a card code, the MWGD 82 evaluates this code to see if it is valid and controls the lock with a relay. It is possible to connect a door contact, an exit button or a blocking signal from PZTS to its inputs. At the same time, it is able to send an alarm signal in case of set alarms such as a long open door, a knocked out door or an external tamper. The MWGD 82 can operate autonomously or as part of the APS mini Plus system (RS485 bus).

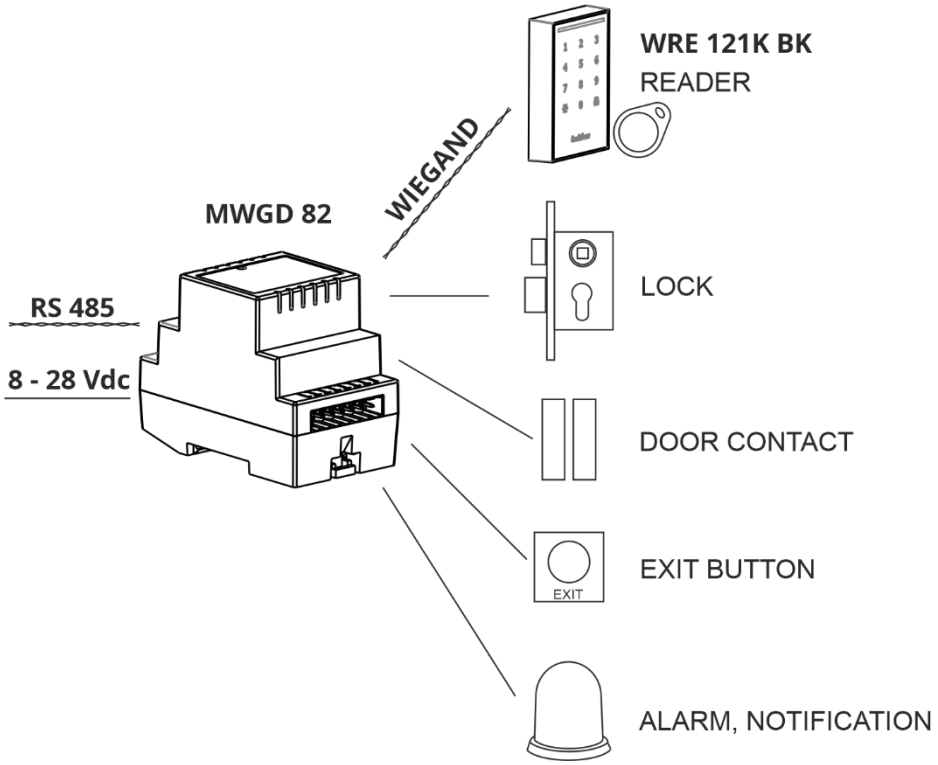


Figure 1: MWGD 82 DISGRT includes 2x inputs, 1x relay output, LED & buzzer control, 1x alarm output, RS 485 bus, Wiegand input interface.

