

## Power Electronic Capacitors (PEC)



### FEATURES

- High ripple current
- High impulse current
- Low inductance
- High reliability and long life time
- Shock and vibration proof

### APPLICATIONS

- DC link and DC filter in industrial converters and traction converters
- DC link in low-power drives
- DC link in wind turbine converters
- Impulse discharge capacitors for magnetizing and welding

### ADDITIONAL RESOURCES



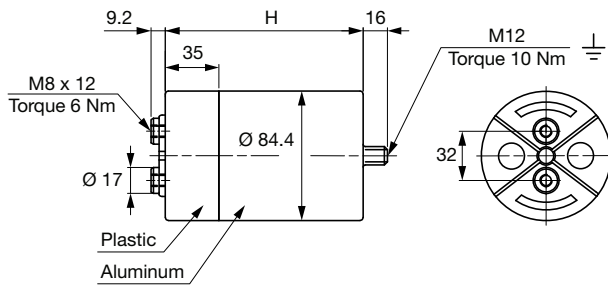
| QUICK REFERENCE DATA          |   |
|-------------------------------|---|
| DESCRIPTION                   | VALUE   |
| Rated DC voltage min.         | 900 V <sub>DC</sub>   |
| Rated DC voltage max.         | 2700 V <sub>DC</sub>  |
| Capacitance min.              | 40 µF   |
| Capacitance max.              | 2235 µF   |
| Capacitance tolerance         | ± 5 % or ± 10 %   |
| Technology                    | Metallized polypropylene film, self-healing   |
| Dielectric dissipation factor | < 2 x 10 <sup>-4</sup>  |
| Operating temperature min.    | -40 °C  |
| Operating temperature max.    | +85 °C (hotspot)  |
| Inductance                    | < 100 nH  |
| Lifetime expectancy           | > 100 000 h at U <sub>NDC</sub> and < 70 °C hotspot   |
| Reliability                   | < 100 FIT   |
| Test voltage                  | U <sub>tt</sub> = 1.5 x U <sub>NDC</sub> /10 s; U <sub>tc</sub> = 2 x U <sub>NDC</sub> + 1000 V <sub>AC</sub> /10 s |
| Casing                        | Aluminum / plastic  |
| Filling                       | Dry resin (UL 94 V-0)   |
| Standard                      | IEC 61071, IEC 61881-1  |



