



ImproX EC

Product Specification Catalogue

The **ImproX (EC) Ethernet Advanced Controller** is a fully featured Controller that forms part of the IXP400 range of access control equipment.

Using the Ethernet Port, the Controller communicates with the Server PC by plugging direct into an Ethernet Switch or Hub (or other network device). The RS485 Terminal Bus Port (Port 1) allows the Controller to communicate with a maximum of 64 Fixed Addresses (per Controller).

The ImproX EC Controller offers 2 “Bus Activity LED Indicators” for the installer and 2 “Power-on Indicators”. The “Bus Activity LED Indicators” indicate incoming and outgoing RS485 Data.

The following optional extras are available for use with the standard ImproX EC:

- XAC902-0-0-GB-XX: Plug-in Memory Module (offers the facility to upgrade Tag and transaction storage to up to 160 000 Tags and 160 000 transactions).
- XAC903-0-0-GB-XX: Liquid Crystal Display (LCD) Cover (A 16-character by 4-line alphanumeric LCD with back-lighting).

Key Features

- LEDs indicate transmit and receive line activity for diagnostics.
- A Real Time Clock (RTC) with a 3 V Lithium Backup Battery (providing 5 years stand-by operation).
- Remote Firmware download capability.
- An Ethernet Port for connection to an Ethernet Switch or Hub (or other network device).
- An RS485 Terminal Bus Port for connection to up to 64 Terminal Fixed Addresses.
- Operation from power inputs in the range 10 V DC to 30 V DC.
- Capable of storing 30 000 Tags and 37 000 transactions as standard with the ability to upgrade to 160 000 Tags and 160 000 transactions.
- Liquid Crystal Display (LCD) Cover for system monitoring [the LCD is an optional extra].
- A robust, Aluminum enclosure.

ImproX (EC)

Ethernet Advanced Controller

XAC906-1-0-GB-XX

Physical Specifications

XAC906-1-0-GB-XX

Length	: 168 mm (7 in).
Width	: 197 mm (8 in).
Height	: 89 mm (4 in).
Approximate Weight	: 1.2 kg (No Battery) (2.73 lb).
Cabinet Material	: Aluminium.
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	: TBA.
FCC Approval	: Pending.
Dust & Splash Resistance	: Designed to work in an indoor (dry) environment similar to IP30. The Controller is, therefore, not sealed against water.
Drop Endurance	: 2 m (7 ft) drop (in packaging).

Electrical Specifications

Power

Input Voltage	: 10 V DC to 30 V DC.	
Power Requirements		
	Current (mA)	Power (W)
Supply Voltage 10 V DC Indicators all ON	: 166	1.66
Supply Voltage 30 V DC Indicators all ON	: 61	1.83
Permissible Input Supply Ripple Voltage (Max)	: 1 V _{pp} at 50 Hz.	
Power Input Protection	: Reverse polarity on DC power inputs, over-voltage and over-current protection are provided on the Controller.	

Real Time Clock Backup Battery (RTC)

Battery Type	: 1 x 3 V, CR2032, Lithium cell Battery.
Battery Life	: 5 Years (with power OFF).

Ethernet Port

Connection	: Standard Ethernet RJ45 connector. 10/100 Mbps, half or full duplex.
Protocol	: TCP/IP, UDP.

Terminal Bus (Port 1)

Electrical Interface	: RS485, ASCII with 16-bit CRC checking.
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Terminal Bus (Port 1) (Continued)

Baud Rate	:	1 200, 2 400, 4 800, 9 600, 19 200, 28 800, 38 400, 57 600 and 76 800 selectable via the Protocol.
Data Format	:	8 data bits, no parity, 1 stop bit.
Communications Protocol	:	ImproX Secure Communications Protocol.
Line Termination	:	Provision is made for line termination.
Default Mode	:	Receive Mode.

Controller Bus (Port 2)

Electrical Interface	:	RS485, ASCII with 16-bit CRC checking.
Baud Rate	:	1 200, 2 400, 4 800, 9 600, 19 200, 28 800, 38 400 and 57 600 selectable via the Communications Protocol.
Data Format	:	8 data bits, no parity, 1 stop bit.
Communications Protocol	:	ImproX Secure Communications Protocol.
Line Termination	:	Provision is made for line termination.
Default Mode	:	Receive Mode.
Unit Status	:	Slave.

Memory

RAM (Non-volatile)	:	2 MBytes standard, 8 MBytes maximum
Flash ROM	:	128 KBytes.

