

Off-Grid All-in-One Inverter Comparison

Specification	EG4 FlexBOSS18	EG4 FlexBOSS21	Sol-Ark 12K	Sol-Ark 15K	Sol-Ark 18K	MidNite AIO
OUTPUT						
Continuous (battery only)	10,000W	12,000W	9,000W	12,000W	18,000W	10,000W
Continuous (with solar)	13,000W	16,000W	12,000W ¹	15,000W	18,000W	11,400W
Surge / 0.5 sec	20,000W	24,000W	--	--	--	--
Surge / 1 sec	15,000W	18,000W	--	--	--	20,000W
Surge / 10 sec	--	--	16,000VA	24,000VA	36,000W	--
Surge / 100 ms	--	--	25,000VA	30,000VA	--	--
SOLAR INPUT						
Max DC PV input	18,000W	21,000W	13,000W	19,500W	28,800W	15,000W
Max AC coupling	90A port ²	90A port ²	9,600W	19,200W	28,800W	50A port
Number of MPPTs	2	3	2	3	3	3
Max current per MPPT	26A / 26A	26/26/15A	20A ea.	26A ea.	36A ea.	30/22/22A
Max PV voltage (Voc)	600V	600V	500V	500V	500V	600V
MPPT voltage window	120-440V	120-440V	150-500V	150-500V	150-425V	70-540V
GENERATOR / AC INPUT						
Generator input	Yes	Yes	Yes	Yes	Yes	Yes
Auto generator start	Yes	Yes	Yes (AGS)	Yes (AGS)	Yes (AGS)	Yes
Grid / AC passthrough	90A	90A	63A	200A	200A	100A
Transfer time	20ms ³	20ms ³	4ms	5ms	5ms	<10ms
BATTERY						
Nominal battery voltage	48V	48V	48V	48V	48V	48V
Battery voltage range	40-60V	40-60V	43-63V	43-63V	41-63V	40-64V
Max charge/discharge	208A DC	208A DC	185A DC	275A DC	350A DC	210A DC
Battery communication	CAN, RS485	CAN, RS485	CAN, RS485	CAN, RS485	CAN, RS485	CAN, RS485
LOAD MANAGEMENT						
Programmable SmartLoads	No ⁴	No ⁴	No	No	No	3 outputs ⁵
Max parallel units	16	16	9	12	12	9
EFFICIENCY & POWER QUALITY						
Idle / no-load consumption	<60W	<80W	60W	90W	NP	NP
CEC weighted efficiency	97.0%	96.9%	96.5%	96.5%	97.0%	96.6%
Peak efficiency (PV to AC)	97%	97%	97.5%	97.5%	97.6%	98.0%
Peak efficiency (Bat to AC)	94%	94%	--	--	--	94.5%
Output THD	<5%	<5%	NP	NP	NP	<3%
PHYSICAL / GENERAL						
Enclosure rating	NEMA 4X	NEMA 4X	IP65/3R	IP65/3R	IP65/3R	IP65/3R
Full-power temp (max)	60°C	60°C	45°C	45°C	45°C	45°C
Dimensions (H×W×D in)	30.4×22.3×11.2	30.4×22.3×11.2	29.5×17.7×10.0	31.8×19.4×12.0	34.0×18.2×11.1	38.3×16.5×10.7
Weight	115 lbs	88 lbs	78 lbs	135 lbs	137 lbs	108 lbs
Built-in display	Optional	Optional	Yes	Yes	Yes	Yes
Warranty	10 yr	10 yr	10 yr	10 yr	10 yr	10 yr

¹ Sol-Ark 12K: 9,000W AC output + 3,000W DC to batteries = 12,000W total system output

² EG4 FlexBOSS18/21: AC coupling via 90A grid port; dedicated AC coupling port not included

³ EG4 FlexBOSS18/21: transfer time configurable to 10ms

⁴ EG4 FlexBOSS18/21: programmable load management requires optional EG4 GridBOSS

⁵ MidNite AIO: three built-in programmable SmartLoad outputs (30A, 50A, 60A) included standard

NP = Not published in official manufacturer spec sheet