



Velocity Installation Guide

EV charging station must be installed and commissioned by a Registered Electrician

FE-AM3-32-WB



Please Note

- This document is current at the time of printing. Please ensure you have the latest version. See Velocity website for more information.
- The distributors of Velocity reserve the right to make changes to this document or the products described without notice.
- For questions relating to this product, and its use or installation, please refer to contact details (right)
- Read all instructions before installing or using this product.

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Product Description

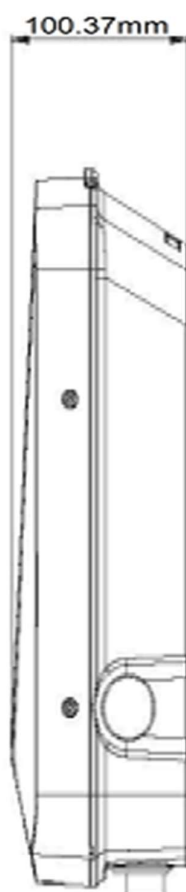
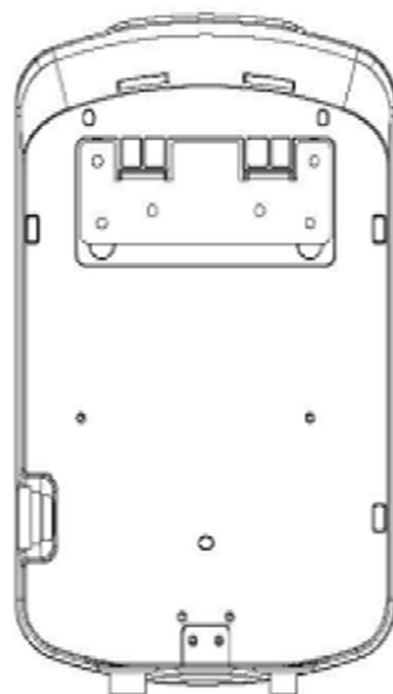
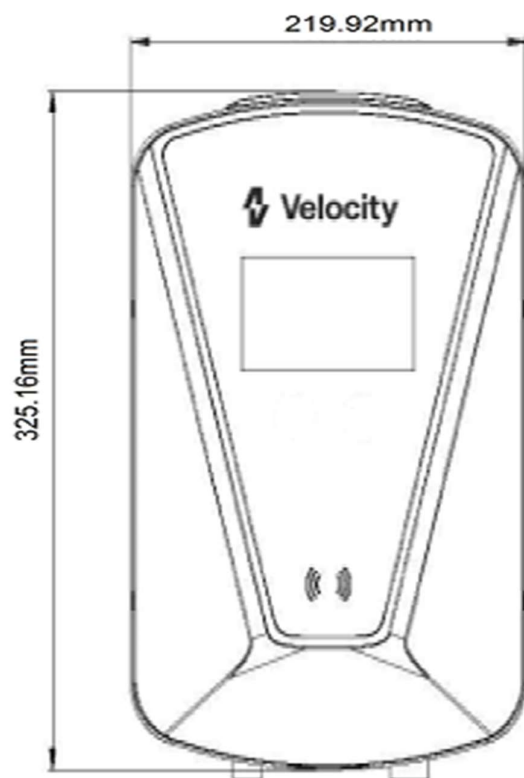
Velocity Type 2 EV Charger Features:

- Functionality via controls on unit or Tuya Smart App
- RFID swipe tags supplied
- 4.3-inch LED screen
- Smart EV charging capability
- Programmable timers
- Installed with WorkSafe recommended, New Zealand certified Type B RCBO Circuit Breaker fitted to the switchboard
- Dynamic load balancing
- Tethered Type 2 Plug
- Type 1 plug compatible device with Velocity adaptor available
- Weatherproof for indoor and outdoor installation
- 3-Year Warranty
- Manufactured specifically for New Zealand conditions

Scope of this document

This document only refers to the FE-AM3-32-WB Series charger, please refer to the correct documentation if this does not apply.

