

# Energy storage connector

## Product Introduction

AP energy storage connector is Fast, safe and cost-effective solution for energy storage module systems in the way of using pluggable battery connectors such as Busbar Connectors or Electrical Connectors.



## Product Features

- Comply with RoSH/REACH environmental requirements
- Good protection performance IP67
- Special interface for energy storage battery module
- Plug and socket easy connection, push and pull to separate
- Adopt two measures of color and key position to prevent short circuit of misinsertion
- Certification: CE and Customized according to customer needs

## Technical performances

### 01 Mechanical Performance

|                  |                                |
|------------------|--------------------------------|
| Plastic shell    | PA66+G/F                       |
| Sealing ring     | Silicon rubber                 |
| Contact terminal | T2 Copper Alloy, Silver-plated |
| Mechanical life  | ≥500 times                     |

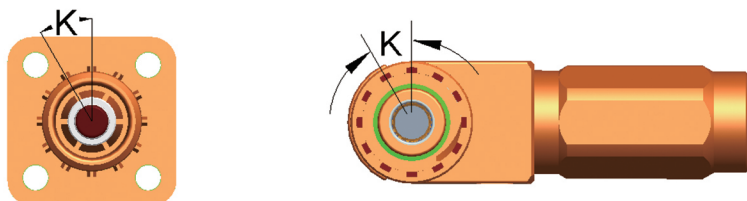
### 02 Environmental performance

|                        |             |
|------------------------|-------------|
| Operating temperature  | -40°C~125°C |
| Protection degree      | IP67        |
| Flame-retardant grades | UL94 V-0    |

### 03 Electrical performance

|                       |                                              |
|-----------------------|----------------------------------------------|
| Rated current         | 5.7mm (120A), 8.0mm (200A),<br>10.3mm (300A) |
| Contact resistance    | 0.2mΩ Max                                    |
| Insulation resistance | ≥5000MΩ                                      |
| Working voltage       | 1000V/1500V AC/DC                            |
| Withstand voltage     | 5200V/6800V AC/DC                            |

## Key position introduction



The product's key position K has two types: 20° and 30°; K1 represents 20°, and K2 represents 30°;

The default orange product is 30° (K2), and the black product is 20° (K1)

The operating voltage of the product with key is 1500V, and the voltage rating is 6800V

The operating voltage of the product without key is 1000V, and the voltage rating is 5200V

## AP-HVCN Energy storage connector with key identification

| Copper Busbar (PB) Product Specification Threaded Hole |                        |                  |            |                                         |
|--------------------------------------------------------|------------------------|------------------|------------|-----------------------------------------|
| Code                                                   | Type                   | Pin diameter(mm) | Current(A) | Copper busbar structure (Threaded Hole) |
| 50011                                                  | AP-HVCN-PBBK1-120057M5 | 5.7              | 120        | M5-5.2                                  |
| 50012                                                  | AP-HVCN-PBOK2-120057M5 | 5.7              | 120        | M5-5.2                                  |
| 50021                                                  | AP-HVCN-PBBK1-200080M6 | 8.0              | 200        | M6-6.0                                  |
| 50022                                                  | AP-HVCN-PBOK2-200080M6 | 8.0              | 200        | M6-6.0                                  |
| 50031                                                  | AP-HVCN-PBBK1-300103M8 | 10.3             | 300        | M8-8.0                                  |
| 50032                                                  | AP-HVCN-PBOK2-300103M8 | 10.3             | 300        | M8-8.0                                  |

| Copper Busbar (PB) Product Specification Waist-type Hole |                      |                  |            |                                           |
|----------------------------------------------------------|----------------------|------------------|------------|-------------------------------------------|
| Code                                                     | Type                 | Pin diameter(mm) | Current(A) | Copper busbar structure (Waist-type Hole) |
| 50111                                                    | AP-HVCN-PBBK1-120057 | 5.7              | 120        | Waist hole copper busbar connection       |
| 50112                                                    | AP-HVCN-PBOK2-120057 | 5.7              | 120        |                                           |
| 50121                                                    | AP-HVCN-PBBK1-200080 | 8.0              | 200        |                                           |
| 50122                                                    | AP-HVCN-PBOK2-200080 | 8.0              | 200        |                                           |
| 50131                                                    | AP-HVCN-PBBK1-300103 | 10.3             | 300        |                                           |
| 50132                                                    | AP-HVCN-PBOK2-300103 | 10.3             | 300        |                                           |

