

Edge VS5010 and VS5051

User Manual



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1 About this manual

This manual provides a guide to the installation and maintenance of the VS5010 and Edge VS5051 terminals.

2 Target group

This manual is intended to provide assistance to engineers installing and maintaining the Edge VS5010 or Edge VS5051 terminals at customer sites.

3 Presentation of the terminals

Edge terminals, based on the successful range of AoIP Alarm over IP (AoIP) terminals from AddSecure, offer a new concept in AoIP, providing cost effective VoIP/AoIP for alarm systems. Both the Edge VS5010 and the Edge VS5051 are based on the Edge VS5000 motherboard. This motherboard is a fully equipped circuit board designed to fulfill the task of a Grade 4 Secured Premises Transmitter (SPT) and meets all relevant standards for EN compliance in intercom and elevator systems.

The two products based on the VS5000 motherboard are as follows:

Variant	Application
VS5010	Is supplied without an enclosure and is intended to be installed in existing enclosures of intercom and elevator applications.
VS5051	Is supplied in a metal enclosure with 20Hr battery backup for use in elevator applications.

Polling and alarm transmission to the alarm receiving centre (ARC) are performed using 2G/3G/4G, Ethernet or Wi-Fi communications via the AddSecure Connect platform.

3.1 AddSecure Connect

AddSecure Connect is a cloud-based platform that uses a secure private LINK network via the on-board eSIM and does not require the installer to add a SIM card. It provides secure and controlled alarm transmission for fire, intruder, elevator, technical and other alarms. The platform simplifies setting up terminals and complying with regulations for the installer, the customer and alarm receiving centres.

Edge terminals are intelligently provisioned through AddSecure Connect.

AddSecure Connect is perfect for every situation where monitored communication between a site and the ARC of choice is required, as well as when there is a need for controlled remote access to an external device. Add Secure Connect has many features, amongst other, the following:

- Easy to switch ARC's when situation, alarm mix, or environment changes.
- Remote access for installers (analysis and setup) to save cost and time.
- Different alarms routed to separate ARC's for flexible requirements management.
- One alarm routed to multiple ARCs

AddSecure Connect also includes the AddView web portal which allows both customers and installers to monitor different installations and to set up notification services.

AddSecure Connect is only available when the customer or you, as their installer, or their ARC, have signed up for a subscription with AddSecure that defines the chosen service at the agreed subscription grade. For elevator alarms, AddSecure the grade is set at EU – Grade 2. A connection to one selected ARC is included in the basic subscription. Additional ARCs are optional.

As an installer, you may already be aware that you can analyse and setup an installation remotely over AddSecure Connect. You can read more about AddSecure Connect on www.addsecure.com.

4 Before you start

Ensure that a subscription to AddSecure Connect exists for this terminal before starting the installation. If you or the customer don't already have one, please contact AddSecure.

