Spec sheet

HUB par/by rve

SMART MANAGEMENT SOLUTION FOR ELECTRIC VEHICLE CHARGING

The HUB is an electric vehicle energy management system (EVEMS) designed to protect critical components of a building's electrical infrastructure using its monitoring and control functions. Its role is to protect the existing electrical infrastructure while increasing charging performance to enable optimal charging for all charging vehicles.

Made in North America

Certifications in Canada

c UL us LISTED E548172

CAN ICES-003(B) / NMB-003(B)

Certifications in the United States

c UL us LISTED E548172

FC

OPERATING MODES

Monitoring mode

To protect the electrical infrastructure, the HUB's Monitoring mode enables real-time, multi-level monitoring of the electricity consumption of several components of the infrastructure.

Monitoring and Control mode

The Monitoring and Control mode includes all Monitoring functions.

In Monitoring and Control mode, the HUB is connected to DCC+ and/or SMP+ devices. It then becomes a full-fledged Electric Vehicle Energy Management System (EVEMS), controlling energy as well as monitoring it.

The HUB protects the electrical infrastructure by providing dynamic, intelligent energy management based on actual charging station consumption and the available electrical capacity of infrastructure components. It is only in this mode that no additional current (0 A) is added to the load calculation.

Contact us for more information:
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BENEFITS

Better sharing

- Optimal distribution of energy between several electric vehicles in a building for more efficient and equitable charging.
- Dynamic control based on charging demand and energy consumption.
- Phase balance adjustment to protect electrical equipment.

Better management

- Allows proactive protection of electrical infrastructure.
- Allows you to block/unblock energy supply to a charging station.
- Allows you to select which charging stations to prioritize.
- Provides a better overview and management of peak demand.
- Possible integration with third parties, like a Building Management System (BMS) and electricity supplier.

Greater flexibility

- Exceptional flexibility adapted to the evolving electric vehicle market.
- Compatible with most charging stations and electric vehicles[1].
- Adaptable to all current and future RVE EVEMS.
- Can protect electrical infrastructure at several levels simultaneously.

Greater profitability

- Reduces penalties associated with power demand caused by simultaneous charging of multiple electric vehicles[2].
- No recurring costs or management fees for basic features[3].
- Use of a wired Internet connection for greater reliability at lower cost.

CONNECT PORTAL

RVE's Connect portal is a digital platform that provides a complete, real-time overview of the operation of an RVE electric vehicle energy management system. It simplifies equipment supervision (HUB, DCC+, SMP+), optimizes energy consumption monitoring and billing, and enables centralized and efficient charging control.

FACTORY-SET CONFIGURATION

The HUB is a compact product that is fully pre-configured at the factory. The configurations shown below illustrate some of the common installation contexts. The HUB can also be used to monitor other levels and components of the electrical infrastructure. For any other installation context or for a multi-level installation context, contact RVE's technical support at **support@rve-usa.com**.

Depending on the chosen configuration, certain information must be specified by the customer when ordering, as this is a software setpoint configured during the factory production of the HUB. It is also the electrician's responsibility to ensure that the dimensions of the electrical infrastructure and upstream protections are adequately sized.

[1] It is the customer's responsibility to ensure that energy management by load shedding is compatible with all the features of the make and model of the charging stations.
[2] RVE cannot be held responsible for any charges related to power demand.
[3] Charges may apply for premium features.

TECHNICAL SPECIFICATIONS

Features of the Monitoring mode

- Up to 15 current transformers (CTs) can be used to monitor several components of a building's electrical infrastructure, whether single-phase (2 CTs) or three-phase (3 CTs).

  Example: The HUB can monitor a three-phase main service (3 CTs) and six single-phase meter center transformers (2 CTs per transformer) i.e. 12 CTs in total).

Features of the Monitoring and Control mode

- Can control up to 120 DCC+ connected in series.
- Can be integrated and can control up to 30 SMP+ and/or HUBs connected in series.
- The HUB and its subsystems (DCC+ and SMP+) are equipped with a fail-safe mode that is activated when there is a software, hardware, or communication failure. The fail-safe mode is designed to ensure that no additional current (0 A) is added to the existing load of a building's or unit's components.

TECHNICAL ADVANTAGES

- **Local intelligence**: Thanks to its local intelligence, the HUB continues to operate normally even during an Internet outage. Consumption data is then automatically synchronized, without loss of information, as soon as the connection is re-established.
- **Integrated screen**: Its integrated LCD screen allows configurations to be checked and facilitates regulatory inspections.

