Product : HUB-15-G1
RVE Part Number : 31-2002-00

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

SUMMARY

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IMPORTANT INFORMATION

Parts Not Included in the HUB but Necessary for Optimal Installation

1. **Cable to connect the HUB to the Internet:** Cat5 Ethernet cable with RJ45 termination.
2. **Cable to connect the HUB to the DCC+:** 22GA communication cable 1 twisted pair 108 Ohm low capacitance, FT4. Example: Cerco Cable 8302.
3. **Cable to connect parent HUB to child HUB(s) or SMP:** 22GA communication cable 1 twisted pair 108 Ohm low capacitance, FT4. Example: Cerco Cable 8302.
4. **Wires for extending Split Core current transformers (CT) (if required) :**
    a. Wire for 1 current transformer: 18GA, 1 twisted pair, FT4.
    b. Wire for 2 current transformers going to the same endpoint: 18GA, 2 twisted pairs, FT4.
    c. Examples: Cerco Cable 8212 or Remee Product, 18/1PR FT4 Overall Shielded Cable
5. **Branch circuit and wiring to supply the HUB with electricity.**

Information to Be Added on Plan

1. **Product code and configuration code:** Indicate the HUB product code and the configuration code (X-XX) related to the installation context (see table at the end of this document).
    a. The HUB must be configured to comply with rule 8-106 11) of the Canadian Electrical Code 2024.

2. **Load shedding setpoint:** Indicate the percentage of the rated capacity of the monitored feeder at which the HUB will start to load shed. This setpoint corresponds to the percentage of capacity in amperes.

ADDITIONAL INFORMATION

1. Connection between HUB and DCC+

1.1. Controls up to 120 DCC+ in series, distributed between port A and port B of the HUB.

1.2. **Communication cable extension:** Use 22GA 1-pair twisted 108 Ohm low-capacitance communication cable, FT4 (e.g. Cerco Cable 8302).

1.3. **Maximum length:** The maximum length between the HUB and the last DCC in the series is 2000 feet.

1.4. **Connection type:** Series connection, not star connection.

2. Connection between parent HUB and child HUB(s) / SMP G2

2.1. Controls up to 30 child HUBs or SMPs in series via the HUB's C port.

2.2. **Communication cable extension:** Use 22GA 1-pair twisted 108 Ohm low-capacitance communication cable, FT4. Example: Cerco Cable 8302.

2.3. **Maximum length:** The maximum length of the communication cable between the parent HUB and the last child HUB or SMP in the series is 2000 feet.

2.4. **Connection type:** Series connection, not star connection.

3. Installation of current transformers (CT)

3.1. The HUB can monitor up to 7 feeders with a maximum of 15 current transformers (CT), 100 mA and maximum 600V.

3.2. **Monitoring a single-phase feeder**: Two (2) CTs are required to monitor a single-phase feeder. One (1) CT per line/phase. The neutral does not need to be monitored.

3.3. **Monitoring a three-phase feeder**: Three (3) CTs are required to monitor a three-phase feeder. One (1) CT per phase. The neutral does not need to be monitored.

3.4. **Size of the feeder**: Depending on the physical size of the feeder, it can sometimes be difficult to install a CT around a group of wires or a busbar. This is why RVE offers rigid CTs (Split Core) and flexible CTs (Rogowski) of different sizes and maximum amperages. Consult the RVE CT Catalog for more details.

3.5. **Location of CTs on the feeder**: CTs must be installed at critical points in the electrical infrastructure to limit current spikes. There are many possibilities for installing CTs, and they depend on the specifics of the project and physical constraints. For further advice, please contact our technical support team.

3.6. **Location of CTs on a transformer**: On a transformer, the CTs must be installed on the secondary side. For further advice, please contact our technical support team.

3.7. **Extension of a rigid CT (Split Core)**: The Split Core CT comes with a 2.5 m wire. It is possible to extend the wire to a maximum length of 50 m.
To extend the wire for one (1) current reader: 18GA, 1 twisted pair, FT4.
To extend the wire for two (2) current readers going to the same endpoint: 18GA, 2 twisted pairs, FT4.

