8.5.2 Run Param

PassWord

* * * *

Pic 8.23 Password

MENU》Setup》Run Param

ActiveP 31%	SelfCheck 20S
QMode OFF	Island OFF
ReactP 0.0%	Meter ON
PF 1.000	Limiter OFF
Fun_ISO OFF	Feed_In 0%
Fun_RCD OFF	MPPT Num 6
OK	Cancel

Name	Description	Range
ActiveP	Adjust the output active power in %	0-110%
QMode	Multiple reactive power control modes	OFF/Q(P)/PF(P) /Q(U)/PF/PER
ReactP	Adjust reactive power output in %	-100%-+100%
PF	Power Fator	-1-0.8~+0.8-1
Fun_ISO	Insulation resistance detection	ON/OFF
Fun_RCD	Residual current detection	ON/OFF
Self-check	Inverter's self-check time.The default value 60s	0-1000s
Island	Anti-islanding protection	ON/OFF
Meter	Energy meter.If inverter will connect meter,then set here to ON	ON/OFF
Feed_IN %	It is used to deploy how much power can be feed in to grid when the inverter works under zero export mode.(For example,Feed_in=50% of the 110KW modeland loadpower is 54KW. which means Max 55KW power can befeed into grid after inverter providing 54Kw to the load firstly.	0-100%

```
MENU》Setup》Run Param

ARC         OFF      Vref        0.0V
OFDerate    OFF      PowerLimit
UFUprate    OFF      VoltageRT
PU          OFF      DRM         OFF
WGra        0.0%     Sunspec     OFF
WGraStr     0.0%

        OK              Cancel
```

Name	Description	Range
ARC	Arc-fault detection function	ON/OFF/Clear
OFDerate	Active power response to over frequency	0-100% Pmax/Hz
UFUprate	Active power response to under frequency	0-100% Pmax/Hz
PU	power response to grid voltage deviation	ON/OFF
WGra	Active power ramp rate (% Pnom/Sec)	0.1%-50%
WGraStr	Active power ramp rate at first start (% Pnom/Sec)	0.1%~50%
Vref	Grid reference voltage for functions including Q(U),PF(P),P(U)etc.	80-260V
PowerLimit	Hard/soft export limit control	ON/OFF
VoltageRT	voltage ride through function	ON/OFF
DRM	Demand Response Modes	ON/OFF
Sunspec	Sunspec Function	ON/OFF

Pic 8.24 Run Param

```
MENU》Setup》Run Param

ARC        OFF    Vref         0.0V
OFDerate   OFF    PowerLimit
UFUprate   OFF    VoltageRT
PU         ON     DRM          OFF
WGra       0.0%   Sunspec          OFF
Sunspec    OFF

      OK              Cancel
```

```
Voltage Ride Through

HVRT       OFF    LVRT        OFF
Vstart     0.0%   Vstart      0.0%
Vstop      0.0%   Vstop       0.0%
                  ZVRT        OFF




      OK              Cancel
```

Pic 8.25 Voltage Ride Through

8.5.2.1 Over-frequency Response

This series inverter provides "over-frequency response" function.
Long pressing the "OFD Derate" to enter the "over-frequency response" setting menu.

```
MENU》Setup》Run Param

ARC        OFF        Vref        220.0V
OFDerate  ON          PowerLimit
UFUprate  OFF         VoltageRT
PU         OFF        DRM        OFF
WGra      20.0%       Sunspec      OFF
Sunspec    OFF
        OK                Cancel
```

Definition of Over-frequency Response Parameters

Parameter	Range	Description
StartPoint	45HZ-65HZ	The Start frequency value for over-frequency response.
StopPoint	45HZ-65HZ	The Stop frequency value for over-frequency response.
RecoverPoint	45HZ-65HZ	In hysteresis mode, power is restored only when it is below this frequency
RecoverGradient	0.3%¬300% P/min	Ramp rate of power recovery
RecoverDelay	0-1000s	Time Delay of power recovery in hysteresis mode
ResponseDelay	0-2000S	Response delay time after entering active power frequency mode

For example, StartPoint: 50.5Hz, StopPoint: 51.5Hz, RecoverPoint: 50.1Hz, when the grid frequency increases beyond StartPoint: 50.5Hz, the inverter will linearly reduce the power output with a gradient of 100% Pmax/Hz until it reaches StopPoint: 51.5Hz.

```
OverFrequenceDerate

StartPoint          50.50Hz
StopPoint           51.50Hz
RecoverPoint        50.1Hz
RecoverGradient     1.00%
RecoverDelay         0S
ResponseDelay       0.0S
        Back
```
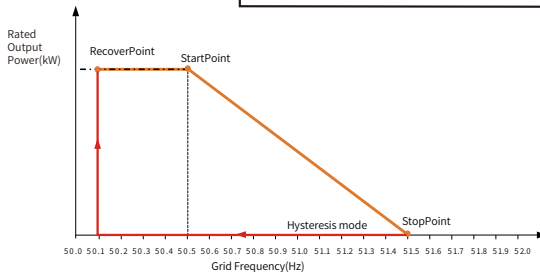

