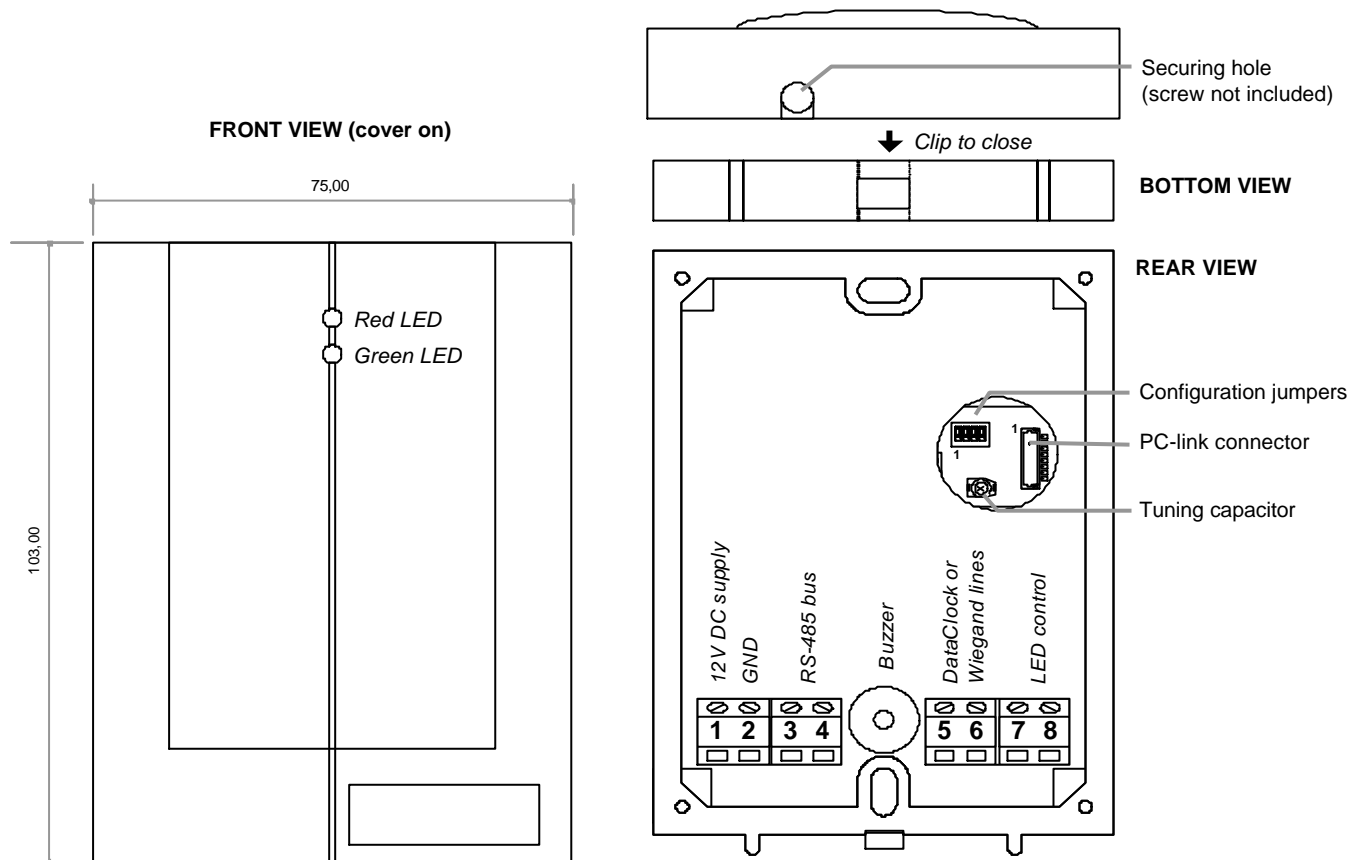# IWM-K531
WALL-MOUNT CONTACTLESS READER

IWM-K531 is a wall-mount proximity reader. It reads serial number from any standard ISO/IEC 14443 contactless card, including Philips popular MIFARE and DESFire families.

This reader is primarily dedicated to residential or corporate access control, but can also be used in cash or vending machines. 3 output modes are available :

- Wiegand,
- Dataclock (ISO2 / Magstripe),
- RS-485.

Frame length and format for each output mode can be configured by software.

DETAILED VIEWS

FRONT VIEW (cover on)

75,00

Red LED
Green LED

103,00

Securing hole
(screw not included)

↓ *Clip to close*

BOTTOM VIEW

REAR VIEW

Configuration jumpers
PC-link connector
Tuning capacitor

12 V DC supply | GND | RS-485 bus | Buzzer | DataClock or Wiegand lines | LED control

1 2 3 4 5 6 7 8

ORDER CODES

IWM-K531-485	Wall-mount contactless reader, RS-485 output.
IWM-K531-WGD	Wall-mount contactless reader, Wiegand output.
IWM-K531-DTC	Wall-mount contactless reader, Dataclock output.

