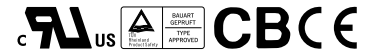


## Features :

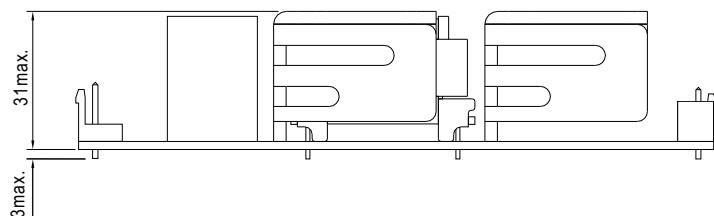
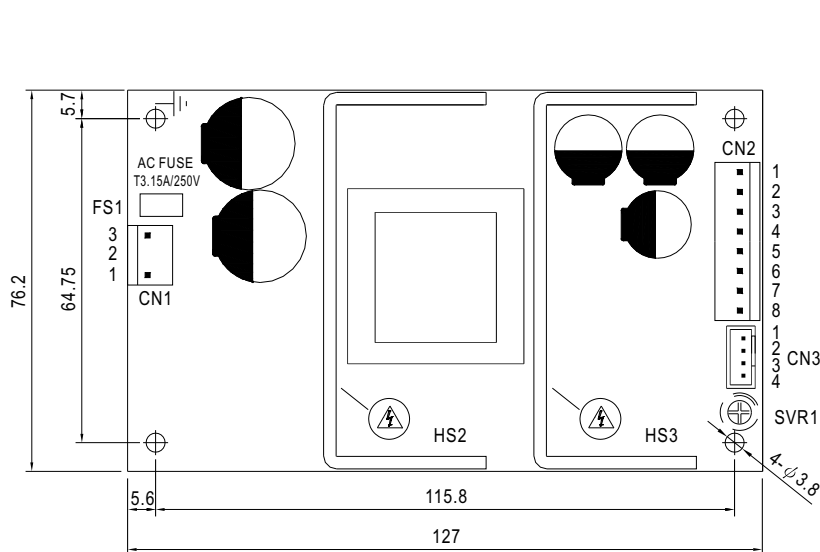
- Universal AC input / Full range
- 5"x3" compact size
- **Optional L-Bracket and cover (PSC-100x-C, x=A,B)**
- Protections: Short circuit / Overload / Over voltage
- Battery low protection / Battery polarity protection by fuse
- Relay contact signal output for AC OK and Battery Low
- Cooling by free air convection
- 100% full load burn-in test
- 2 years warranty



