



Temporary Power Distribution



# **IDEV**

## **Temporary Electric Vehicle Charging Solutions.**





# The Future is IDEV.

Our range of temporary EV chargers are suitable for charging at remote locations such as, construction sites and festivals.

## The benefits of using IDEV Chargers:



Set up in minutes.



Easy to deploy, transport and store.



Simple plug and play design.



Portable and free standing.



Charge up to 2 x electric vehicles at the same time.



Dynamic load sharing - group of chargers set to a maximum kW.



EV charger units include a cloud-based billing and operating system. Charging sessions are managed via a mobile APP (iOS & Android).



# Portable, Robust & Reliable EV Chargers.

Suitable for Construction sites, Events and Festivals.



## IDEV SmartCharge AC EV Chargers.



The IDEV SmartCharge AC charging unit has been designed to charge electric vehicles from a temporary power source.

### Specification:

- > Dual Mode 3 Type 2 outlets
- > Variable kW rating available (7 to 22kW)
- > PEN loss detection system
- > 6mA DC feedback detection system
- > High/low power selection by software
- > 30mA Earth Leakage Protection
- > Up to 3 charge units, 6 charging points can be connected in line and powered from a single 63A 3 phase supply, or 6 modules with 12 charging points in "low power" mode.
- > IP44

### Enclosure:

- > Powder coated steel

### Technology:

- > Cloud Based Billing System
- > NFC Charge Activation

### Options:

- > Free standing with carry handles
- > Crash Frame:
  - > Galvanised steel box section frame



# The full range of EV Chargers.

## Portable Smart EV Charger.

	Onsite•EV-Sc-1	Onsite•EV-Sc-2
Technical Spec	<ul style="list-style-type: none"><li>&gt; Galvanised steel box section frame</li><li>&gt; Dual 7.4W, Type 2 Sockets</li><li>&gt; 63A 3Phase input</li><li>&gt; 63A Feed Through +Phase selector</li><li>&gt; Electric Vehicles (Smart Charge Points)</li><li>&gt; Regulations 2021 Compliant</li><li>&gt; Online Platform available</li><li>&gt; Optional NFC Charge Activation</li></ul>	<ul style="list-style-type: none"><li>&gt; Galvanised steel box section frame</li><li>&gt; Dual 3.6-7.4kW, Type 2 Sockets</li><li>&gt; 63A 1Phase input</li><li>&gt; Electric Vehicles (Smart Charge Points)</li><li>&gt; Regulations 2021 Compliant</li><li>&gt; Online Platform available</li><li>&gt; Optional NFC Charge Activation</li></ul>
Other	Online Platform available	Online Platform available
Dimensions (mm)	W430 x H710 x D335	W430 x H710 x D335
Weight (kg)	22.5kg	22.5kg



## Freestanding Portable Smart EV Charger.



## Smart EV Charger Complete with Crash Frame.

	Onsite•SDEV-3-M2	Onsite•SDEV-3-M5
Technical Spec	<ul style="list-style-type: none"><li>&gt; Dual 7-22 kW, Type 2 Sockets</li><li>&gt; 63A 3Phase input</li><li>&gt; Electric Vehicles (Smart Charge Points)</li><li>&gt; Regulations 2021 Compliant</li></ul>	<ul style="list-style-type: none"><li>&gt; Dual 7-22 kW, Type 2 Sockets</li><li>&gt; Dynamic Load Management Required For linked units</li><li>&gt; 63A 3Phase input + 63A 400V+N Feedthrough</li><li>&gt; Electric Vehicles (Smart Charge Points)</li><li>&gt; Regulations 2021 Compliant</li></ul>
Other	Online Platform available	Online Platform available
Dimensions (mm)	W612 x H1292 x D330	W612 x H1292 x D330
Weight (kg)	40kg	39kg