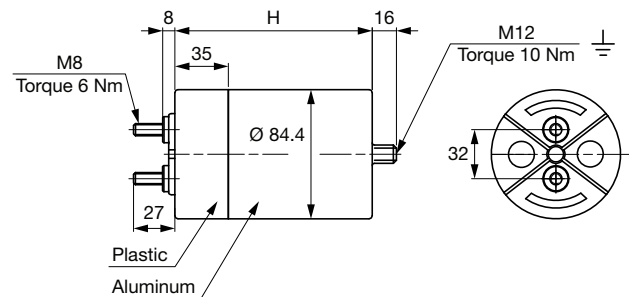
| <b>TYPE DESCRIPTION</b>                     |                                     |   |                                     |                                       |                                       |                          |                                      |                         |                            |                                 |                              |
|---|-------------------------------------|---|-------------------------------------|---------------------------------------|---------------------------------------|--------------------------|--------------------------------------|-------------------------|----------------------------|---------------------------------|------------------------------|
| <b>TYPE</b>                                 | <b>C<sub>N</sub></b><br><b>(μF)</b> | <b>U<sub>NDC</sub></b><br><b>(V<sub>DC</sub>)</b> | <b>R<sub>S</sub></b><br><b>(mΩ)</b> | <b>R<sub>th</sub></b><br><b>(K/W)</b> | <b>I<sub>max.</sub></b><br><b>(A)</b> | <b>Î</b><br><b>(kA)</b> | <b>Î<sub>S</sub></b><br><b>(kA)</b> | <b>H</b><br><b>(mm)</b> | <b>DIA.</b><br><b>(mm)</b> | <b>MOQ / PU</b><br><b>(pcs)</b> | <b>DRAWING</b><br><b>NO.</b> |
| <b>HDMKP 900, U<sub>NDC</sub> = 900 V</b>   |                                     |   |                                     |                                       |                                       |                          |                                      |                         |                            |                                 |                              |
| 900-360                                     | 360                                 | 900   | 1.8                                 | 8.5                                   | 39                                    | 1.4                      | 4.1                                  | 105                     | 84.4                       | 4                               | 1 and 4                      |
| 900-460                                     | 460                                 | 900   | 2.6                                 | 6.9                                   | 37                                    | 1.3                      | 3.8                                  | 135                     | 84.4                       | 4                               | 1 and 2                      |
| 900-720                                     | 720                                 | 900   | 1.3                                 | 4.1                                   | 78                                    | 2.7                      | 8.1                                  | 185                     | 84.4                       | 4                               | 3 and 4                      |
| 900-950                                     | 950                                 | 900   | 1.7                                 | 3.3                                   | 66                                    | 2.6                      | 7.8                                  | 235                     | 84.4                       | 4                               | 1 and 2                      |
| 900-1080                                    | 1080                                | 900   | 0.8                                 | 2.9                                   | 100                                   | 4.1                      | 12.2                                 | 260                     | 84.4                       | 4                               | 1 and 4                      |
| 900-2050                                    | 2050                                | 900   | 1.0                                 | 2.4                                   | 100                                   | 5.3                      | 15.9                                 | 235                     | 116                        | 4                               | 5 and 6                      |
| 900-2235                                    | 2235                                | 900   | 0.5                                 | 2.2                                   | 150                                   | 7.9                      | 23.7                                 | 260                     | 116                        | 4                               | 5 and 6                      |
| <b>HDMKP 1.1, U<sub>NDC</sub> = 1100 V</b>  |                                     |   |                                     |                                       |                                       |                          |                                      |                         |                            |                                 |                              |
| 1.1-240                                     | 240                                 | 1100  | 2.1                                 | 8.5                                   | 36                                    | 1.1                      | 3.4                                  | 105                     | 84.4                       | 4                               | 1 and 2                      |
| 1.1-325                                     | 325                                 | 1100  | 2.9                                 | 6.8                                   | 35                                    | 1.1                      | 3.3                                  | 135                     | 84.4                       | 4                               | 1 and 4                      |
| 1.1-480                                     | 480                                 | 1100  | 1.3                                 | 4.4                                   | 65                                    | 2.3                      | 6.8                                  | 185                     | 84.4                       | 4                               | 1 and 2                      |
| 1.1-650                                     | 650                                 | 1100  | 1.7                                 | 3.5                                   | 64                                    | 2.2                      | 6.7                                  | 235                     | 84.4                       | 4                               | 1 and 2                      |
| 1.1-720                                     | 720                                 | 1100  | 0.8                                 | 3.3                                   | 93                                    | 3.4                      | 10.1                                 | 260                     | 84.4                       | 4                               | 1 and 2                      |
| 1.1-1310                                    | 1310                                | 1100  | 1.2                                 | 2.5                                   | 92                                    | 4.1                      | 12.4                                 | 235                     | 116                        | 4                               | 5 and 6                      |
| 1.1-1425                                    | 1425                                | 1100  | 0.6                                 | 2.3                                   | 136                                   | 6.2                      | 18.6                                 | 260                     | 116                        | 4                               | 5 and 6                      |
| <b>HDMKP 1.35, U<sub>NDC</sub> = 1350 V</b> |                                     |   |                                     |                                       |                                       |                          |                                      |                         |                            |                                 |                              |
| 1.35-160                                    | 160                                 | 1350  | 2.6                                 | 8.7                                   | 32                                    | 0.9                      | 2.7                                  | 105                     | 84.4                       | 4                               | 3 and 4                      |
| 1.35-200                                    | 200                                 | 1350  | 1.1                                 | 5.9                                   | 57                                    | 1.8                      | 5.4                                  | 135                     | 84.4                       | 4                               | 1 and 4                      |
| 1.35-320                                    | 320                                 | 1350  | 1.7                                 | 4.3                                   | 57                                    | 1.8                      | 5.4                                  | 185                     | 84.4                       | 4                               | 3 and 4                      |
| 1.35-400                                    | 400                                 | 1350  | 2.4                                 | 3.5                                   | 54                                    | 1.6                      | 4.9                                  | 235                     | 84.4                       | 4                               | 1 and 2                      |
| 1.35-480                                    | 480                                 | 1350  | 1.1                                 | 3.1                                   | 84                                    | 2.7                      | 8.1                                  | 260                     | 84.4                       | 4                               | 1 and 2                      |
| 1.35-910                                    | 910                                 | 1350  | 1.3                                 | 2.6                                   | 84                                    | 3.5                      | 10.5                                 | 235                     | 116                        | 4                               | 5 and 6                      |
| 1.35-990                                    | 990                                 | 1350  | 0.6                                 | 2.3                                   | 126                                   | 5.2                      | 15.5                                 | 260                     | 116                        | 4                               | 5 and 6                      |
| <b>HDMKP 1.5, U<sub>NDC</sub> = 1500 V</b>  |                                     |   |                                     |                                       |                                       |                          |                                      |                         |                            |                                 |                              |
| 1.5-120                                     | 120                                 | 1500  | 2.9                                 | 8.7                                   | 31                                    | 0.8                      | 2.4                                  | 105                     | 84.4                       | 4                               | 1 and 2                      |
