

Charging stations for electric and plug-in hybrid cars



Charging stations GLB, GLB+

a modern solution for home use and even more

The convenience of charging electric vehicles and plug-in hybrids is achievable today. The compact charging stations **GLB** allow BEV and PHEV vehicles to be fully charged on your property. The devices meet the highest safety standards and their design makes them extremely easy to use. An extended version of the devices **GLB+** can be installed as generally accessible stations, in accordance with the provisions of the Act of 11 January 2018 on electromobility and alternative fuels. Recommended places of installation: garages and carports, parking lots in hotels and guesthouses, closed public spaces, machine parks.



- Remote communication and system control
- Simplicity of usage, extensive equipment
- Economical solution



- Mode-3 charging, AC current, Type 1 and Type 2 plugs
- For 1- and 3-phase network, TN-S, TT, IT systems
- Plug & play installation, simple and intuitive operation
- LED indicator for charger status

Construction of station



- compact housing made mainly of PVC, locked with a key
- LED indicator – reading the device status (narrow vertical strip on the front cover),
- wall mounting (standard) or assembly on a stand (on request).

Charging of car

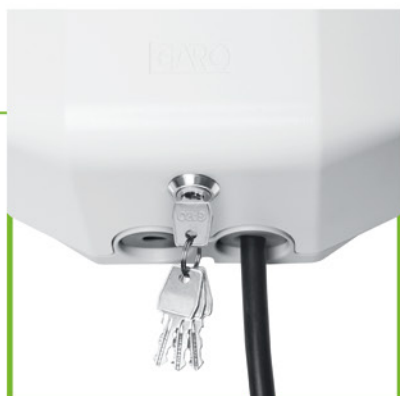
- Mode-3 charging, continuous power supply 16 A AC or 32 A AC (1- and 3-phase network), charging power from 3,7 kW to 22 kW,
- version with built-in socket (connector Type 2),
- version with a permanently connected 5 m long cable with a plug (connector Type 1 or Type 2).



Built-in equipment



- charge controllers (for all models GLB+, open protocol OCPP 1.5/1.6 SOAP, 1.6 JSON),
- Communication – WLAN network (for selected models GLB) or LAN, 4G/3G/2.5G network (for selected models GLB+)
- electronics supporting communication between the station and the connected car,
- residual current circuit breaker (1- and 3-phase station),
- meter for local electricity metering (for selected models).



Accessories, options

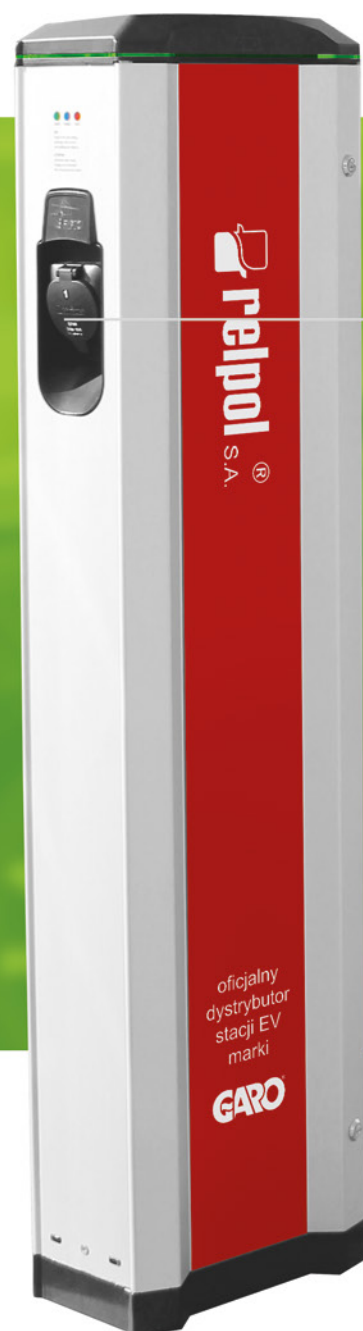


- RFID card reader and Wi-Fi router – remote activation, access authorization, card/token tagging, defining charging current and availability time (for selected models),
- external digital energy meter MODBUS or RS-485 (on request),
- possibility to activate DLM – dynamic load balancing (for selected models).