	Onsite-SEV-1	Onsite•SEV-1	Onsite•SEV-3	Onsite•SEV-5
Technical Spec	<ul style="list-style-type: none"><li>&gt; Single 22 kW Type 2 Socket</li><li>&gt; 32/3 phase in supply.</li><li>&gt; 1 single port out – 3.7-22kw.</li><li>&gt; Electric Vehicles (Smart Charge Points).</li><li>&gt; Regulations 2021 Compliant</li></ul>	<ul style="list-style-type: none"><li>&gt; Dual 7.4kW, Type 2 Sockets</li><li>&gt; 63A 3Phase input</li><li>&gt; 63A 3 Phase Feed</li><li>&gt; Through +Phase selector</li><li>&gt; Electric Vehicles (Smart Charge Points)</li><li>&gt; Regulations 2021 Compliant</li></ul>	<ul style="list-style-type: none"><li>&gt; Dual 3.7-22kW, Type 2 Sockets</li><li>&gt; 63A 3Phase input</li><li>&gt; Electric Vehicles (Smart Charge Points)</li><li>&gt; Regulations 2021 Compliant</li></ul>	<ul style="list-style-type: none"><li>&gt; Dual 3.7-11 kW or Single 7 -22 kW (Configurable in software)</li><li>&gt; Type 2 Sockets</li><li>&gt; 32A 3Phase input</li><li>&gt; Electric Vehicles (Smart Charge Points)</li><li>&gt; Regulations 2021 Compliant</li></ul>
Other	Online Platform	Online Platform	Online Platform	Online Platform
Dimensions (mm)	W350 x H690 x D330	W350 x H690 x D330	W350 x H690 x D330	W350 x H690 x D330
Weight (kg)	22kg	22kg	22kg	22kg





IDEV SmartCharge is a unique EV charging platform providing businesses, organisations and similar with the ability to deploy and self-manage their very own EV charging network without having to incur any of the significant costs associated with developing a back-office, phone app and secure payment/management platform.

### A SELECTION OF FEATURES:



Smart Charging Network



Mobile App / RFID  
Operated Charging



Operator Management



Optional Revenue Stream



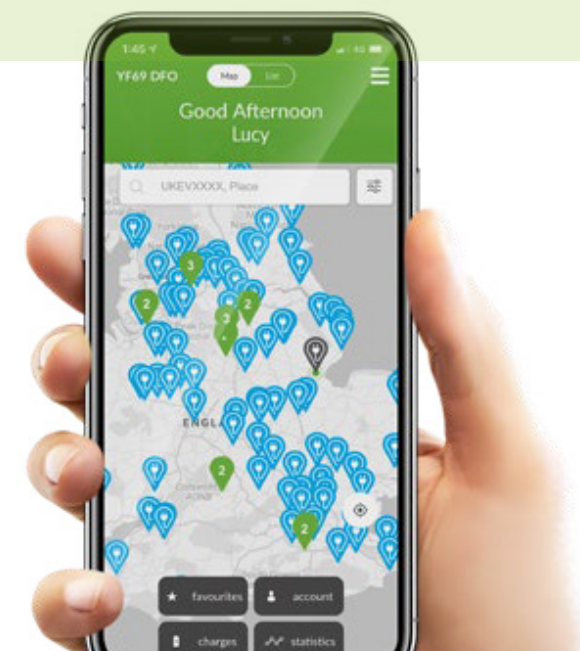
Analytical Feedback



Customisable EV Driver Tariffs

# Charging Platform with IDEV Electric Vehicle Chargers.

Enabling you to manage and operate your own charging network.





# Benefits for your business.

## You're In Complete Control

Unlimited use of an industry leading back-office platform enabling you to have full management and control of your entire EV charging network.

## Future-proof & Scalable Solution

Manage single or multiple charge points with the option to accommodate private network charging (staff members, fleet drivers etc), ensuring your chargepoints are secure from unauthorised usage. Add more EV charging points to your infrastructure as and when demand increases.

