



至晟品质 芯驰未来

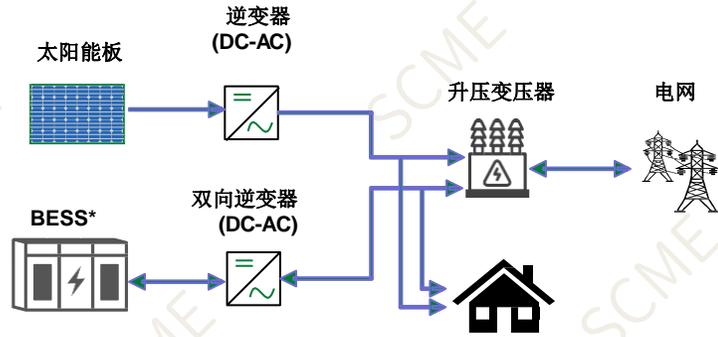
# PV光伏逆变& BESS储能保护

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晟驰市场部

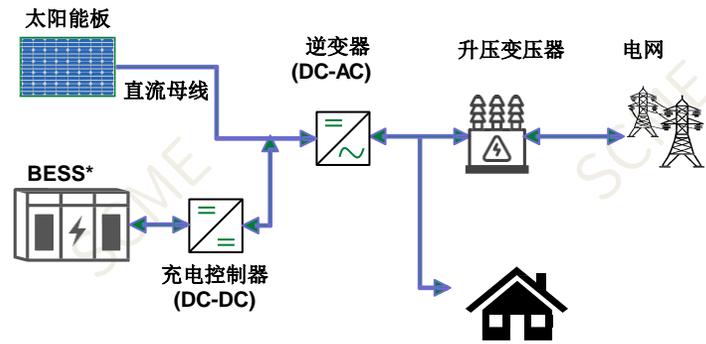
汇报时间：2022年8月12日

# PV(太阳能光伏)&BESS(电池能量存储系统) 拓扑结构



PV太阳能逆变和BESS逆变分离

