



## Control Logic Truth Table

Comparator 1 (U11) High if VCell1 > VCell2

Comparator 2 (U12) High if VCell2 > VCell1

Comparator 1	Comparator 2	ChargingMode	Cell1Charge	Cell2Charge	Cell1Discharge	Cell2Discharge
0	0	0	0	0	0	0
0	0	1	0	0	0	0
0	1	0	0	0	0	1
0	1	1	1	0	0	0
1	0	0	0	0	1	0
1	0	1	0	1	0	0
1	1	0	1	1	1	1
1	1	1	1	1	1	1

Unfeasible Condition (or turned off battery) -> Open all the gates

Unfeasible Condition (or turned off battery) -> Open all the gates

Cell 2 is fuller & ChargeMode Off -> Discharge Cell 2

Cell 2 is fuller & ChargeMode On -> Charge Cell 1

Cell 1 is fuller & ChargeMode Off -> Discharge Cell 1

Cell 1 is fuller & ChargeMode On -> Charge Cell 2

Cells are Balanced & ChargeMode Off -> Close all gates

Cells are Balanced & ChargeMode On -> Close all gates

Cell1Charge = (Charging && Comp2) || (Comp1 && Comp2)

Cell2Charge = (Charging && Comp1) || (Comp1 && Comp2)

Cell1Discharge = (! Charging && Comp1) || (Comp1 && Comp2)

Cell2Discharge = (! Charging && Comp2) || (Comp1 && Comp2)

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