## Mapped Network

Complete mapped overview of your network as well as the ability to group your charge points at your premises/sites using the platform's interface.

## Customisable Tariffs

Operate your charging points via pay-to-charge, free-to-charge, or BIK options. For example, you may wish to offer free charging to employees, whilst providing visitors with a pay-to-charge service.

## Generate Revenue

Immediate revenue stream by simply setting your own EV charging tariffs, with the ability to change as and when you wish to suit your business requirements. The revenue summary page provides you with a clear itemised overview of your generated revenue.

## Smart Reporting & Analytical Feedback

Full visibility of real-time charge point activity, monitoring and energy usage all at the click of a button, helping you understand charging behaviours and where further infrastructure is required. You can easily access and export all historic data and reports.

## Fleet Management Solutions

Ability to assign RFID card/fobs to drivers or vehicles which can then be used to authorise charging sessions. There is also the option to restrict charge points to specific VRMs (Vehicle Registration Marks), making the ideal solution for fleets.

## Automatic Fault Notifications

Fault notification feature allows the team to provide support when required.

## Over The Air Updates

The OCPP integration enables remote over the air firmware updates ensuring you're always on the latest version.

## Optional Electrical Load Management

Ideal for locations that require multiple EV charging points where the collective load may be greater than electricity supply. The optional load management feature ensures all charging facilities are available for use.



# Benefits for the EV Driver.



## Easy To Operate

The EV driver plugs in to the charge point and activates their charging session by simply scanning the charge point's QR code using their smartphone's camera. Alternatively, they can enter the socket ID number via the VENDELECTRIC app or present their chargepoint host issued/personal RFID cards/fobs (eg. vehicle/charging network/security access).

## No Upfront Costs

There are no hidden fees, unnecessary charging network membership, subscription or connection fees.

## Secure Payment Platform

For charge points that are set to operate on a pay-to-charge tariff, the user pays for the charge advertised on the app using secure Visa, MasterCard and JCB payment methods via Opayo.

Opayo

VISA

mastercard

JCB

# APP Features.



**Locate & Navigate**  
Easy to find and navigate to a chosen charging point



**Charge Sessions**  
View all of your current and past charging session information



**My Favourites**  
Save your favourite charging locations for future use



**Statistics & Analytics**  
Understand your EV charging activity/behaviour



**Exportable Data**  
Ideal for submitting your benefit-in-kind claims



**Live Notifications**  
Receive charging session notifications and alerts



**Virtual Wallet**  
Top-Up a virtual wallet which makes activating a charge much quicker



**Multi Vehicle Access**  
Multiple EVs can be added to a single registered account

# Fast EV Charging for larger vehicles.



## IDEV Multi Stand DC Charger



The Terra 124 is a connected charging station designed for convenient fast charging of vehicles equipped. For the fast charging of EV cars, vans, busses, and coaches at events, race circuits, temporary units where repairs are being undertaken on current units.

### Specification:

- > Incomer is selectable between-400A 3 phase + N Powerlock set/ 125A 5 pin IP67 plug (unit must be set to restricted output).
- > Incomer connection, 400a 3 phase + Neutral, Single car charge, 120kW, Dual car charge, 60kW.
- > Incomer connection, 125a 3 phase plug, Single car charge, 80kW, Dual car charge, 40kW.
- > The Terra 124 can charge one car with max. 120 kW (with max. 200A), or 2 cars simultaneously with max. 60kW (each with max. 200A)
- > Combined Charging Standard (CCS), also known as Combo-2 (for Europe).
- > 120 kilowatts of charging power, it can charge electric vehicles in a short time, with a voltage level up to 920V for CCS.