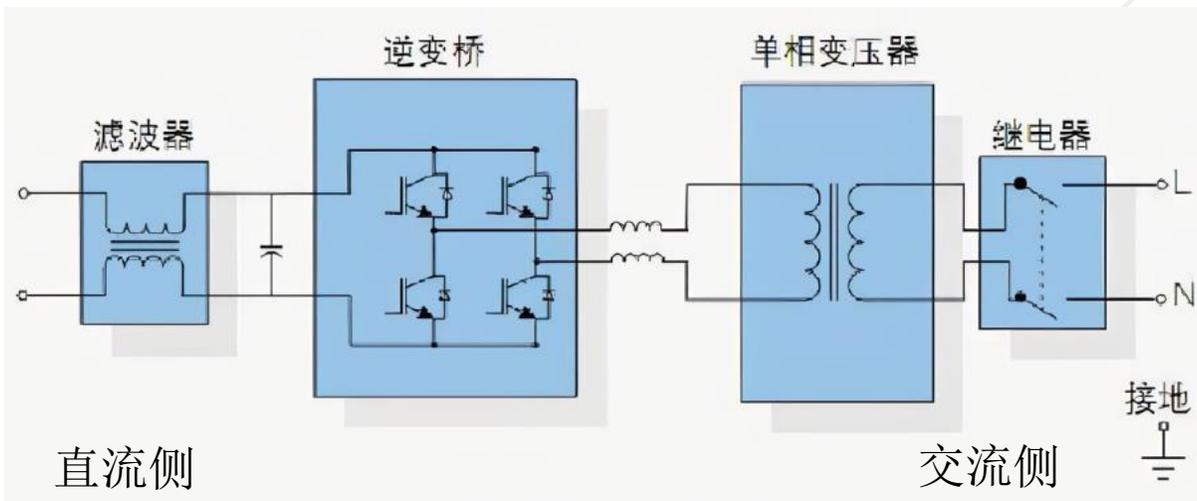
- 易于安装
- 效率低些, 经过多道转换



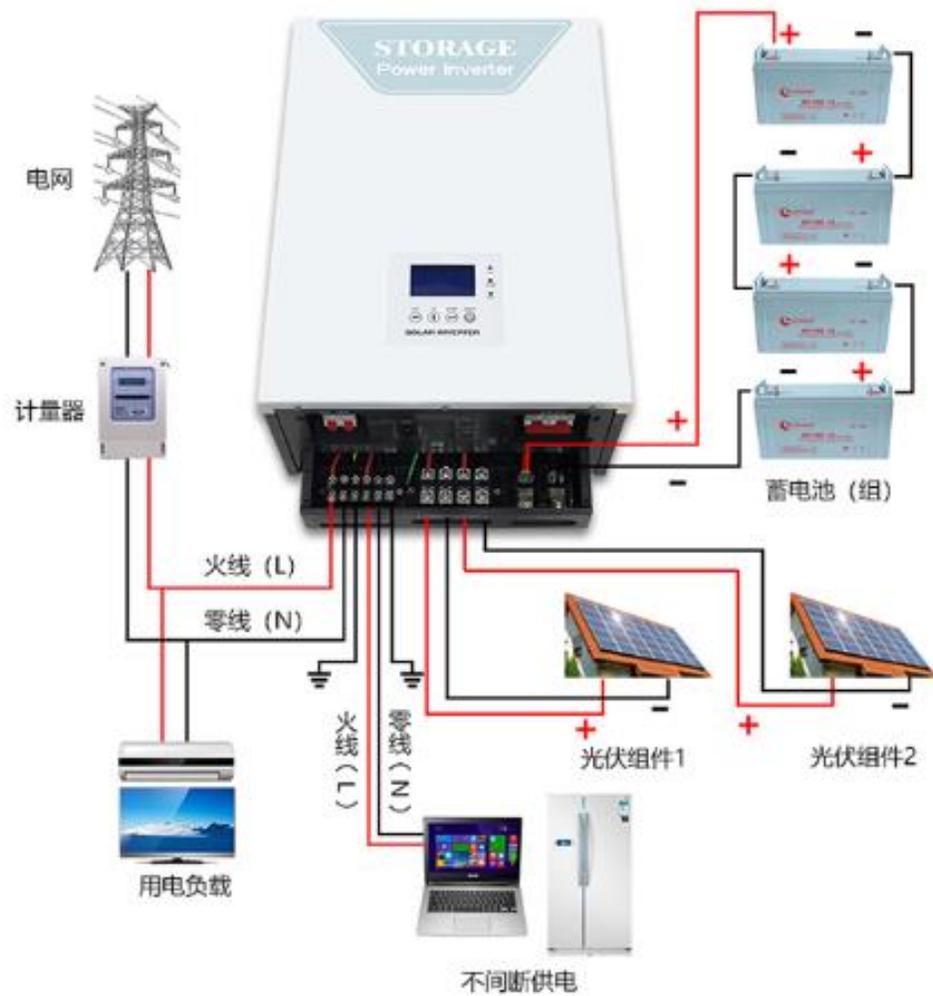
PV太阳能和BESS逆变共用

- 安装复杂些
- 效率高些

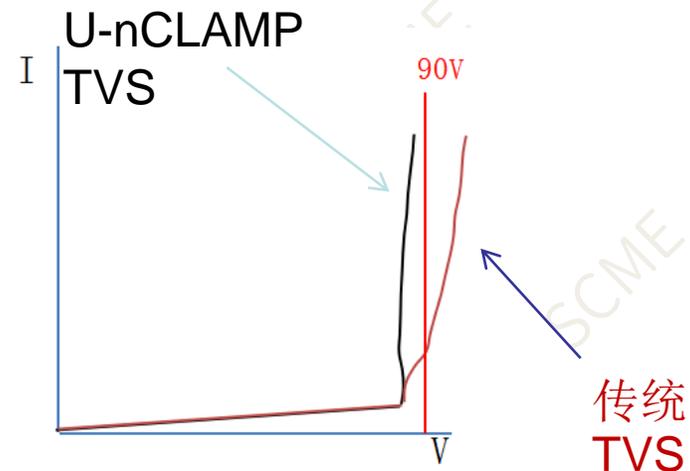
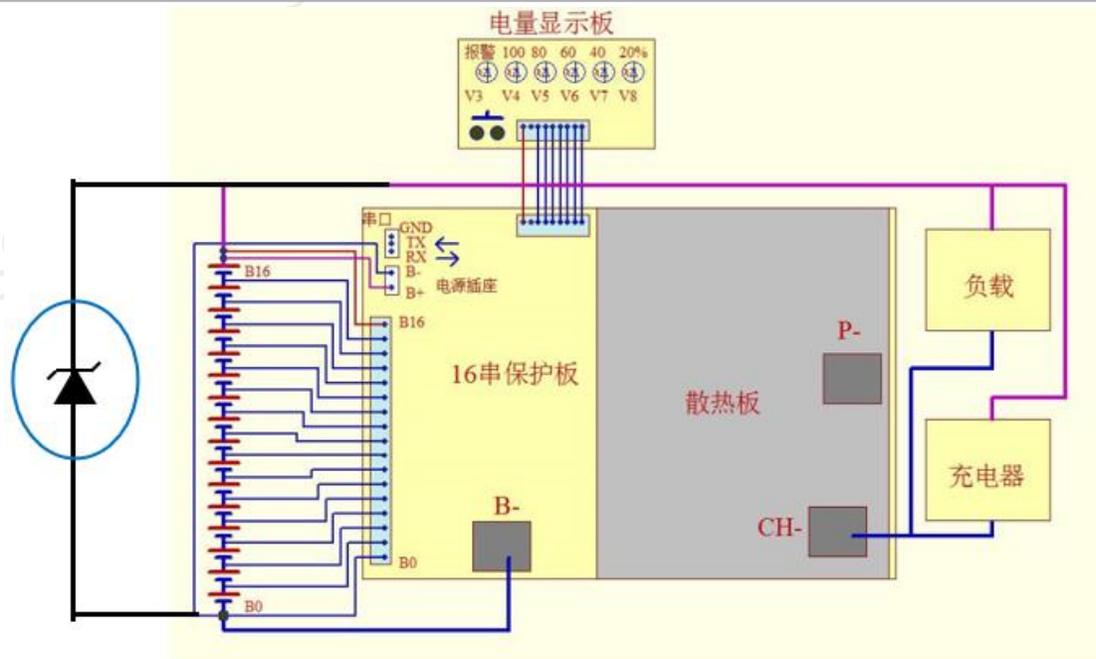
# PV&BESS储能逆变器保护(以单相举例)



|          | TVS  | 备注        |
|----------|--|-----------|
| IGBT Vge | SMBJ18CA   |           |
| IGBT Vcg | P6SMB440A<br>P6SMB480A<br>P6SMB510A<br>P6SMB530A | 有源钳位保护    |
| 继电器侧     | 30KPA360CA                                       | L/N接负载的时候 |