HARDWARE AND SOFTWARE SPECIFICATIONS

Hardware specification	
NEMA rating	Type 4: Protection against dust, rain, water jets, and ice formation
Dimensions (W x H x D)	12 in x 18 in x 7 in (30.5 cm x 45.7 cm X 17.8 cm)
Weight	20 lb (9 kg)
Operating voltage and wiring	100-240 VAC, 60 Hz, 3 A, 1 PH 14-8 AWG maximum
Number of feeders controlled	Up to 7 feeders or up to 15 CTs (max. 600 VAC)
Communication ports	3 RS-485 ports 1 Ethernet port
Current transformers (CT)	Compatible with the flexible type (Rogowski) or rigid type (Split Core)
Operating temperature	-22°F to 113°F (-30°C to 45°C)
Storage temperature	-4°F to 158°F (-20°C to 70°C)

Software specifications	
Communication protocol	2 BACnet ports MSTP (RS-485) to communicate with the DCC+ 1 RS-485 port to communicate with the HUB and the SMP+
Main service / feeder / CT	5000 A max. single-phase or three-phase, up to 7 feeders or 15 CTs
Types of application	347/600 VAC 3 PH 277/480 VAC 3 PH 120/208 VAC 3 PH 120/240 VAC 1 PH
Number of DCC+ controlled	Up to 120 in series (max. 99 per BACnet port)
Number of SMP+ and/or HUB controlled	Up to 30 in series[4]
Internet connection	Required to access the features of the RVE Connect portal[5]

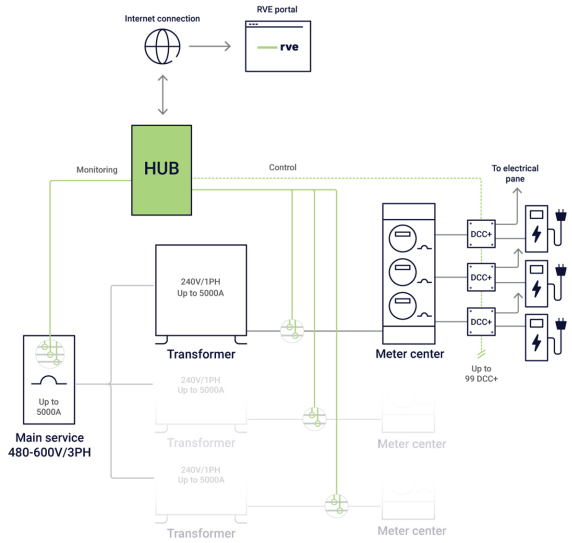
[4] Feature to come in a future software update.

[5] An internet connection is required to activate the manufacturer's warranty. The warranty is limited to the equipment and components supplied by RVE.

CONTEXT TYPES

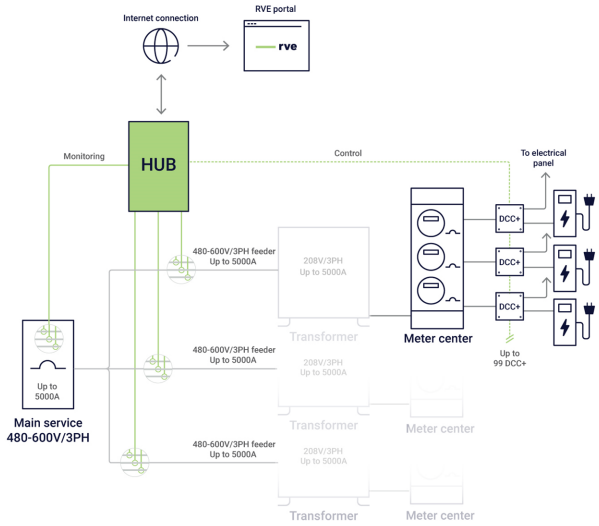
THREE-PHASE 480-600V MAIN SERVICE AND SINGLE-PHASE 240V TRANSFORMER(S)

Context Type #1



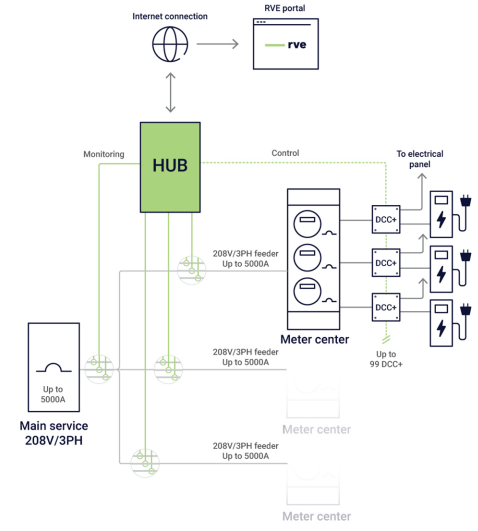
THREE-PHASE 480-600V MAIN SERVICE AND THREE-PHASE 480-600V FEEDER(S)

