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Prospective Short Circuit Current of REVOV Batteries

Acronyms:

PSCC – Prospective short circuit current.

RBBR – Total resistance of the upstream network in ohms.

EB – Open-circuit voltage of batteries.

RB – Internal resistance of the battery.

RBL- Resistance of the battery connections.

Ry – Resistance of the conductors.

Equations:

$$RBBR = 0.9 * RB + RBL + Ry \quad (1)$$

$$PSCC = \frac{EB}{RBBR} \quad (2)$$

The above information is obtained from SANS 10142-1.

The PSCC's of all REVOV battery models are dictated below in table 1.

Table 1: PSCC calculation for REVOV battery models

Model	Battery pack resistance (mΩ)	BMS + Cables (mΩ)	Terminal (mΩ)	RBBR (mΩ)	EB per cell (V)	Number of cells	PSCC (A)
R200	3.9	1.9	1.5	6.91	3.68	16	8520.98
B220	3.5	1.9	1.5	6.55	3.68	16	8989.31
R100	6.5	2.5	1.7	10.05	3.68	16	5858.71
B100	5.5	2.5	1.7	9.15	3.68	16	6434.97
12V100Ah	1.7	0.8	0.9	3.23	3.68	4	4557.28
12V200Ah	1.4	0.8	0.9	2.96	3.68	4	4972.97
R9	9.3	3.3	1.7	13.37	3.68	16	4403.89
C8	8.5	3.3	1.7	12.65	3.68	16	4654.55