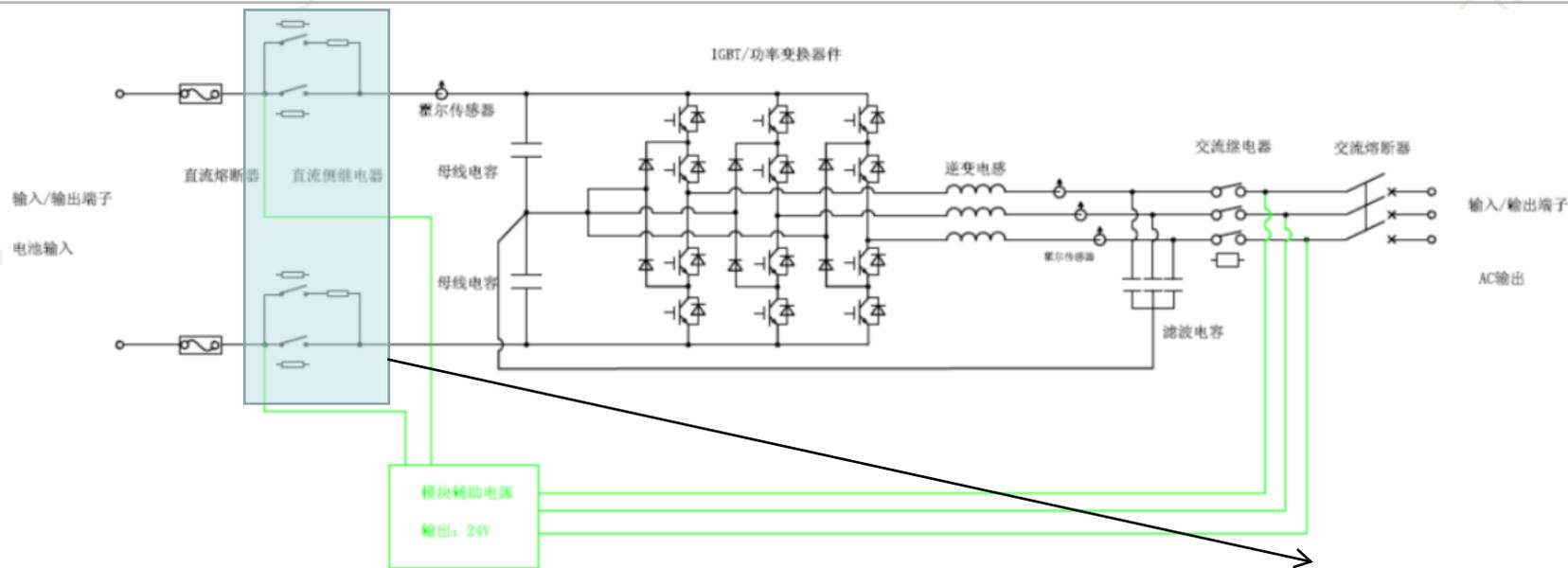


# BMS电池管理系统保护

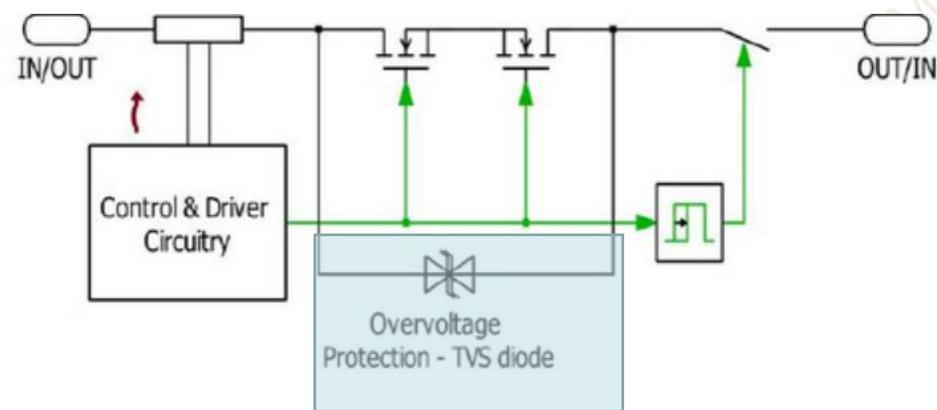


| 电池           | 14串    | 16串    | 保护              | 低钳位技术     | Vbr中心值 | 10/1000uS Vc | 8/20uS Vc |
|--------------|--------|--------|-----------------|-----------|--------|--------------|-----------|
| 磷酸铁锂 (BYD)   | 单节3.7V | 单节3.2V | TPSMD75A-VBR-Un | U-nCLAMP™ | 75V    | <75V         | <90V      |
| 三元锂电池 (CATL) |        | 单节4.2V | TPSMD91A-VBR-Un | U-nCLAMP™ | 91V    | <91V         | <110V     |