## SPECIFICATION

| MODEL                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | PSC-100A                                                                                    |       | PSC-100B           |       |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------|--------------------|-------|
| OUTPUT                                                          | OUTPUT NUMBER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | CH1                                                                                         | CH2   | CH1                | CH2   |
|                                                                 | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 13.8V                                                                                       | 13.8V | 27.6V              | 27.6V |
|                                                                 | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 4.75A                                                                                       | 2.5A  | 2.4A               | 1.25A |
|                                                                 | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0 ~ 7A                                                                                      | ----- | 0 ~ 3.5A           | ----- |
|                                                                 | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 100W                                                                                        |       | 100.74W            |       |
|                                                                 | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 100mVp-p                                                                                    | ----- | 100mVp-p           | ----- |
|                                                                 | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | CH1: 12 ~ 15V                                                                               |       | CH1: 24 ~ 29V      |       |
|                                                                 | VOLTAGE TOLERANCE Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ±1.0%                                                                                       | ----- | ±1.0%              | ----- |
|                                                                 | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ±0.5%                                                                                       | ----- | ±0.5%              | ----- |
|                                                                 | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ±0.5%                                                                                       | ----- | ±0.5%              | ----- |
| INPUT                                                           | SETUP, RISE TIME Note.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2400ms, 30ms/230VAC      2400ms, 30ms/115VAC at full load                                   |       |                    |       |
|                                                                 | HOLD UP TIME (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 40ms/230VAC      16ms/115VAC at full load                                                   |       |                    |       |
|                                                                 | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 90 ~ 264VAC      127 ~ 370VDC                                                               |       |                    |       |
|                                                                 | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 47 ~ 63Hz                                                                                   |       |                    |       |
|                                                                 | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 86%                                                                                         |       | 88%                |       |
|                                                                 | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2A/115VAC      1.2A/230VAC                                                                  |       |                    |       |
|                                                                 | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | COLD START 35A/115VAC      70A/230VAC                                                       |       |                    |       |
| PROTECTION                                                      | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <1mA / 240VAC                                                                               |       |                    |       |
|                                                                 | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 105 ~ 150% rated output power                                                               |       |                    |       |
|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Protection type : Hiccup mode, recovers automatically after fault condition is removed      |       |                    |       |
|                                                                 | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | CH1:14.49 ~ 18.63V                                                                          |       | CH1:28.98 ~ 37.26V |       |
| Protection type : Shut down o/p voltage, re-power on to recover |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                             |       |                    |       |
| ALARM FUNCTION                                                  | BATTERY CUT OFF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 10±0.5V                                                                                     |       | 20±1V              |       |
|                                                                 | AC OK Note.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Relay contact output, ON : AC OK ; OFF : AC Fail ; Max. rating : 30V / 1A                   |       |                    |       |
|                                                                 | BATTERY LOW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Relay contact output, OFF : Battery OK ; ON : Battery Low ; Max. rating : 30V / 1A          |       |                    |       |
| Battery low voltage : < 11V                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Battery low voltage : < 22V                                                                 |       |                    |       |
| ENVIRONMENT                                                     | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | -20 ~ +70℃ (Refer to output load derating curve)                                            |       |                    |       |
|                                                                 | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 20 ~ 90% RH non-condensing                                                                  |       |                    |       |
|                                                                 | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -20 ~ +85℃, 10 ~ 95% RH                                                                     |       |                    |       |
|                                                                 | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ±0.03%/℃ (0~50℃) on CH1 output                                                              |       |                    |       |
|                                                                 | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes                                |       |                    |       |
| SAFETY & EMC (Note 4)                                           | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | UL60950-1, TUV EN60950-1 approved                                                           |       |                    |       |
|                                                                 | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | I/P-O/P:3KVAC    I/P-FG:1.5KVAC    O/P-FG:0.5KVAC                                           |       |                    |       |
|                                                                 | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃ / 70% RH                                   |       |                    |       |
|                                                                 | EMI CONDUCTION & RADIATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Compliance to EN55022 (CISPR22) Class B                                                     |       |                    |       |
|                                                                 | HARMONIC CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Compliance to EN61000-3-2,-3                                                                |       |                    |       |
| OTHERS                                                          | EMS IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, light industry level, criteria A |       |                    |       |
|                                                                 | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 417.6K hrs min.    MIL-HDBK-217F (25℃)                                                      |       |                    |       |
|                                                                 | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | PCB:127*76.2*31mm (L*W*H) ; with optional CASE:130*85*37mm (L*W*H)                          |       |                    |       |
|                                                                 | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | PCB:0.23Kg; 63pcs/15.5Kg/1.35CUFT ; with optional CASE:0.44Kg;32pcs/15Kg/0.64CUFT           |       |                    |       |
| NOTE                                                            | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.<br>5. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.<br>6. Please refer to suggest application (2) 、(4) in page 3.<br>7. Heat sink HS2,HS3 can not be shorted.<br>8. Heat sink HS2,HS3 must have safety isolation distance from system case. |                                                                                             |       |                    |       |

## ■ Mechanical Specification



AC Input Connector (CN1) : JST B3P-VH or equivalent

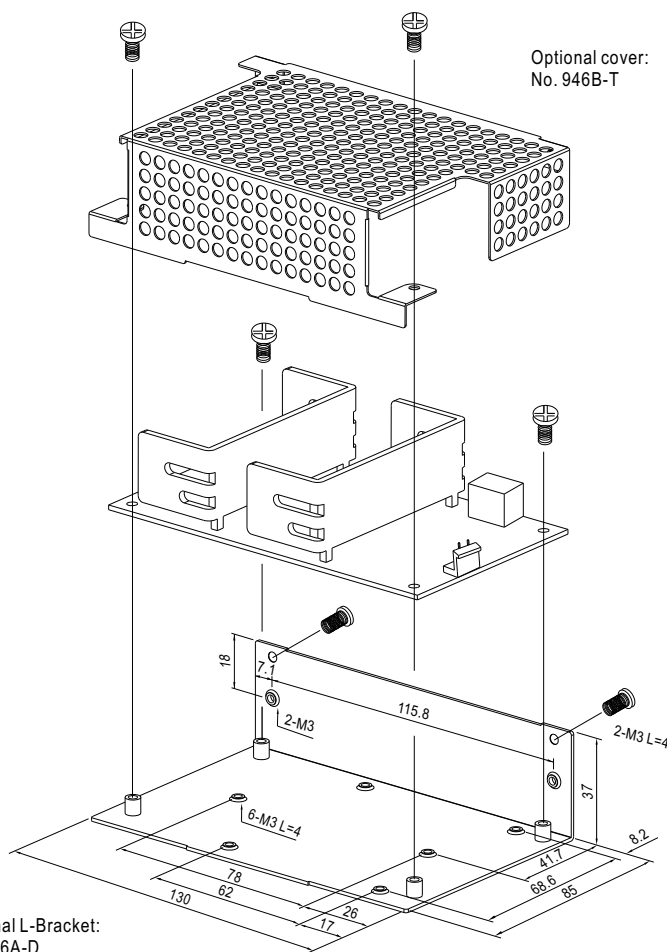
| Pin No. | Assignment | Mating Housing        | Terminal                       |
|---------|------------|-----------------------|--------------------------------|
| 1       | AC/N       | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 2       | No Pin     |                       |                                |
| 3       | AC/L       |                       |                                |