Other

Anti-tamper Switch	:	1 Internal Switch.
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Factory Defaults

Test Modes

Power-on Self-test	:	RAM, Flash-ROM, RTC.
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Baud Rate

Terminal Bus (Port 1)	:	38 400.
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Host Bus (Port 2)	:	38 400.
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Back-lighting

LCD and Keypad	:	On.
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Contrast LCD	:	Preset.
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User Interfaces

Power Indicator

Power LED	:	Two Red LEDs (internally visible).
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Diagnostic Indicators

Incoming RS485 Data	:	Flashing Green LED (internally visible).
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Outgoing RS485 Data	:	Flashing Red LED (internally visible).
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LCD Display Cover

Characters	:	16 Characters by 4 lines.
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Character Sets	:	English, Katakana.
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Contrast	:	Preset.
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Back-lighting	:	Turned on and off via the Communications Protocol.
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Related Information

For extra information relating to this product refer to the:

- ImproX EC Hardware Installation Manual (XAC301-0-0-GB-XX).
- Ethernet Configuration Utility Software User Manual (IXP360-0-0-GB-XX).
- ImproNet Software Installers Guide (IXP362-0-0-GB-XX).
- ImproNet Webhelp (IXP393-0-0-GB-XX).

Ordering Information

Order the ImproX (EC) Ethernet Advanced Controller and optional extras using the following Part Numbers:

- XAC906-1-0-GB-XX: ImproX (EC) Ethernet Advanced Controller.
- XAC902-0-0-GB-XX: Plug-in Memory Module (offers the facility to upgrade Tag and transaction storage to up to 160 000 Tags and 160 000 transactions).
- XAC903-0-0-GB-XX: Liquid Crystal Display (LCD) Cover (A 16-character by 4-line alphanumeric LCD with back-lighting).

Warranty Details

CAUTION: We reserve the right to nullify the products warranty where you have not properly installed the Metal-oxide Varistors.

This product conforms to our Warranty details on www.impro.net.