Technical Specification	
Model	FE-AM3-32-WB
Voltage	230 - 250V
Power	7KW
Communication (Optional)	Wi-Fi; Bluetooth
RCD	TypeA+DC6mA inside Velocity Unit
User interface	LED light + LCD display (4.3 inch) + RFID
Charging interface	Type2+5M tethered cable
Frequency	50/60Hz
Degree of protection	Charging gun: IP55, charging station: IP65
Operating temperature	-30°C to 55°C
Operating humidity	5%-95%
Product dimensions	325*220*100(H*W*D) mm
Packing list	Mount for hanging gun 1pcs, Large hanging pane 1pcs, Small hanging panel 1pcs, KA-M4*40MM screw 8pcs, 6mm Expansion rubber plug 8pcs, KM-M3*12MM screw 2pcs, RFID card 3pcs



Installation

Important:

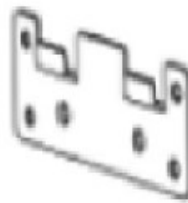
1. Installer to use appropriate equipment and protective clothing.
 2. Product must be installed with appropriately rated wiring and upstream circuit breaker.
 3. Product requires an upstream Type B RCBO to be installed with wiring as per applicable legislation. **Velocity must not be installed without a Type B RCBO.**
 4. Where possible, protect the charging station from direct sunlight to prevent charging speed reduction or charging interruption due to overheating.
 5. Do not cover unit or install in an area with poor airflow.
- ❖ All charging stations should be mounted at least 800mm above ground level. The lowest point of the vehicle connector when stored shall be at a height between 0.5m and 1.5m above ground level.
- ❖ The sides of the unit are not vertical and should not be used to find a level. The back plate has flat sides suitable for placing a level against before drilling. When screwing the unit to the wall, use the top face of the unit to place a level against. The unit must be mounted vertically as per illustrations. Velocity EV Chargers must not be installed in a horizontal position.



4 * 4mm Phillip
drive screws



Small hanging
panel screws (2pc)



Large hanging
panel (1pc)



6mm Expansion
rubber plug (8pc)



RFID Cards
(3pc)



Small hanging
panel (1pc)

Mounting points

Velocity must be mounted on the supplied mounting plate. Do not mount Velocity in a horizontal position. Mounting holes should be drilled in all 6 of the locations specified.

The Velocity charging unit must be mounted at least 800mm above the ground level. The lowest point of the vehicle connector when stored should be at a height between 0.5m and 1.5m above ground level. Do not deviate from these measurements.

Mounting the charger

The mounting surface must be flat to ensure that the charger is level and secure. Extra care is required on weatherboard and uneven surfaces when mounting the backing plate.

For timber framed walls, 3mm pilot holes are recommended. For concrete walls, a 6mm masonry bit is required to allow insertion of the supplied wall plugs.

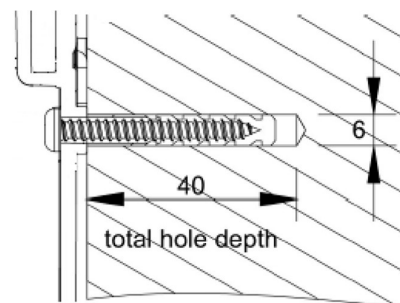
Timber framed wall mounting example

For timber framed walls, the screws must enter solid structural framing inside of the wall. If this is not possible, suitable anchoring hardware should be used.

