impro technologies®
ACCESS CONTROL

# PORTAL
# Application Controller

Product specification
**CATALOGUE**

The **Portal Application Controller** (**PAC**) is a sophisticated Linux access controller providing robust, high capacity off-line functionality.

Especially suited for high traffic sites, each Portal Application Controller has the offline capability to deal with up to 1 million tag holders.

In the event of loss of connection with the Access Portal Server, the on-board event log (with its own SQL database) can log up to 1 million transactions.

Compatible hardware includes the Portal module clusters as well as the iTT/iTRT units – all with their associated readers and peripheral hardware.

The PAC is available in two housing variants.

**HCA930**

- Housed in a steel IPS (Integrated Power Supply) enclosure that includes a built-in DC-mains adaptor, and space for a backup battery.

**HCA910**

- Housed in a tough ABS plastic enclosure suitable for wall mounting. This requires a 12V dc power source.

**Communications Interfaces**

- RS485 Device Port
- Ethernet

**Digital Input**

- Anti-tamper switch

**Capacity:**

- Up to 1 million Tagholders
- Up to 64 Doors per Portal IPS Application Controller
- 1 million transaction event buffer

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## Applications

**Access control and/or Time and Attendance Monitoring of high traffic volume sites:**

Universities and Colleges
Large Corporates
Office Parks
Residential Estates
Hospitals
Schools
Parkades
Warehouses

## Hardware Features

- ARM® Cortex A8 microprocessor core operating at 1 GHz
- Linux operating system running Debian 8
- 512 MB DDR3 RAM
- 16 GB SD card (flash memory)
- LEDs indicate transmit and receive line activity for diagnostics
- Remote firmware download capability
- Supports a secure logon when changing controller configuration settings using the Ethernet discovery utility
- An Ethernet controller port for connection to an Ethernet switch or hub (or other network device)
- RS485 Bus port
- Anti-tamper switch detects unauthorised access to the PCB
- Steel IPS housing with integral mains-DC power adaptor (HCA930)

### Portal Application Controller

HCA930-0-0-GB-XX HCA910-0-0-GB-XX

## Physical Specifications

**IPS Housing (HCA930)**

| | | |
|---|---|---|
| Width | : | 383 mm (15.1 in.) |
| Height | : | 313 mm (12.3 in.) |
| Depth | : | 82 mm (3.22 in.) |
| Approximate Weight | : | 3.8 kg (8.378 Pounds.) |

**ABS Plastic Housing (HCA910)**

| | | |
|---|---|---|
| Depth | : | 56 mm (2.2 in.) |
| Width | : | 170 mm (6.69 in.) |
| Height | : | 129 mm (5.08 in.) |
| Approximate Weight | : | 295 g (10.4 oz.) |

## Environmental Specifications

| | | |
|---|---|---|
| Operating Temperature | : | -10°C to +50°C (+14°F to +122°F) |
| Storage Temperature | : | -15°C to +50°C (+5°F to +122°F) |
| Humidity Range | : | 0 to 95% relative humidity at +40°C (+104°F) non-condensing |

**Approvals**

| | | |
|---|---|---|
| Dust & Splash Resistance | : | Designed to work in an indoor (dry) environment similar to IP20. The product is not sealed against water. |
| Drop Endurance | : | 1 m (3.28 ft.) drop (in packaging) |

## Electrical Specifications

**Integrated DC Power Supply Unit (HCA930)**

| | | |
|---|---|---|
| Input Voltage | : | 90 V AC to 240 V AC at 50/60 Hz |
| Power Rating | | 75 W |
| Output Voltage | : | 13,8 V DC ±0,3 V DC |
| Max Current Output | : | 5 A continuous for 75W |

**DC Power Requirements of the PCB (HCA910)**

Input Voltage : 10 to 15 $V_{DC}$

| | | Current (mA) | Power (W) |
|---|---|---|---|
| Input Voltage 10 V DC (Maximum) | : | 200 | 2 |
| Input Voltage 15 V DC (Maximum) | : | 150 | 2,25 |

| | | |
|---|---|---|
| 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. |

**Real Time Clock Backup Battery (RTC)**

Battery Type : 1 x 3 V, CR2032, Lithium cell Battery.

**Connectivity**

| | | |
|---|---|---|
| Ethernet | : | TCP-IP 10M / 100M |
| USB (two ports) | : | USB 2.0 |
| RS485 | : | 9 600, 19 200, 28 800, 38 400, 57 600 and 115 200 selectable via the Protocol |

**Anti-Tamper Switch**

| **Model** | : | **Configuration** |
|---|---|---|
| HCA930-0-0-GB-XX & HCA910-0-0-GB-XX | : | Switch integrated into the housing wiring, which plugs into one of the digital inputs of the PCB |

**Processor**

AM335x ARM® Cortex-A8 : 1GHz
- VFP and NEON Floating-point accelerators

**Memory**

| | | |
|---|---|---|
| RAM | : | 512 MB DDR3 |
| Non-volatile Memory | : | 16 GB micro SD card, Class 4 |
| On-board Memory | : | 4 GB On-board EMMC |

## User Interfaces

**Power Indicator**

Power-on LED : Red LED (internally visible)

**Diagnostic Indicators**

| | | |
|---|---|---|
| Incoming RS485 1 (Controller) | : | Flashing Green LED |
| Outgoing RS485 1 (Controller) | : | Flashing Red LED |
| Link Speed LED (Ethernet) | : | Red LED |
| Link Active LED (Ethernet) | : | Red LED |
| CPU Usage | : | Red LED On = Idle, Off = Busy |
| CPU Running | : | Flashing Green LED = Running |
| Power | : | Red LED = Power ON |

### Operating System

ARM Linux : Debian 9

## Warranty Details

This product conforms to our warranty details, which are available on request.