DC Output Connector (CN2) : JST B8P-VH or equivalent

| Pin No. | Assignment | Mating Housing        | Terminal                       |
|---------|------------|-----------------------|--------------------------------|
| 1,2     | -V         | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 3,4     | +V         |                       |                                |
| 5,6     | Bat+       |                       |                                |
| 7,8     | Bat-       |                       |                                |

Unit:mm

Optional cover:  
No. 946B-T



Optional L-Bracket:  
No. 946A-D

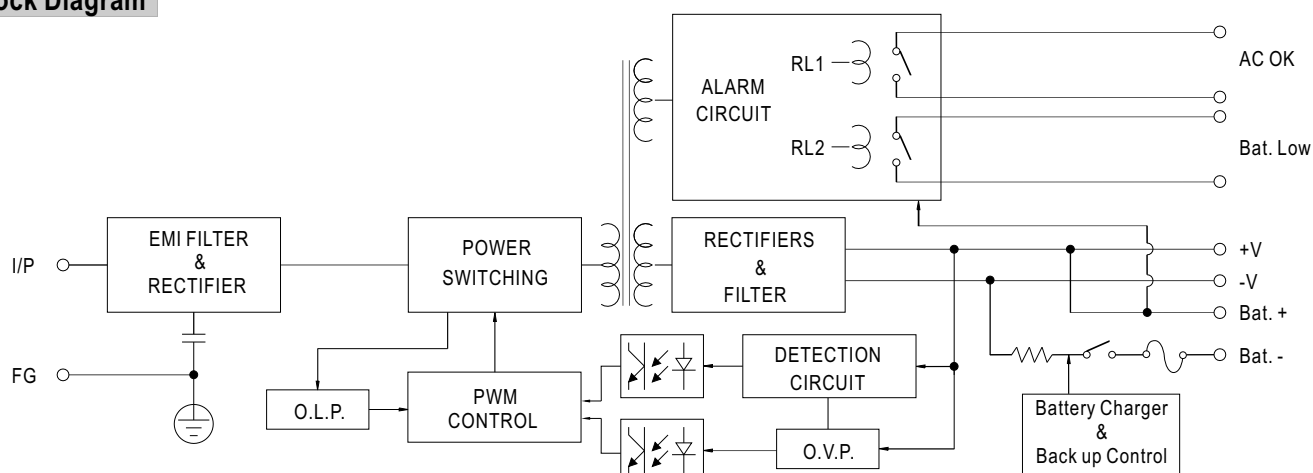
Alarm Output Connector(CN3) : JST B4B-XH or equivalent

| Pin No. | Assignment | Mating Housing        | Terminal                        |
|---------|------------|-----------------------|---------------------------------|
| 1 2     | AC OK      | JST XHP or equivalent | JST SXH-001T-P0.6 or equivalent |
| 3 4     | Bat. Low   |                       |                                 |

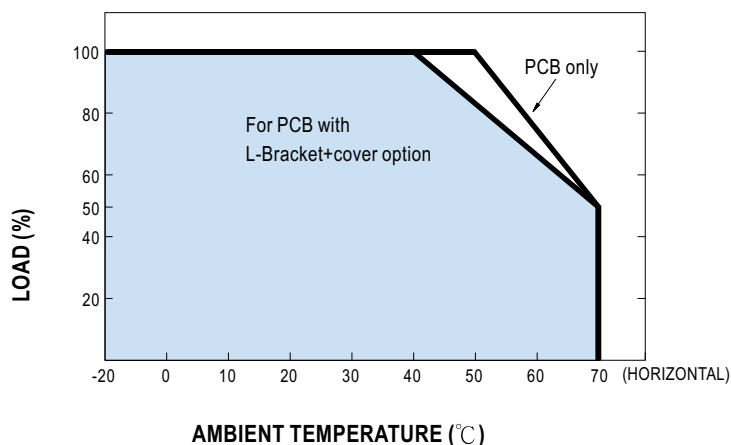


- 1.HS2,HS3 can not be shorted.
- 2.HS2,HS3 must have safety isolation distance from system case.
- 3.-V and Bat- can not be shorted.