Output configuration can easily be changed afterwards.
3 different order codes are provided for convenience only.

PIN ASSIGNMENT

	IWM-K531-485	IWM-K531-WGD	IWM-K531-DTC
1	VCC - *12 V DC power supply*		
2	GND - *common*		
3	RS-485 bus A	*Not used*	*Not used*
4	RS-485 bus B	*Not used*	*Not used*
5	*Not used*	Data 0 output	Data output
6	*Not used*	Data 1 output	Clock output
7	*Not used*	Red LED input	
8	*Not used*	Green LED input	

Pins marked as "not used" must be kept unconnected

TECHNICAL DATASHEET

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IWM-K531
WALL-MOUNT CONTACTLESS READER

SPECIFICATIONS

ISO compliance	ISO/IEC 14443-A/B 1, 2 & 3	**RS-485 operation**	*(IWM-K531-485)*
			2-wire RS-485 serial bus with optional addressing
RFID operating frequency	13.56 MHz		*Up to 8 readers can be operated on the same bus*
		Baud rate :	38400bps (default) or 9600bps[2]
Card reading distance	5cm typ., min 0cm, max 8cm	Distance to controller :	max 30m
	depending both on card characteristics and Installation particularities	Output format[3] :	64 bits (8 bytes)
			ASCII hexadecimal strings (16 characters)
		Red & green LEDs :	Driven by short commands over the serial link.
Supported cards	Philips MIFARE Classic & UltraLight		
	Philips DESFIRE, SmartMX, MIFARE ProX	**Wiegand operation**	*(IWM-K531-WGD)*
	Infineon SLE66		2-wire interface DATA1 & DATA0 active low
	STMicroelectronics ST19	Distance to controller :	max 30m
	…	Output format[3] :	32 bits (4 bytes)
	Other cards (Calypso[1], Jewel, SR176…) :	Red & green LEDs :	Driven by the controller (2 input lines, active low)
	on request.		
		Dataclock operation	*(IWM-K531-DTC)*
Transmitted data	14443-A : card's unique ID (4, 7 or 12 bytes)		2-wire interface DATA & CLOCK active low
	14443-B : card PUPI (4 bytes)	Distance to controller :	max 30m
A specific reader firmware may be developed on request to retrieve data on memory or T=CL cards		Output format[3] :	32 bits BCD (10 digits)
		Red & green LEDs :	Driven by the controller (2 input lines, active low)
Buzzer	Single-tone beeper		
Power supply	12 V DC	**Temperature range**	Operation : 0°C → +45°C
	linear supply recommended		Storage : -10°C → +55°C
Consumption	average : 80mA (at 12V DC)	**Housing**	ABC-94HB
	peak : 250mA (at 12V DC)	**Color**	Black
		Dimensions h x l x d	103 x 75 x 23 (mm)
CE mark	EN50082 / EN55022 class B	**Weight**	180g

[1] Calypso card support is subject to extra license fees

[2] Software configuration to be done through PC-link connector

[3] Output format can be changed through PC-link connector

CONFIGURATION JUMPERS

ON

1 2 3 4

	ON	**OFF**
1	Dataclock or Wiegand[4]	RS-485
2	Red LED input disabled	Red LED input enabled
3	Green LED input disabled	Green LED input enabled
4	Buzzer enabled	Buzzer disabled

[4] Depending on software configuration

Use a small sharp pin to change jumper configuration.

Default factory settings :

	1	2	3	4
IWM-K531-485	off	on	on	off
IWM-K531-WGD	on	off	off	off
IWM-K531-DTC	on	off	off	off

SOFTWARE CONFIGURATION

Secured configuration cards can be bought at Pro-Active for a fast software configuration of the reader.

Alternatively, use optional INT-USB-232 interface to connect the IWM-K531 reader to a computer through the *PC-Link connector* to edit software configuration.

Please refer to PMAA060 reference manual for details regarding configuration and operating instructions.

Default factory software configuration :

	E²PROM settings
IWM-K531-485	00000203
IWM-K531-WGD	00010103
IWM-K531-DTC	00000503

INSTALLATION PRECAUTIONS

This device is a contactless reader ; it uses inductive coupling (magnetic field) for card reading. Precaution must be taken to keep the reader free from any source of perturbation (e.g. other readers, lift machines, electrical motors…). Installing the reader on a metal surface (aluminium or steel door frame, iron-armed concrete walls…) will lead to shorter operating distance and increased power consumption.

Device must be protected from rain and excessive humidity.

TECHNICAL DATASHEET

Pro Active
Parc Gutenberg
13 voie Lacardon
91120 Palaiseau
France

Phone : +33 1 64 53 20 10
Fax : +33 1 64 53 20 18

e-mail : info@pro-active.fr
website : www.pro-active.fr