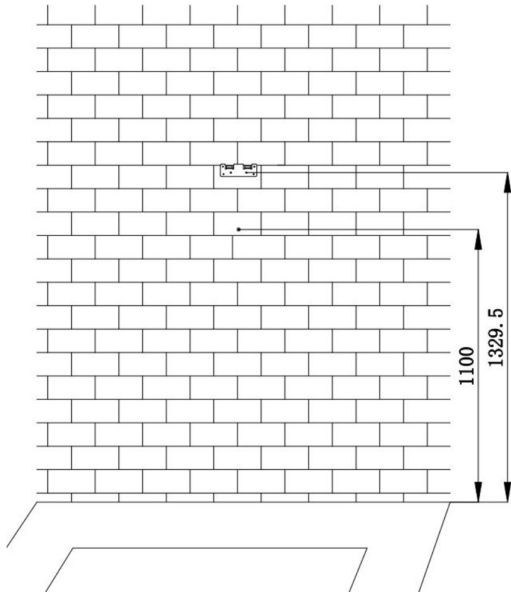
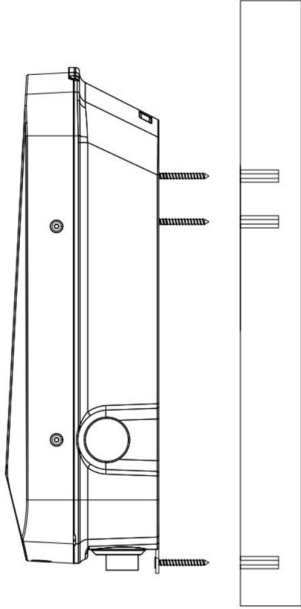
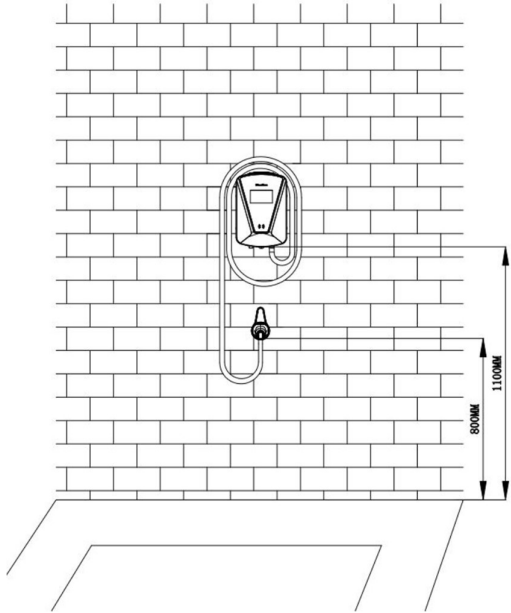
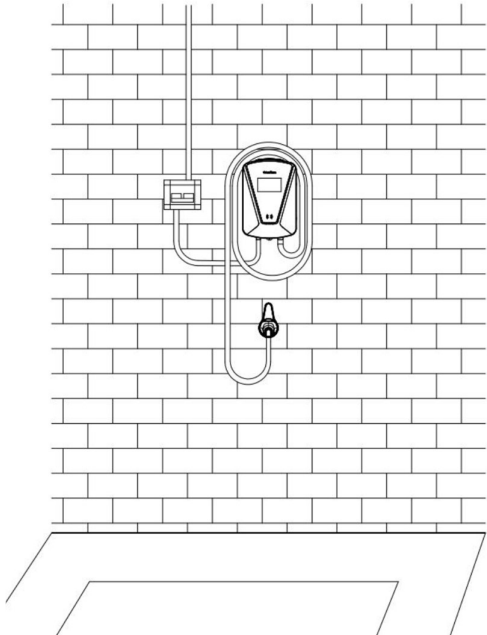
Solid wall mounting example

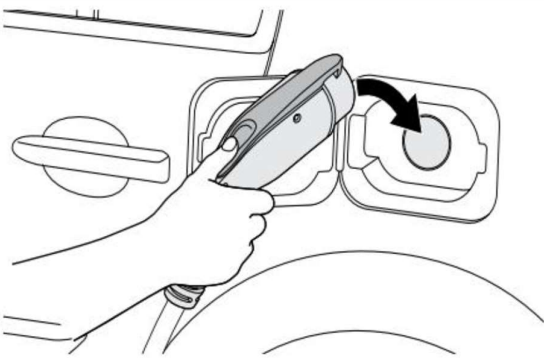
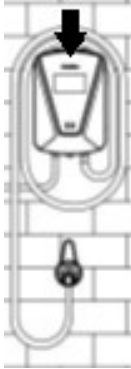
The diagram below shows a cross section of one of the four mounting holes in a solid wall such as concrete.