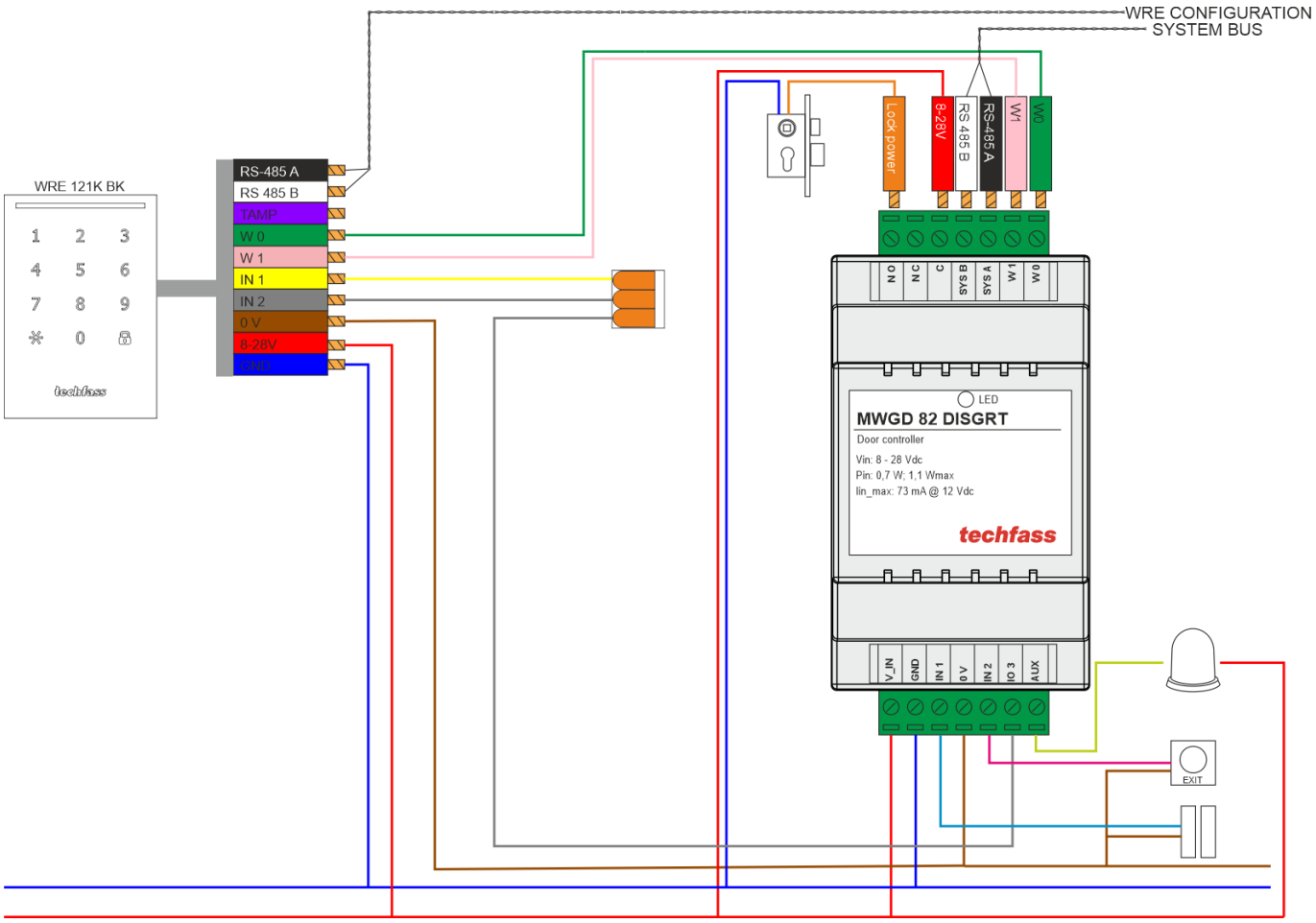


Figure 2 - schematic: MWGD 82 DISGRT includes 2x inputs, 1x relay output, LED & buzzer control, 1x alarm output, RS 485 bus, Wiegand input interface.

3.2 System bus wiring of modules MWGD 82 DISGRT

Up to 32 MWGD 82 DISGRTs can be connected to one RS485 line in the APS mini Plus system. CON 110.IP is connected to the line for subsequent configuration and management via a web browser. In order to set up and manage users using a desktop application, use the APSLAN or APSUSB converter instead of the CON 110.IP.