# BESS储能逆变器中高压直流断路器保护

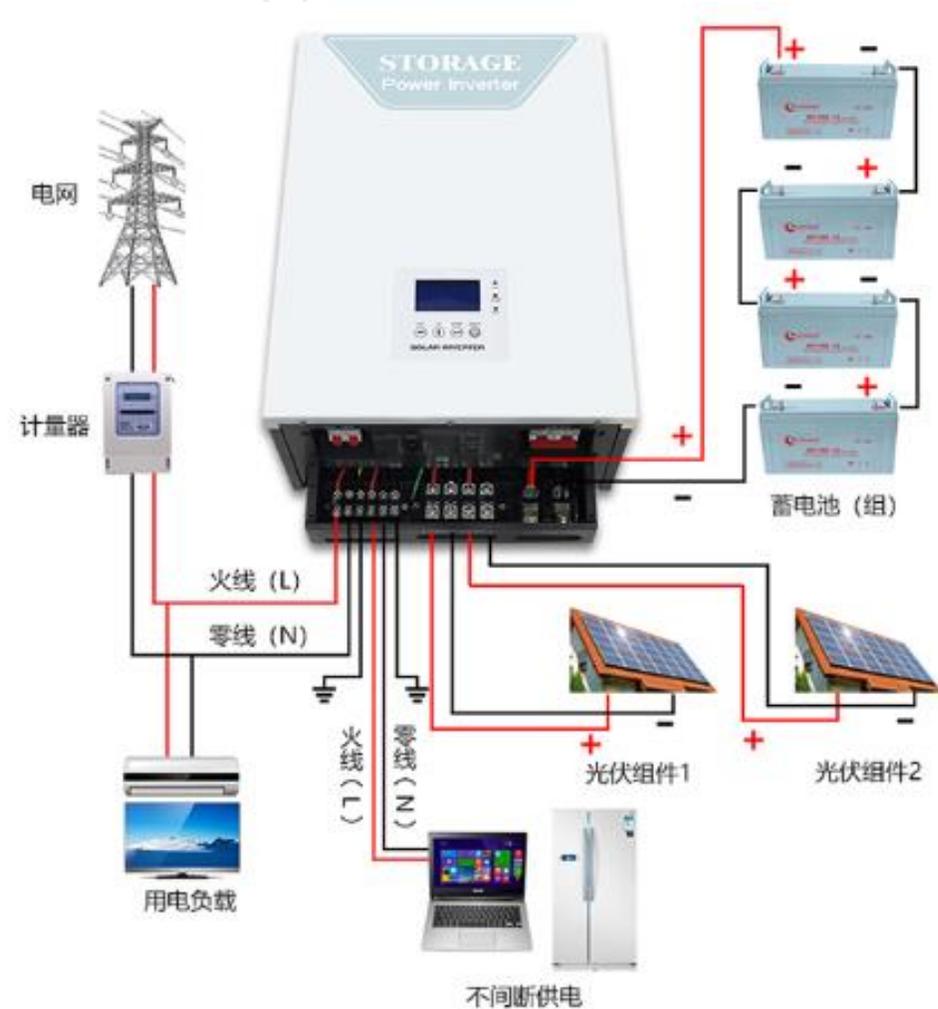


|          | TVS                     |         |
|----------|-------------------------|---------|
| MOSFET两端 | LTKAK3系列<br>或30KPA系列串并联 | 电压取决于客户 |
|          |                         |         |

