

OSW Tech Tips --- AlphaESS v1.1

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AlphaESS products in OSW:

Smile 5 series

10kWH: (1 Phase 5kW/10.1kWh system, Battery expandable from 10.1kWh to 60.6kWh)

OSW item code:	Description
BSKit-Smile 5-10kWh-v2	1 x ES-Alpha-Smile 5-10KWH-v2¹ (5kW inverter + 10kWh battery kit) 1 x ES-Alpha-Meter-ACR10R-D16TE4-3P (Alpha meter, 1Ph&3Ph both apply) 1 x E-LKT-Batt-v4 (Additional Labels for battery)
ES-Alpha-SMILE-BAT-10.1P -v2	10kWh battery for battery extension. ³ No need for additional Extension box
ES-Alpha-Meter-ACR10R-D16TE4-3P	Additional meter for AC couple/Hybrid couple scenario ²

Note:

1. Only ONE Smile 5 inverter is available per phase. It is not allowed to mix with other energy storage machines.
2. Only in the case of AC couple or Hybrid couple will need to purchase an additional meter.
3. Smile Bat 10.1P batteries cannot be mixed with other types of Alpha batteries.

13kWH: (1 Phase 5kW/13.3kWh system, Battery expandable to 79.8kWh)

OSW item code:	Description
BSKit-Smile 5-13.3kWh	1 x ES-Alpha-Smile 5-13.3KWH¹ (5kW inverter + 13kWh battery kit) 1 x ES-Alpha-Meter-ACR10R-D16TE4-3P (Alpha meter, 1Ph&3Ph both apply) 1 x E-LKT-Batt-v4 (Additional Labels for battery)
ES-Alpha-Smile 5-13.3kWh-Secondary	13kWh battery for battery extension. ³ Including Extension Box in code
ES-Alpha-Meter-ACR10R-D16TE4-3P	Additional meter for AC couple/Hybrid couple scenario ²

Note:

1. Only ONE Smile 5 inverter is available per phase. It is not allowed to mix with other energy storage machines.
2. Only in the case of AC couple or Hybrid couple will need to purchase an additional meter.
3. Smile Bat 13.3P batteries cannot be mixed with other types of Alpha batteries.

Smile B3+ series:

5kWH: (1 Phase 3kW/5kWh system, Battery expandable to 30.24 kWh, AC couple only)

OSW item code:	Description
BSKit-Smile B3 Plus-5kWh	1 x ES-Alpha-Smile-B3-Plus-5KWH ¹ (3kW inverter + 5kWh battery, inbuilt single phase CT meter) 1 x E-LKT-Batt-v4 (Additional Labels for battery)
ES-Alpha-SMILE-BAT-5kWh-Secondary	5kWh battery for battery extension. ³ No need for additional Extension box
ES-Alpha-Meter-DTSU666-100/40mA	Meter for 3Ph Supply installation ²

Note:

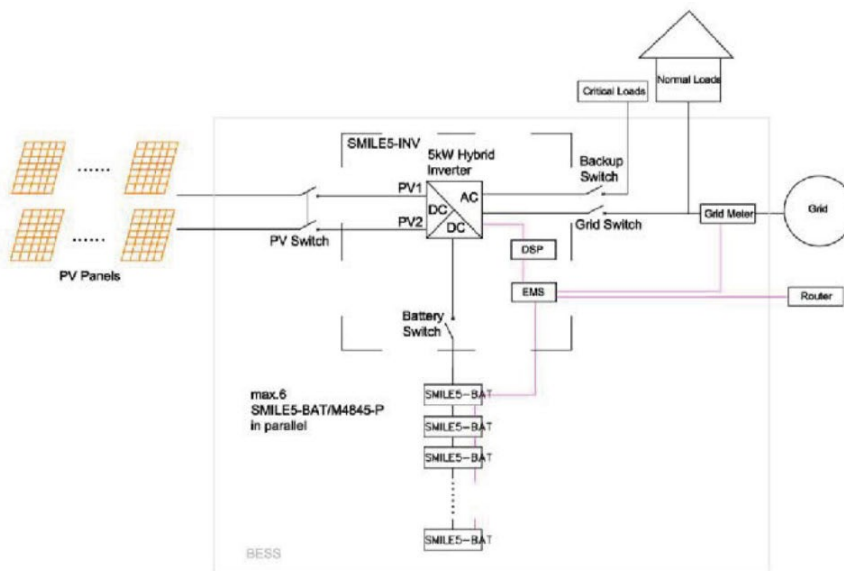
1. Only ONE Smile B3+ inverter is available per phase. It is not allowed to mix with other energy storage machines.
2. Only in the case of three phase installation will need to purchase an additional meter.
3. Smile Bat 5P batteries cannot be mixed with other types of Alpha batteries.

