

IMPROX KHR

ImproX Harsh Environment Keypad Remote Reader

INTRODUCTION

The ImproX KHR unit is a small compact Read/write Remote Reader designed for use with an ImproX DT Door Terminal or ImproX PT Portal Terminal in IXP200, 300 or 400 Access Control Systems or in OEM applications. It provides a 12-button alphanumeric keypad to permit the entry of PIN-code access and reason codes.

The Remote Reader is intended for indoor or outdoor use, and is designed for use in harsh environments, such as industrial areas. The unit is vandal resistant.

APPLICATIONS

- Access control terminal.
- Vending terminal.
- OEM custom requirements.



FEATURES

- Read/write only tag capability for various tag types: Slim Tags (Read Only), Omega Tags (Read Only), WriTag 128 and WriTag 2048.
- A single bi-coloured red/green LED, the use of which is configurable via the communications protocol.
- A buzzer.
- A 12-button keypad.
- An external TTL Remote communications bus interface, for connection to an ImproX DT or ImproX PT unit.

SPECIFICATIONS

PHYSICAL SPECIFICATIONS

Dimensions

L = 143 mm (5.63").

W = 76 mm (3").

H = 28 mm (1.1").

Mass

550 g. (19.4 oz).

Material

Die-cast zinc alloy.

Colour

Satin nickel.

ENVIRONMENTAL SPECIFICATIONS	Temperature Operating	-25°C to +60°C (-13°F to +140°F).	
	Temperature Storage	-40°C to +80°C (-40°F to +176°F).	
	Humidity Range	0 to 95% relative humidity at +40°C (+104°F) non-condensing.	
	EMC	EMC	
	Electrostatic Discharge	EN 61000-4-2	
	Electrical Fast Transients	EN 61000-4-4.	
	Surge Immunity	EN 61000-4-5.	
	Radiated Susceptibility	EN 61000-4-3.	
	Conducted Susceptibility	EN 61000-4-6.	
	Dust and Splash Resistance	This unit is manufactured in accordance with a dust and splash environment similar to that of IP30.	
Drop Endurance	2m drop (in packaging).		
ELECTRICAL SPECIFICATIONS	Power Requirements		
	Voltage	3.5 V DC to 5.5 V DC, polarity sensitive.	
	Current	75 mA at 5 V DC - indicators all off.	
		100 mA at 5 V DC - indicators all on.	
	Power Input Protection	Reverse polarity protection is provided on the unit.	
	Permissible Input Supply Ripple Voltage (maximum)	1 VPP at 50 Hz.	
	Nominal Read/Write Range	40 mm to 60 mm (tag type dependent see table 1).	
	EEPROM	Retention of authentication keys.	
	Terminal Bus Port		
	Electrical Interface	TTL Full Duplex.	
	Baud rate	9 600.	
	Data format	8 data bits, no parity, 1 stop bit.	
	Communications protocol	ImproX Proprietary Protocol.	
OPERATOR INTERFACES	Keypad		
	Keys	12 alphanumeric keys.	
	Buzzer		
	Volume	Adjustable in four discrete steps (including off) via the communications protocol.	
	Tones	Single tone.	
	Status Indicators		
Bi-colour Red/Green LED	The functions are application specific (externally visible).		

TAG READING RANGES

The range at which the Remote Reader can read to or write from a tag is dependent on the type of tag and on the material on which a particular reader is mounted. Typical ranges are shown in Table 1 below.

TAG TYPE	TYPICAL RANGE (minimum) (Remote Reader mounted on non-metallic surface)
ISO Credit Card Tag (Slim)	60mm (2.36")
ImproX Credit Card Tag	60 mm (2.36")
ImproX Keyring Tag	40 mm (1.57")
ISO Credit Card WriTag 128	60mm (2.36")
ISO Credit Card WriTag 2048	60 mm (2.36")
NOTE : Mounting the terminal on a metallic surface may decrease the read/write range by up to 15%.	

Table 1: Typical reading ranges

ACCESSORIES

The Terminal is supplied with the following accessories:

- Wall mounting plugs and screws.

INTERNATIONAL STANDARDS

The ImproX KHR units comply with the requirements of the following international standards where applicable (tests applicable only when the Remote Reader is connected to an ImproX PT Portal Terminal).

EIA RS-485	Standard for Electrical Characteristics of Generators and Receivers for use in Balanced Digital Multipoint Systems.
EN 55024	Limits and Methods of Measurement of Radio Disturbance Characteristics of Information Technology Equipment.
EN 61000-6-1	Generic Standards-Immunity.
EN 61000-6-3	Generic Standards-Emissions.
EN 61000-4-1	Electromagnetic Compatibility (EMC). Part 4: Testing and Measurement Techniques. Section 1: Overview of Immunity Tests. Basic EMC Publication.
EN 61000-4-2	Electromagnetic Compatibility (EMC). Part 4: Testing and Measurement Techniques. Section 2: Electrostatic Discharge Immunity Test. Basic EMC Publication.
EN 61000-4-4	Electromagnetic Compatibility (EMC). Part 4: Testing and Measurement Techniques. Section 4: Electrical Fast Transients / Bursts. Basic EMC Publication.
EN 61000-4-3	Electromagnetic Compatibility (EMC). Part 4: Testing and Measurement Techniques. Section 3: Radiated, Radio-Frequency, Electromagnetic Field Immunity Test.
EN 61000-4-6	Conducted Susceptibility.
EN 61000-4-5	Surge Immunity.
EN 61000-4-11	Voltage Dips and Interruptions.

APPROVALS

CE approved



TAMPER PROOFING

The unit is potted, and therefore is tamper-resistant. The die-cast housing enhances the tamper-resistance.

RELATED IMPRO PRODUCTS

The ImproX KHR Remote Reader is designed to be used in conjunction with the ImproX DT Door Terminal or the ImproX PT Portal Terminal.

NOTE: *The ImproX PT Portal Terminal will be available in the 3rd quarter of 2002.*

ORDERING INFORMATION

The ImproX KHR Remote Reader can be ordered under the Impro code XKR901-1-0-GB-XX or with an ImproX PT Portal Terminal under the Impro code XPT900-1-0-GB-XX.