APS mini

MWGD 46

APS mini Plus dual WIEGAND door controllers supporting the APERIO wireless locks control

User's guide

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1 Content

2 Product description

The *MWGD 46* [1)] dual WIEGAND door controllers are designed for connection of one or two readers, biometric sensors and similar devices with a *WIEGAND output* and/or one or two *APERIO* wireless locks to the RS 485 bus of the *APS mini Plus* access control system, or for standalone operation. It is possible to connect up to 16 MWGD 46 door modules to a single communication line of the APS mini Plus system, each occupying 2 successive addresses. These modules may be combined with other *APS mini Plus* reader modules on the communication line, however the total number of addresses on the line cannot exceed 32. In effect the number of lines is not limited.

The door controller can serve one door with IN and OUT readers or two doors with IN readers.

The door modules are delivered inside a cover for DIN rail mounting.

2.1 MWGD 46 door module

Dual reader system door controller for general use *(Pic.1).* It is intended for connecting one or two standard readers with Wiegand interface independent of the identification technology and/or for control of the *APERIO* wireless locks. So, various reader technologies (HID Proximity, iCLASS, Mifare, Mifare DesFire, Indala etc.) according to the needs of customers can be used in *APS mini Plus* access control system.

Pic. 1: MWGD 46

2.2 MWGD 46.IP door module

This module is functionally compatible with the previous one but in addition it is set by Ethernet interface for a direct connection to LAN using *TCP/IP protocol (Pic.2)*. This door module can substitute the couple of MWGD 46 and RS 485 / TCP/IP converter with price and installation benefit.

Pic. 2: MWGD 46.IP

[1)] Commercial designation of available versions is described in *table 1*.

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3 Technical parameters

3.1 Product version

Product version	Product designation	Catalogue number	Module features [2]	
			Attachable devices	IP
	MWGD 46	53446400	2x reader with a standard WIEGAND output 2x APERIO wireless lock	✘
	MWGD 46.IP	53446500		✓

Table 1: Product version

[2] *IP* – IP version of the module with an Ethernet interface

3.2 Technical features

Technical features			
	Supply voltage		8 ÷ 28 VDC
	Current demand	Typical	70 mA (140 mA – IP version)
		Maximal	150 mA (230 mA – IP version)
	Real-time clock		Yes, with 24 hrs. back-up
	Memory	Cards	2x 2,000 ID, (2 programming cards) [3]
		Events	2x 2,200
		Time schedules	64
	Inputs	1st input	2x Logical potential-free contact
		2nd input	2x Logical potential-free contact
		3rd input	2x Logical potential-free contact
	Outputs	Door lock	2x Relay NC/NO, 2A/24V
		Alarm	2x Relay NC/NO, 2A/24V
	Indicators		LED indicators for communication and input/output status signaling on the PCB
	Tamper protection		Terminals for external NC contact
	Reader interface		2x Wiegand, 2x LED, 2x PIEZO, 2x power supply terminals
	APERIO locks interface		1x RS 485 for APERIO BUS
	Communication interface		1x RS 485 for system BUS 1x Ethernet (IP version only)

Table 2 Technical features

[3] The programming cards are not included, they must be ordered separately.

