ETREL

TECHNICAL DATASHEET

version 4.1., date: 4. 2. 2020

MODEL : ***Etrel G6***

Electrical specification

CHARGER POWER SUPPLY INFORMATION

NOMINAL VOLTAGE (SINGLE-PHASE CONNECTION)	230 V AC (-10 % , +10 %) and 120 V AC (-10 %, +10 %) supported
NOMINAL VOLTAGE (THREE-PHASE CONNECTION)	400 V AC (-10 %, +10 %) and 208 V AC (-10 %, +10 %) supported
NOMINAL CURRENT PER PHASE	Max 32 A per phase Three phase model 3 x 32 A, single phase model 1 x 32 A. Can be adjusted through charger settings.
MAXIMUM CHARGING POWER	7,4 kW (single phase) and 22 kW (three phase) Max power can be adjusted (lowered) when the charging station is installed and later using the power management algorithms and power management settings using the user interface (mobile app, web app).
FREQUENCY	47 Hz – 63 Hz
SUPPORTED GROUNDING SYSTEMS	The charging station must be properly grounded. Following grounding system are supported: TN-S, TN-C, TN-C-S and TT under special conditions. Where this is possible local grounding should be done. 1-phase connection of IT grounding system is supported and 3-phase IT with use of transformer.
STANDBY OWN ENERGY CONSUMPTION	Own consumption power from 5 W Depends on actual configuration and integrated modules (Wi-Fi, LTE, payment terminal, etc).
DEVICE OVERVOLTAGE SENSITIVITY	Category III EN60664

CHARGER OUTPUT

NUMBER OF CHARGING OUTPUTS (SOCKETS)	2
NOMINAL VOLTAGE (SINGLE-PHASE VEHICLE CONNECTED) PER CONNECTOR	Power supply voltage 230 V AC (-10 % , +10 %) and 120 V AC (-10 %, +10 %) On-board car charger nominal voltage depends on the car specification and typically reaches values between 100 V dc and 500 V dc.
NOMINAL VOLTAGE (THREE-PHASE VEHICLE CONNECTED) PER CONNECTOR	Power supply voltage 400 V AC (-10 %, +10 %) and 208 V AC (-10 %, +10 %) On-board car charger nominal voltage depends on the car specification and typically reaches values between 100 V dc and 500 V dc. On a three phase charging station single and three phase vehicles can charge.
NOMINAL CURRENT PER PHASE PER CONNECTOR	Max 32 A per phase Three phase model 3 x 32 A, single phase model 1 x 32 A. Can be adjusted through charger settings.
MAXIMUM CHARGING POWER PER CONNECTOR	7,4 kW (single phase) and 22 kW (three phase) Max. power can be adjusted (lowered) when the charging station is installed and later using the power management algorithms and power management settings using the user interface (mobile app, web app).
CHARGING SOCKET TYPE	Type 2 socket compliant with IEC 62196-2 • Socket without status LED light • Socket with status LED light • Socket with shutter

ELECTRICAL PROTECTION

DIFFERENTIAL PROTECTION	Residual current device with Δ I = 30 mA. Different options possible: • RCD Type A, RCD Type A EV, RCD Type B, optionally. One protection can be installed inside the charging station. If differential protection is integrated in the charging station then overcurrent protection needs to be installed in the electric cabinet or vice versa. Compliant with the following standards: • IEC 61851, IEC 62955, IEC/EN 62423 (Type B).	●
SURGE AND OVERVOLTAGE PROTECTION	Should be installed in external electrical cabinet.	Optional
OVERCURRENT PROTECTION	MCB between 16 A and 40 A, characteristics C. One protection can be installed inside the charging station. If differential protection is integrated in the charging station then overcurrent protection needs to be installed in the electric cabinet or vice versa. Rated short time withstand current: 6 kA.	●

METERING

MID METER	MID meter can be installed inside the charging station. Accuracy meter rating: Class 1 for active energy according to EN 62053-21 and class B according to EN 50470-3.	●

Communication

COMMUNICATION INTERFACES WITH SMART HOME OR CPO BACKED

ETHERNET	Ethernet module 10M/100M connection available in the charger service area.	●
MOBILE	LTE Router Router supports the following frequencies: • GSM | GPRS | EDGE: 850, 900, 1800, 1900 • UMTS | HSPA; 800/850, 900, AWS 1700, 1900, 2100 MHz • Bands B6 and B19 (800 MHz) are a subset of B5 (850 MHz) and supported as well • Antenna on the outside of the casing	Optional

COMMUNICATION INTERFACES WITH ELECTRIC VEHICLES

IEC 61851	Digital communication according to IEC 61851-1:2017 is supported. • Older versions of the standard are also supported.