For concrete or other solid walls, use the supplied wall plugs. Recommended hole depth is 40mm with a 6mm masonry bit.



Installation Steps

	
Step 1: Spacing. Install the large hanging panel at least 0.8m from the floor and keep the following requirements in mind for distances from the floor.	Step 2: After installing the small hanging panel on the end of the control box with short screws, hang the device on the large hanging panel and fix the small hanging panel on the wall.
	
Step 3: Install the Mount for hanging gun.	Step 4: Installation of electrical supply. Turn on the power to confirm that the LED light and the display start normally.

	
Step 5: Commission unit and charge.	6. Tear off dual protective film.

App Connections

Adding device

1) Application download

Download Tuya Smart App from the Apple App Store or Google Play store



Tuya Smart

2) Configure the charging device network

Ensure that the charging device and the mobile phone are in the same Wi-Fi network (5G band Wi-Fi is not currently supported) and that the phone located near the charging device. When the device is powered on, open the Tuya APP, and the networking status of the charging device will be displayed as follows:



Wait for Network



Connected



Unconnected

If there is a timeout or network distribution failure during network distribution, please check whether the Wi-Fi network has been connected to the network and the router is working in the 2.4G band or the phone is too far away from the charging device, resulting in Bluetooth connection failure. If these situations, repeat the above operations to successfully configure the network.

Wiring Connection

Wiring connection

Always ensure that the main supply is isolated before beginning the installation.

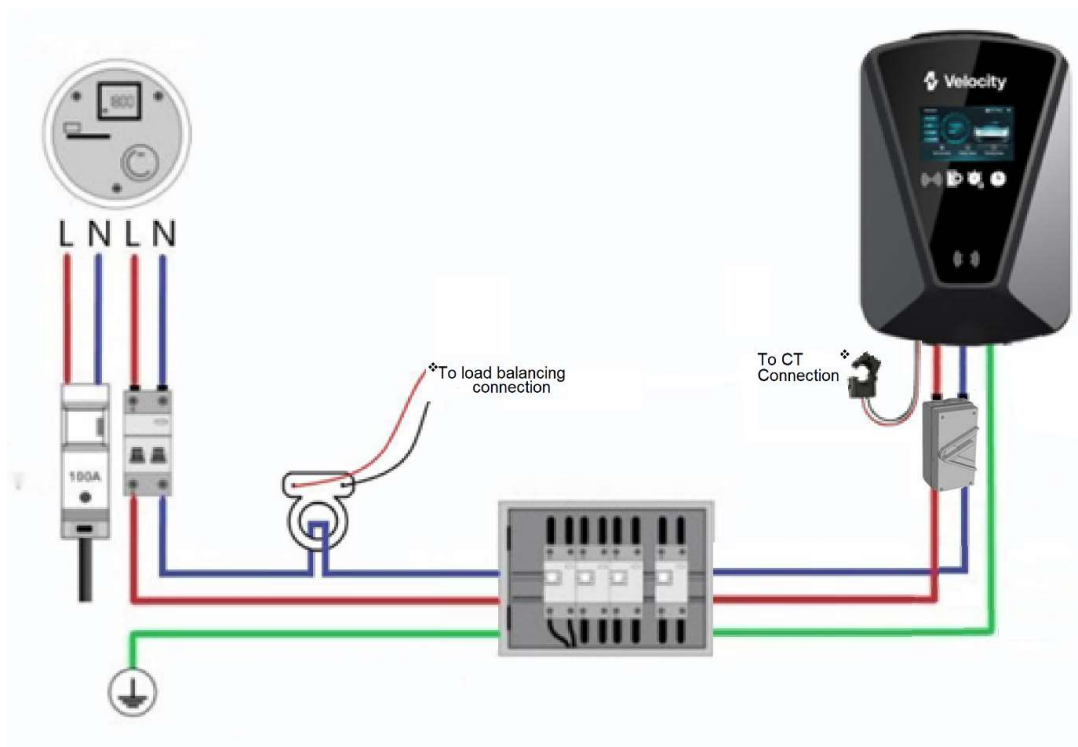
The installer must ensure that the charger is correctly earthed.