| Crimp Type (PY) Product Specification |                        |                  |            |                          |
|---------------------------------------|------------------------|------------------|------------|--------------------------|
| Code                                  | Type                   | Pin diameter(mm) | Current(A) | Cable (mm <sup>2</sup> ) |
| 50211                                 | AP-HVCN-PY16BK1-120057 | 5.7              | 120        | 16                       |
| 50212                                 | AP-HVCN-PY16OK2-120057 | 5.7              | 120        | 16                       |
| 50221                                 | AP-HVCN-PY35BK1-200080 | 8.0              | 200        | 35                       |
| 50222                                 | AP-HVCN-PY35OK2-200080 | 8.0              | 200        | 35                       |
| 50231                                 | AP-HVCN-PY70BK1-300103 | 10.3             | 300        | 70                       |
| 50232                                 | AP-HVCN-PY70OK2-300103 | 10.3             | 300        | 70                       |
| 50241                                 | AP-HVCN-PY25BK1-120057 | 5.7              | 120        | 25                       |
| 50242                                 | AP-HVCN-PY25OK2-120057 | 5.7              | 120        | 25                       |
| 50251                                 | AP-HVCN-PY50BK1-200080 | 8.0              | 200        | 50                       |
| 50252                                 | AP-HVCN-PY50OK2-200080 | 8.0              | 200        | 50                       |
| 50261                                 | AP-HVCN-PY95BK1-300103 | 10.3             | 300        | 95                       |
| 50262                                 | AP-HVCN-PY95OK2-300103 | 10.3             | 300        | 95                       |

| Threaded (PL) Product Specification |                         |                  |            |           |
|-------------------------------------|-------------------------|------------------|------------|-----------|
| Code                                | Type                    | Pin diameter(mm) | Current(A) | Thread MX |
| 50311                               | AP-HVCN-PLBK1-120057M6  | 5.7              | 120        | M6        |
| 50312                               | AP-HVCN-PLOK2-120057M6  | 5.7              | 120        | M6        |
| 50321                               | AP-HVCN-PLBK1-200080M8  | 8.0              | 200        | M8        |
| 50322                               | AP-HVCN-PLOK2-200080M8  | 8.0              | 200        | M8        |
| 50331                               | AP-HVCN-PLBK1-300103M10 | 10.3             | 300        | M10       |
| 50332                               | AP-HVCN-PLOK2-300103M10 | 10.3             | 300        | M10       |

| ESS Socket Product Specification |                       |                  |            |                          |
|----------------------------------|-----------------------|------------------|------------|--------------------------|
| Code                             | Type                  | Pin diameter(mm) | Current(A) | Cable (mm <sup>2</sup> ) |
| 50411                            | AP-HVCN-S16BK1-120057 | 5.7              | 120        | 16                       |
| 50412                            | AP-HVCN-S16OK2-120057 | 5.7              | 120        | 16                       |
| 50421                            | AP-HVCN-S25BK1-120057 | 5.7              | 120        | 25                       |
| 50422                            | AP-HVCN-S25OK2-120057 | 5.7              | 120        | 25                       |
| 50431                            | AP-HVCN-S35BK1-200080 | 8.0              | 200        | 35                       |
| 50432                            | AP-HVCN-S35OK2-200080 | 8.0              | 200        | 35                       |
| 50441                            | AP-HVCN-S50BK1-200080 | 8.0              | 200        | 50                       |
| 50442                            | AP-HVCN-S50OK2-200080 | 8.0              | 200        | 50                       |
| 50451                            | AP-HVCN-S70BK1-300103 | 10.3             | 300        | 70                       |
| 50452                            | AP-HVCN-S70OK2-300103 | 10.3             | 300        | 70                       |
| 50461                            | AP-HVCN-S95BK1-300103 | 10.3             | 300        | 95                       |
| 50462                            | AP-HVCN-S95OK2-300103 | 10.3             | 300        | 95                       |

## AP-HVCN Energy Storage Connector without key identification

| Copper Busbar (PB) Product Specification Threaded hole |                      |                  |            |                                         |
|--------------------------------------------------------|----------------------|------------------|------------|-----------------------------------------|
| Code                                                   | Type                 | Pin diameter(mm) | Current(A) | Copper busbar structure (Threaded Hole) |
| 60011                                                  | AP-HVCN-PBB-120057M5 | 5.7              | 120        | M5                                      |
| 60012                                                  | AP-HVCN-PBO-120057M5 | 5.7              | 120        | M5                                      |
| 60021                                                  | AP-HVCN-PBB-200060M6 | 6.0              | 200        | M6                                      |
| 60022                                                  | AP-HVCN-PBO-200060M6 | 6.0              | 200        | M6                                      |
| 60031                                                  | AP-HVCN-PBB-300080M8 | 8.0              | 300        | M8                                      |
| 60032                                                  | AP-HVCN-PBO-300080M8 | 8.0              | 300        | M8                                      |