Single Line Diagram (SLD)

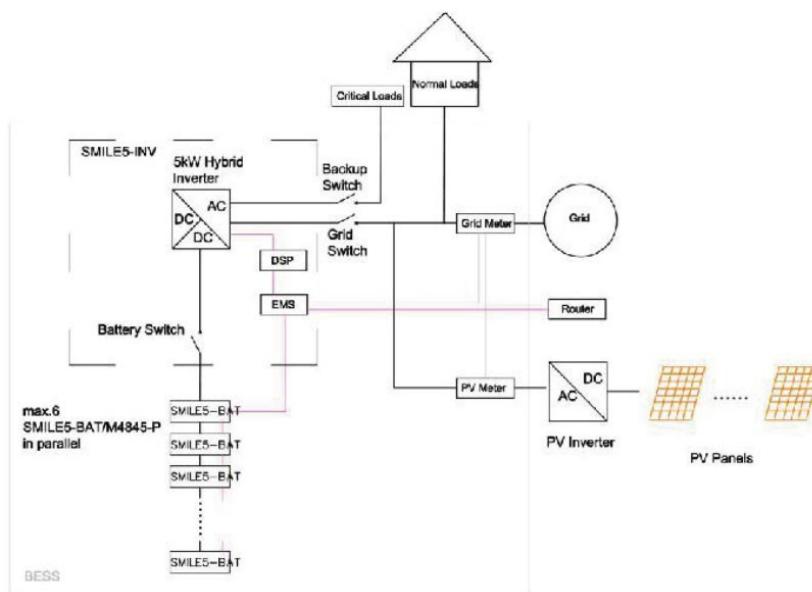
*All information is from AlphaEss installation manual

