



Sitraffic Epos charging system

## The smart electric vehicle charging solution

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**SIEMENS**



Smart:  
Innovative application of proven  
Siemens technologies



### Power for a mobile future

Industry and research institutes are working flat out on the development of mobility concepts that need no petrol and help reduce CO<sub>2</sub> emissions. However, the newly developed technologies for "eMobility" call for considerable changes in infrastructure.

Siemens can rely on many decades of experience in all areas relevant to electromobility: from vehicle components, power generation and distribution right up to the systems for providing the required electric power and calculating the related fees. This exceptionally broad basis enables the company to lead the market with top-range innovative and integrated concepts for electromobility.

If the experts' forecasts prove correct, in 2020 there will be between two and four million electric vehicles in Germany alone, and up to 19 million around the globe. This also means that very soon we will have to achieve far-reaching changes in our traffic and power supply infrastructure. Because drivers need the certainty that they will be able to conveniently recharge their vehicle wherever they are. And as far as we can tell today, the mileage you get out of a battery charge will remain substantially below that offered by conventional drive concepts.

The required tightly-meshed network of charging stations will only be achievable at reasonable cost with very smart and cost-efficient electric charging systems that can be installed anywhere – such as Sitraffic® Epos.

### The benefit of a solid foundation

Electric power is available nearly everywhere, so that electric mobility can build on a sound infrastructural basis. With our Sitraffic Epos electric charging system we are proud to present a product that can rely on a widely proven and internationally successful basis, too: our Sitraffic pay-and-display machines. Thus Sitraffic Epos is much more than a mere "power outlet for charging electric cars," but an integrated system with a full-scale information terminal and convenient payment functionality. Moreover, following the same design concept as our pay-and-display machines, the charging stations are a harmonious addition to the streetscape and also look their best in parking garages and on company premises.



The charging station doubles as hub for whatever information the operator wants to supply, from city map or calendar of events to hotel directory

**Master und slave:**  
The charging station provides power, payment and information functions. The satellites, of which up to 9 can be connected, are for charging only

**Central access:** All Sitraffic Epos charging stations run by an operator report their operational status and data to a central back-office, from where they can be conveniently monitored



## Smart: Charging, payment and information functions combined in one station

Sitraffic Epos is multi-functional – and easy to use. A solution that offers numerous benefits for operators and drivers alike!

### Universally deployable

Sitraffic Epos can be installed wherever several electric vehicles need to be recharged. Not only in semi-public areas such as company premises or parking garages, but also as part of the public traffic infrastructure. For this purpose, Epos can even be combined with pay-and-display machines, either as a single charging station or in combination with up to 9 satellite charging points.

### With access control

Thanks to the integrated user identification function via contactless card, Epos ensures that only registered drivers will be able to recharge their vehicles.

### Safe even when damaged

The charging stations are only powered after a registered user has activated the charging function. Thus, there is no danger of live cables being exposed even when an Epos station is damaged or knocked over in an accident.



#### **One station for eCharging & ePayment**

Epos can be equipped to accept customer- or city-specific stored-value cards based on the Mifare standard. Credit card payment will be available as an alternative option.

#### **A charging station doubling as information hub**

The charging station can also be used to display additional information. There is hardly a limit to the type of information that the operator can provide, from city maps and tourist attractions to nearby hotels and restaurants or – when located on company premises – company-specific information such as building directions or even today's cafeteria specials. We are working on providing the location data of public electric charging stations to trip planning and navigation systems, enabling them to direct the drivers directly to the nearest charging station.

#### **Central control and monitoring**

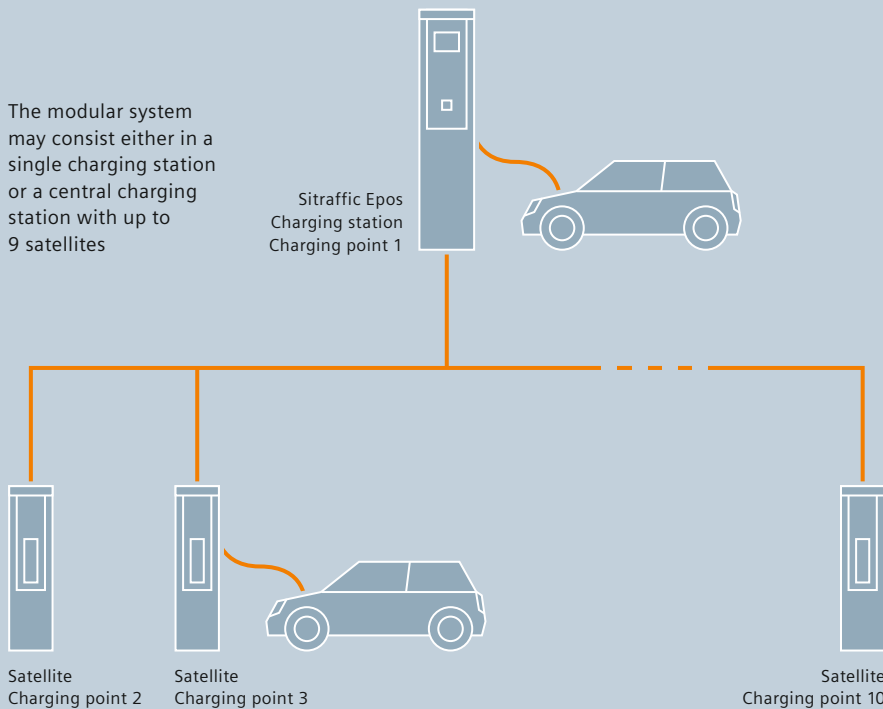
The Sitraffic Epos system can be conveniently monitored from the back-office. Status messages (such as "station busy/available"), payment data and revenue statistics are sent per remote transmission directly to the monitoring center.