| Copper Busbar (PB) Product Specification Waist Hole |                    |                  |            |                                      |
|-----------------------------------------------------|--------------------|------------------|------------|--------------------------------------|
| Code                                                | Type               | Pin diameter(mm) | Current(A) | Copper busbar structure (Waist hole) |
| 60111                                               | AP-HVCN-PBB-120057 | 5.7              | 120        | Waist hole copper busbar connection  |
| 60112                                               | AP-HVCN-PBO-120057 | 5.7              | 120        |                                      |
| 60121                                               | AP-HVCN-PBB-200080 | 8.0              | 200        |                                      |
| 60122                                               | AP-HVCN-PBO-200080 | 8.0              | 200        |                                      |
| 60131                                               | AP-HVCN-PBB-300103 | 10.3             | 300        |                                      |
| 60132                                               | AP-HVCN-PBB-300103 | 10.3             | 300        |                                      |

| Threaded (PL) Product Specification |                    |                  |            |           |
|-------------------------------------|--------------------|------------------|------------|-----------|
| Code                                | Type               | Pin diameter(mm) | Current(A) | Thread MX |
| 60211                               | AP-HVCN-PLB-120057 | 5.7              | 120        | M6        |
| 60212                               | AP-HVCN-PLO-120057 | 5.7              | 120        | M6        |
| 60221                               | AP-HVCN-PLB-200080 | 8.0              | 200        | M8        |
| 60222                               | AP-HVCN-PLO-200080 | 8.0              | 200        | M8        |
| 60231                               | AP-HVCN-PLB-300103 | 10.3             | 300        | M10       |
| 60232                               | AP-HVCN-PLO-300103 | 10.3             | 300        | M10       |



| Crimp Type (PY) Product Specification |                       |                  |            |                           |
|---------------------------------------|-----------------------|------------------|------------|---------------------------|
| Code                                  | Type                  | Pin diameter(mm) | Current(A) | Cables (mm <sup>2</sup> ) |
| 60311                                 | AP-HVCN-PY16B-120057  | 5.7              | 120        | 16                        |
| 60312                                 | AP-HVCN-PY16O-120057  | 5.7              | 120        | 16                        |
| 60321                                 | AP-HVCN-PY35B-200080  | 8.0              | 200        | 35                        |
| 60322                                 | AP-HVCN-PY35O-200080  | 8.0              | 200        | 35                        |
| 60331                                 | AP-HVCN-PY70B-3000103 | 10.3             | 300        | 70                        |
| 60332                                 | AP-HVCN-PY70O-3000103 | 10.3             | 300        | 70                        |
| 60341                                 | AP-HVCN-PY25B-120057  | 5.7              | 120        | 25                        |
| 60342                                 | AP-HVCN-PY25O-120057  | 5.7              | 120        | 25                        |
| 60351                                 | AP-HVCN-PY50B-200080  | 8.0              | 200        | 50                        |
| 60352                                 | AP-HVCN-PY50O-200080  | 8.0              | 200        | 50                        |
| 603161                                | AP-HVCN-PY95B-300103  | 10.3             | 300        | 95                        |
| 603162                                | AP-HVCN-PY95O-300103  | 10.3             | 300        | 95                        |

| Socket Product Specification |                     |                  |            |                           |
|------------------------------|---------------------|------------------|------------|---------------------------|
| Code                         | Type                | Pin diameter(mm) | Current(A) | Cables (mm <sup>2</sup> ) |
| 60411                        | AP-HVCN-S16B-120057 | 5.7              | 120        | 16                        |
| 60412                        | AP-HVCN-S16O-120057 | 5.7              | 120        | 16                        |
| 60421                        | AP-HVCN-S25B-120057 | 5.7              | 120        | 25                        |
| 60422                        | AP-HVCN-S25O-120057 | 5.7              | 120        | 25                        |
| 60431                        | AP-HVCN-S35B-200080 | 8.0              | 200        | 35                        |
| 60432                        | AP-HVCN-S35O-200080 | 8.0              | 200        | 35                        |
| 60441                        | AP-HVCN-S50B-200080 | 8.0              | 200        | 50                        |
| 60442                        | AP-HVCN-S50O-200080 | 8.0              | 200        | 50                        |
| 60451                        | AP-HVCN-S70B-300103 | 10.3             | 300        | 70                        |
| 60452                        | AP-HVCN-S70O-300103 | 10.3             | 300        | 70                        |
| 60461                        | AP-HVCN-S95B-300103 | 10.3             | 300        | 95                        |
| 60462                        | AP-HVCN-S95O-300103 | 10.3             | 300        | 95                        |