Smile 5 series

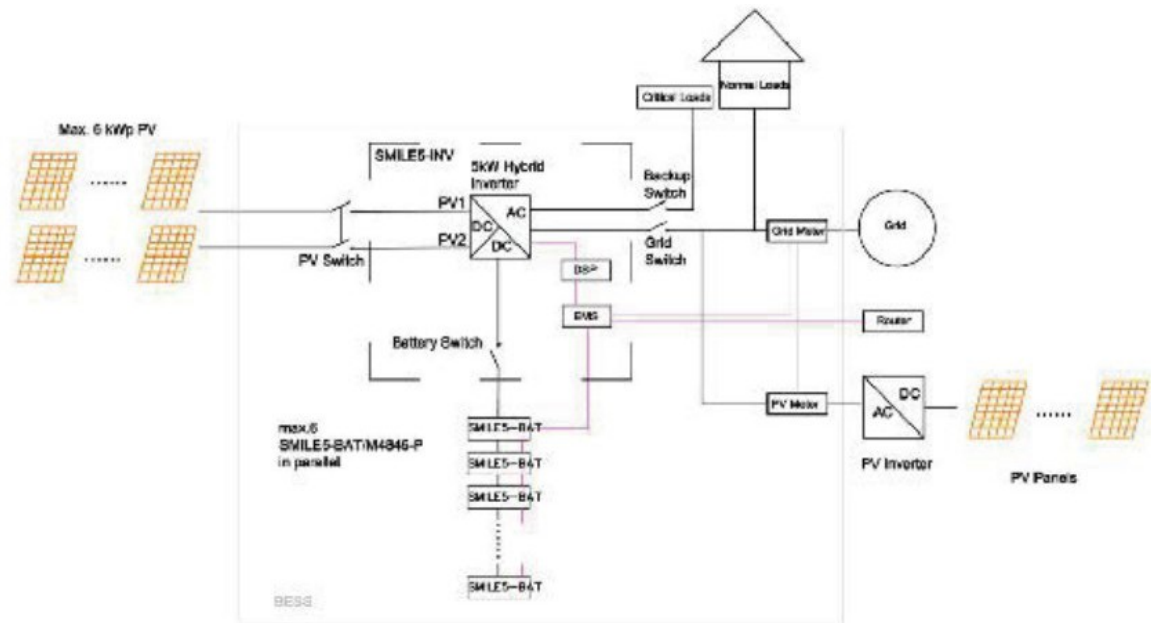
DC couple



AC couple

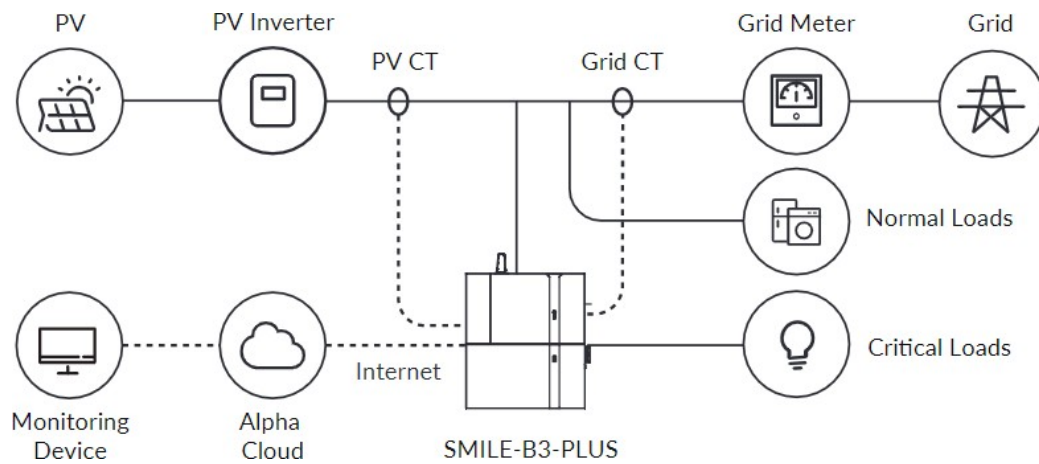


Hybrid couple



Smile B3+ series

AC couple



Installation instruction

*New customers should contact tech@onestopwarehouse.com.au to obtain an installer license number to create an AlphaESS installer account.

Installation manual

Smile 5 series

<https://s3-ap-southeast-2.amazonaws.com/solarbrain/uploads/attachment/file/861/bcba4b018514b5b99cb068f7c389d986.pdf>

1. Installation clearance----- 2.1.3 Page 11
2. Battery installation ---- 2.2.1 Page 12
3. Inverter installation ---- 2.2.2 Page 16
4. System start-up steps ---- 3.1 Page 38
5. System mode change (DC,AC,Hybrid) -----Step 10 Page 45
6. Work mode change (Self use as default) ---- Step 11 Page 45

Smile B3+ series

<https://s3-ap-southeast-2.amazonaws.com/solarbrain/uploads/attachment/file/1341/24eaf916afb49a4b4d233e18a960173e.pdf>

1. Installation clearance ---- Page 16
2. Inverter & Battery installation----- P18
3. System start-up steps ---- Page 46
4. Battery troubleshooting ---- Page 52 (Same for Smile 5)