Charging stations LS-4

innovative technology in public space

The development of electricity-based technologies is rapid today. More and more people recognize the benefits of electric cars and plug-in hybrids. That is why it is so important to expand the charging infrastructure for them. Charging stations LS-4 meet the stringent requirements for devices installed in public areas. Recommended places of installation: public car parks, supermarkets and shopping centers, bus and train stations, restaurants, machine parks.



- Personalization and system integration
- Simplicity of usage
- Economical solution



- Mode-3 charging, AC current, Type 1 and Type 2 plugs
- For 1- and 3-phase network, TN-S, TT, IT systems
- Plug & play installation, simple and intuitive operation
- LED indicator for charger status



Construction of station

- housing made mainly of aluminum, locked with a key (compact version on request),
- LED indicator – reading the device status (narrow strip around the top of the cover),
- standing assembly (screwing to the base - standard, embedded in the ground) or wall mounting.

Charging of car

- Mode-3 charging, continuous power supply 16 A AC or 32 A AC (1- and 3-phase network, for each socket), charging power from 3,7 kW to 22 kW,
- version with two built-in, illuminated weatherproof sockets (connectors Type 2),
- version with two permanently connected 5 m long cables with a plugs (connectors Type 1 or Type 2).



Built-in equipment

- two intelligent charge controllers – integration with the billing system (open protocol OCPP 1.5/1.6),
- Communication – LAN and/or 4G network (for selected models),
- electronics supporting communication between the station and the connected car,
- two separate residual current circuit breakers (1- and 3-phase station, for each socket),
- meter for local electricity metering (for selected models),
- heater („cold option“).



Accessories, options

- RFID card reader,
- possibility to activate DLM – dynamic load balancing (for each socket, accuracy up to 1 A for a group of max. 25 stations).

Technical data: GLB, GLB+

Supply AC / charging	1-phase network	3-phase network
Rated load current (category AC1)	16 A, 32 A / 230 V	32 A / 400 V
Working charging current range (50 Hz)	6...16 A, 6...32 A	6...32 A
Charging power	7,4 kW	22 kW
Charging mode	Mode-3	
Vehicle connection BEV or PHEV (EN 62196)	socket: connector Type 2 cable with plug: connector Type 1, Type 2	socket: connector Type 2 cable with plug: connector Type 2
Installation in power grid (IEC 60364-4-41)	TN-S, TT, IT system	
Built-in protection	1-phase network	3-phase network
Residual current circuit breaker	RCBO Type A or RCCB Type A	RCCB Type A
General data	1-phase network	3-phase network
Dimensions (L x W x H)	422 x 205 x 124 mm	
Weight	socket: about 3 kg cable with plug: 3,8...4,1 kg	socket: about 3 kg cable with plug: 5,4 kg
Operating temperature	-25...+40 °C (-35...+55 °C storage)	
Cover protection category (EN 60529)	IP 44	
Degree of mechanical strength (EN 60208)	IK 08	
Indicator (LEDs)	green continuous - ready to charge green flashing - device connected to the vehicle green fast flashing - the device is waiting for authorization (e.g. RFID card) blue flashing 3 times - charging starts blue continuous - charging in progress red flashing - connector failure red fast flashing - charging process interrupted (e.g. too high temperature in the station or detection of a DC error) red continuous - protection activation yellow flashing - engine lock slot not locked yellow red - wrong cable	
Mounting (indoor / outdoor)	wall-mounted (distance from ground level to bottom edge of charger 0,5...1,5 m) on a stand (single or double, dedicated to the charger)	
Recognitions, directives, compliance with standards	CE, RoHS, MID, IEC 61851-1, IEC 61851-22, IEC TS 61439-7, IEC 60364-7-722	

Selection table: GLB, GLB+

Station		Built-in equipment		Network			RFID card reader	DC monitoring	Power [kW]
socket (Type 2)	cable with plug (Type 2)	protection RCBO Type A / RCCB Type A	meter of energy	WLAN	LAN	4G			
GLB									
353579	353582	RCBO	Modbus	yes	–	–	optional	yes	7,4
353581 ①	353580 ①	–	Modbus	yes	–	–	optional	yes	22
353116 ②	353118 ②	–	–	–	–	–	–	–	22
353406	353407	RCBO	Modbus	–	–	–	–	yes	7,4
353410	353408	RCCB	–	–	–	–	–	yes	22
GLB+									
353460 ①	–	RCBO	Modbus	–	–	yes	yes	yes	7,4
353463 ①	353462 ①	–	Modbus	–	–	yes	yes	yes	22
353457 ①	353456 ①	–	Modbus	–	yes	–	yes	yes	22

① The installation must be retrofitted with a residual current circuit breaker Type A (RCCB Type A).