The FE-AM3-32-WB Series are 'mode 3' charging stations. Due to their high current consumption, they must be connected to a dedicated feed from the main distribution board.

The charger must not be powered on without the terminal cover in place.

Single phase wiring example

Product requires an upstream type B RCBO – See upstream protection section (Page 14)



Aviation connector connection: External current sensor grey wire connected to the male logo "L" black wire connected to the male logo "N" (current transformer clamped to the household outlet line on the fire wire).

Setting the maximum charge current

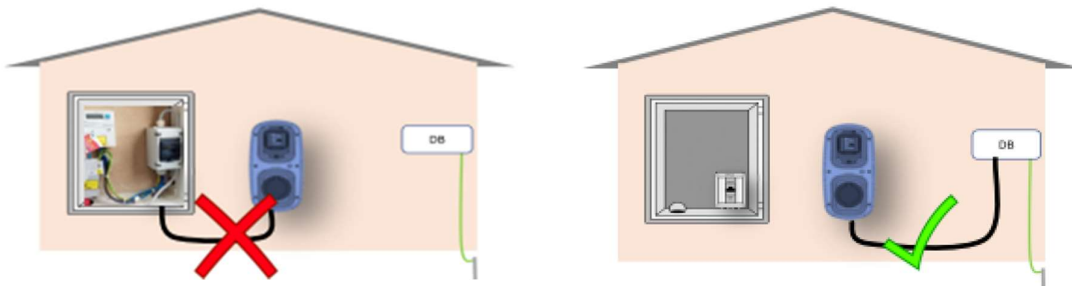
All Velocity FE-AM3-32-WB Series chargers are set to 32A charge current as a default. Depending on the capacity of the upstream supply, the maximum charging current can be set lower than 32A during installation by pressing and holding the charge delay for more than 10 seconds.

Charging current can be adjusted between 6A and 32A. With the current transformer installed the charger will dynamically adjust output depending on available supply capacity.



Earthing the charger

For minimum cross-sectional area of the protective conductor refer to section 5.3.3 of current version of AS/NZS3000.



Installation of the protective device for the final circuit is not currently permitted in the external meter cabinet.

Final circuit for EV charging points must originate from a suitable distribution point.

Upstream protection - guide only

The following recommendations are provided as a guide.

Upstream protection should be installed in accordance with local regulations.

Residual current protection and a suitably rated means of over-current protection should always be installed at the origin of the final sub-circuit. This could be an MCB installed alongside an RCD or an RCBO. The tables below are advisory and based on the common availability of protection devices.

Residual current breaker: RCBO

Single-phase only

RCBO (1P+N, Type B) included.

IEC/EN61009-1

IEC/EN62423

SAA

Model	Trade Name	Rating/Marking
EKL5-63B B32	ΕΤΕΚ (ETEK)	$U_n = 230/240 \text{ V} \sim$ for 2P (1P+N), 50 Hz $I_n = 32 \text{ A}$ $I_{\Delta n} = 30 \text{ mA}$ Type B $I_{cn} = I_{cs} = 6000 \text{ A}$ $I_{\Delta m} = 3000 \text{ A}$

Notes

- Pre assessment must be carried out to ensure that the incoming tails are that of a size and standard suitable not only for the installation but also to carry the additional load of the new car charger.
- Cable size for the final circuit must be appropriate to the charger; also considering for volt-drop.
- All current carrying conductors must be interrupted.
- The final circuit earthing system must be that of a TN-S system
- The RCBO must comply with one of the following standards: IEC 61008-1, IEC61009-1, IEC 60947-2, or IEC 62423
- The RCBO can be used instead of RCD and circuit breaker. It must meet all RCD and circuit breakers requirements as shown above.
- All E2 Series charge points have a 6mA DC current detection device (Residual Current Monitor) built in.
- Load monitor devices should be tested to ensure that the load of the charger is varying in relation to the load on the installation.