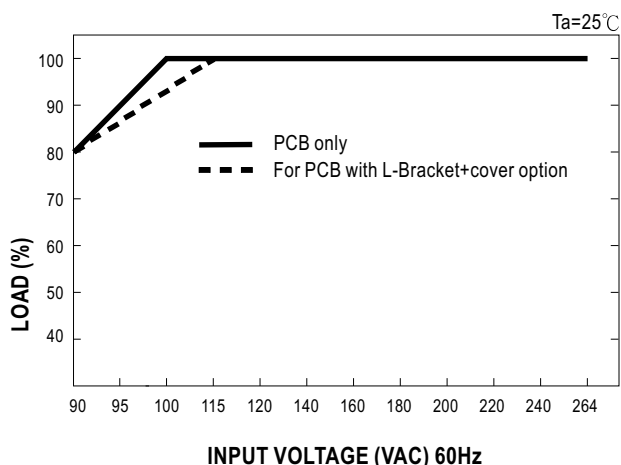
## ■ Block Diagram



## Output Derating



## Output Derating VS Input Voltage



## Suggested Application

### 1.Back up connection for AC interruption

(1) Please refer to the Fig1.1 for suggested connection.

The power supply charge the battery and provide energy to the load in the same time when the AC main is OK.  
The battery start to supply power to the load when the AC main fails.

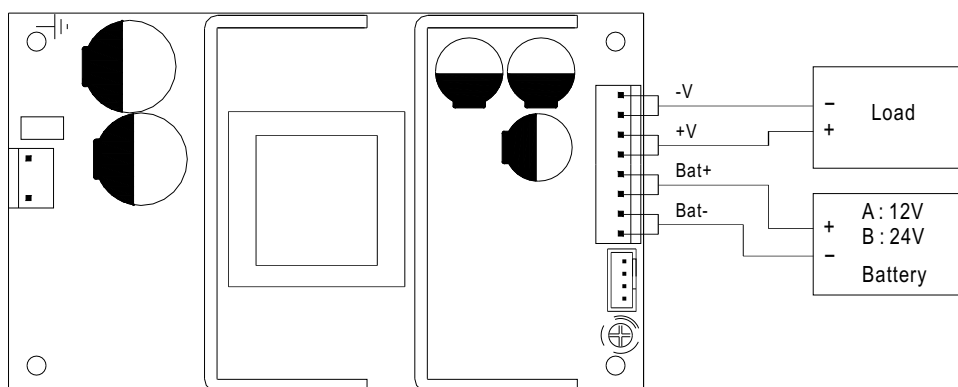


Fig 1.1 Suggested system connection

### 2.Alarm signal for AC OK and Battery Low

(1) Alarm signal is sent out through " AC OK " & " Battery Low " pins.(relay contact type)

(2) An external voltage source is required for this function. The maximum applied voltage is 30V and the maximum sink current is 1A.

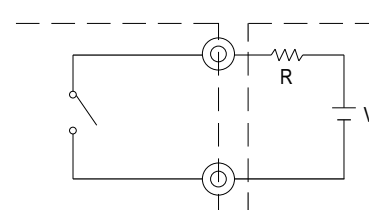
(3) Table2.1 explain the alarm function built-in the power supply

| Function    | Description                                                            | Output of Alarm                                |
|-------------|------------------------------------------------------------------------|------------------------------------------------|
| AC OK       | The signal is "Low" when the power supply turns on                     | Low or short                                   |
|             | The signal turns to be "High" when the power supply turns OFF          | High or open(External applied voltage 1A max.) |
| Battery Low | The signal is "Low" when the voltage of battery is under A:11V, B:22V  | Low or short                                   |
|             | The signal is "High" when the voltage of battery is above A:11V, B:22V | High or open(External applied voltage 1A max.) |

Table 2.1 Explanation of Alarm Signal

AC OK (Battery low)

CN3 Pin1(Pin3)



CN3 Pin2(Pin4)

External voltage source (V) and resistor (R)  
(The max. Sink is 1A and 30V)

Fig 2.2 Internal circuit of AC OK (Battery Low)

(4) RL1 (AC OK)signal will go into hiccup mode when the overload protection is activating.