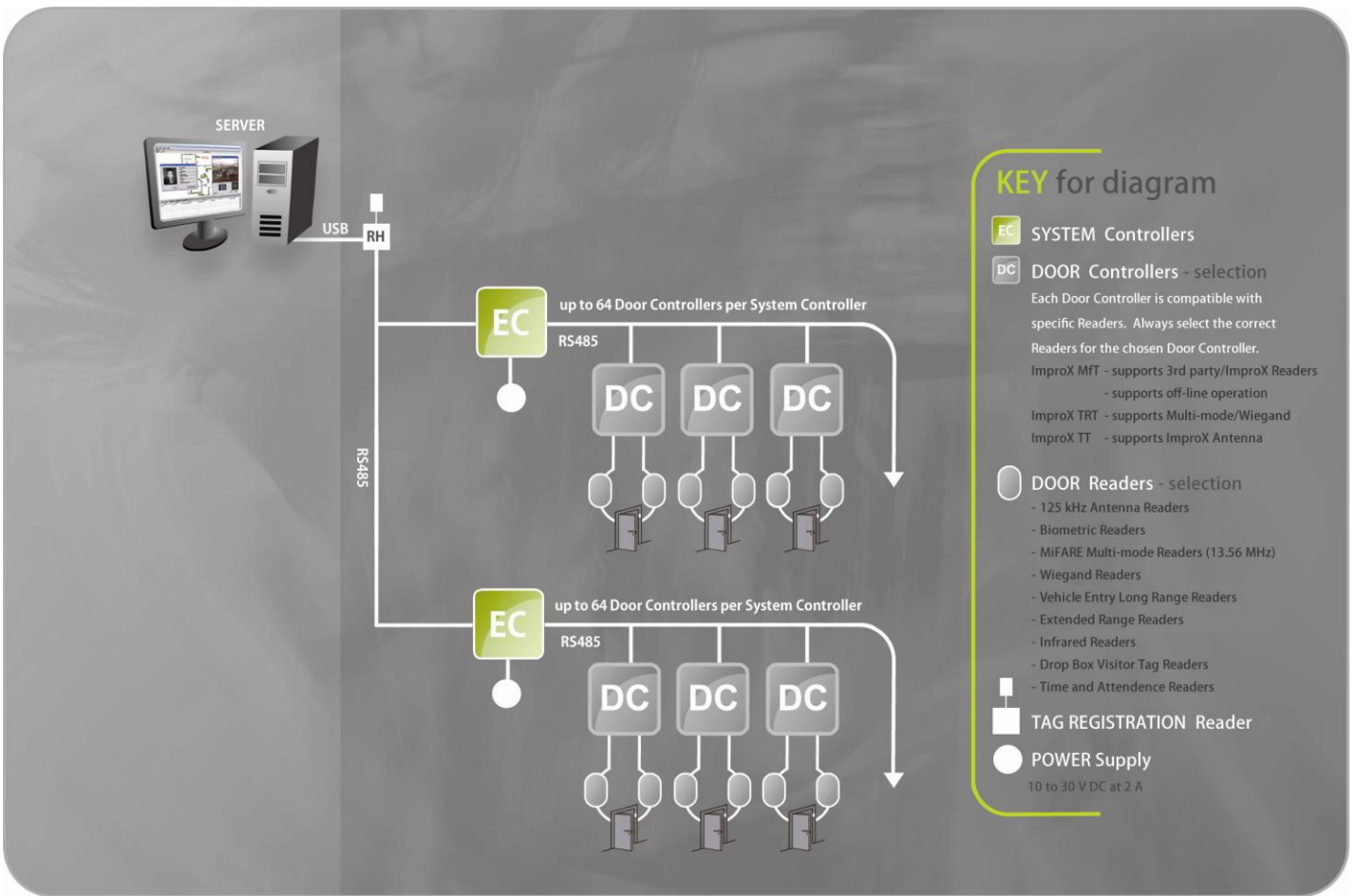


Figure 1: ImproX EC RS485 Overview

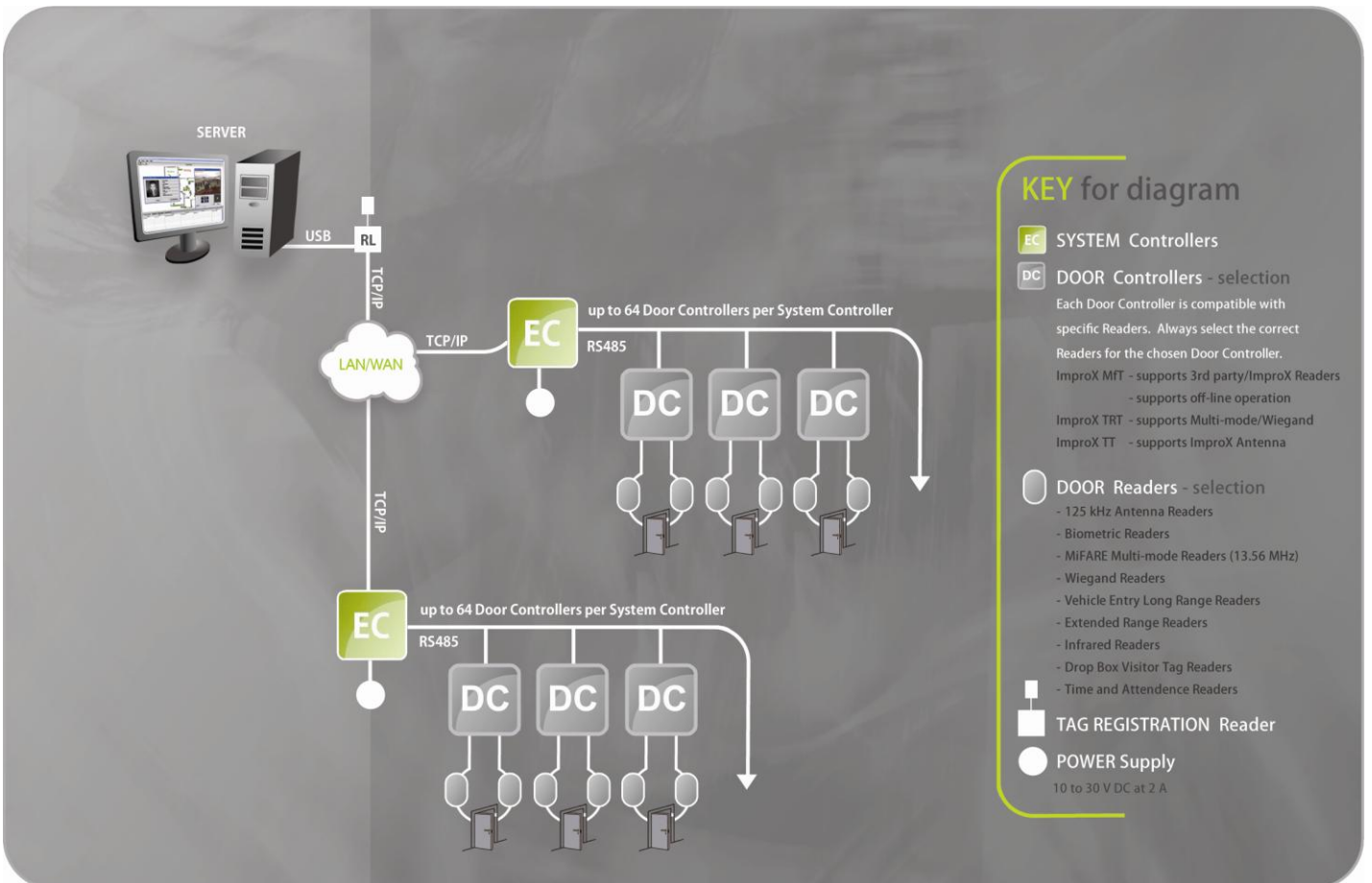


Figure 2: ImproX EC Ethernet Overview

This Product Specification Catalogue applies to the ImproX (EC) Ethernet Advanced Controller, XAC906-1-0-GB-00.
(The last two digits of the Impro stock code point to the issue status of the document or product).

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