## Related Information

For extra information relating to the product refer to:

| | | |
|---|---|---|
| HCA330-0-0-GB-XX | : | Installation Manual for the Portal Application Controller |

## Ordering Information

Order the Portal Application Controller using the following number:

| | | |
|---|---|---|
| HCA930-0-0-GB-XX | : | Portal Application Controller – IPS Housing |
| HCA910-0-0-GB-XX | : | Portal Application Controller – ABS Plastic Housing |

There may be many Portal Application Controllers installed on the larger sites. This diagram shows where the Portal Application Controller fits within a system, and how the network architecture can be tailored to suite the site's specific requirements.

- RS485 can be used for distances of up to 1 000 m (1 093 yd.)

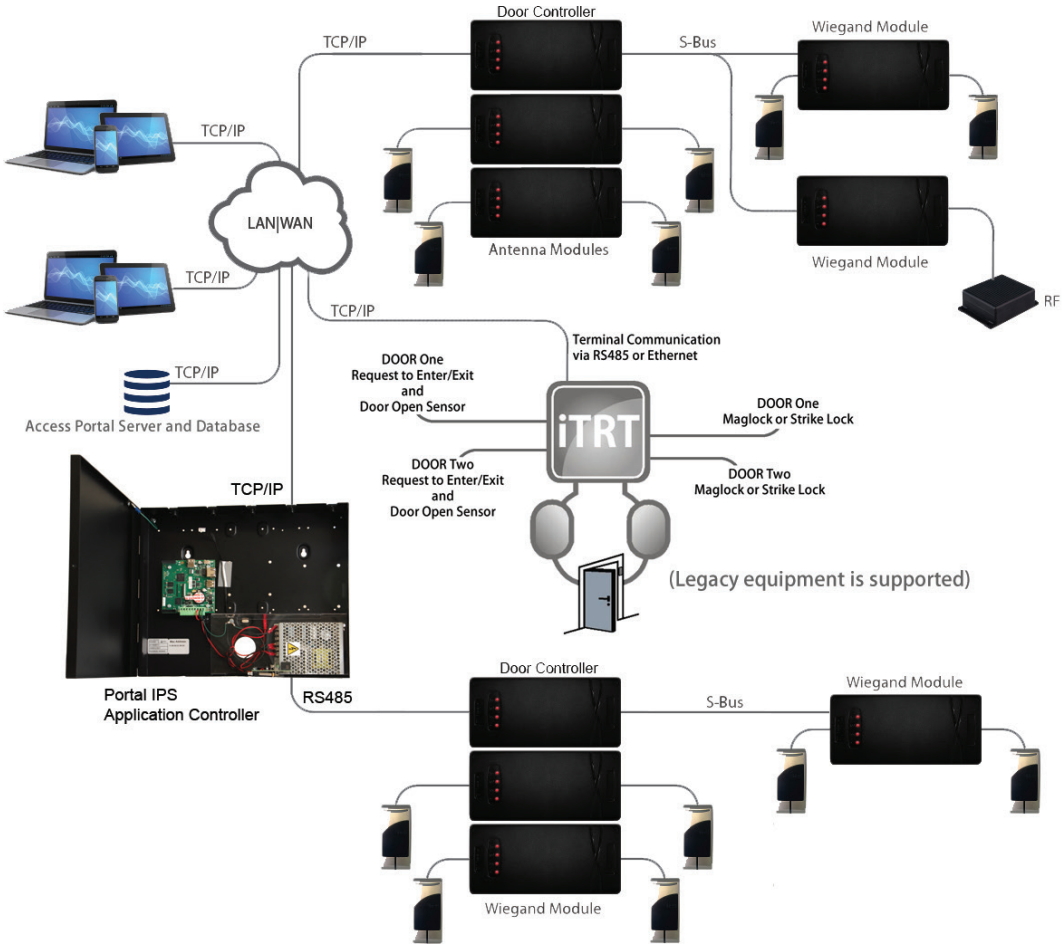


**Figure 1: System layout showing the networking flexibility of Access Portal**

| This Specification is applicable to HCA930-00-GB-XX and HCA910-00-GB-XX | | | |
|---|---|---|---|
| HCA360-0-0-GB-00 | Issue 01 | March 2019 | IMPRO\GEN3 Access Portal Era\Impro EC3\Portal Application Controller\Product Specification Catalogue\Latest\Portal AC-psc-03.docx |