5 Package contents

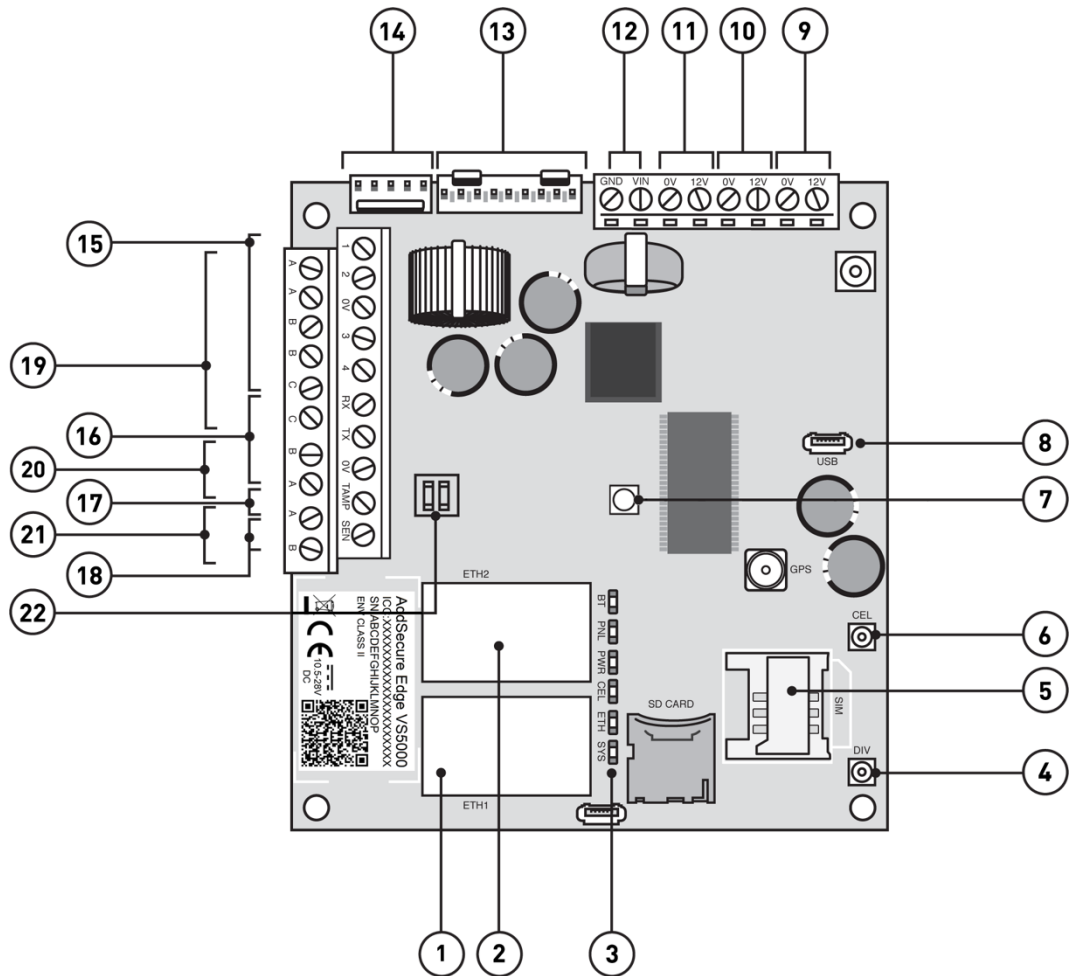
5.1 VS5010

- VS5000 PCBA board.
- 4 x screws and plugs for fixing the housing to a flat surface.
- 4 x self-tapping metal sheeting screws.
- 4 x board-to-board standoffs, 30 mm height.
- T-bar cellular antenna.
- This User Manual.
- Ethernet cable.
- Cable ties.

5.2 VS5051

- VS5000 PCBA board (in enclosure).
- H51 metal enclosure.
- 3000mAH 7.2V NiMH battery (in enclosure).
- 4 x screws and plugs for fixing the housing to a flat surface.
- 4 x self-tapping metal sheeting screws.
- Magnetic cellular antenna.
- This User Manual.
- Cable ties.

6 Board configuration



- | | |
|---|--------------------------------------|
| ① Ethernet 1 | ⑨ Power out: Vout3 (Call Connect) |
| ② Ethernet 2 | ⑩ Power out: Vout2 (Buzzer) |
| ③ LEDs | ⑪ Power out: Vout1 (Emergency Light) |
| BT = Not in use | ⑫ DC power in |
| PNL = Panel LED | ⑬ Expansion port |
| PWR = Power LED | ⑭ TTL serial port |
| CEL = Cellular LED | ⑮ Pin inputs (4) |
| ETH = Ethernet LED | ⑯ RS232 port |
| SYS = System LED | ⑰ Case Tamper input |
| ④ Cellular diversity antenna port (RX only) | ⑱ PSU sense |
| ⑤ SIM card slot | ⑲ Outputs (3) |
| ⑥ Primary cellular antenna port (TX/RX) | ⑳ RS485 port |
| ⑦ Test Button (Signal Strength) | ㉑ Dial capture port |
| ⑧ USB port (diagnostics) | ㉒ Battery port |

7 Installation

7.1 Prerequisites

Before starting this procedure, make sure that all the items listed under section 5, “Package Contents” are present and correct.

The main unit may only be installed in a locked elevator shaft where only authorized elevator engineers have access.

Make sure there is enough space to open the main unit cover once the unit is fixed in place.