#### **Vandalism protection**

The stainless-steel housing is absolutely vandalism-proof so that the charging station cannot be destroyed or broken into. A special finish, available in all RAL colors and RAL color combinations, protects the housing against corrosion and graffiti.

## Sittraffic Epos: Charging station with up to 9 satellites

The modular system may consist either in a single charging station or a central charging station with up to 9 satellites



## Smart: As easy to use as a pay-and-display machine

In the not-so-far future, electric charging stations will be as normal a part of the streetscape as pay-and-display machines. For the future "Park & Charge" service, stations will be needed that make plugging the car in and charging it as easy for any driver as pulling a parking ticket.

Sittraffic Epos charging stations fully meet these requirements. They are equipped with a color VGA touchscreen – a very convenient user interface that most people are familiar with from automatic teller machines and similar.

### **Four function areas, one clearly structured menu**

Menu navigation at the charging station is as easy and clear as can be. The user can access any function via one of the four keys available on the start screen:

Using the Sitraffic  
Epos charging station  
is as easy as it looks!  
Just open the booklet  
and see for yourself!

- "Park & Charge / Charge vehicle" opens the charging process menu
- The 3 information menu buttons can be labeled according to the freely selectable types of information that the system operator chooses to provide.
- By touching the corresponding flag symbol, the user can select the desired menu language. Up to 5 languages can be implemented.

#### **One charging station with up to 9 satellites**

The goal is to equip a maximum number of parking spaces with charging points without cluttering the streetscape. To satisfy this requirement, our electric charging stations have been designed as hub-satellite system. This means that a charging station consists in one central unit and several optional charging satellites. The central unit of the charging station is equipped with the user interface, up to four charging points (power outlets) for charging electric vehicles and the electronic components for controlling the optional satellites. The control electronics in the charging station ensures that the admissible total output will not be exceeded. If the added power output of all charging points would be beyond the maximum load, the control function in the charging station limits the output accordingly.

## Technical data

Technical features	
Input power	3-phase: 400 V/80 A
Output power	1-phase: 230 V/16 A (3.7 kW) 3-phase: 400 V/16 A (11 kW) or 400 V/32 A (22 kW)
Frequency	50/60 Hz
Connector sockets	230 V/16 A CEE 7/4 type (Schuko), 3 poles 400 V/16 A CEE type, 5 poles IEC 62196 "Mennekes" type, 7 poles
Line protection	Fuses: 3 × 16 A (Mode 3) or 1 × 16 A (Mode 1 and 2) + 1 × 16 A (auxiliary circuit)
Residual current protection	1-phase: FI circuit breaker 30 mA, Class A 3-phase: FI circuit breaker 30 mA, Class B
Energy meter	Optional
Operating system	Windows XP Embedded
Remote data transmission	GPRS
Materials	
Housing	2 mm stainless steel, vandalism-proof, protected against break-in, degree of protection IK 10 acc. to EN 50102
Finish	Standard anti-graffiti powder coating RAL 7016 on customer request: any readily available RAL color (option)
Environmental conditions	
Operational temperature	−20 °C to +55 °C
Relative humidity	Max. 97%, no condensation
Dimensions	
Height × width × depth	Charging station: 1670 × 370 × 280 mm Satellite: 1200 × 260 × 230 mm
Weight	Charging station: about 80 kg Satellite: about 30 kg
Standards and regulations	
Degree of protection	IP54
Standards	Compliant with IEC 61851, or as an alternative VKE code of practice as well as IEC 62196
Quality assurance system	Acc. to DIN EN ISO 9001
Certificates	CE, EMV, RoHS, WEEE
Controls	
Touchscreen	10", 800 × 600 pixels, 18 bit color depth
Identification	RFID, Mifare standards
Charging status indication	For every charging point

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