Wi-Fi commissioning

<https://s3-ap-southeast-2.amazonaws.com/solarbrain/uploads/attachment/file/1474/c80d6252211acd4db3912324058e0720.pdf>

Note:

1. Dongle will be installed on **top** of the inverter.
2. Dongle Hotspot Password is **12345678**

Online Portal commissioning

<https://youtu.be/zhbElxVHWYI>

Meter installation

Smile 5 series

Video

<https://www.youtube.com/watch?v=v9q55zEIUQo&feature=youtu.be>

1. 0:08 wiring 1p
2. 0:33 wiring 3p
3. 0:54 meter address setting

Manual

<https://s3-ap-southeast-2.amazonaws.com/solarbrain/uploads/attachment/file/1044/0f42aef04fd89fb73b90f551f5d0f7a9.pdf>

Note:

1. **ACR10R-D16TE4-3P** can work on 1Ph&3Ph. 1PH requires only one phase CT and corresponding wiring
2. The voltage reference wiring of the meter must be connected.
3. Please note the CT direction of the PV meter and Grid meter
4. Please note the meter address of PV meter and Grid meter are different, require commissioning on meter address
5. CT ratio is required to be set on inverter interface. "setting" - "function" – "CT Meter" Refer to manual above.
6. If extend meter COM cable, please pay attention to the address cable sequence.

Smile B3 series

Inbuilt 1Ph CT meter wiring

<https://www.youtube.com/watch?v=XBm4kV8MRG4>

DTSU666-100/40mA 3Ph CT meter wiring

<https://www.youtube.com/watch?v=otFvV0QnyyA>

Note:

1. Please note the CT direction for PV and grid side
2. If extend meter COM cable, please pay attention to the address cable sequence.

Parallel Batteries

Smile BAT 10P

<https://s3-ap-southeast-2.amazonaws.com/solarbrain/uploads/attachment/file/1047/79ed9006c94e6467de62318e3a90c171.pdf>

Troubleshooting

Battery

10.2.2 Battery Protection Description

LED Ring	Protection Code	LED Display	Description	Troubleshooting
Green LEDs flicker once every 3S.	1		Temperature difference	Wait for automated recovery. In case the problem is not recovery for a long time, call for service.
	3		High temperature	Stop discharging and charging until this code is eliminated and wait for the temperature to drop.
	4		Low-temperature discharge	Stop discharging until this code is eliminated and wait for the temperature to rise.
	5		Overcurrent charge	Wait for automated recovery. In case the problem is not recovery for a long time, call for service.
	6		Overcurrent discharge	
	8		Cell overvoltage	
	9		Cell under voltage	Stop discharging and call service immediately.
	11		Low-temperature charge	Stop discharging until this code is eliminated and wait for the temperature to rise.



NOTE:

In the case of work mode, if the protection code 09 appears, please press the power button of the battery with this code. 5 times within 10 seconds, the BMS will be forced to turn on the MOSFET of discharge so that the inverter can detect the battery open voltage and charge the battery.

10.2.3 Battery Protection Description

LED Indicator	Error Code	LED Display	Description	Troubleshooting
Red light Flickering every 3 seconds.	Error 01		Temperature sensor failure	Please restart the battery. If the problem is not resolved, please call for service.
	Error 05		MOSFET error	
	Error 06		Circuit breaker open	Switch on circuit breaker after powering off the battery.
	Error 08		LMU disconnect (slave)	Reconnect the BMS communication cable.
	Error 09		SN missing	Call for service.
	Error 10		LMU disconnect (master)	Reconnect the BMS communication cable.
	Error 11		Software version inconsistent	Call for service.
	Error 12		Multi master	After shutting down the battery system, please restart all batteries within 30s.
	Error 13		MOS over temperature	Please power off the battery and turn on the battery after about 2 hours.

Warranty & aftersales contacts

Tech.au@alphaess.com

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