7.2 Installing the VS5010 terminal

This procedure covers the installation of the VS5000 circuit board inside an approved alarm panel or cabinet enclosure and the connection of the relevant alarm devices. The enclosure should be positioned in order to ensure a good 4G signal and connection.

7.2.1 Procedure

Step	Action
1	Position and affix the VS5000 terminal in the enclosure using the fixing kits supplied.
2	Connect cables from the alarm panels, voice panels and alarm transmitters to the terminal PCBA to the appropriate connections, see section 7.6 “Connecting voice panels and alarm transmitters” below.
3	Finish this procedure by contacting the ARC to verify and test alarm transmissions.

Note: Do not place the interface cables close to any power cables as this could cause interference from electrical noise.

7.3 Installing the VS5051 terminal

This procedure covers the mounting of the housing, with the PCB fixed inside, in a suitable position.

7.3.1 Procedure

Step	Action
1	Affix the enclosure for the terminal in an appropriate place, taking into consideration the routing of both the power and the interface cables. Ensure that the interface cables are not close to any power cables as this could cause interference from electrical noise.
2	Position and affix the VS5000 terminal in the enclosure using the fixing kits supplied.

- 3 Connect cables from the alarm panels, voice panels and alarm transmitters to the terminal PCBA to the appropriate connections, see section 7.5 “Connecting voice panels and alarm transmitters”.
- 4 Finish this procedure by contacting the ARC to verify and test alarm transmissions.

7.4 Connecting power

Power to the terminal must be provided from a power supply providing 10.5 to 28V DC with a recommended 1.6A current. The power supply must be able to be connected using the screw terminals.

For the VS5051 only: If you have enabled the emergency light function, the power supply must be connected to the same fuse as the elevator car light. This also applies when the terminal is powered by the elevator controller.



IMPORTANT: You can connect the power supply but DO NOT APPLY POWER TO THE TERMINAL NOW. Power will be applied later.

7.5 Fitting backup batteries for VS5051

Connect the internal battery to the PCBA battery connector (22), see section 6, “Board Configuration”.



Note: Only use battery packs provided by AddSecure.

7.6 Connecting voice panels and alarm transmitters

All voice panels or alarm panels sited in elevators use the two-wire Dial Capture port (21), see section 6, “Board Configuration”. For the best voice quality make sure the voice panel is configured with full duplex



Note: The two-wire connection has no polarity so it can be connected either way round.

Connect the voice panels or the alarm panels to the Dial Capture port (25), see section 6, “Board Configuration”.

7.7 Connecting the terminal

Connect cables to the terminal PCBA to the appropriate connections, see section 6, “Board Configuration”.

7.7.1 Power Outputs

The terminal supports a battery backed, 12V DC output, rated 500mA continuous operation. This supply is shared via the following, independently switchable outputs, see section 6, "Board Configuration":

- ⑨ Vout1, Emergency light If power to the Edge terminal is lost, the emergency power will turn on.
- ⑩ Vout2, Buzzer If the alarm button connected to the voice panel is pressed and held for minimum 5 seconds, the terminal will start calling the ARC, and then the buzzer will start buzzing for 10 seconds. This time can be adjusted by Addsecure technical support.

⑪ Vout3, Power

This connection has 12 V output. It can, for example, be used for the Call Connect.

A suitable emergency light and buzzer are available from AddSecure on request.

7.8 Powering up the terminal

The terminal is now installed, so the power supply can now be connected.




Switch the power on and check that the indicator “SYS LED” is flashing (top green LED on PCBA). If it does not, you need to contact AddSecure.

8 Configuring the terminal

The terminal does not need to be configured. All the configuration and activation is done by AddSecure directly to the unit.











8.1 Checking signal strength

A good signal, at least 2 LEDs lit, is required in order to activate the terminal. To see the current signal strength, press and hold the alarm button for at least five seconds. The five LEDs will respond together, as a bar graph, to indicate the signal strength. For example:

	Low	Medium	Excellent
Cellular signal strength			

When a Reflash is occurring, all the LEDs flash whilst the Reflash is downloading and then stay on constantly during the re-programming.

The Edge terminal provides extensive feedback via its LED indicators, which have a flash range from 1 to 5 as shown in the table below. These are used to report status locally and to allow the installer to install the terminal correctly so it can signal to the AddSecure Connect platform.