| 1.5-165                                     | 165                                 | 1500  | 4.0                                 | 6.9                                   | 30                                    | 0.8                      | 2.4                                  | 135                     | 84.4                       | 4                               | 1 and 2                      |
| 1.5-240                                     | 240                                 | 1500  | 1.8                                 | 4.3                                   | 56                                    | 1.6                      | 4.8                                  | 185                     | 84.4                       | 4                               | 1 and 2                      |
| 1.5-330                                     | 330                                 | 1500  | 2.4                                 | 3.4                                   | 55                                    | 1.6                      | 4.8                                  | 235                     | 84.4                       | 4                               | 1 and 2                      |
| 1.5-360                                     | 360                                 | 1500  | 1.2                                 | 3.1                                   | 81                                    | 2.4                      | 7.2                                  | 260                     | 84.4                       | 4                               | 1 and 2                      |
| 1.5-620                                     | 620                                 | 1500  | 1.5                                 | 2.6                                   | 80                                    | 2.9                      | 8.6                                  | 235                     | 116                        | 4                               | 5 and 6                      |
| 1.5-675                                     | 675                                 | 1500  | 0.7                                 | 2.4                                   | 121                                   | 4.3                      | 12.9                                 | 260                     | 116                        | 4                               | 5 and 6                      |
| <b>HDMKP 1.7, U<sub>NDC</sub> = 1700 V</b>  |                                     |   |                                     |                                       |                                       |                          |                                      |                         |                            |                                 |                              |
| 1.7-90                                      | 90                                  | 1700  | 3.2                                 | 8.7                                   | 28                                    | 0.7                      | 2.1                                  | 105                     | 84.4                       | 4                               | 1 and 2                      |
| 1.7-125                                     | 125                                 | 1700  | 4.3                                 | 6.9                                   | 28                                    | 0.7                      | 2.1                                  | 135                     | 84.4                       | 4                               | 1 and 2                      |
| 1.7-180                                     | 180                                 | 1700  | 1.9                                 | 4.4                                   | 51                                    | 1.4                      | 4.2                                  | 185                     | 84.4                       | 4                               | 1 and 2                      |
| 1.7-250                                     | 250                                 | 1700  | 2.6                                 | 3.5                                   | 50                                    | 1.4                      | 4.2                                  | 235                     | 84.4                       | 4                               | 1 and 2                      |
| 1.7-270                                     | 270                                 | 1700  | 1.2                                 | 3.2                                   | 76                                    | 2.1                      | 6.3                                  | 260                     | 84.4                       | 4                               | 1 and 2                      |
| 1.7-460                                     | 460                                 | 1700  | 1.6                                 | 2.7                                   | 74                                    | 2.5                      | 7.6                                  | 235                     | 116                        | 4                               | 5 and 6                      |
| 1.7-495                                     | 495                                 | 1700  | 0.8                                 | 2.4                                   | 111                                   | 3.8                      | 11.4                                 | 260                     | 116                        | 4                               | 5 and 6                      |
| <b>HDMKP 2.0, U<sub>NDC</sub> = 2000 V</b>  |                                     |   |                                     |                                       |                                       |                          |                                      |                         |                            |                                 |                              |
| 2.0-70                                      | 70                                  | 2000  | 3.6                                 | 8.8                                   | 26                                    | 0.6                      | 1.8                                  | 105                     | 84.4                       | 4                               | 1 and 2                      |
| 2.0-90                                      | 90                                  | 2000  | 5.3                                 | 7.1                                   | 25                                    | 0.6                      | 1.7                                  | 135                     | 84.4                       | 4                               | 1 and 2                      |
| 2.0-140                                     | 140                                 | 2000  | 2.1                                 | 4.5                                   | 48                                    | 1.2                      | 3.6                                  | 185                     | 84.4                       | 4                               | 1 and 2                      |
| 2.0-180                                     | 180                                 | 2000  | 3.1                                 | 3.6                                   | 45                                    | 1.1                      | 3.4                                  | 235                     | 84.4                       | 4                               | 3 and 4                      |
| 2.0-210                                     | 210                                 | 2000  | 1.3                                 | 3.3                                   | 71                                    | 1.8                      | 5.4                                  | 260                     | 84.4                       | 4                               | 1 and 4                      |
| 2.0-390                                     | 390                                 | 2000  | 1.7                                 | 2.7                                   | 72                                    | 2.3                      | 6.8                                  | 235                     | 116                        | 4                               | 5 and 6                      |
| 2.0-420                                     | 420                                 | 2000  | 0.8                                 | 2.4                                   | 106                                   | 3.4                      | 10.3                                 | 260                     | 116                        | 4                               | 5 and 6                      |
| <b>HDMKP 2.25, U<sub>NDC</sub> = 2250 V</b> |                                     |   |                                     |                                       |                                       |                          |                                      |                         |                            |                                 |                              |
| 2.25-55                                     | 55                                  | 2250  | 4.1                                 | 8.9                                   | 24                                    | 0.5                      | 1.6                                  | 105                     | 84.4                       | 4                               | 1 and 2                      |
| 2.25-75                                     | 75                                  | 2250  | 5.7                                 | 7.1                                   | 23                                    | 0.5                      | 1.6                                  | 135                     | 84.4                       | 4                               | 3 and 4                      |
| 2.25-110                                    | 110                                 | 2250  | 2.4                                 | 4.6                                   | 44                                    | 1.1                      | 3.2                                  | 185                     | 84.4                       | 4                               | 1 and 4                      |
| 2.25-150                                    | 150                                 | 2250  | 3.3                                 | 3.6                                   | 44                                    | 1.1                      | 3.2                                  | 235                     | 84.4                       | 4                               | 1 and 2                      |
| 2.25-165                                    | 165                                 | 2250  | 1.5                                 | 3.3                                   | 65                                    | 1.6                      | 4.8                                  | 260                     | 84.4                       | 4                               | 1 and 4                      |
| 2.25-320                                    | 320                                 | 2250  | 1.8                                 | 2.7                                   | 68                                    | 2.1                      | 6.2                                  | 235                     | 116                        | 4                               | 5 and 6                      |
| 2.25-345                                    | 345                                 | 2250  | 0.9                                 | 2.5                                   | 99                                    | 3.1                      | 9.3                                  | 260                     | 116                        | 4                               | 5 and 6                      |

