



# Wiegand Readers

## Product Specification Catalogue

The **Wiegand Readers** are compact, robust 125 kHz Passive Proximity Readers. A conveniently placed link allows you to use the Wiegand Readers in OEM applications using 26 or 44-bit Wiegand Protocol. These Readers fit seamlessly into new or existing applications allowing you to replace legacy type Readers, such as Magstripe Readers, with Passive Proximity Readers.

The design of the Wiegand Reader allows them to be used with a variety of Terminals and Controllers, in the IXP120, IXP220, IXP300 and IXP400 Systems.

You can use the Wiegand Readers in both indoor and outdoor environments. The electronic components are potted to increase their resistance to vandalism or tampering. Selected Wiegand Reader models have a 12-button Keypad allowing PIN-code entry. The Wiegand Reader includes a single tone, single volume Buzzer and a single tri-coloured Red, Green or Amber Status LED. You can control the functions of the Buzzer and Status LED to suit the needs of your application.

## Key Features

- Communications distance of up to 150 m (164 yd).
- Suitable for OEM developments.
- Multiple Wiegand output formats (26-bit and 44-bit).
- Dual input voltage types supported (5 V DC and 12 V DC).
- Read capability from various tag types: Slim Tags, Omega Tags, Impro Trinary Tags (1074 and 2074) and HID Tags (H10301, H10302 and H10304).
- A single tri-coloured Red, Green or Amber Status LED.
- A 4 kHz single volume, single tone piezo-electric Buzzer.
- Models WPK900, WMK900 and WKM900 offer a 12-button Keypad.
- WKM900 has a doorbell facility.
- An external Wiegand communications bus interface.

## Wiegand

### 125 kHz Passive Proximity Readers

WPR900-1-0-GB-XX	WPK900-1-0-GB-XX	WMR900-1-0-GB-XX
WMK900-1-0-GB-XX	WDP900-1-0-GB-XX	WKM900-1-X-GB-XX
WJB900-1-0-GB-XX		

## Key Features (Continued)

- WJB900 includes an optical anti-tamper.
- WJB900 is designed to mount directly to a standard junction box for easy installation.
- Programmable facility code for use with PIN-code entry (Keypad Models only).
- Each receiver offers a Scanner Inhibit Input. When you connect the Scanner Inhibit Input to GROUND, the Wiegand Reader's scanner turns off and inhibits the keypad (Keypad Models WPK900, WMK900 and WKM900 only) while connected. When you release the connection, the Wiegand Reader returns to normal operation.

## Reading Range (Tag)

Tag Type	Typical Range (Minimum) (mm)	Typical Range (Minimum) (in)
Slim Tag	25 - 50	1 - 2
Omega Tag	25 - 50	1 - 2
Impro Trinary Tag	25 - 50	1 - 2
HID 125 kHz Tags	25 - 50	1 - 2

*NOTE: HID is a registered trademark of HID Global Corporation (an ASSA ABLOY Group Brand).*

*NOTE: Mounting the Wiegand Reader on a metallic surface will reduce the Tag reading range slightly.*

## Physical Specifications

### WPR900 Wiegand Plastic Non-keypad Reader

Length	: 88 mm (3.46 in).
Width	: 54 mm (2.12 in).
Height	: 25 mm (0.98 in).
Approximate Weight	: 112 g (4 oz).
Housing Material	: ABS Plastic.
Colour	: Dark Grey.

### WPK900 Wiegand Plastic Keypad Reader

Length	: 113 mm (4.44 in).
Width	: 81 mm (3.19 in).
Height	: 32 mm (1.26 in).
Approximate Weight	: 185 g (6.5 oz).
Housing Material	: ABS Plastic.
Colour	: Dark Grey.

### WMR900 Wiegand Metal Non-keypad Reader

Length	: 75 mm (2.95 in).
Width	: 72 mm (2.83 in).
Height	: 27 mm (1.06 in).
Approximate Weight	: 229 g (8 oz).
Housing Material	: Die-cast Zinc Alloy.
Colour	: Satin Nickel powder coated.



### WMK900 Wiegand Metal Keypad Reader

Length	: 142 mm (5.59 in).
Width	: 76 mm (2.99 in).
Height	: 27 mm (1.06 in).
Approximate Weight	: 513 g (18 oz).
Housing Material	: Die-cast Zinc Alloy.
Colour	: Satin Nickel powder coated.

### WDP900 Wiegand Door Entry Panel

Length	: 68 mm (2.7 in).
Width	: 68 mm (2.7 in).
Height	: 25 mm (0.9 in).
Approximate Weight	: 160 g (7 oz).
Housing Material	: ABS Plastic.
Colour	: Black.