Frq-Watt Mode for Overfrequency Conditions

When the frequency exceeds StopPoint: 51.5Hz, the inverter output should stop (ie 0 W).
When the frequency is lower than StopPoint: 51.5 Hz, the inverter will linearly increase the power output with a gradient of 100% Pmax/Hz until it reaches StopPoint: 50.5 Hz.
In the hysteresis mode, when the frequency is lower than StopPoint: 51.5 Hz, the inverter will not increase the power output until it is lower than RecoverPoint: 50.1 Hz.

```
MENU》Setup》Run Param

ActiveP   31%        SelfCheck   20S
QMode    QU          Island        OFF
ReactP    0.0%       Meter         ON
PF        1.000       Limiter       OFF
Fun_ISO   ON         Feed_In      0%
Fun_RCD   ON         MPPT Num    6
        OK                    Cancel
```

The inverter provides a reactive power regulation function.
Tap **Reactive Power Regulation Mode** to select proper regulation mode and set the corresponding parameters.

- **"OFF" Mode**

    The reactive power regulation function is disabled. The PF is fixed at +1.000

- **ReactiveP**

    Adjust reactive power output in %.

- **"PF" Mode**

    The power factor (PF) is fixed and the reactive power is regulated by the parameter
    PF. The PF ranges from 0.8 leading to 0.8 lagging.

    •Leading: the inverter is sourcing reactive power to the grid.

    •Lagging: the inverter is injecting reactive power into the grid.

- **"Q(U)" Mode**

    The reactive power output of the inverter varies in response to the grid voltage.
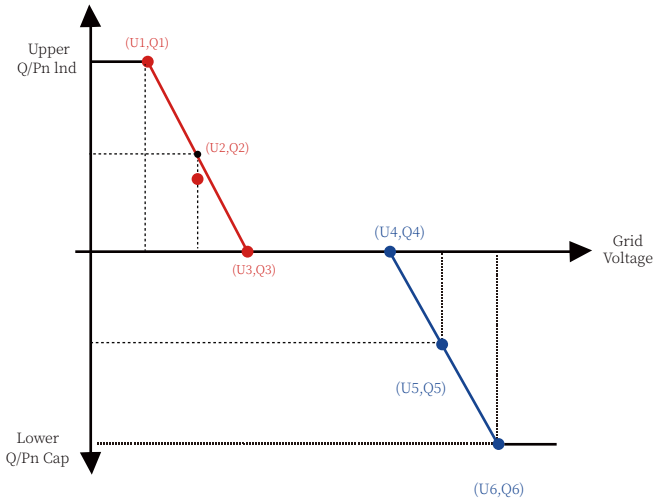
- **"Q(P)" Mode**

    The reactive power output by the inverter is controlled by the active power
    of the inverter.

"Q(U)" Mode

```
QU Setting
─────────────────────────────────────
Start      30.0%       Stop     20.0%
RmpTime   2s           PtUsed   4
Curve                  Uref     OFF
UrfTime
─────────


         Back
```

```
QU Setting
─────────────────────────────────────
V1        80.0%        Q1      -25.0%
─────────
V2        90.0%        Q2        0.0%
V3       110.0%        Q3        0.0%
V4       120.0%        Q4       25.0%
V5       120.0%        Q5       25.0%
V6       120.0%        Q6       25.0%
         Back
```
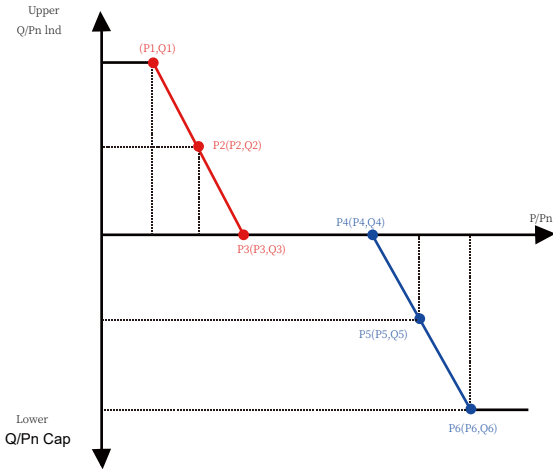
Pic 8.26 Reactive Power Regulation Curve in Q(U) Curve