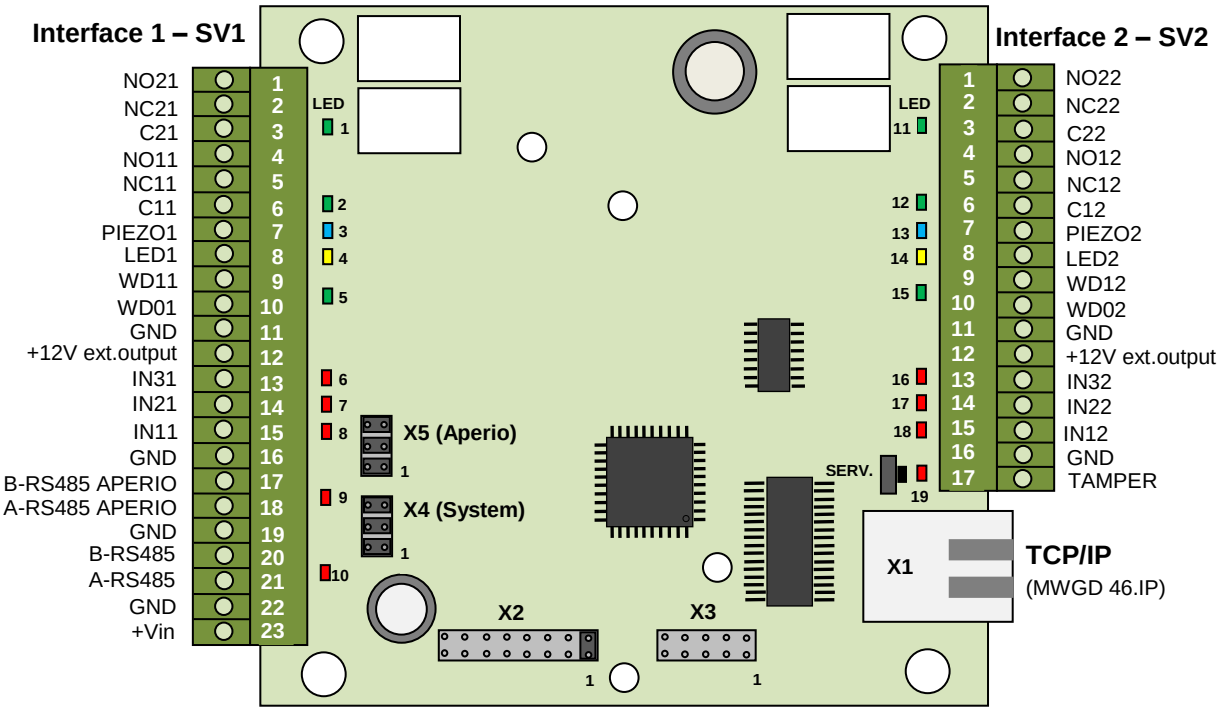
3.3 Mechanical design

Design	Weight	MWGD 46	0,218 kg
		MWGD 46.IP	0,225 kg
	Operating temperature		-10°C ÷ +40°C
	Humidity		Max. 75%, non-condensing
	Environment		Indoor
	Dimensions		6 DIN units, low profile

Table 3: Mechanical design

4 Installation

4.1 Terminals and jumpers



Pic. 3 Terminals and jumpers

Addr. X2	X2.1 ÷ 5	HW address (A0 ÷ A4)
	X2.6 ÷ 8	Reserved

Table 4: Address jumpers X2

X3	X3.1 ÷ 5	Factory use

Table 5: Factory use connector X3

RS 485 X4, X5	X4(5).1	Idle state definition (B)
	X4(5).2	Idle state definition (A)
	X4(5).3	Line terminator

Table 6: Setting the RS 485 lines X4, X5

Terminal block SV1	1	Relay2 NO	LED 1
	2	Relay2 NC	
	3	Relay2 C	
	4	Relay1 NO	LED 2
	5	Relay1 NC	
	6	Relay1 C	
	7	Beeper (reader)	LED 3
	8	LED (reader)	LED 4
	9	Wiegand DATA 1	LED 5
	10	Wiegand DATA 0	
	11	0 V output	
	12	+8 ÷ 28 VDC external output	
	13	Input 3	LED 6
	14	Input 2	LED 7
	15	Input 1	LED 8
	16	0 V	
	17	B wire – APERIO BUS	LED 9
	18	A wire – APERIO BUS	
	19	0 V	
	20	B wire RS 485	LED 10
	21	A wire RS 485	
	22	0 V power supply	
	23	+8 ÷ 28 VDC power supply	

Tab. 7: Terminal block SV1 and LEDs

Terminal block SV2	1	Relay2 NO	LED 11
	2	Relay2 NC	
	3	Relay2 C	
	4	Relay1 NO	LED 12
	5	Relay1 NC	
	6	Relay1 C	
	7	Beeper (reader)	LED 13
	8	LED (reader)	LED 14
	9	Wiegand DATA 1	LED 15
	10	Wiegand DATA 0	
	11	0 V output	
	12	+8 ÷ 28 VDC external output	
	13	Input 3	LED 16
	14	Input 2	LED 17
	15	Input 1	LED 18
	16	0 V	
	17	TAMPER	

Tab. 8: Terminal block SV2 and LEDs

Service	1 short click	Address change (X2) confirmation	LED 19
	Press and hold >5 s	Reset of IP address to default	

Table 9: Service button

4.2 Standard connection

Connection	Input 1	Door contact, active when door closed; REX button
	Input 2	Request to exit button or handle contact, active when button or handle pressed; Tamper; Disabling function
	Output 1	Door lock control (relay1)
	Alarm output	Alarm status signaling (relay2)
	Input 3	External tamper, disabling function

Table 10: Standard connection

The door monitoring contact (IN1) is operational after its first change of status since switching on the module. Full door lock timing acc. to *tab. 12* is used when the door status contact is not installed and no Forced Door and Door Ajar alarms are triggered.