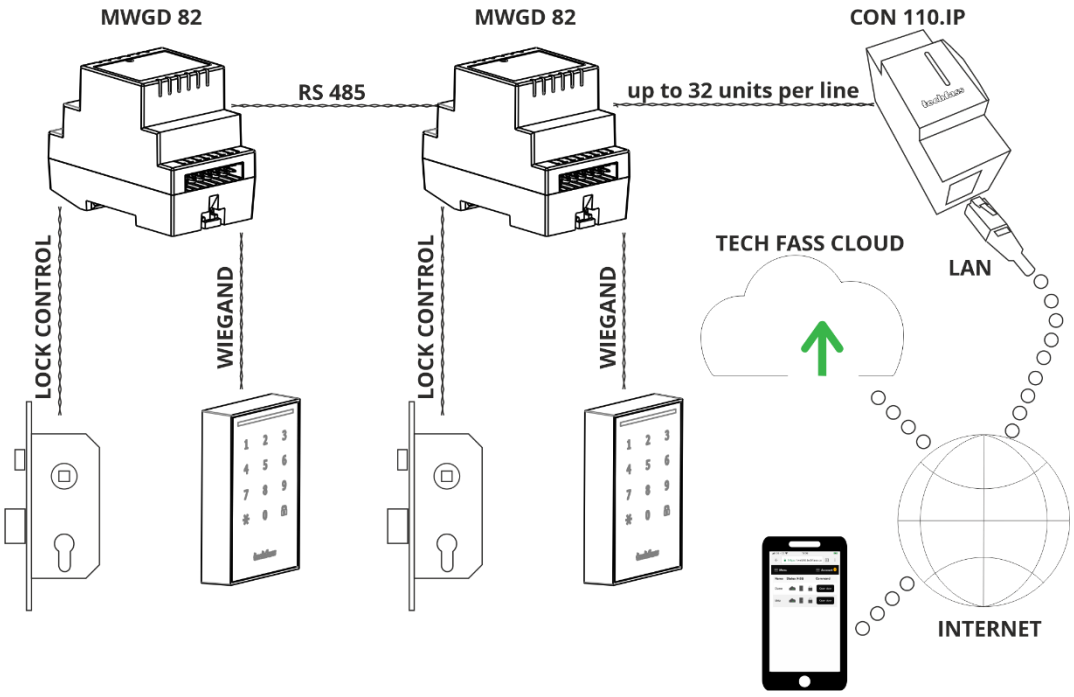


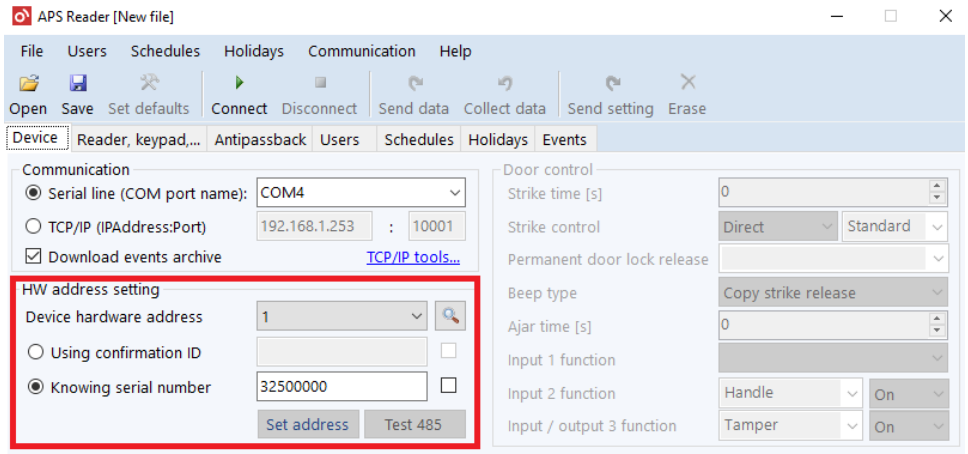
Figure 3: Up to 32 MWGD 82 DISGRTs can be connected on one system bus of APS mini Plus system. In case that more buses are needed, either because of cabling topology or needs to have more than 32 devices in the system, just add next bus to the system with LAN converter.

4Settings

4.1 HW address setting

For MWGD 82 DISGRT, the HW address can be set using software. The HW address can be set either in the desktop program APS Reader or APS Hit or directly in WebHit (online service of the TECH FASS Cloud available via a web browser).

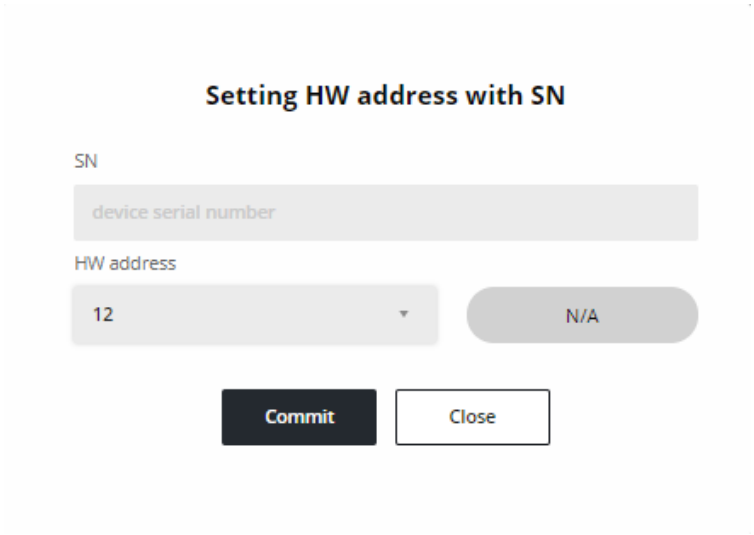
4.1.1 HW address setting in APS Reader



Using SN

- Connect the wires A, B, GND to APSUSB terminals, connect APSUSB to the PC, run APS Reader
- Select the required HW address
- Select the opinion „Known serial number“, enter the SN of your product
- Press „Connect“ at the top of the blue menu
- Press „Set“ (the selected HW address is set)
- Disconnect

4.1.2 HW address setting in WebHit



- Select “Line configuration”, press “ Set address with SN” button
- Select the required HW address
- Enter the SN of your product, select the required HW address

4.2 Parameters setting (configuration) of MWGD 82 DISGRT

MWGD 82 offers several configurable parameters, see table 4.3.