### WKM900 Wiegand Keypad Mullion Reader

Length	: 116 mm (4.56 in).
Width	: 38 mm (1.49 in).
Height	: 18 mm (0.70 in).
Approximate Weight	: 37 g (1.3 oz).
Housing Material	: ABS Plastic.
Colour	: Black.

### WJB900 Wiegand Junction Box

Length	: 120 mm (4.7 in).
Width	: 72 mm (2.8 in).
Height	: 19 mm (0.74 in).
Approximate Weight	: 144.8 g (5 oz).
Housing Material	: ABS Plastic.
Colour	: Black.

## Environmental Specifications

Operating Temperature	: -25°C to +60°C (-13°F to +140°F).
Storage Temperature	: -40°C to +80°C (-40°F to +176°F).
Humidity Range	: 0 to 95% relative humidity at +40°C (+104°F) non-condensing.

### Approvals

CE Approval	: EN301 489-3, EN301 489-1 and EN300 330-1.
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FCC Approval	: Pending.
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Drop Endurance	: 2 m (6.56 ft) drop (in packaging).
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### WPR900 and WPK900

Dust & Splash Resistance	: Designed to work in indoor or outdoor environments similar to IP53.
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### WDP900

Dust & Splash Resistance	: The IP rating for this Wiegand Reader is dependent on the user supplied housing. The rating of the Reader on its own is similar to IP35.
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### WKM900

Dust & Splash Resistance	: Designed to work in an indoor or protected outdoor environment similar to IP42.
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**NOTE:** These plastic Readers are RoHS compliant and do not contain any UV stabilizer.

### WJB900

Dust & Splash Resistance	: Designed to work in an indoor or protected outdoor environment similar to IP54.
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### WMR900 and WMK900

Dust & Splash Resistance	: Designed to work in harsh (industrial) indoor or outdoor environments similar to IP53.
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## Electrical Specifications

### Power

Input Voltage Rating	: 5 V DC to 16 V DC, polarity sensitive.
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<i>Power Requirements</i>	Current (mA)	Power (W)
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Supply Voltage 5 V DC all indicators on	: 50	0.25
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Supply Voltage 12 V DC all indicators on	: 50	0.60
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Permissible Input Supply Ripple Voltage (Max)	: 1 V <sub>PP</sub> at 50 Hz.
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Power Input Protection	: Reverse polarity protection is provided on the Reader.
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### Wiegand Bus

Electrical Interface	: '0' and '1' data streams.
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Tag Information Data Format	: 44-bit Wiegand or 26-bit Wiegand.
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Key Information Data Format	: 26-bit Wiegand only.
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### Inputs

Quantity	: 4.
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Type	: Dry Contact.
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Function	: Operation of the Buzzer, LED and Scanner Inhibit.
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### Other

Optical Anti-tamper (WJB900 Only)	: Open Collector Output on Purple Line. GND reference on Grey Line.
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**NOTE:** In OEM applications, connect the Purple and Grey wires to a Dry Contact Input. On ImproX Systems, it is unnecessary to connect these lines as the Software handles the Anti-tamper.

## Factory Defaults

Default Mode	: 44-bit Wiegand HID Normal Mode (2 Beeps).
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## User Interfaces

### Buzzer

Volume & Tone	: 4 kHz piezo-electric, single volume, single tone.
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### Keypad

Keys (WPK900 and WMK900)	: 12 Alphanumeric keys.
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Keys (WKM900)	: 12 Numeric keys and 1 Bell Button.
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Type	: 5 Digit codes in the range 00000 to 65535.
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	: 4 Digit codes in the range 0000# to 9999#.
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## Status Indicator

Status LED : Tri-coloured Red, Green or Amber (Default) (externally visible).

## Related Information

For extra information relating to this product refer to the:

- Wiegand Readers Hardware Installation Manual (WPR300-0-0-GB-XX).

## Ordering Information

Order the Wiegand 125 kHz Passive Proximity Readers using the following Part Numbers:

- WPR900-1-0-GB-XX: Wiegand Plastic Non-keypad Reader.
- WPK900-1-0-GB-XX: Wiegand Plastic Keypad Reader.
- WMR900-1-0-GB-XX: Wiegand Metal Non-keypad Reader.
- WMK900-1-0-GB-XX: Wiegand Metal Keypad Reader.
- WDP900-1-0-GB-XX: Wiegand Door Entry Panel Reader.
- WKM900-1-0-GB-XX: Wiegand Keypad Mullion Reader.
- WJB900-1-0-GB-XX: Wiegand Junction Box Reader.