### Enclosure:

- > Crash Frame:
  - > Galvanised steel box section frame
  - > Galvanised steel gland plate
- > Lifting eyes and fork pockets for delivery and locating

### Technology:

- > Cloud Based Billing System
- > Charging reports for usage tracking

### Dimensions and Weight:

- > Size (mm): H2102 x W998 x D1246
- > Weight: 660Kg





# Useful Information.

## AC vs DC charging:

AC uses an onboard charger to convert to DC. This determines the charging capability, depending on vehicle. For instance, a Tesla Model 3 can charge at 11kWh maximum, even on a 22kWh charge point. For fast charging a DC charger is needed, which bypasses the onboard charger, and can deliver 100kWh + if the vehicle is capable. Fast DC chargers are usually found at motorway services and petrol stations. AC charging is generally for destination charging such as work place, home and car parks.

## Charging rates:

Although engineers understand Kilowatt Hours (kWh), and charge rates, for many people the simple "miles per hour" or how many miles of charge can be achieved per hour of charge is more easily understood e.g 17 miles per hour. This is dependent upon the charge point capability and how fast the on board car charger is, the vehicle software often works this out for you, and tells you the "miles per hour" charge rate being delivered.

## Single vs 3 phase:

Not all vehicles can take advantage of 3 phase charging, and certainly most plug-in hybrids are single phase only. Both systems use the same cable, it's the charger that determines what's available. The advantage of 3 phase is up to 22kWh charging, if the vehicle is capable, but most can benefit from 11kWh (say 25 miles of charge per hour). In a temporary installation where a generator may be used, 3 phase charging, even if limited to 16A per phase (11kWh), helps to balance phase loads which is better for the generator. IDE recommends 16A 3 phase, or 32A 3 phase if a fast charge requirement is needed (again bear in mind most vehicles cannot use the full 22kWh).

## How far can I go?



To calculate distance, use the formula: 'battery size in kWh' / 'Wh per mile'. E.g Renault Kangoo ZE, 31kWh battery, 265 Wh per mile, so 117 miles typical. Of course like a petrol or diesel car, range depends on how fast you drive, acceleration etc. Batteries are also affected by temperature, so on cold days range is less than warm days.

# An example of charging throughout the day:



Kangoo can charge at 7.4kWh, so achieves 28 miles per hour.



If the driver manages 10 minutes of charging 6 times a day, such as when loading/unloading, an extra 28 miles of charge can be gained.



A 30 minute lunch break gives 14 miles extra. Or 5 hours on site working means they could easily travel 90 miles to work, and 90 miles back, even with a battery capacity of 117 miles.

## Charger functions:

When the vehicle is plugged in, the charger goes through handshaking with the car to determine:

- > Cable size
- > Charge point capability
- > Charging rate of the vehicle
- > Earth continuity

The charger then sets its maximum allowable charge rate, to ensure no overloading of the cable or power supply. There are a few connector types available such as CHAdeMO & CCS. CCS is most commonly used in Europe, and is pretty much the standard now. It supports both AC and DC fast charging in a single connector. Faster chargers (DC) tend to have tethered cables, whereas AC chargers tend to use the vehicle owners own cable.

For temporary applications IDE recommends a socketed charger and vehicle owners cable, which prevents cable damage causing chargers to go out of use, and is less prone to vandalism.

## PEN and DC 6mA Protection Regulations:

EV Charger installations rely on a protected Earth and Neutral scheme (PEN). When the PEN conductor is broken the neutral voltage can rise with respect to true earth and the normal protective earth forms the return path for any current that could flow.

For an EV charger this means that the body of the car forms the return path, presenting a real risk that anyone touching the car will get an electric shock. This is why the 18th Edition of the wiring regulations (BS7671:2018) tightened up the rules under clause 722.411.4.1 on the installation of EV charge points for domestic installations. All IDE chargers have a protection circuit that detects a PEN fault and disconnects the charger output, protecting the user and removing the need for Earth spikes at the temporary charge point.