4.1 LED Indicators

LED indicators	Red LED 19	Continuously lit	Online communication with a PC
		Flashing with 4s period	Offline operating mode
	Yellow LED 4 (14)	Continuously lit	Programming mode, PIN changing mode
		Flashing	Door lock relay release indication
	Red LED 10		RS 485 system bus communication
	Red LED 9		APERIO RS 485 bus communication
	Green LED 5 (15)		ID media reading from external reader or APERIO lock sensor
	Red LED 6,7,8 (16,17,18)		Activated inputs IN3, IN2, IN1
	Green LED 1,2 (11,12)		Switched on relays RE2, RE1
	Blue LED 3 (13)		Activated beepers (PIEZO1,2 outputs)

Table 11: LED indicators

Note: Yellow LED (4, 14) is intended optical signalization at connected reader.

4.2 Installation instructions

The door module is intended for DIN rail mounting into a switchboard or directly on the wall using the DIN rail enclosed.

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5 Setting parameters of the door module

5.1 Configurable parameters

Configurable parameters	Parameter		Possible range	Default setting
	Door lock release time		0 ÷ 255 s	7 s
	Door lock control setting		Direct / reverse	Direct
	Door lock relay function setting		Standard / toggle	Standard
	Permanent door lock release according to a time schedule		Never / Schedule index	Never
	Door lock status indication		YES / NO	NO
	Acoustic signal of door lock release		YES / NO	YES
	Door ajar time		0 ÷ 255 s	20 s
	First input configuration		Door contact / REX button	Door contact
	Second input configuration		REX button / handle contact / tamper / disabling function	REX button
	Third input configuration		Tamper / disabling function	Tamper
	Acoustic signalization time - Tamper		0 ÷ 255 s	30 s
	Acoustic signalization time - Forced door		0 ÷ 255 s	30 s
	Acoustic signalization time – Door ajar		0 ÷ 255 s	0 s
	Acoustic signalization time – APB alarm		0 ÷ 255 s	0 s
	Signalization time – Card alarm		0 ÷ 255 s	30 s
	Antipassback function setting		See *chapter 6.11*	Disabled
	Automatic summer time adjustment [4)]		YES / NO	YES
	Module advanced function [4)]		YES / NO	NO
	Release lock with REX button when tamper alarm active		YES / NO	YES
	Online authorization timeout		0 ÷ 25500 ms	800 ms
	Standalone authorization after timeout		YES / NO	YES
	Saving events in the module's archive	Door opened	Enabled / Disabled	Enabled
		Door closed	Enabled / Disabled	Enabled
		Input 2 On	Enabled / Disabled	Enabled
		Input 2 Off	Enabled / Disabled	Enabled
		Strike released	Enabled / Disabled	Enabled
		Strike closed	Enabled / Disabled	Enabled

Table 12: Configurable parameters

Stated settings do not affect timings of connected APERIO locks.
[4)] These settings are applied to both addresses of the module.

5.2 Door module parameters setting

Detailed instructions for setting door module parameters are described in the *APS Reader* configuration program user's guide available at the address http://www.techfass.cz/files/m_aps_miniplus_reader_en.pdf.

5.3 Configuration of the connected reader keypad

The door controller can accommodate either reader without keypad or keypad readers, the keypad type can be set by the configuration software. When a key press evaluation is required by the door controller, the keypad data transmission has to be configured as follows:

- One key buffering.
- Message length 4 bits.
- No parity.

The keypad setting determines interpretation of keys pressed at the reader. In the Reason keypad configuration a key is used for entering as a reason code; in the PIN keypad configuration keys are used for entering a PIN code; in the Code keypad configuration a valid identification can be performed by entering a valid access code.