4.3 Configurable parameters

PARAMETER	SETTINGS OPTION	FACTORY SETTINGS
DOOR CONTROL		
Output mode (Lock control)	Standard / Change of state	Standard
Type of output control (Polarity)	Direct / Reverse	Direct
Permanent turn on of the output according to the schedule	Never / Time schedule	Never
Max. output switching time*	0 ÷ 255 s	5 s
Acoustic signalization of lock release	YES / NO	YES
Optical signalization of lock release	YES / NO	YES
Input 1	Door contact / exit button	Door contact
Input 2	Exit button Handle contact Tamper Disable	Exit button
I / O port 3	Tamper Disable	Tamper
ALERTS		
Forced door (alert signalization time)	0 ÷ 255 s	0 s
Door ajar (alert signalization time)	0 ÷ 255 s	0 s
Door ajar (allowed opened door time)	0 ÷ 255 s	0 s
Tamper (alert signalization time)	0 ÷ 255 s	0 s
Enable exit button in tamper state	YES / NO	YES
ID with Alarm flag (alert signalization time)	0 ÷ 255 s	0 s
KEYPAD		
Keypad function	Reason key PIN ID	Reason key
EVENTS		
Events archive saving options Door opened (input 1 off) Door closed (input 1 on) Input 2 off, input 2 on Output 1 off, output 1 on	 ON / OFF ON / OFF ON / OFF ON / OFF	 ON ON ON ON
ID READING		
ID interpretation: user format by external reader Start bit index Stop bit index Reverse data bytes	ON / OFF	OFF
OTHER		
Automatic conversion to CEST & back**	YES / NO	YES
Max. online response time by online authorization***	0 ÷ 25500 ms	800 ms
Authorize autonomously after response time exceeded	YES / NO	YES

* Valid for standard output mode (lock control). Not valid for change of state option.
** In WebHit, the time shift is done automatically according to the selected time zone.
*** Online authorization function is not available yet in WebHit.

5Operating mode

5.1 Operating modes

The module can be in online or offline operating mode. The function is identical in both modes, with the difference that in the online mode, the module statuses are reported via the communication line (after changing the mode from offline to online, the event archive is read from the module's memory). In both operating modes, the module can switch to programming mode (after loading the programming card).

5.2 Meaning of the indicator LED

COLOUR	AKTION	DESCRIPTION
Red	steady light Flashing with a period of 4 s	Online communication of the RS 485 system bus Offline operation
Green	Flash	Load wiegand signal from external reader
Alternation Red / green		Address setting mode RS 485 system bus test
Yellow	Yellow Steady light, flashing	Programming mode

5.3 ID expiration function

It is possible to set a date for each ID at which the ID expires and will no longer be valid. The expiration is evaluated every time the data in the RTC module changes and when new access rights are loaded.

! Note: This feature is currently only available on desktop applications.

5.4 Online authorization

There is an option of Online authorization of access in TECHFASS systems. In such a use, the connected PC decides on the validity of the read ID authorization. The reader must be MLO licensed to use it in this authorization mode.

! Note: This feature is currently only available on desktop applications.

6 Other

6.1 Legislation

The product complies with the relevant harmonization legislation of the European Union.

EUROPEAN HARMONIZATION RULES, STANDARDS, REGULATIONS
2014/30/EU; ‘‘EMCD‘‘
2014/35/EU; ‘‘LVD‘‘; EN 62368 – 1
2011/65/EU ‘‘RoHS‘‘
(ES) č. 1907/2006 ‘‘REACH‘‘

6.2 Declaration of conformity

Manufacturer TECH FASS s.r.o. declares that the product complies with the legal requirements and meets the relevant European directives, see the legislation section. The original declaration of conformity is available on our website:

https://www.techfass.com/en/download/11/conformity-declaration

6.3 Electronic waste

According to the WEEE Directive (2012/19 / EU), this device must not be disposed of with municipal waste at the end of its working life. The device belongs to the collection of electronic waste, where it will be disposed of ecologically - recycled. Also make sure that the packaging material is disposed of in accordance with applicable legislation.

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