The nature of battery charging using AC to charge DC batteries can create DC current feedback affecting standard RCD circuits. This may cause the RCD to lock up and not provide protection for earth leakage faults. The 18th Edition rules require an installation to monitor for DC currents above 6 mA, and if detected switch off the charge current. All IDE chargers have a 6 mA DC detection circuit ensuring they comply with the standard when connected to a 30mA RCD / RCBO.



# Operation.

As a 'Smart' product, this chargepoint can be operated and/or monitored by a wide range of web enabled devices.










Alternatively, it may be operated manually via an RFID card/fob

## VendElectric EV Driver Application

The VendElectric EV Driver Application is a *free download* for use with smartphones running Google Android or Apple IOS. The application may be downloaded from Google Play or the Apple App Store.

Alternatively, the application can be used via a web browser.: <https://app.vendelectric.com>  
Users of different applications should refer to the specific application developer's documentation.

1. Refer to the status indicator guide to determine whether the chargepoint is available for use.

Status Indicator Guide		
	Flashing blue light	Ready for charge – cable not connected to vehicle.
	Flashing green light	Ready for Standard Charging.
	Fixed blue light	Cable plugged in but not charging.
	Fixed green light	Charge in progress.
	Fixed red light	Potential earth leak fault detected by the 6mA DC device.
	Flashing red light	Potential Communications Fault.
	Flashing alternate red and green	PEN fault detected by the TruePEN device and charging has been stopped. <b>NOTE:</b> Indication is cancelled when the TruePEN device is reset, and normal operation is restored.
	Fixed or flashing amber/yellow	Software update is in progress. Do not interact with the chargepoint until the LED returns to Flashing blue.
	No light	No power to the unit or the breaker within the unit has tripped and needs to be reset.

2. Make sure the status indicator shows that the unit is ready to charge.
3. Connect the charging cable to the chargepoint (socket chargepoints only).
4. Connect the other end of the cable to the vehicle.
5. Use the mobile application to start the charge session.
6. Alternatively use an RFID card/fob to start the charge session.  
The chargepoint will issue a 'beep' sound to indicate the card has been recognised and accepted.
7. If you are present when power for charging is made available, the status indicator will change to show a fixed green light.

## NOTE: Default Hours and Randomised Delay

Following the initiation of the charge session, UK regulations require chargepoints of this type to apply power for charging during the 'default' (off-peak) hours regardless of when the charge session was initially started. When the off-peak period is reached, power for charging will be applied after a randomised delay of up to 10 minutes.

This is to protect the power network from spikes in demand that would occur if thousands of chargepoints are activated at the same time.

If required, charging status may be checked via the smart application.  
There is the option to override the default setting and charge during the Peak period, but this may result in higher electricity costs or other 'conditions' applied by the electricity provider.

## NOTE: Peak and Off-Peak Charging Hours

As set by the UK government: Currently Peak Hours = 8am – 11am and 4pm – 10pm on weekdays.

> All hours outside of those shown above are classed as Off-Peak.

## End a Charging Session

1. A charging session can be ended by any of the following methods:
  - > Use the mobile phone application.
  - > Place the RFID card/fob (associated with the account) onto the card reader.
  - > Remove the cable from the vehicle.
2. Once the cable has been removed from the vehicle...
  - > Remove the cable from the chargepoint (socket chargepoints only).
  - > Make sure the socket flap is closed when not in use (socket chargepoints only).
  - > Store the cable safely and in accordance with the manufacturer's instructions.

**NOTE:** If the chargepoint has a cable lock facility that permanently secures the plug into the socket, step 2 can be ignored, and the cable can remain connected to the chargepoint.

- > Cables should be loosely coiled and hung on a cable hanger with the plug securely inserted into the holster to prevent water ingress.
- > Some makes of cable may not be as robust as others. The term 'permanent' means that the cable does not need to be removed after every charge session. However, cables must be unlocked and removed from the socket on a regular basis to check for contamination of the contacts.
- Unplugging and reconnecting of the plug and socket also helps to ensure a good electrical connection and relieves any strain on the components.





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