5.4 HW address setting

HW address setting is defined by the configuration of address jumpers X2.1 ÷ 5, see *Tab. 13.*

When configuring the address jumpers it is necessary to keep in mind that the module occupies two successive addresses on system bus and X2 jumpers define the lower one. E.g., it is not possible to set the following module address to the value of the previous one + 1; the address conflict appears on system bus in this case.

Address jumpers X2																
	Address	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	X2.1	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○
	X2.2	○	●	●	○	○	●	●	○	○	●	●	○	○	●	●	○
	X2.3	○	○	○	●	●	●	●	○	○	○	○	●	●	●	●	○
	X2.4	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●	○
	X2.5	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●
	Address	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	X2.1	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○
	X2.2	○	●	●	○	○	●	●	○	○	●	●	○	○	●	●	○
	X2.3	○	○	○	●	●	●	●	○	○	○	○	●	●	●	●	○
	X2.4	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●	○
	X2.5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○

Table 13: Address jumpers X2

Legend: ● *… set (ON)* ○ *… removed (OFF)*

Confirmation of any address setting by clicking the service button on the PCB is required. If not the address change will be taken into account after the nearest disconnecting and connecting of the module supply voltage.

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5.5 TCP/IP parameters setting [5)]

[5)] *TCP/IP settings* are meaningful in *IP* versions of *MWGD 46* only.

5.5.1 Factory defaults

Default factory parameters of TCP/IP interface are:

- IP address: *192.168.1.253*
- IP port: *10001*
- Password: *1234*
- Subnet mask: *255.255.255.0*
- Gateway IP address: *192.168.1.1*

These parameters can be set by depressing the *RESET* button for *5 seconds period* or more. The exceeding of this period is signalized with a fast flashing of a LED. A shorter depression of the *RESET* button restarts the converter and keeps its settings.

5.5.2 Changing converter parameters

The *MWGD46.IP* communication parameters setting can be realized via *TELNET terminal* with a following procedure:

- Connect the *MWGD 46.IP* to a *LAN* and connect a *power supply*.
- Run the command line with *cmd* command.
- Run the command *telnet IP_Address 9999* to access the *Converter setting* in a telnet terminal.
- Enter the *password* and press *Enter*.

For entering the module configuration menu you can also use one of the *APS mini Plus* programs. For detailed instruction, read the appropriate user's guide.

After a successful entering of the password, MAC address of the device and a settings menu will be displayed.

If you do not know the *IP address* of the module and you cannot use the *reset button* to set the default parameters, the *IP address* can be temporarily set for a single connection with this procedure:

- Insert a record into the *ARP table* with the command *arp –s IP_Address MAC Address*. *IP_Address* must be in the same subnet as your network interface, *MAC_Address* is printed in the module accessories.
- Run the command *telnet IP_Address 1* to insert the desired IP address into *ARP table* of the module (Telnet shows an error message after a while). This assignment is only temporary; you must set the *IP Address again* in next steps.

You can continue now with the procedure described above.

5.5.3 Changing IP address

You can change the *IP address* by selecting *1 Set IP*. A new address is entered by single bytes separated by the *Enter* key. If the entered value is out of allowed range, the byte is not changed. After inserting all of the address bytes the *final IP address* is displayed and you are returned back to the main menu.

5.5.4 Changing IP port

Changing an *IP port* is available after choosing the option *2 Set port*. If the entered value is out of allowed range, IP port is not changed. After a successful insertion the *IP port* is displayed and you are returned back to the main menu.

5.5.5 Changing the password

A change of the *password* is available after choosing the option *3 Set password*. You can use any alphanumerical string as a password, it can contain up to 9 characters. A blank password is not allowed. The password is saved by pressing the *Enter* key.

If a password is lost, the only solution to enable accessing the settings menu is resetting the converter to its factory defaults.

5.5.6 Changing subnet mask

You can change the *subnet mask* by selecting *4 Set IP subnet mask*. A new subnet mask is entered by single bytes separated by the *Enter* key. If the entered value is not allowed, the subnet mask is not changed. After inserting all of the address bytes the *final subnet mask*is displayed and you are returned back to the main menu.

5.5.7 Changing gateway IP address

You can change the *gateway IP adress* by selecting *5 Set gateway IP*. A new address is entered by single bytes separated by the *Enter* key. If the entered value is out of allowed range, the byte is not changed. After inserting all of the address bytes the *final IP address* is displayed and you are returned back to the main menu.

