Kodak OG-7.2 AC Input Protection Application Note

SegenSolar

AC input passthrough current

Inverters have an AC passthrough current. This is used to cover loads on the output of the inverter, when solar and battery cannot supply the load. It also can be used to charge the battery.

Charging and load size needs to be considered. The combination of charging power and load should not exceed the passthrough capability of the inverter.

Example:

The Kodak OG7.2's AC input has a protective fuse rated at 63A AC. The EATON 63LET.

This fuse can blow because of startup Surges of motors or pumps when the inverter is already supplying a large load or charging the battery at max charge current from grid.

It is also important to note that some motors/pumps can use up to 8 times their rated power to startup. This can reduce by adding a soft starter.

When AC input is not being detected by the inverter, the common cause is this fuse has blown.

The fuse is rated at 63Amps as seen in this table:

Fuse link type	Rated voltage	Rated current (Amps)	I^2t (A^2 Sec) Pre-arcing	I^2t (A^2 Sec) Clearing at 240 V a.c.	Watts loss (W)	Catalogue numbers
LCT	240 V a.c. / 150 V d.c. (IEC) 250 V a.c. / 150 V d.c. (UL)	6	2	9	1	6LCT
		10	3.8	22	2.5	10LCT
		12	7	32	2.5	12LCT
		16	20	100	2.5	16LCT
		20	25	160	4	20LCT
LET	280 V a.c. / 150 V d.c. (UL)	25	18	250	4	25LET
		32	32	450	5	32LET
		35	50	600	5	35LET
		50	100	1400	7	50LET
		63	180	2200	9	63LET
		80	300	3800	10	80LET
		100	600	7500	10	100LET
		125	600	7500	16	125LET
		160	1100	16,000	20	160LET
	250 V a.c. / 150 V d.c. (UL)	180	1600	29,000	21	180LET

The inverter has a surge power rating of 15 000W but depending on your load type it is possible to exceed the inverters surge rating

Recommendations

It is important to protect the inverter from large loads which may lead to failure of its internal components:

Segen thus recommends the deployment of the following breaker with the OG-7.2:

- 40A QA13 – Series Miniature Circuit Breaker – CURVE 3

In residential deployments Curve C breakers are common but do not offer satisfactory protection to prevent damage of the internal circuitry of the inverter