Charging Status and LED Definition

Working Status	Blue	Purple	Red
Standby	On	Off	Off
Swipe	Flash	Off	Off
Connecting	Flash	Off	Off
Charging	Off	Flash	Off
Finished	Off	On	Off
Err: CP	Off	Off	Flash once
Under Voltage	Off	Off	Flash twice
Over Voltage	Off	Off	Flash 3 times
Elec Leakage	Off	Off	Flash 4 times
Over Current	Off	Off	Flash 5 times
Over Temp	Off	Off	Flash 6 times
Err: Reset	Off	Off	Flash 7 times



Ready
LED light: Blue, always on



Charging / charging completed
LED light: Purple (flashing / always on)



Fault
LED light: blinking red

Trouble Shooting

Fault Name: Abnormal communication (Internet mode)

LED Screen: Flash red once

Possible Causes: Poor background communication from modem

Next Steps:

- 1) Check whether the network cable is properly connected.
- 2) Check whether charging station is correctly configured in the background.

Fault Name: Abnormal charging gun connection

LED Screen: Flash red once

Possible Causes: Charging gun CC/CP connection exception

Next Steps:

- 1) Check whether charging gun is connected to the vehicle correctly.
- 2) If fault persists – contact EnergySmart 0800 88 11 88

Fault Name: AC Undervoltage

LED Screen: Flash red twice

Possible Causes: AC Input voltage is too low

Next Steps: Check the display screen data and analyse. If the voltage in this area is chronically “Under Voltage” (85Vac), please contact your electricity provider. Fault

Fault Name: AC Overvoltage

LED Screen: Flash red three times

Possible Causes: AC Input voltage too high

Next Steps:

- 1) If the voltage exceeds 264Vac for a short time, wait for the power grid to restore itself to the normal voltage range.
- 2) Check the display screen and analyse, if this area is “overvoltage” for a long time, the input over voltage protection point can be increased through the configuration software, up to 264Vac, please contact your electricity provider.

Fault Name: Ground fault

LED Screen: Flash Red 4 times

Possible Causes: The input/output is improperly grounded, or the input L/N is inversely connected

Next Steps:

- 1) Immediately turn off the leakage/overcurrent protection switch in the switchboard.
- 2) Phone EnergySmart. 0800 88 11 88

A Registered electrician should:

- 1) Check whether the input and output cables of ac stations are grounded properly and whether the input L/N cables are connected in normal sequence.
- 2) After the fault is rectified, power on the device again.

Fault Name: Leakage current exceeds standard

LED Screen: Flash Red 5 times

Possible Causes: High leakage current to the ground

Next Steps:

- 1) Immediately turn off the leakage/overcurrent protection switch in the switchboard.
- 2) Phone EnergySmart. 0800 88 11 88

A Registered electrician should:

- 1) Check whether the output line of the AC station is damaged or has low impedance to the ground.
- 2) After the fault is rectified, power on the device again.

Fault Name: Overtemperature

LED Screen: Flash Red 6 times

Possible Causes: The temperature in the AC station is too high

Next Steps: Check the AC station installation environment. Check whether there are other heating devices nearby. Ensure that the ambient temperature is below 60 ° C.(140°F)

Fault Name: REAST Warning

LED Screen: Flash Red 7 times

Possible Causes: Unit reset

Next Steps: Turn Red knob on right side of unit to reset.