## Warranty Details

This product conforms to our Warranty details on [www.impro.net](http://www.impro.net).

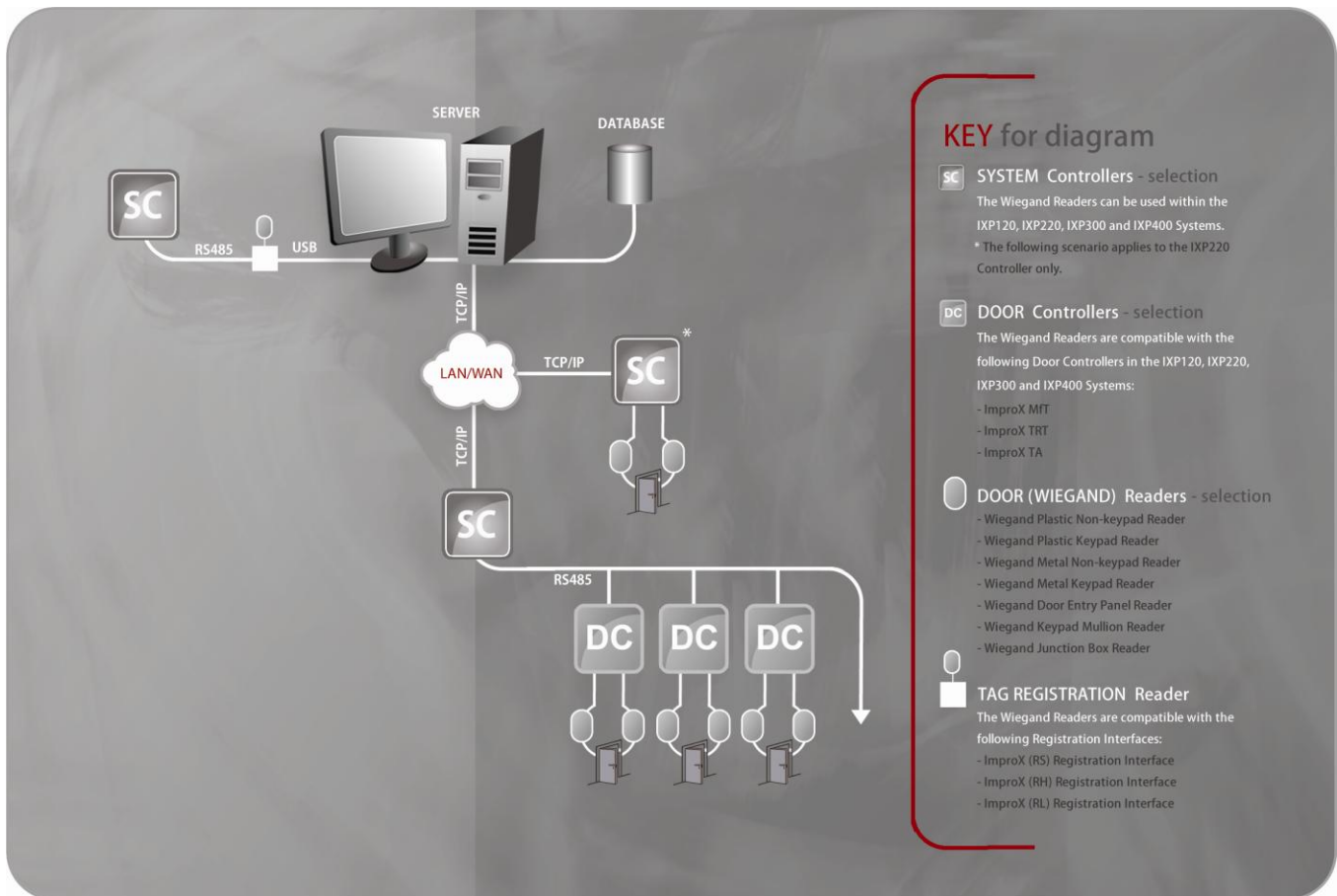


Figure 1: Wiegand Reader Overview

This Product Specification Catalogue applies to the Wiegand Readers, WPR900-1-0-GB-01, WPK900-1-0-GB-01, WMR900-1-0-GB-01, WMK900-1-0-GB-01, WDP900-1-0-GB-01, WKM900-1-0-GB-01 and WJB900-1-0-GB-01.  
(The last two digits of the Impro stock code point to the issue status of the document or product).

WPR350-0-0-GB-05	Issue 06	November 2009	Wiegand Readers\Product Specification Catalogue\ LATEST ISSUEWiegRdr-psc-en-06.docx
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