

ACTpro-100 / ACTpro-1002A

Installation and Operating Instructions



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ACTpro-100

Hereby, Vanderbilt International (IRL) Ltd declares that this equipment type is in compliance with the following EU Directives for CE marking:

- Directive 2014/30/EU (Electromagnetic Compatibility Directive)
- Directive 2011/65/EU (Restriction of the use of certain hazardous substances Directive)

The full text of the EU declaration of conformity is available at: <http://van.fyi?Link=DoC>

ACTpro-1002A

Hereby, Vanderbilt International (IRL) Ltd declares that this equipment type is in compliance with the following EU Directives for CE marking:

- Directive 2014/30/EU (Electromagnetic Compatibility Directive)
- Directive 2014/35/EU (Low Voltage Directive)
- Directive 2011/65/EU (Restriction of the use of certain hazardous substances Directive)

The full text of the EU declaration of conformity is available at: <http://van.fyi?Link=DoC>



<http://van.fyi?Link=ACTpro100>

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1 Overview

This guide describes the installation of the ACTpro-100 door stations, which are compatible with all ACTpro controllers.

The ACTpro-100 is a single door station.

The ACTpro-1002A is a single door station with a 12V DC 2A PSU.

1.1 Technical specification

	ACTpro-100	ACTpro-1002A
Input Voltage Range	12V DC	12V DC
Current Consumption	40–120 mA	40–120 mA
Operating Environment	Surface mounting Internal use only	Surface mounting Internal use only
Operating Temperature	-10 to +50° C	-10 to +40° C 75% RH non-condensing
Dimensions (H x W x D mm)	165 x 235 x 55	275 x 330 x 80
Weight (kg)	0.4	2.2
Enclosure Material	ABS	1.2mm steel grey powder coated
LED Status Indicators	Yes	Yes
PSU Fault Output	n/a	Yes
Lid Opening Tamper Detection (Front)	Yes	Yes
Rear Tamper Detection	No	Yes

1.1.1 ACTpro-1002A electrical specification

Battery charging	Yes
Standby Battery	12V 7Ah Battery
Battery Deep Discharge Protection	No
Input: Voltage Rated	100–240V AC
Input: Voltage Operating	90–264V AC
Input: Frequency	50–60Hz
Input: Max Current	1.0A (@ 90V AC)
Input: Mains input fuse	T2.0A
Input: Max standby power	0.5W (no load and no battery connected)

Output: Voltage	13.4–14.2V DC (13.8V DC Nominal) on mains power
Output: Max load current	2.0A
Output: Ripple	150mA pk–pk max
Output: Load output fuse	F2.0A
Output: Overload	Electronic shutdown until overload or short circuit removed (Under mains power only)

1.1.2 Relay load

When used with inductive loads (Maglock/Strike locks) the following ratings apply.

	ACTpro-100	ACTpro-1002A
Main relay	1.5A @ 30VDC / 1.5A @ 50VAC	1.5A @ 30VDC / 1.5A @ 50VAC
Aux relay	400mA @ 30VDC	400mA @ 30VDC

1.2 Ordering details

ACTpro-100	V54502-C120-A100	Single door station
ACTpro-1002A	V54502-C121-A100	Single door station with 12V DC 2A PSU

1.3 Monitoring

All faults including Mains Present and Tamper are reported on the ACT Enterprise software.

Mains present	The PSU MAINS PRESENT output, when available, is pre-wired to the MAINS PRESENT input.
Output Voltage	The PSU output voltage level is reported to the ACT Enterprise software.
Tamper	The enclosure lid is tamper monitored.

