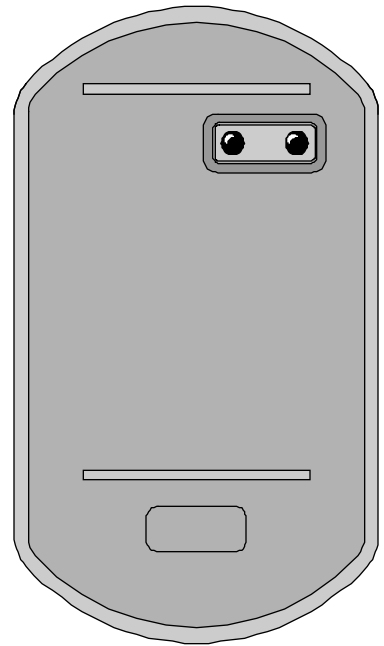


Extended Range Reader Operation and Installation Instructions

Features Description

- **Easy Installation**
- **Reads ISO Cards (PAC P.N. 21030)**
- **Status LED indicates Access Authorised**
- **Rated for Indoor and Outdoor use**
- **Offered in Black or White**
- **Up to 10 inch Reading Range**



The KeyPAC Extended Range (PAC Part Number 20442 or K3004) proximity reader is an accessory commonly used on a majority of access control systems. The reader uses pre-encoded ISO proximity cards (PAC Part Number 21030). Each card is encoded with a unique code that outputs a serial number to the access control system.

The Extended Range reader is weather resistant and suitable for indoor or outdoor use. Cards are read at a distance of up to 10 inches.

This reader is also available in white by ordering PAC Part Number 20441 or K3004W.

How the Reader is Used

The Extended Range reader is connected to a reader input on a door controller, time and attendance unit or control panel, that can accept a PAC format, Wiegand 26/ 32/ 64 Bit format or ANSI Magstripe format. The reader detects and reads the unique embedded coding from each ISO card when it is presented within approx 10 inches of the reader. The reader will then output this coding, that has been received by the card, to the receiving door controller, time and attendance unit or control panel.

How the Reader Operates

The reader has LEDs to indicate status. When the red LED is on the reader is ready to read a card and output the coding to the control panel. When a valid card is read the output will begin sending the information to the control panel. If the card is valid, the control panel will activate and output to the reader turning the red LED off and the green LED on. This change of the LED will most commonly indicate a Access Granted condition or an acknowledgment that the control panel has received and logged the coding from the card.

Items Included with the Extended Range Reader

- 1 Extended Range Proximity Reader
- 1 Reader Front Cover
- 1 Metal Oxide Varistor (to wire across the lock)
- 10 Crimp Connectors

Connecting the Reader to the Control Panel or Wiegand Interface Unit

Connect the reader to the Door Controller, Time and Attendance unit or Control Panel as described in the Operation and Installation Manual provided with the corresponding unit. Use five wires, six wires if tamper is used, to connect the reader to the controlling unit.

Length: 1m **Gauge:** 7/0.2, 0.22mm²

Colour	Signal	Notes
Black	0V	Return (power and signal)
Red	+12V	Power, unregulated +12V DC (nominal) Full details including current use are in the specification section on the back page of these instructions
Yellow	SOUNDER	Sounder input, active low. If not used then crimp the end to prevent shorts.
White	DATA1 DATA SIGNAL	Wiegand Magstripe PAC - signal output
Green	DATA0 CLOCK n/c	Wiegand Magstripe PAC - Not connected. Crimp the end to prevent shorts
Brown	VCA/LED VCA/LED VCA/LED	Wiegand - Valid Code Accept, lights LED, active low below +4.5V Magstripe - Valid Code Accept, lights LED, active low below +4.5V PAC - Connect to door controller reader channel, LED
Blue	DR1 - TAMPER	Wiegand Magstripe PAC - Tamper connection (connected to 0V inside reader)

Installing the Reader

Choose the Best Mounting Location for the User

The normal height for the reader is approximately 48 inches (four feet) from the floor, on the unhinged side. Check local regulations regarding proper mounting locations for disabled or handicapped persons.

Mount the reader on any firm flat surface. Avoid mounting the reader on rough textured surfaces.

There must be a distance of at least 36 inches (three feet) between two readers. Therefore, if using readers to control entry and exit from an area, they must be mounted on opposite sides of the door.