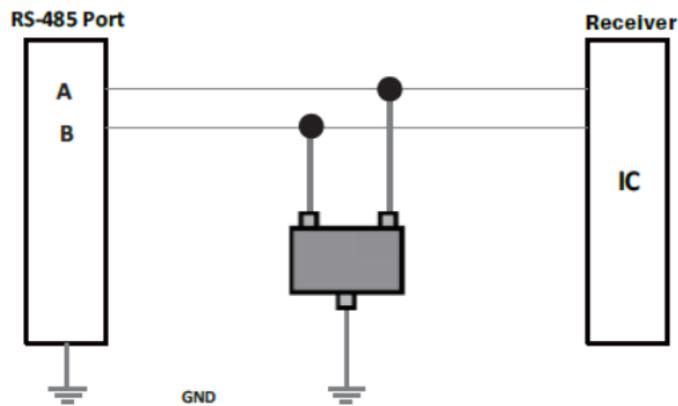


# 逆变器辅助电源保护

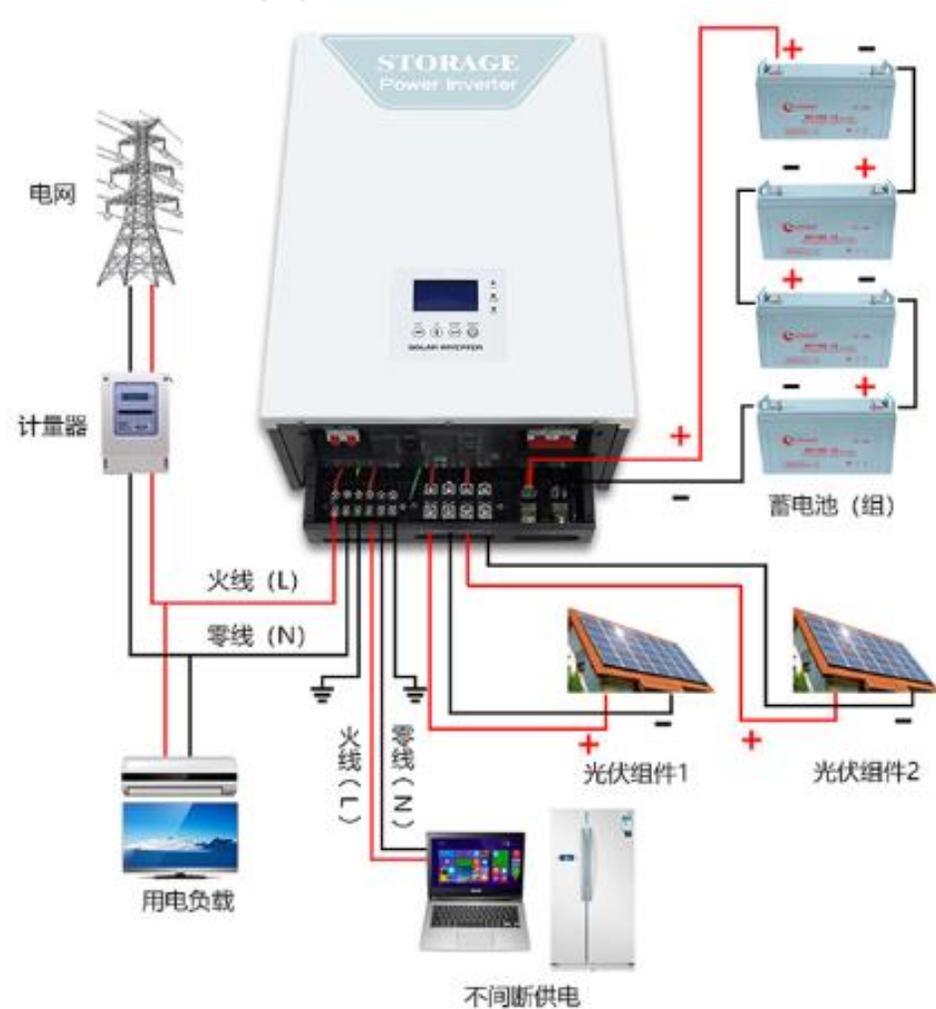
|        | TVS                  | 备注 |
|--------|----------------------|----|
| 5V DC  | SMAJ5.0A<br>SMBJ5.0A |    |
| 12V DC | SMAJ12A<br>SMBJ12A   |    |
| 24V DC | SMAJ24A<br>SMBJ24A   |    |



# PV&BESS 系统通信RS-485保护



|        | ESD       | TVS       | 备注                       |
|--------|-----------|-----------|--------------------------|
| RS-485 | CSH712E2B |           | ESD                      |
| RS-485 |           | SMBJ7.0CA | 具备浪涌2kV<br>1.2/50uS 浪涌能力 |



# THANK YOU!

感谢您的观看!



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