5.5.8 Saving the settings

To *save the settings* choose the option *9 Save & Exit*. If you *do not want to save* the parameters, exit the settings menu by choosing *8 Exit without saving*.

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6 Door modules functioning

The reader module supports the following functions:

- Standard “Door Open” function.
- Door status monitoring.
- Exit-devices contact monitoring.
- Alarm output activated / acoustic signalization activated when any alarm condition occurs.

The “Door Open” function can be activated in 3 different ways:

- Reading a valid ID (card, key fob…).
- Pressing the exit button (according to configuration) – cannot be used in alarm condition.
- Via communication line (program request).

6.1 “Door Open” function description

In case the *standard function of the door lock relay* is set, the door lock is *released* and the *beeper activated* (when not disabled) when the “Door Open“ function is activated. Both outputs stay active until the door is opened or the preset door lock release time has elapsed - see *Tab. 12*.

In case the *toggle function of the door lock relay* is set, the door lock relay status is *switched* and the *beeper* is *activated* (when not disabled) when the “Door Open” function is activated. The beeper stays active until the door is opened or the preset door lock release time has elapsed - see *Tab. 12*. The door lock relay status remains unchanged until another “Door Open” function is activated.

Reading a programming card during door lock release will not cause the reader to enter the programming mode. In case the standard function of the door lock relay is set, reading a valid card during door lock release resets the door lock release time.

6.2 Function permanent door lock release according to a time schedule

When the function is set, the door lock is permanently released when relevant time schedule is valid. Reading a valid ID is standardly announced via the communication line (in online operating mode). The forced door alarm cannot be raised when the door lock is permanently released.

The permanent door lock release function and the toggle function of the door lock relay are mutually exclusive.

6.3 Alarm states

The reader module can get in 3 alarm states:

1) Tamper alarm (tamper signal at proper input port)
2) Forced door alarm
3) Door ajar alarm
4) Antipassback alarm (Time APB alarm, Zone APB alarm)
5) ID with Alarm flag alarm, Duress PIN alarm

Alarm state reporting is performed as follows:

- Via communication line (statuses 1, 2, 3, 4, 5)
- By acoustic signal (beeper) (statuses 1, 2, 3, 4).
- Activating the alarm output (AUX output) (statuses 1, 2, 3, 5).

Alarm signaling via communication line requires online running PC with relevant software suitable for online operation (APS 400 nAdministrator).

Two ways of acoustic signaling is carried out:

- Steady signal (tamper).
- Intermittent signal (forced door and/or door ajar, APB alarm).

Acoustic alarm signaling is stopped after a valid ID is presented or pre-set time interval is elapsed, see the configuration table.

If any of the relevant alarm states *(with setting of the signaling timer > 0)* occurs, the alarm output is activated. It can control any alarm device directly or it can be processed further.

After terminating all alarm conditions the alarm output is deactivated.

The alarm signaling is triggered by any alarm condition.

6.3.1 Tamper alarm

The “Tamper” alarm status is raised at relevant address of the module in case the external reader tamper contact is switched (GND signal at the second / third input in proper configuration). In case of tampering the module itself (TAMPER and GND terminals) the “Tamper” state is activated at both addresses of the module.

The Tamper alarm contact is operational after its first change of status since switching on the module.

6.3.2 Forced Door alarm

The “Forced Door” alarm state is activated when the door is opened without activating the “Door Open” function. The only exception is opening the door with the second module input IN2 active and configured as a handle contact.

6.3.3 Door Ajar alarm

If the door stays open until the pre-defined Door ajar timeout expires – see *Tab. 12*, the “Door Ajar“ alarm is activated.

6.3.4 Antipassback alarm

The *Antipassback alarm* is raised when an ID is read during the *Time APB* counter is running or when the ID is blocked by a *Zone APB*.

6.3.5 ID with Alarm flag alarm, Duress PIN alarm

ID with Alarm flag alarm occurs when an ID with the Alarm flag is read. The *Duress PIN alarm* is raised when user identifies himself using *Duress PIN code* (see *chapter 6.12*).

6.3.6 Reading ID during alarm state

Reading an ID doesn’t affect the alarm state, reading a valid ID only terminates the acoustic alarm announcement followed by “Door Open” function. Reading an invalid ID only interrupts the acoustic announcement of the alarm state while signalizing “Invalid ID”.