No special precautions are needed if the reader is mounted outside, as it is fully encapsulated. The connections made to the flying lead, however, may need protection.

Route the Cable

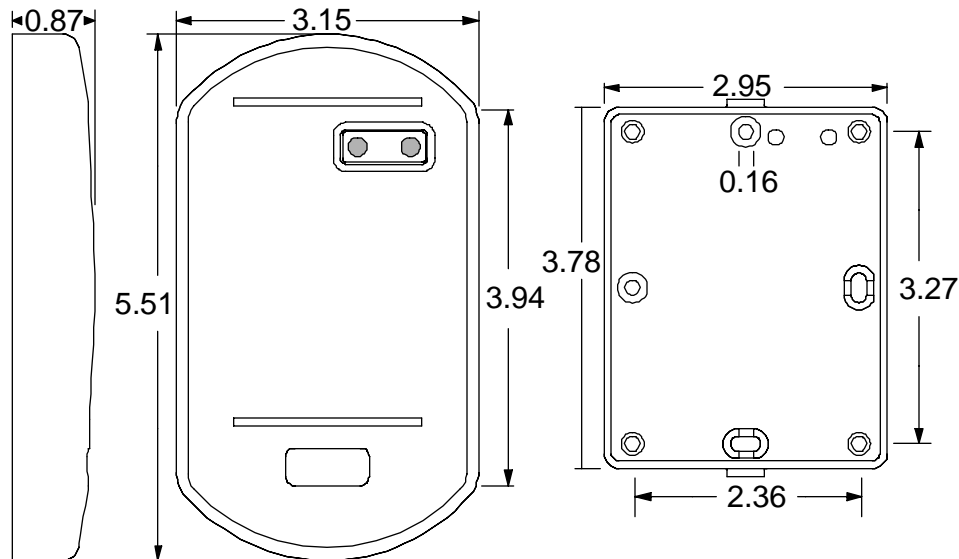
Install the reader up to 200 feet from the Control Panel or Wiegand Interface Unit using 22 AWG wire or up to 500 feet using 18 AWG wire. Run a five or six wire cable from the controlling unit to the reader mounting location.

Protect the reader cable from EMI: Do not route the reader cable close to the power lines for the electric lock. Use shielded cable to eliminate possible interference to the data from the electric lock.

Splicing the Cable to the Wiring Harness

Use the crimp connectors provided, or other suitable means such as soldering, to splice the wiring harness, provided on the reader to the end of the cable. When using 22 AWG cable, you should twist the wires together and double them over before inserting them in the crimp.

Mounting the Reader



This reader comes in two parts, the reader itself with flying lead, and a front cover.

1. Attach the reader to a flat surface using the #6 screws provided - or a mounting screw suitable for the material to which the reader is being mounted. The two holes are 60mm apart. Use the round hole first, and then the oval hole to ensure the reader is straight.
2. Push the front cover onto the reader.

Reader Operation

Normal Operation and LED Control

The reader LED will normally be red when the door or system is in the closed condition. When a card is presented within range of the reader the code in the card will be read and the coding sent to the controlling unit. If the card is valid for that door or system at that time the LED will go green which is controlled by the N.O. relay or LED connection of the Control Panel. The LED will stay green while the Brown LED wire is shorted to Common.

WARNING: For Output formats other than PAC, the output format of the reader will be reprogrammed for a PAC system if the White and Brown wires are shorted and power is applied to the reader. The reader will need to be sent in for repair to have the output format reset once this has occurred.

Tamper Operation

The Blue wire tamper connection is a normally closed circuit between the blue wire and black wire common connection. If the cable is cut this connection will go to an open circuit which can be used to indicate a tamper violation condition.

Specification

Dimensions	3.15 in x 5.51 in x 0.87 in	
Voltage	10.5v DC to 20v DC (supplied by Door Controller, Wiegand Interface or Control Panel)	
Current	85 mA max	
Temperature:	Operating	-10C to +55C (14°F to 130°F)
	Storage	-30C to +80C (-20°F to 175°F)
Humidity:	Operating	0-90% RH at 30C ±2C (85°F±5°F) for 24 hours
Reading Range:	0-10 inches (typically)	
Lead Length:	36 inches	

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC ID OQL-PAC-EX