Examples of wire: Cerco Cable 8212 or Remee Product, 18/1PR FT4 Overall Shielded Cable.

3.8. **Extending a flexible CT (Rogowski)**: The Rogowski CT comes with a 25 m or 50 m wire. The wire cannot be extended, but it can be shortened.

4. HUB configuration

4.1. **Configuration:** Technical information relating to monitoring must be included on plan to enable the electrician to order the HUB with the correct configuration. When ordering the HUB, the electrician must provide additional information via the “Order Form — Electrical Contractor”.

4.2. **Load shedding instruction**: The percentage of the nominal capacity of the monitored feeder at which the HUB will initiate load shedding must be specified on plan. This instruction can also be modified by the electrician when placing the order via the “Order Form — Electrical Contractor”. The electrician must indicate the capacity (in amperes) of the monitored circuit and the load shedding setting (percentage).

4.3. **Changing the configuration**: The electrician can update the HUB configurations at any time via the HUB's LCD screen. The configuration can also be changed by connecting directly to the HUB from a telephone or computer via the HUB's local network (available via a software update in 2026).
The security configurations are set at the factory and no changes can be made without the intervention of the RVE technical support team. This is necessary to comply with the requirements of the Canadian Electrical Code CSA C22.2 No. 343 and UL3141, CL 6.4.2.

5. Connection to the Internet

5.1. A wired connection is required when connecting the HUB to the Internet. The HUB must be connected to the building's Ethernet network via a Cat5 Ethernet cable with an RJ45 connector.

5.2. The Internet connection speed must be at least 5 Mbps upstream and downstream.

5.3. The network ports below must be open to enable remote communication with the SMP:

- 443/TCP
- 8883/TCP
- 10883/TCP
- 123/UDP

6. Electricity supply

6.1. The HUB must have a dedicated power source (preferably on the building's emergency system) so that its power is not cut off in the event of a power failure.

6.2. It must have a circuit breaker locking system to prevent accidental disconnection.

6.3. 120V connection.

6.4. Power consumption: 240W (2A).

7. RVE Connect Portal

7.1. Access to the RVE Connect portal requires that the product be connected to the Internet.

7.2. The portal allows the visualization of the monitoring and control data of the HUB as well as those of the DCC+ and SMPs to which it is connected.

7.3. The portal allows managers and electricians to access information on all the products for which they are responsible.

7.4. **Modification of information**: The portal allows managers and electricians to add and modify product-related information.

8. Warranty

8.1. **Duration:** 1 year from the date of delivery.

8.2. **Conditions of application:**

- 8.2.1. The HUB must have an active Internet connection.
- 8.2.2. The warranty is valid against any defect in the integrated controls.
- 8.2.3. The warranty is limited to defects in the equipment supplied by RVE, excluding incorrect installation or unauthorized modifications.

SUPPORT AND TECHNICAL ASSISTANCE

If you have any questions or wish to report a problem, please contact our technical support.
Email: support@rve.ca
Telephone: 1-833-717-1355

LIST OF HUB PRODUCT CODES AND CONFIGURATION CODES ACCORDING TO THE CHOSEN CONTEXT

STEP 1 Select your context type based on the electrical infrastructure	**STEP 2** Select the number of main feeder (main service) to be monitored	**STEP 3** Select the number of other feeders to be monitored	**STEP 4** Provide the distributor with the product codes and configuration code below for ordering	
	Three-phase 480-600V main service	**Single-phase 240V transformer(s) at the secondary level**	**Product code**	**Configuration code**
Context Type #1 Three-phase 480-600V main service and single-phase 240V transformer(s)	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 480-600V main service and three-phase 480-600V feeder(s)	**Three-phase 480-600V main service**	**Three-phase 480-600V feeder(s)**		
	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 208V main service and three-phase 208V feeder(s)	**Three-phase 208V main service**	**Three-phase 208V feeder(s)**		
	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	**3-03**
	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 240V main service and single-phase 240V feeder(s)	**Single-phase 240V main service**	**Single-phase 240V feeder(s)**		
	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**