6.4 Standard operating modes

The reader module can be in either *online* or *offline* operating mode. The module’s functionality is identical in both operating modes; the events archive is read from the reader module’s memory when the module goes online. When a programming card is read (while in either online or offline mode), the module goes into programming mode.

6.5 WIEGAND input data interpretation

6.5.1 Standard configuration

The module accepts the *WIEGAND* formats mentioned in the *table 14*. If the read signal is formatted otherwise, the data are not considered as valid and thus ignored. If another format of data is required to be considered as valid, it is necessary to set up the *User configuration* of the data read at the WIEGAND input. The table also shows the process used for individual width of read data.

Accepted formats	Read data width	Process	Resulting code width
	26 bits	Parity bits cut off (in front and at the back)	24 bits
	32 bits	Data bytes reversed	32 bits
	34 bits	Parity bits cut off (in front and at the back)	32 bits
	37 bits	Parity bits cut off (in front and at the back)	35 bits
	42 bits	Parity bits cut off (in front and at the back)	40 bits
	44 bits	Last 4 bits cut off	40 bits
	56 bits	Data bytes reversed	56 bits

Table 14: Accepted formats of read WIEGAND data– standard configuration

6.5.2 User configuration

The module offers an option to use the *user configuration of WIEGAND input interpretation*. By default the user configuration is not used. To enable user configuration, refer the *APS Reader* manual at http://www.techfass.cz/files/m_aps_miniplus_reader_en.pdf.

Note: User configuration *WIEGAND input* requires a deeper knowledge of the issue; we recommend leaving the setting to an installation company.

6.6 Programming mode

The module enters programming mode by reading one of the two *programming cards* (cards "+" and "-") when the cards are enclosed (it concerns the kits supplied together with readers). The modules standardly come without programming cards, programming of the modules is performed with appropriate software, see

http://www.techfass.cz/aps_miniplus_sw_en.html.

Basic programming mode with programming cards is supported only.

6.7 Using the module with the APERIO wireless locks

The module enables connection of two *APERIO* wireless locks to the *RS 485 BUS* reserved for the APERIO communication. The locks are identified by their HW addresses at the APERIO BUS, the *MWGD 46* module expects locks with *addresses 1 and 2*. Since such lock is connected to the BUS, the controller opens communication with it immediately. The resources of the controller belonging to its lower address (access rights, events archive, etc.) are used for the lock with HW address 1, resources belonging to its higher address are used for the lock with HW address 2.

Since the *APERIO* wireless lock is powered from a battery, it is "waked up" from a power saving mode (in which it standardly operates) only after an ID is read at its sensor, otherwise it saves battery and is not able to respond to the controller commands. Therefore the *APERIO* lock release can be performed only after a valid card is read at its sensor. The *remote door open function*, *permanent door lock release according to a time schedule function*, *door lock toggle function*, or the *module advanced function cannot be used with the APERIO lock* (the functions are bound to the controller lock relays only)!

Reading a valid card at the *APERIO* lock sensor causes the release of the *APERIO* lock and furthermore the standard *"Door open"* function (according to the configuration) of the controller is performed at the relevant address. Reading an unknown or invalid card does not

cause the lock release, the controller reaction is similar as when an unknown or invalid card is read at a connected WIEGAND reader.

6.8 Module advanced function

The advanced function offers an easy way for implementing double-sided single door control. In this configuration a valid identification at both addresses of the module causes releasing the door lock relay at the first address of the module. Standard connection of the module in advanced functioning mode is described in *table 15*.

Advanced function	Address 1 - input 1	Door contact, active when door closed
	Address 1 - input 2	Request to exit button or handle contact, active when button or handle pressed
	Address 1 - output 1	Door lock control (address 1 - relay1)
	Alarm output	Alarm status signaling (address 1 - relay2)
	Address 1 – WIEGAND	Reader placed from the first side of the door
	Address 2 – WIEGAND	Reader placed from the second side of the door
	Other	Can be used standardly

Table 15: Standard module connection in the advanced operating mode

The hardware resources belonging to the higher address of the module can be used standardly, the lock relay function is particularly useful (easy applicable for a relay switching according to a time plan or with a contact connected to the second input).