② The installation must be retrofitted with a residual current circuit breaker Type B (RCCB Type B).

In any case, the installation must be protected against the effects of short circuits and overloads.

Technical data: LS-4

Supply AC / charging	1-phase network	3-phase network
Rated load current (category AC1)	16 A, 32 A / 230 V	32 A / 400 V
Working charging current range (50 Hz)	6...16 A, 6...32 A	6...32 A
Charging power	2 x 3,7 kW	2 x 11 kW or 2 x 22 kW
Power consumption in stand-by mode	< 10 W/h	
Charging mode	Mode-3	
Vehicle connection BEV or PHEV (EN 62196)	2 x socket: connector Type 2 2 x cable with plug: connector Type 1, Type 2	2 x socket: connector Type 2 2 x cable with plug: connector Type 2
Installation in power grid (IEC 60364-4-41)	TN-S, TT, IT system	
Built-in protection	1-phase network	3-phase network
Residual current circuit breaker	MCB + RCCB Type A, DC monitoring	DC monitoring
General data	1-phase network	3-phase network
Dimensions (L x W x H)	1400 x 375 x 208 mm	
Weight	25 kg (2 x socket)	
Operating temperature	-25...+40 °C (-35...+40 °C in version „cold option“)	
Cover protection category (EN 60529)	IP 44 (optional versions IP 54)	
Degree of mechanical strength (EN 60208)	IK 10	
Relative humidity	5...95%	
Indicator (LEDs)	green continuous - ready to charge green flashing 2-3 times - cable connected to the vehicle yellow flashing - reading the ID (identification) from the RFID card blue flashing - charging starting blue continuous - charging in progress red flashing - RFID not approved red continuous - reset protections yellow continuous - connect cable white continuous - sockets are not enabled	
Mounting (indoor / outdoor)	standing (bolting to ground, e.g. concrete) standing (embedded in the ground using an assembly kit) wall-mounted	
Approvals, directives, compliance with standards	CE, RoHS, MID, IEC 61851-1, IEC 61851-22, IEC TS 61439-7, IEC 60364-7-722	

Selection table: LS-4

Station 2 x socket (Type 2)	Built-in equipment			Network		RFID card reader	DC monitoring	Power [kW]
	protection MCB + RCCB Type A	meter of energy	„cold option“	LAN	4G			
353566	yes	Modbus	yes	yes	–	yes	yes	2 x 3,7
353567	yes	Modbus	yes	yes	–	yes	yes	2 x 11
353568	yes	Modbus	yes	yes	–	yes	yes	2 x 22
353563	yes	Modbus	yes	optional	yes	yes	yes	2 x 3,7
353564	yes	Modbus	yes	optional	yes	yes	yes	2 x 11
353565	yes	Modbus	yes	optional	yes	yes	yes	2 x 22

Charging stations TWIN, TWIN+

new opportunities for freely accessible infrastructure

Charging stations **TWIN** have been designed for non-public locations, where the simplicity of the system and the charging process are important, while at the same time requiring a greater number of charging points. Each **TWIN** has two charging sockets (1- and 3-phase network, 16 A or 32 A), residual current devices (Type A), constant leakage monitoring (DC) and can be additionally equipped (Wi-Fi module, RFID card reader). Recommended places of installation: multi-family buildings, apartment buildings, workplaces.



- Simultaneous charging of two vehicles
- Communication – Wi-Fi / LAN network
- Possibility of DLM activation

