Note: Do not change the file name of firmware, otherwise the upgrade will fail.

Since firmware V2.6B, Baud rate is changed to 115200

Hardware Version (Firmware Version)

P16S200A-21606-V3.0 (P1547V320-21606-2.10-002) 2025-05-07

1. New Max Request Charge Voltage (CVL) logic: 1 hour after fully charging, Max Request Charge Voltage is changed to Pack OVP Release Value. Max Request Charge Voltage is recovered to Pack FullCharge Voltage Value after SOC drops to 95%.

P16S200A-21606-V3.0 (P1547V320-21606-2.10-001) 2025-04-23

1. Request Charge Current: The minimum CCL value among all properly functioning batteries multiplied by the number of all properly functioning batteries.

2. If multiple packs are parallel connected, Average Voltage is sent to the inverter.

3. Modify "Fully" condition. Fully condition voltage = Max Charge Voltage - 0.5V

P16S200A-21606-V2.5 (P1547V320-21606-2.09B)

1. New logic to prevent over discharge:
    1) When SOC is lower than Minimum Discharge SOC, DCL is 0 (Released after SOC +30%)
    2) When battery voltage is lower than Pack Under Voltage Alarm, DCL is 0 (Release after voltage + 3V)
    3) Dynamic Minimum Discharge SOC: Increased if not fully charged for certain days
        a) Default: 10%
        b) 4 days without full charge: 50%
        c) 8 days without full charge: 70%
        d) After fully charge: reset to default
    4) Set SOC Alarm to be below 5% to bypass dynamic Minimum Discharge SOC logic. (Warning: check battery voltage and charge battery to full regularly if disable automatic SOC management to prevent over discharge)

2. Charge Current Limit (CCL) and Discharge Current Limit (DCL) are dynamic according to SOC and Temperature.

Continueous Charge Power Factors

Ambient Temperature (℃)	-20	-10	0	5	10	15	20	25	30	35	40	45	50	55
SOC: 0%	0	0	0	0.4	1	1	1	1	1	1	1	1	1	1
SOC: 10%	0	0	0	0.4	1	1	1	1	1	1	1	1	1	1
SOC: 20%	0	0	0	0.4	1	1	1	1	1	1	1	1	1	1
SOC: 30%	0	0	0	0.4	0.8	1	1	1	1	1	1	1	1	0.8
SOC: 40%	0	0	0	0.4	0.8	1	1	1	1	1	1	1	1	0.8
SOC: 50%	0	0	0	0.6	0.6	1	1	1	1	1	1	1	1	0.7
SOC: 60%	0	0	0	0.4	0.6	1	1	1	1	1	1	1	1	0.7
SOC: 70%	0	0	0	0.3	0.6	1	1	1	1	1	1	1	0.9	0.6
SOC: 80%	0	0	0	0.2	0.4	0.8	1	1	1	1	1	1	0.8	0.6
SOC: 90%	0	0	0	0.2	0.4	0.4	1	1	1	1	1	0.6	0.4	0.4
SOC: 100%	0	0	0	0.2	0.2	0.4	0.4	0.6	0.6	0.6	0.6	0.4	0.3	0.2

Continueous Discharge Power Factors

Ambient Temperature (℃)	-30	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45	50	55
SOC: 0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOC: 10%	0	0.1	0.2	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.35
SOC: 20%	0	0.2	0.3	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.6	0.45
SOC: 30%	0	0.3	0.4	0.6	0.6	0.7	0.7	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.6	0.5
SOC: 40%	0	0.4	0.5	0.7	0.7	0.8	0.8	1	1	1	1	1	1	1	0.9	0.6	0.5
SOC: 50%	0	0.4	0.5	0.7	0.7	0.8	0.8	1	1	1	1	1	1	1	0.9	0.7	0.5
SOC: 60%	0	0.5	0.6	0.7	0.7	0.8	0.8	1	1	1	1	1	1	1	0.9	0.7	0.5
SOC: 70%	0	0.5	0.6	0.7	0.8	0.8	1	1	1	1	1	1	1	1	1	0.7	0.6
SOC: 80%	0	0.5	0.6	0.7	0.8	0.8	1	1	1	1	1	1	1	1	1	0.8	0.6
SOC: 90%	0	0.5	0.6	0.7	0.8	0.8	1	1	1	1	1	1	1	1	1	0.8	0.6
SOC: 100%	0	0.5	0.6	0.7	0.8	0.8	1	1	1	1	1	1	1	1	1	0.8	0.6