2 Installation

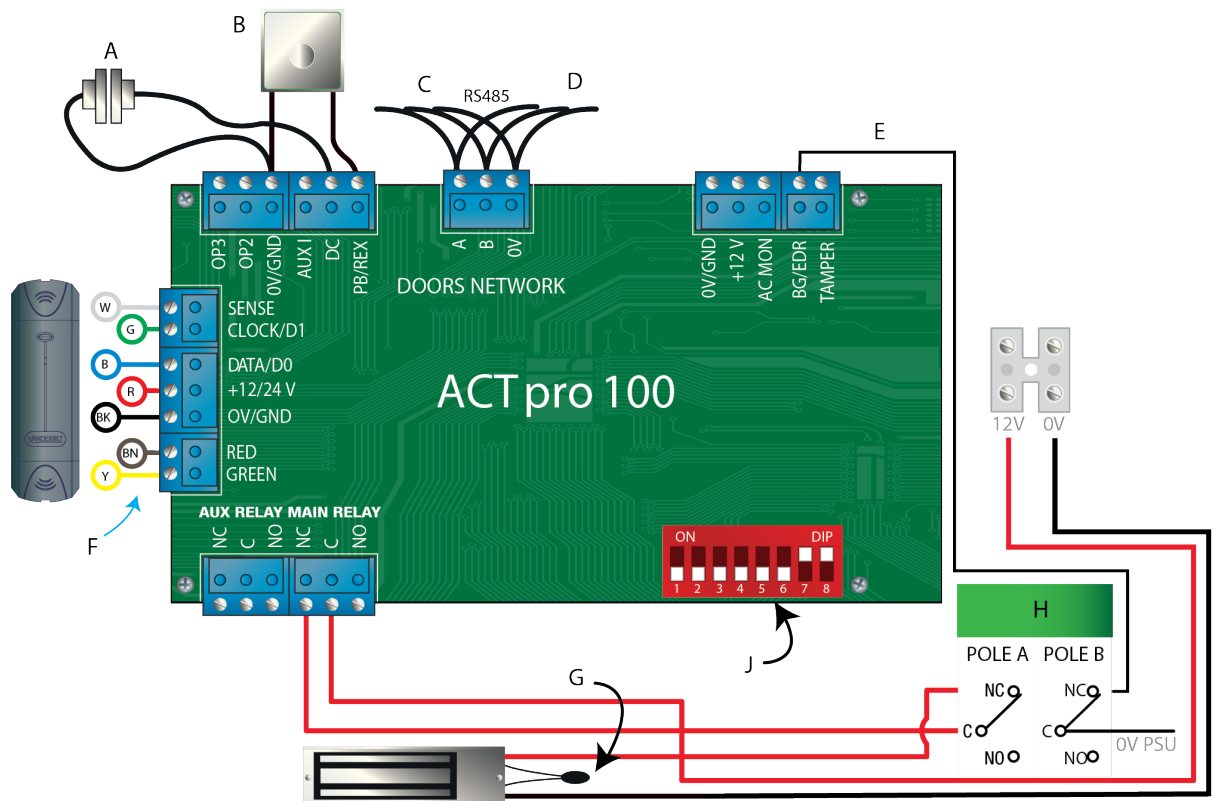
The ACTpro-100 door stations are for indoor installation only and must be installed as permanently connected equipment.

Reset the ACTpro-100 door station to its factory default condition before installation. To do this, power the unit up with ALL switches in the OFF position. The unit will beep after 3 seconds. The unit is now defaulted. Set the DIP switches to the appropriate address.

If using the ACTpro-1002A, Vanderbilt recommend that an external mains disconnect device is fitted before installation, and you should ensure that the mains supply to the controller is disconnected during installation.

Mains power should be connected by a licensed electrician in accordance with local/national codes.

2.1 Wiring



A Door contact	F Vanderbilt reader wire colour coding
B Door push button	G Important: Always place varistor across lock terminals.
C From previous door or controller	H Double pole Break Glass / Emergency Door Release When the Break Glass is not activated the B/GL input pin is held low at 0 volts. When the Break Glass device is activated the B/GL input pin will lose the 0 volts (goes high) and report a Break Glass event.
D To next door	J DIP switches for door station addressing. See <i>DIP switch addressing</i> on the next page.
E Break glass monitoring, normally closed	

Notes:

- This illustration shows wiring for a normally energised lock. If a normally deenergised lock is required, use the N/O relay contacts.
- RS485 Network cable is single shielded twisted pair, Belden 9501 or equivalent. Total Length max 1.4km.
- If the Mains Present, Door Contact or BreakGlass inputs are not used, they should be linked to 0V, or the feature should be disabled in ACT Enterprise software.
- The Blue Comms OK LED is on while ACTpro-100 is communicating with the controller.
- Red Fault LED illuminates on:
 - Tamper
 - Comms Offline
 - BreakGlass
 - Voltage Low
 - Current Limiting Fuse (500mA)

2.1.1 DIP switch addressing

Door 1 is on the ACTpro-1500 controller (max. 31 doors).

Door 1 and 2 is on the ACTpro-4000 controller (max. 16 doors).

The following table shows how to set the door station DIP switch for each address (01–32).

	1	2	3	4	5	6	7	8
01	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
02	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
03	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON
04	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
05	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
06	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF
07	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
08	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
09	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON
10	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF
11	OFF	OFF	OFF	OFF	ON	OFF	ON	ON
12	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
13	OFF	OFF	OFF	OFF	ON	ON	OFF	ON
14	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
15	OFF	OFF	OFF	OFF	ON	ON	ON	ON
16	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
17	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
18	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF
19	OFF	OFF	OFF	ON	OFF	OFF	ON	ON
20	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF
21	OFF	OFF	OFF	ON	OFF	ON	OFF	ON
22	OFF	OFF	OFF	ON	OFF	ON	ON	OFF
23	OFF	OFF	OFF	ON	OFF	ON	ON	ON
24	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
25	OFF	OFF	OFF	ON	ON	OFF	OFF	ON
26	OFF	OFF	OFF	ON	ON	OFF	ON	OFF
27	OFF	OFF	OFF	ON	ON	OFF	ON	ON
28	OFF	OFF	OFF	ON	ON	ON	OFF	OFF
29	OFF	OFF	OFF	ON	ON	ON	OFF	ON
30	OFF	OFF	OFF	ON	ON	ON	ON	OFF
31	OFF	OFF	OFF	ON	ON	ON	ON	ON
32	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF

2.1.2 Wiring for Vanderbilt EM1030e Clock & Data or Wiegand Reader

Wire Colour	Terminal
White	SENSE
Green	CLOCK / DATA 1
Blue	DATA / DATA 0
Red	+12V
Black	0V
Brown	RED
Yellow	GREEN

Wire Colour	Terminal
Orange	(Buzzer Control)

2.1.3 Wiring exit readers

For Clock & Data readers, wire exit reader in parallel but leave the sense line unconnected.