6.9 ID expiration function

This function is implemented since the FW version 5.0.

It is possible to set an *Expiration date* for every *ID* stored in the module. When the date occurs, the ID is no longer valid. The expiration evaluation is performed on every date change in the module's RTC and when the access rights are downloaded.

6.10 ID with Alarm flag function

This function is implemented since the FW version 5.0.

It is possible so set an *Alarm – ID flag* for every *ID* stored in the module. When the ID is read, relevant alarm is raised (and the alarm output is switched for preset time).

6.11 Antipassback function

This function is implemented since the FW version 5.0.

The Antipassback function is defined in two ways:

- *Time APB* – user cannot repeatedly use his ID for defined time
- *Zone APB* – user cannot repeatedly enter an area, where he is already present

The Antipassback function is used *only for the users*, whose access is driven by a *time schedule*. The users with access always granted are not affected by the Antipassback function.

The Antipassback flags for an *ID* can be *reset* by *inserting the ID again* with use of the *programming cards* (offline solution). *All Antipassback flags* are also *reset* whenever new *access rights data are downloaded* from the program.

Both Zone and Time Antipassback flags are written either immediately *after an ID is read*, or after relevant *door is opened* (relevant input is disconnected).

6.11.1 Time Antipassback

The *Time Antipassback* is defined by the *ABP timer initial value* (in minutes), which is set to the ID after passing at the relevant address. If the users uses the ID at the address during the timer for the ID is running, the Time APB alarm is raised. Following parameters affect the Time APB function:

- *APB timer initial value* – defines the Time APB flag (timer) value set to the ID after passing at the relevant address. If a user uses the ID again before the timer elapses, Time APB alarm is raised.
- *Open door after APB time alarm* – if the option is enabled, the Door open function is performed after the Time APB alarm is raised.
- *Clear opposite APB flag* – if the option is enabled, passing at the relevant address causes a reset of the APB timer flag at the opposite side of the module.

6.11.2 Zone Antipassback

The *Zone Antipassback* is defined by *enabling the option* for the relevant address. The Zone APB flag is set for the ID when passing at the relevant address. If a user uses the ID again when the Zone APB flag is set, the Zone APB alarm is raised. Following parameters affect the Zone APB function:

- *Enabled* – enable/disable general Zone APB flag setting.
- *Enable in offline mode* – if the option is not set, the module operates in offline mode like if the APB function was not implemented.
- *Open door after APB Zone alarm* – if the option is enabled, the Door open function is performed after the Zone APB alarm is raised.
- *Set opposite APB flag after APB alarm* – if the Zone APB alarm is raised, the Zone APB alarm flag is set for both sides of the module.
- *Clear opposite APB flag* – if the option is enabled, passing at the relevant address causes a reset of the Zone APB alarm flag at the opposite side of the module.

6.12 Duress PIN

This function is implemented since the FW version 5.2.

To use the *Duress PIN* code entering function, use the user's standard PIN code with the last digit increased by 1. If the last digit equals 9, it is changed to 0 when using this function.

6.13 Disabling function

This function is implemented since the *FW version 5.08*.

The *module disabling function* can be set at the second or third input port. The logic of the function is individually configurable. The function is active whenever one or both of the configured inputs are active.

The module behavior is as described below when the disabling function is active:

- User with access driven by a time schedule cannot run the door open function
- User with access always granted is not affected by the disabling function
- Remote door open function cannot be performed
- Remote identification with ID is disabled for users with access driven by a time schedule

The disabling status changes and disabled actions are logged in the events archive.

6.14 Aperio – autodetection of Mifare sector reading

The older version of *Aperio* wireless locks FW occasionally misinterprets *Mifare DESFIRE* IDs as Mifare sector data IDs. This error can be compensated (since *FW version 5.08*) from the ACS side by selecting *Disable auto detection of Mifare sector data*. More information can be found in the user's guide to the APS Reader program.

6.15 Online authorization

Since the *FW version 5.11* the *Online authorization of ID* can be used in APS mini Plus system. When the feature is used, the ID validity is resolved in connected PC. To be able to use this authorization mode, the reader module has to be equipped with a *MLO* license.

7 Useful links

- Wiring diagrams: http://techfass.cz/diagrams-aps-mini-plus-en.html
- Program equipment: http://techfass.cz/software-and-documentation-en.html