LED	OFF  ^{100/0}	Flicker on  ^{90/10} (Trouble)	Flashing  ^{50/50} (Trouble)	On  ^{0/100} (Good)	Flicker off  ^{10/90} (Good)
Panel 	No panel (or not enabled)	Panel fault (check call overdue)	Panel OK, SIP test fault	Panel OK, SIP test OK	Panel and sip test OK, Dial port activity
Power 	No battery fitted (or not enabled)	Battery fault	Battery low (limited run time)	Battery OK	Battery OK, charging if power, discharging if no power
Cellular 	No connection (or not enabled)	SIM card registered	Internet accessible	Cellular polling	Polling OK, data activity
Ethernet 	No connection (or not enabled)	Local connection	Internet accessible	Ethernet OK	Polling OK, data activity
System 	No power		System fault	System OK	

9 Configuration of the voice panels

For details about the configuration of specific voice panels and alarms, please refer to the relevant manufacturer’s documentation on their websites.



Note: Voice panels shall be installed in accordance with EU directive 2014/33 and with EN81 regulations.

10 Commissioning test

VS5010 terminals do not require manual programming when sited in an elevator environment. All required information for configuration will have been provided when the AddSecure Subscription Application webform was completed. To ensure settings have been correctly downloaded please check the status of the LEDs on the lid of the terminal enclosure.

LEDs	Meaning
Panel	ON
Power	ON (Short blip shows charging ok)
Cellular Path	ON (Short blips when sending Data)
Ethernet Path	OFF (Not Enabled)
System	ON

If LEDs do not have these states after installation, please contact your local AddSecure Support team for assistance.

If all the LEDs are correct, test the installation by initiating an alarm or a voice call. This should be answered, which will indicate that there is a clear two-way communication. Confirm with the support team that the elevator alarm has been successfully delivered to the monitoring ARC.

Ensure that the monitoring ARC can initiate a call to the alarm or the voice panel(s).

To complete the installation, please ensure that an end-to-end test is performed with the ARC.

11 Maintenance routine

Maintenance routines are as follows:

- Periodic check of the alarm
- Maintaining data
- Confirm current status
- Periodic battery check
- Perform full test and confirmation of alarms

11.1 Periodic check of alarm

The alarm automatically makes a checking alarm call every 24 hours, so other intermittent testing is not necessary. However, the alarm should be tested by service engineers when service visits and elevator control testing are done as required by EU directive 2014/33.

11.2 Maintaining data

AddSecure keep the information about the location of the plant, phone numbers and related information updated, based on input from the owner or service partner. To change phone numbers and other account information, please contact AddSecure Support.

You must ensure that information about building access, lift location, contact persons and similar is kept up to date at the rescue services.

11.3 Confirm current status

Check the status by checking the LEDs on the lid of the unit.

When a LED is lit, that indicates that this particular function is working correctly.

11.4 Periodic battery check

The status of the battery should be manually checked periodically even though the battery status is continuously tested automatically. If the self-test finds the battery faulty, the Power LED will flicker. Also, a message will be sent through AddSecure Connect to the ARC. The battery should then be replaced with a new battery from AddSecure.


11.5 Perform full test and confirmation of alarms

In conjunction with the ARC, you should now perform alarm and voice call tests and, if necessary, other tests that the ARC needs to run or that are

specified by EU directive 2014/33 and the EN81 regulations. Before leaving the site, you should obtain confirmation from the ARC that all is working correctly.

