ETREL

TECHNICAL DATASHEET

MODEL: **Etrel Load Guard**

Main specification

GENERAL INFORMATION	
DIMENSIONS	90.5 x 53.5 x 61.8 [mm] Width 3 TE on DIN rail.
WEIGHT	0.23 - 0.70 [kg], packaging adds 0.10 [kg]
CLAMP CABLE LENGTH	70 cm
CLAMP DIAMETER	Small 16 mm, large 24 mm
CONNECTION	Single-phase or three-phase
MAX. RATED CURRENT	150 A or 400 A per phase
OPERATING VOLTAGE	Up to 253 V AC phase voltage This limitation is caused by the highest operational voltage of the charging station.
FREQUENCY	50 Hz or 60 Hz
TEMPERATURE RANGE	Operation temperature range: -25°C to +60°C Storage temperature range: -30°C to +90°C
COMMUNICATION	Ethernet
CONFIGURATION AND MONITORING	Web interface

Benefits

MAIN BENEFITS	
CONSUMPTION OPTIMIZATION	Optimised energy consumption of existing infrastructure.
REDUCED COSTS	Reduced charging and operational costs.
PRODUCTION OF ENERGY AT THE LOCATION	Optimization of local consumption of renewable energy sources.
SUPPORTING UTILITY GRID	Future-proof and grid-friendly charging infrastructure.

Software solutions

POWER MANAGEMENT		
ECONOMIC/PRICE OPTIMIZATION	• Based on energy tariffs. • Time scheduling of charging towards lower tariffs or self-consumption when user preferences and pricing allows it. • Evaluation of on-site production (e.g., photovoltaics).	●
OPERATION OPTIMIZATION	• Machine learning and pattern recognition using built-in AI to predict and optimise each charging session. • Collection of user's departure time over app or touch screen to refine automatically suggested charging profile. • Support for Modbus protocol for integration with external smart building systems.	●
PREVENT OVERLOADING MAIN FUSE – GRID CONNECTION POINT	By using Load Guard device: • Static limit of maximum allowed charging current per phase. • Static limit of maximum allowed charging current per phase in case connection with Load Guard sensor / back-end is lost. • Detection and visualisation of available supply and automatic adjustment of charging power. • Detection and visualisation of surplus energy returned to the grid (Production from renewable energy sources).	●
DEMAND RESPONSE ACTIVATION (BACK-END FUNCTIONALITY)	• Remote power manipulation by DSO. • Remote power manipulation by energy supplier.	●
MANAGING CLUSTER OF CHARGERS	• Based on user preferences and current installation's load conditions. • Master-slave relationship with floating master. Connection of up to 16 chargers possible.	●