Technical data: TWIN, TWIN+

Supply AC / charging	1-phase network	3-phase network
Rated load current (category AC1)	16 A, 32 A / 230 V	32 A / 400 V
Working charging current range (50 Hz)	6...16 A, 6...32 A	6...32 A
Charging power	2 x 7,4 kW	2 x 11 kW or 2 x 22 kW
Power consumption in stand-by mode	< 10 W/h	
Charging mode	Mode-3	
Vehicle connection BEV or PHEV (EN 62196)	2 x socket: connector Type 2 2 x cable with plug: connector Type 2	2 x socket: connector Type 2 2 x cable with plug: connector Type 2
Installation in power grid (IEC 60364-4-41)	TN-S, TT, IT system	
Built-in protection	1-phase network	3-phase network
Residual current circuit breaker	MCB + RCCB Type A, DC monitoring	DC monitoring
General data	1-phase network	3-phase network
Dimensions (L x W x H)	375 x 660 x 208 mm	
Weight	14...20 kg	
Operating temperature	-25...+40 °C (-40...+50 °C storage)	
Cover protection category (EN 60529)	IP 44	
Degree of mechanical strength (EN 60208)	IK 10	
Relative humidity	5...95%	
Indicator (LEDs)	green continuous - ready to charge green flashing 2-3 times - cable connected to the vehicle yellow flashing - reading the ID (identification) from the RFID card blue flashing - charging starting blue continuous - charging in progress red flashing - RFID not approved red continuous - reset protections yellow continuous - connect cable white continuous - sockets are not enabled	
Mounting (indoor / outdoor)	wall-mounted (distance from ground level to bottom edge of charger 0,5...1,5 m) on a stand (single or double, dedicated to the charger)	
Approvals, directives, compliance with standards	CE, RoHS, MID, IEC 61851-1, IEC 61851-22, IEC TS 61439-7, IEC 60364-7-722	

Selection table: TWIN, TWIN+

Station		Built-in equipment		Network Wi-Fi / LAN	RFID card reader	DC monitoring	Power [kW]
2 x socket (Type 2)	2 x cable with plug (Type 2)	protection MCB + RCCB Type A	meter of energy				
TWIN							
353685	353686	yes	-	optional	optional Ⓢ	yes	2 x 7,4
353680	353681	yes	Modbus	optional	optional Ⓢ	yes	2 x 7,4
353682	-	yes	M-Bus	optional	optional Ⓢ	yes	2 x 7,4
353708	353710	yes	Modbus	yes	optional Ⓢ	yes	2 x 7,4
-	353679	yes	Modbus	optional	optional Ⓢ	yes	2 x 11
-	353711	yes	Modbus	yes	optional Ⓢ	yes	2 x 11
353678	-	yes	Modbus	optional	optional Ⓢ	yes	2 x 22
353683	-	yes	M-Bus	optional	optional Ⓢ	yes	2 x 22
353684	-	yes	-	optional	optional Ⓢ	yes	2 x 22
TWIN+							
353984	-	yes	Modbus	yes	yes	yes	2 x 22

Ⓢ Required Wi-Fi / LAN module.

Additional equipment, accessories – GLB, GLB+, LS-4



- charging cable 6 m long, with two plugs (connector Type 2 and Type 1):
 - 16 A / 230 V (107779)
 - 32 A / 230 V (107792)



- charging cable 6 m long, with two plugs (two connectors Type 2):
 - 16 A / 230 V (107790)
 - 16 A / 400 V (107791)
 - 32 A / 230 V (107793)
 - 32 A / 400 V (107794)



- external digital energy meter: only for stations GLB, GLB+
 - 1-phase, MODBUS (108045)
 - 3-phase, MODBUS (108048)
 - 1-phase, RS-485 (108044)
 - 3-phase, RS-485 (108047)



- circuit breaker:
 - 63 A, 4P, 30 mA, Type B (107502)



- overcurrent circuit breaker:
 - 32 A, 1P, C, 10 kA (2142711)
 - 32 A, 3P, C, 10 kA (2142756)



- communication with WLAN network: only for station GLB (353437)



- RFID card reader: only for station GLB (353131)



- metal pedestal Magnelis: only for station LS-4 (2449896)



Due to the permanent development policy, Relpol S.A. reserves the right to introduce changes of data and characteristics of the products. The devices shall be operated by skilled personnel in accordance with the regulations in force pertaining to electrical systems. The technical data are of informational nature. Thus, Relpol S.A. does not accept any liability for inappropriate use of the presented products.

PRECAUTIONS

1. Ensure that the parameters of the product described in its specification provide a safety margin for the appropriate operation of the device or system and never use the product in circumstances which exceed the parameters of the product.
2. Never touch any live parts of the device.
3. Ensure that the product has been connected correctly. An incorrect connection may cause malfunction, excessive heating or risk of fire.
4. In case of any risk of any serious material loss or death or injuries of humans or animals, the devices or systems shall be designed so to equip them with double safety system to guarantee their reliable operation.

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