Parameter	Range	Description
Start	0%-130% Rate out power	The QU mode starts when the active power is greater than this value
Stop	0%-130% Rate out power	The QU mode stops when the active power is less than this value
RMpTime	0-1000s	Increase or decrease the time required for the reactive power to reach the specified value of the curve.
PtUsed	2-6	Point number used in QU Curve
Curve		QU Curve
Q1	-60% -60% Q/Pn	Value of Q/Pn at point (U1,Q1) on the Q(U) mode curve
V1	0-110% VRated	Grid voltage limit at point (U1,Q1) on the Q(U) mode curve
Q2	-60% -60% Q/Pn	Value of Q/Pn at point (U2,Q2) on the Q(U) mode curve
V2	0-110% VRated	Grid voltage limit at point (U2,Q2) on the Q(U) mode curve
Q3	-60% -60% Q/Pn	Value of Q/Pn at point (U3,Q3) on the Q(U) mode curve
V3	0-110% VRated	Grid voltage limit at point (U3,Q3) on the Q(U) mode curve
Q4	-60% -60% Q/Pn	Value of Q/Pn at point (U4,Q4) on the Q(U) mode curve
V4	0-110% VRated	Grid voltage limit at point (U4,Q4) on the Q(U) mode curve
Q5	-60% -60% Q/Pn	Value of Q/Pn at point (U5,Q5) on the Q(U) mode curve
V5	0-110% VRated	Grid voltage limit at point (U5,Q5) on the Q(U) mode curve
Q6	-60% -60% Q/Pn	Value of Q/Pn at point (U6,Q6) on the Q(U) mode curve
V6	0-110% VRated	Grid voltage limit at point (U6,Q6) on the Q(U) mode curve

"Q(U)" Mode Parameters Explanation

"Q(P)" Mode

The reactive power output by the inverter is controlled by the active power of the inverter.

Pic 8.27   Reactive Power Regulation Curve in Q(P) Mode

```
MENU》Setup》Run Param

ActiveP    31%         SelfCheck   20S
QMode      QP          Island      OFF
ReactP     0.0%        Meter       ON
PF         1.000       Limiter     OFF
Fun_ISO    ON          Feed_In     0%
Fun_RCD    ON          MPPT Num    6
          OK                  Cancel
```

```
QP   Setting

P1       80.0%       Q1       -25.0%
P2       90.0%       Q2        0.0%
P3      110.0%       Q3        0.0%
P4      120.0%       Q4       25.0%
P5      120.0%       Q5       25.0%
P6      120.0%       Q6       25.0%
          Back
```

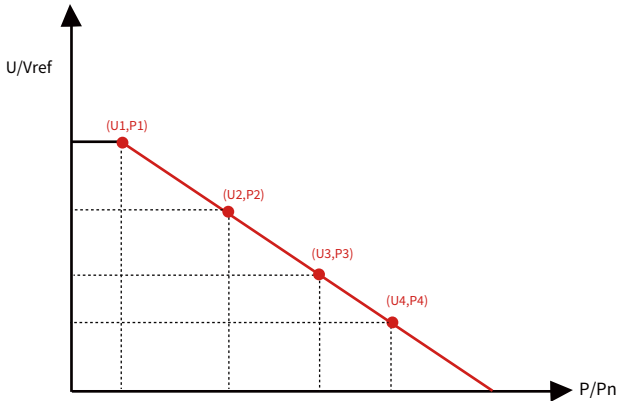| Parameter	Range	Descrption
P1	0%-100% Pn	Value of Q/Pn at point (P1,Q1) on the Q(P) mode curve
Q1	-60% -60% Q/Pn	Reactive power value at point (P1,Q1) on the Q(P) mode curve
P2	0%-100% Pn	Value of Q/Pn at point (P2,Q2) on the Q(P) mode curve
Q2	-60% -60% Q/Pn	Reactive power value at point (P2,Q2) on the Q(P) mode curve
P3	0%-100% Pn	Value of Q/Pn at point (P3,Q3) on the Q(P) mode curve
Q3	-60% -60% Q/Pn	Reactive power value at point (P3,Q3) on the Q(P) mode curve
P4	0%-100% Pn	Value of Q/Pn at point (P4,Q4) on the Q(P) mode curve
Q4	-60% -60% Q/Pn	Reactive power value at point (P4,Q4) on the Q(P) mode curve
P5	0%-100% Pn	Value of Q/Pn at point (P5,Q5) on the Q(P) mode curve
Q5	-60% -60% Q/Pn	Reactive power value at point (P5,Q5) on the Q(P) mode curve
P6	0%-100% Pn	Value of Q/Pn at point (P6,Q6) on the Q(P) mode curve
Q6	-60% -60% Q/Pn	Reactive power value at point (P6,Q6) on the Q(P) mode curve