For Wiegand readers, wire the DATA 0 of the exit reader to SENSE on the ACTpro-100.

Max length 30m with 5V DC

Max length 100m with 12V DC

Cable: 8 Core Screened Belden 9504 or equivalent

2.2 ACTpro-100

2.2.1 Mounting

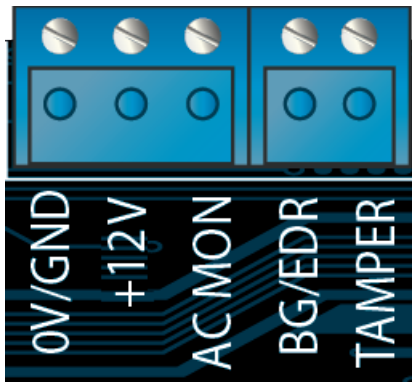
Mount the ACTpro door station directly on to the wall with the supplied screws.

The keyed mounting hole should be screwed first to the wall to aid the mounting.

The unit should be installed in a ventilated area that allows for accessibility after installation.

2.2.2 Power supply

The ACTpro-100 requires an external 12V DC power supply. The supply should be connected to the +12V DC and 0V/GND connections.



2.3 ACTpro-1002A

This unit is only suitable for installation as permanently connected equipment.

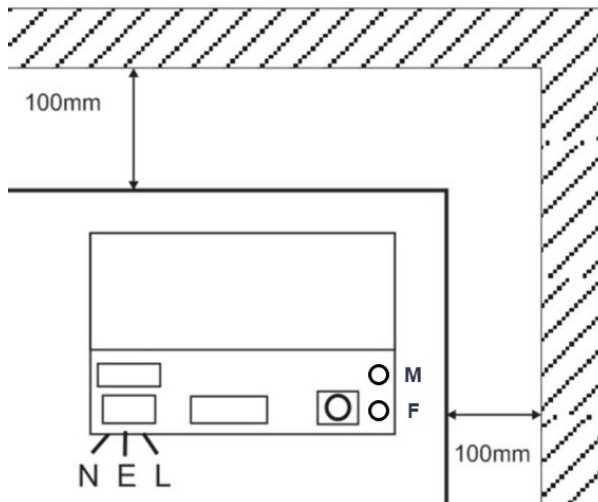


- The PSU is not suitable for external installation.
- Equipment must be earthed.

Before installation, ensure that external disconnect device is OFF. The PSU should be installed via a 3A fused spur according to all relevant safety regulations applicable to the application.

2.3.1 Mounting

1. Mount securely in correct orientation allowing minimum clearance – see diagram.



N	Neutral	M	Green Mains LED
E	Earth	F	Red Fault LED
L	Live		

2. Route mains and low voltage output cables via different knockouts and/or cable entry holes.
3. Use bushes and cable glands rated to UL94 HB minimum.

2.3.2 Mains power up

1. Attach correctly rated mains cable (minimum 0.5mm² [3A], 300/500V AC) and fasten using cable ties.

Note: After you install the ACTpro-1002A, Vanderbilt recommend that you place the provided ferrite bead (a noise-suppression device) around the power supply cable to attain a desired level of electromagnetic compatibility (EMC). The ferrite bead is provided along with a screw kit in a clear ziplock bag inside the unit enclosure.



2. Apply mains power and:
 - Check for 13.8V DC on load outputs.
 - Check the green Mains LED is on.
3. Disconnect mains power.

2.3.3 Load Output

1. Attach correctly rated load cable and fasten using cable ties. Note polarity.
2. Apply mains power and check the green Mains LED is on.

Note: The red Fault LED may be illuminated (dependent upon model) to indicate that no battery has been connected. This is normal.

3. Verify load is operating correctly.
4. Disconnect mains power.

2.3.4 Standby Battery

Note: Ensure batteries being fitted to this unit are in good condition

1. Connect battery leads to battery, ensuring correct polarity of battery connections. Vanderbilt recommend using a 7Ah battery.
2. Apply mains power and check that the green Mains LED is on.
3. Disconnect mains power.
4. Check that the batteries continue to supply voltage and current to the load.

The green Mains LED should be off.

Note: Batteries must have sufficient charge to supply the load.

5. Reconnect mains power.
The green Mains LED should be on.
6. Remove Load fuse and check that the red Fault LED is on (dependent on model).

2.3.5 Tamper

A tamper condition is reported in software.

1. Check that the tamper switch is reported in the software as:
 - Closed when the enclosure is mounted on the wall, lid is closed, and the lid screw is fitted.
 - Open when the lid is open.
2. Close cover and secure using fastening screw(s) provided.



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