12 Specifications

Section	Details
Ethernet	
Standard	10/100 Base T with auto-negotiation, up to 100m
Connection	RJ45 socket for CAT5 cabling
IP addressing	Dynamic (DHCP) or fixed
Fault detection	Loss of Ethernet synchronization
Wi-Fi	
Standard	IEEE 802.11 b/g/n
Connection	2.4GHz b/g/n with internal PCBA chip antenna
Fault detection	Loss of association/data
2G/3G/4G	
Frequencies	Penta band LTE (4G) 800/900/1800 MHz 2100/2600 MHz
	Dual band UMTS (3G) 900/2100 MHz
	Dual band GSM (2G) 900/1800 MHz
Connection	MMCX socket for antenna on PCBA. On VS5051 additional SMA socket on the outside of the enclosure.
Fault detection	Loss of registration with network
IP	
TCP ports (outbound)	53165 (Alarms and Polling), 51292 (Diagnostic and Reflashing), 10001 (Upload/Download)
Alarm Transmission Interfaces	
Interface to ARC	Addsecure Connect
Dial capture interface to voice panel	Two-wire interface via terminal block.
Serial interfaces	RS485, TTL (max 3 metres), RS232 (max 3 metres)
PIN Inputs interface	Maximum input voltage range 0V to +28V DC (max 3 metres) Input "low" (alarm) threshold < 1V Input "high" (restore) threshold > 2V Internal pull-up impedance 10K to 3.3V supply
Alarm protocols supported	
	SIA (level 1 to 3) reference SIA DC-03-1990.01(R2003.10)
	Contact ID reference SIA DC-05-1999.09
	FF (Scancom)
	Robofon (Dial capture only)
	Telim (Dial capture only)
	CESA (Dial capture only)
Panel protocols supported	

	2N (Lift)
	CPC (Lift)
	SAR (Lift)
	P100 (Lift)
	KONE (Lift)
Relay outputs	
Maximum operating voltage	24V DC
Maximum current rating	100mA DC
Local configuration	
Bluetooth	Dual mode Bluetooth 4.0
USB	Micro USB device, for use with IRIS Toolbox
Power supply	
Supply voltage	10.5V to 28V DC
Typical current (no DC outputs)	200mA @ 12V DC (not charging), 500mA @12V DC (charging)
Maximum current (no DC outputs)	1A @ 12V DC
Recommended external PSU (with DC power outputs)	 15V DC 1.6A 24 Watt. Note: To comply with the Radio Equipment Directive, 2014/53/EU.
DC power outputs	
Output voltage	12V DC
Total output current (shared, continuous rating)	500mA
Current protection	1.5A electronic protection, 2.2A polyfuse
Number of switchable outputs	3
Voltage at which fault is reported	10V
Voltage at which fault is restored	11V
Power storage device	
Type	7.2V NiMH rechargeable batteries
Capacity	3000mAh
Time to recharge to 80% capacity	16 hours
Voltage at which fault is reported	6.75V DC
Voltage at which fault is restored	7.50V DC
Over-voltage protection triggered	9.5V DC
Deep discharge protection	6V DC
Environmental	
Operating temperature range	-10°C to 55°C
Operating humidity range	95% max., non-condensing
Weights and Dimensions	
Physical dimensions (L x W x D)	15 cm x 17 cm x 5.1 cm
Terminal weight (housing, PCBA, battery)	1.2 Kg
Fully packaged weight	1.8 Kg

13 Safety

In order to avoid safety hazards, care should be taken when connecting telecommunications equipment to ensure that only compatible interfaces are connected. This is measured using SELV values. These are defined as a

secondary circuit which is so designed and protected that under normal and single fault conditions, the voltage between any two accessible parts does not exceed a safe value (42.4V AC peak or 60V DC maximum).

The terminal's interfaces has the following safety classifications:

- Dial capture interface: SELV suitable for connections to the TNV interface of single line telecommunications equipment such as telephones, alarm panels, etc.
- Power Interface: SELV for connection to DC Supply
- Inputs: SELV for connection to alarm output pin.

14 Conformance

The terminal complies with the following European Directives and standards:

- 2014/53/EU (Radio Equipment Directive)
- 2002/96/EC (WEEE)
- 2011/65/EC (ROHS)
- No. 1907/2006 (REACH)
- EN81-28*
- EN81-20*
- EN81-70*

*Only relevant sections that apply to this terminal.

15 Contact

General: www.addsecure.com

15.1 Installation and Service Support

Norway	Sweden
Telephone: +47 911 33 700	Telephone: +46 20 322 000
Email: service.support.se@addsecure.no	Email: service.support.se@addsecure.se http://www.addsecure.com

15.2 Sales enquiries

Norway	Sweden
Telephone: +47 911 33 700	Telephone: +46 8 685 15 10
Email: sales.support.no@addsecure.se	Email: sales.support.se@addsecure.se

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