"Q(P)" Mode Parameters Explanation

"PU" Mode

The active power output of the inverter varies in response to the grid voltage

```
MENU》Setup》Run Param

ARC        OFF    Vref         0.0V
OFDerate   OFF    PowerLimit
UFUprate   OFF    VoltageRT
PU         ON     DRM          OFF
WGra       0.0%   Sunspec      OFF
Sunspec    OFF

        OK              Cancel
```

```
PU   Setting

U1        0.0%        P1        0.0%
U2        0.0%        P2        0.0%
U3        0.0%        P3        0.0%
U4        0.0%        P4        0.0%
RmpTime     0S


        Back
```


Pic 8.28 Active Power Regulation Curve in PU Curve

Parameter	Range	Description
P1	0%-110% Pn	Value of P/Pn at point (P1,U1) on the PU mode curve
U1	0% -150% Vref	Grid voltage limit at point (P1,U1) on the PU mode curve
P2	0%-110% Pn	Value of P/Pn at point (P2,U2) on the PU mode curve
U2	0% -150% Vref	Grid voltage limit at point (P2,U2) on the PU mode curve
P3	0%-110% Pn	Value of P/Pn at point (P3,U3) on the PU mode curve
U3	0% -150% Vref	Grid voltage limit at point (P3,U3) on the PU mode curve
P4	0%-110% Pn	Value of P/Pn at point (P4,U4) on the PU mode curve
U4	0% -150% Vref	Grid voltage limit at point (P4,U4) on the PU mode curve

"PU" Mode Parameters Explanation

"PF(P)" Mode

```
PFP Setting
─────────────────────────────────────────
Cut_in       0.0%      Cut_out      0.0%
P1           0.0%      PF1        -1.000
P2           0.0%      PF2        -1.000
P3           0.0%      PF3        -1.000
P4           0.0%      PF4        -1.000
P5           0.0%      PF5        -1.000
          Back
```

```
PFP Setting
─────────────────────────────────────────
P6           0.0%      PF6        -1.000
Time         0s




          Back
```
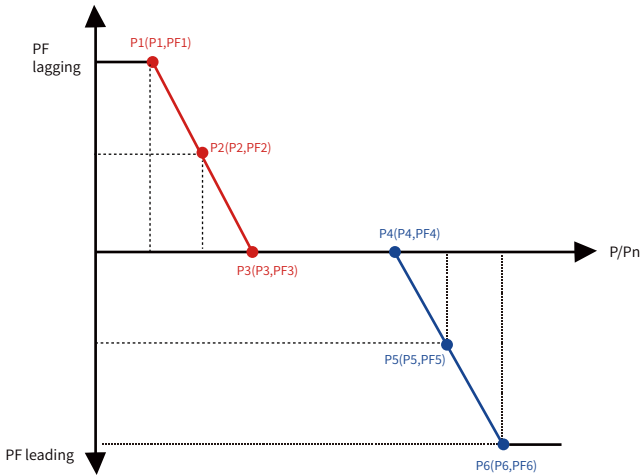

Pic 8.29 Power factor Regulation Curve in PF(P) Mode

Parameter	Range	Description
P1	0-110% Pn	Power value at point (PF1,P1) on the PF(P) Curve
PF1	0.8 leading - 0.8 lagging	PF value at point (PF1,P1) on the PF(P) Curve
P2	0-110% Pn	Power value at point (PF2,P2) on the PF(P) Curve
PF2	0.8 leading - 0.8 lagging	PF value at point (P2,PF2) on the PF(P) Curve
P3	0-110% Pn	Power value at point (P3,PF3) on the PF(P) Curve
PF3	0.8 leading - 0.8 lagging	PF value at point (P3,PF3) on the PF(P) Curve
P4	0-110% Pn	Power value at point (P4,PF4) on the PF(P) Curve
PF4	0.8 leading - 0.8 lagging	PF value at point (P4,PF4) on the PF(P) Curve
P5	0-110% Pn	Power value at point (P5,PF5) on the PF(P) Curve
PF5	0.8 leading - 0.8 lagging	PF value at point (P5,PF5) on the PF(P) Curve
P6	0-110% Pn	Power value at point (P6,PF6) on the PF(P) Curve
PF6	0.8 leading - 0.8 lagging	PF value at point (P6,PF6) on the PF(P) Curve
RMpTime	0-1000s	The time of the PFF Curve in seconds (time to accomplish a change of 95%).

"PF(P)" Mode Parameters Explanation