

# P600 EZ-PACK

## TRYSTAR INDUSTRIAL SUBSTATION DC POWER



60" WIDE



24.5" WIDE

- Reduce your engineering time
- Reduce your footprint
- Reduce your substation assembly time and mistakes
- Reduce your overall cost

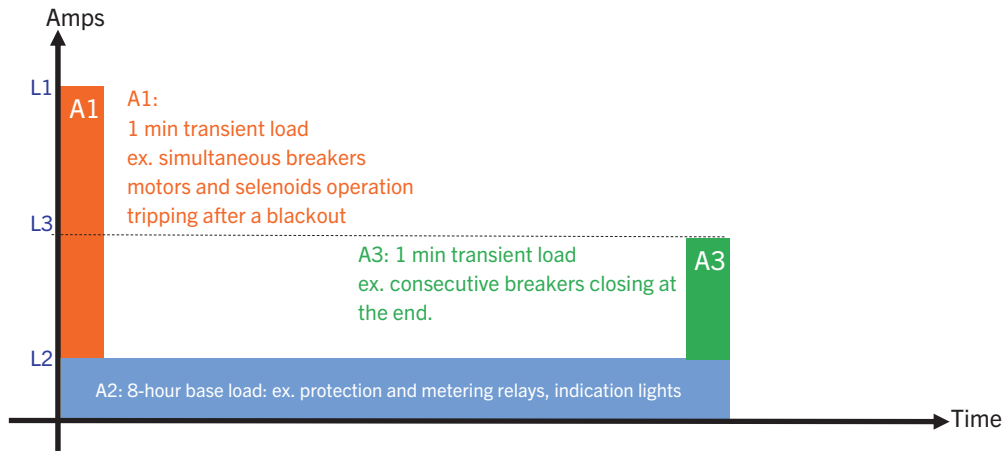


Fig.1: Typical switchgear operation profile during a blackout

### **EZ-Pack sizing for typical industrial substations:**

The EZ-Pack is sized as per IEEE485 and IEEE946. Following an outage, the battery alone will be feeding the substation load:

- simultaneously trip all breakers right after the power outage to isolate critical loads. This operation typically lasts for few seconds.
- feed the substation steady loads for 8h down to 1.75V per cell. (ex. 105V for a 125V system).
- At the end, consecutively rearm all breakers, one at a time to reconnect the plant critical loads.
- When the ac power is back, the EZ-Swap charger is sized to feed the steady load and restore battery capacity to over 90% in 10h-12h.

**For battery sizing, we considered that each medium voltage breaker includes: 1x 500W motor& solenoid, 1x30W protection relay, 1x30W metering unit and 1x10W indicating LED. A 25% aging factor is also included.**

**IEEE Lead-Acid battery sizing standards requires that all loads lasting a fraction of a minute are to be considered as 1min loads. Therefore, our start and end transient loads in Fig.1 have 1 min periods.**

## Sizing your system:

2 easy steps to select your system:

1. Decide the number of switchgear breakers you need to backup.
2. Refer to the below charts to select your DC-EZ-Pack model and characteristics.

### 125 VDC SYSTEMS

Part#	EZP125-4-1	EZP125-11-1	EZP125-24-1	EZP125-38-1
Max. # MV breakers	4	11	24	38
L1	21	57	123	195
L2	2	4	9	14
L3	25	25	25	25
Charger size(A)	10	15	25	35
Battery(Ah)	30	60	120	180
Input current at 240Vac	7	11	18	26
Input current at 208Vac	9	13	21	30
Input breaker(A)	15	20	30	40
Output breaker(A)	15	20	30	40
Dimensions(in)	92x25x15	92x25x16	2 x (92x25x16)	2 x (92x25x26)
Weight(lbs)	550	800	1550	2090
BTU/h	544	816	1361	1905

### 125 VDC SYSTEMS

Part#	EZP48-4-1	EZP48-10-1	EZP48-15-1
Max. # MV breakers	4	10	15
L1	51	129	193
L2	4	10	14
L3	25	25	25
Charger size(A)	15	25	40
Battery(Ah)	60	120	180
Input current at 240Vac	4	7	11
Input current at 208Vac	5	8	13
Input breaker(A)	10	15	20
Output breaker(A)	20	30	63
Dimensions(in)	92x24x15	92x24x16	2 x (92x24x25)
Weight(lbs)	470	690	1110
BTU/h	315	525	841



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