COMMUNICATION PROTOCOLS

OCPP	• OCPP 1.6 SOAP (limited messages) • Etrel native protocol with backend management system
CUSTOM WEB API	We can provide API specification. • Authorization is supported/required on this interface.

USER INTERFACES

LCD DISPLAY 5 INCH WITH TOUCH INTERFACE	• LCD visual dimensions: 147 x 58 mm • Single colour LCD display	●
WEB INTERFACE FOR LOCAL USERS AND MAINTENANCE	Embedded web interface with responsive design (PC, tablet, phone). It allows charger configuration, online control of charging session, enables reporting, diagnostics/trouble shooting and firmware upgrades.	●
STATUS LED	Is turned on in standby mode to indicate charger present status.	●

OTHER USER INTERFACE FUNCTIONALITIES

HELP EMBEDDED ON SCREEN	Charging station's LCD provides help tips	
MULTILINGUAL SUPPORT	Multiple languages supported. Configurable through web interface.	●

CHARGER UNLOCKING POSSIBILITIES

RFID READER	Supported cards: • Mifare 1k, 4k, Ultralight and DesFire cards • ISO/IEC 14443-4 cards (CD97BX, CD light, Desfire, PSCN072(SMX)) • Innovision Jewel cards (IRT5001) • FeliCa cards (RCS_860 and RCS_854) Frequency supported: • 13.56 MHz	●
PLUG AND CHARGE	Can be configured through embedded interface	●
MOBILE APP	YES • if supported by operator	Optional
SMS	YES • if supported by operator	Optional

BASIC MECHANICAL SPECIFICATION

DIMENSIONS (HXWXD)	132x28x20 [cm]
WEIGHT	37 kg (weight depending on actual configuration)
DIMENSION INCLUDING PACKAGING (HXWXD)	Packaging adds 10 cm to all dimensions of the product.
WEIGHT INCLUDING PACKAGING	Packaging adds 5 kg to the charging station.
CASING MATERIAL	Stainless steel with extra anti-corrosion protection (powder coated) and polycarbonate display cover. UI holder material: fibre-reinforced ABS.
CASING COLOR	White and black

Mechanical specification

Software solutions

INLET CABLE HANDLING

POWER CABLE ENTRANCE DIRECTION	Power cables can be inserted into the station from the bottom of the charging station.
POWER CABLE DIMENSIONS	Up to 5 x 35 mm^2 cables can be used. Customization for every customer needs up to 70 mm^2, or with additional clamps possible up to 135 mm^2.
ETHERNET CABLE TYPE	CAT-5, RJ45 connector. SFTP preferred if layered with power cables or on long distances. Cat-5 cable suggested longest distance without using signal repeaters is 100 m.
ETHERNET CABLE ENTRANCE	Ethernet cables can be inserted into the station from the bottom of the charging station.

ENVIRONMENTAL SPECIFICATIONS

INGRESS PROTECTION	IP 54 in testing with IK10.	●
TEMPERATURE RANGE	Operation temperature range: -25°C to +55°C Storage temperature range: -35°C to +60°C Product extendable with thermostat and heater.	●
HUMIDITY	Up to 95 % relative humidity, non-condensing	●
MAXIMUM ALTITUDE	2000 m	●

VANDALISM PROTECTION

IMPACT PROTECTION	IK10	●
PLUG LOCKING	Plug locking • Operation can be enabled or disabled in charger configuration.	Optional
DOOR LOCKING	Three point door locking with single mechanism. Single key access.	

MAINTENANCE

FIRMWARE UPDATE	Firmware update done through backend system or web interface.
ACCESS TO SERVICE AREA	Service doors with key.
FUNCTIONS SUPPORTED THROUGH SERVICE AREA	Access to: • Ethernet • Charger system reset • Charger configuration reset • Protection manipulation • RCD protection test button (pressed once per year) • Connection to the power supply
CLEANING PROCEDURE	• Cloth • Water – no alcohol

POWER MANAGEMENT

OPERATION OPTIMIZATION	• Power sharing beetween both sockets can be set.	●
DEMAND RESPONSE ACTIVATION (BACKEND FUNCTIONALITY)	• Remote power manipulation by DSO. • Remote power manipulation by energy supplier.	●