P16S200A-21606-V2.5 (P1547V320-21606-2.09A)

1. New Max Request Charge Voltage (CVL) logic: 1 hour after fully charging, Max Request Charge Voltage is changed to ~~Pack OVP Release Value~~ 54.4V. Max Request Charge Voltage is recovered to Pack FullCharge Voltage Value after SOC drops to 95%.

P16S200A-21606-V2.5 (P1547V320-21606-2.09-003)

1. Fix bugs: V2.09 sometimes cannot reset SOC when fully charged

P16S200A-21606-V2.5 (P1547V320-21606-2.09)

1. Change: Temperature < Charge Low Temperature Warning + 1, heating function on
2. This version has bug: may not be able to reset SOC when fully charged, need to be upgraded

P16S200A-21606-V2.5 (P1547V320-21606-2.08)

1. Add Sofar inverter protocol

P16S200A-21606-V2.5 (P1547V320-21606-2.06B-000)

1. Fix Heating pad bug on Victron. Request 10A Charge current from inverter below Charge Low Temperature Protection.

2. Add 7W self consuming from Inverter to adjust SOC.

3. RS232 Baud Rate is changed to 115200.

P16S200A-21606-V2.5 (P1547V320-21606-2.06A-001)

1. Fix Heating pad bug. Previous: not heating below Charge Low Temperature Protection while connected with inverter. Now: Turn off charge MOS and request 3A current from the inverter below Charge Low Temperature Protection.

P16S200A-21606-V2.6 (P1547V320-21606-2.06-002)

1. Modify Victron Voltage Difference Alarm condition. Balance alarm will not be sent to Victron

2. Changed default settings in BMS

P16S200A-21606-V2.5 (P1547V320-21606-2.05A-001)

1. Modify Pylon/Deye Force Charge condition. Force Charge start SOC <= Low SOC Alarm + 3, release SOC >= Low SOC Alarm + 10

P16S200A-21606-V2.4 (P1547V320-21606-2.05-000)

1. Modify "Fully" condition. Fully condition voltage = Max Charge Voltage - 0.3V

2. Changed direction of Screen Port on BMS

P16S200A-21606-V2.3 (P1547V320-21606-2.02-000)

1. New screen (K4ENZN-20666-1.0), able to choose inverter protocol

P16S200A-21606-V2.2 (P1547V320-21606-2.02-000)

1. Remove heating connector

P16S200A-21606-V2.1 (P1547V320-21606-2.02-000)

1. Add optional heating function

2. Heating connector 2EMGRC-3.5/3.81

3. Temperature < Charge Low Temperature Warning, heating function on.

4. Temperature > Charge Low Temperature Release, heating function off.

P16S200A-21606-V2.0 (P1547V320-21606-2.01-000)

1. Updated inverter list

2. New Screen Version: K4ENZN-0384-2.0.

3. New Main PCB Version: 1547-3.2.

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******* P1547V300-21606-V1 (CANNOT BE UPGRADED TO P1547V300-21606-V2+ ****)**

P16S200A-21606-V1.0 (P1547V300-21606-1.01B-000) (Final Update)

1. Modify Pylon/Deye Force Charge condition. Force Charge start SOC = Low SOC Alarm + 3, release SOC = Low SOC Alarm + 10

P16S200A-21606-V1.0 (P1547V300-21606-1.01A-000)

1. Add SMA inverter protocol

P16S200A-21606-V1.0 (P1547V300-21606-1.01-001)

Changed algorithm of Charge Current Limit (CCL).

Now: CCL = Charge Over Current Warning

Older Version: CCL = Charge Over Current Warning / 2

When parallel connection:

1. Max Charge Current = (Over Charge Warning Value) * (Total Pack Number - Number of packs blocking charging).

2. Charging will be blocked when the pack has overcharge warning or protection.

Note: Do not change the file name of firmware, otherwise the upgrade will fail.