Context Type #2



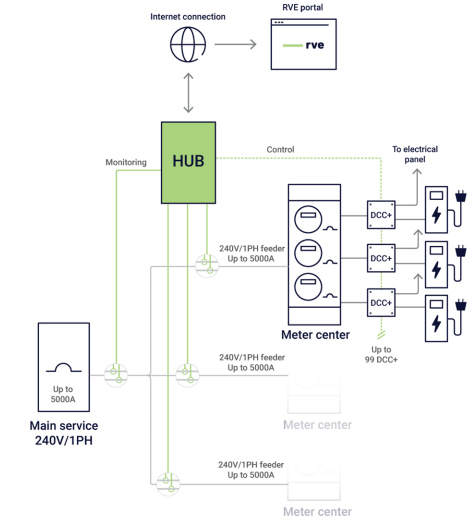
THREE-PHASE 208V MAIN SERVICE AND THREE-PHASE 208V FEEDER(S)

Context Type #3



SINGLE-PHASE 240V MAIN SERVICE AND SINGLE-PHASE 240V FEEDER(S)

Context Type #4



HUB PRODUCT CODES AND CONFIGURATION CODES ACCORDING TO THE CHOSEN CONTEXT

STEP 1 Select your situation according to the electrical infrastructure	STEP 2 Select the number of main feeders (main service) to be monitored	STEP 3 Select the number of additional feeders to monitor	STEP 4 Provide the codes below when ordering	
Context Type #1 Three-phase 480-600 V main service and single-phase 240 V transformer(s)	Three-phase 480-600 V main service	Single-phase 240 V transformer(s) at the secondary level	Product code	Configuration code
	0	1	1 x HUB-15-G1 1 x HUB-FEED-G1	1-01
	0	2	1 x HUB-15-G1 2 x HUB-FEED-G1	1-02
	0	3	1 x HUB-15-G1 3 x HUB-FEED-G1	1-03
	0	4	1 x HUB-15-G1 4 x HUB-FEED-G1	1-04
	0	5	1 x HUB-15-G1 5 x HUB-FEED-G1	1-05
	0	6	1 x HUB-15-G1 6 x HUB-FEED-G1	1-06
	1	0	1 x HUB-15-G1 1 x HUB-FEED-G1	1-10
	1	1	1 x HUB-15-G1 2 x HUB-FEED-G1	1-11
	1	2	1 x HUB-15-G1 3 x HUB-FEED-G1	1-12
	1	3	1 x HUB-15-G1 4 x HUB-FEED-G1	1-13
	1	4	1 x HUB-15-G1 5 x HUB-FEED-G1	1-14
	1	5	1 x HUB-15-G1 6 x HUB-FEED-G1	1-15
	1	6	1 x HUB-15-G1 7 x HUB-FEED-G1	1-16
Context Type #2 Three-phase 480-600 V main service and three-phase 480-600 V feeder(s)	Three-phase 480-600 V main service	480-600 V three-phase feeder(s)	Product code	Configuration code
	0	1	1 x HUB-15-G1 1 x HUB-FEED-G1	2-01
	0	2	1 x HUB-15-G1 2 x HUB-FEED-G1	2-02
	0	3	1 x HUB-15-G1 3 x HUB-FEED-G1	2-03
	1	0	1 x HUB-15-G1 1 x HUB-FEED-G1	2-10
	1	1	1 x HUB-15-G1 2 x HUB-FEED-G1	2-11
	1	2	1 x HUB-15-G1 3 x HUB-FEED-G1	2-12
	1	3	1 x HUB-15-G1 4 x HUB-FEED-G1	2-13
Context Type #3 Three-phase 208 V main service and three-phase 208 V feeder(s)	Three-phase 208 V main service	Three-phase 208 V feeder(s)	Product code	Configuration code
	0	1	1 x HUB-15-G1 1 x HUB-FEED-G1	3-01
	0	2	1 x HUB-15-G1 2 x HUB-FEED-G1	3-02
	0	3	1 x HUB-15-G1 3 x HUB-FEED-G1	3-08
	1	0	1 x HUB-15-G1 1 x HUB-FEED-G1	3-10
	1	1	1 x HUB-15-G1 2 x HUB-FEED-G1	3-11
	1	2	1 x HUB-15-G1 3 x HUB-FEED-G1	3-12
	1	3	1 x HUB-15-G1 4 x HUB-FEED-G1	3-13
Context Type #4 Single-phase 240 V main service and single-phase 240 V feeder(s)	Single-phase 240 V main service	Single-phase 240 V feeder(s)	Product code	Configuration code
	1	0	1 x HUB-15-G1 1 x HUB-FEED-G1	4-10
	1	1	1 x HUB-15-G1 2 x HUB-FEED-G1	4-11
	1	2	1 x HUB-15-G1 3 x HUB-FEED-G1	4-12
	1	3	1 x HUB-15-G1 4 x HUB-FEED-G1	4-13