| TYPE DESCRIPTION                           |                        |  |                        |                          |                          |                   |                     |           |              |                   |                |
|--|------------------------|--|------------------------|--------------------------|--------------------------|-------------------|---------------------|-----------|--------------|-------------------|----------------|
| TYPE                                       | C <sub>N</sub><br>(μF) | U <sub>NDC</sub><br>(V <sub>DC</sub> ) | R <sub>S</sub><br>(mΩ) | R <sub>th</sub><br>(K/W) | I <sub>max.</sub><br>(A) | $\hat{i}$<br>(kA) | $\hat{i}_S$<br>(kA) | H<br>(mm) | DIA.<br>(mm) | MOQ / PU<br>(pcs) | DRAWING<br>NO. |
| <b>HDMKP 2.7, U<sub>NDC</sub> = 2700 V</b> |                        |  |                        |                          |                          |                   |                     |           |              |                   |                |
| 2.7-40                                     | 40                     | 2700                                   | 4.6                    | 8.8                      | 22                       | 0.5               | 1.4                 | 105       | 84.4         | 4                 | 1 and 4        |
| 2.7-50                                     | 50                     | 2700                                   | 7.0                    | 7.2                      | 21                       | 0.4               | 1.3                 | 135       | 84.4         | 4                 | 2 and 3        |
| 2.7-80                                     | 80                     | 2700                                   | 2.7                    | 4.6                      | 41                       | 0.9               | 2.8                 | 185       | 84.4         | 4                 | 3 and 4        |
| 2.7-100                                    | 100                    | 2700                                   | 3.9                    | 3.7                      | 39                       | 0.8               | 2.5                 | 235       | 84.4         | 4                 | 1 and 4        |
| 2.7-120                                    | 120                    | 2700                                   | 1.7                    | 3.3                      | 61                       | 1.4               | 4.2                 | 260       | 84.4         | 4                 | 1 and 4        |
| 2.7-220                                    | 220                    | 2700                                   | 2.1                    | 2.8                      | 62                       | 1.7               | 5.1                 | 235       | 116          | 4                 | 5 and 6        |
| 2.7-240                                    | 240                    | 2700                                   | 1.0                    | 2.5                      | 91                       | 2.6               | 7.7                 | 260       | 116          | 4                 | 5 and 6        |

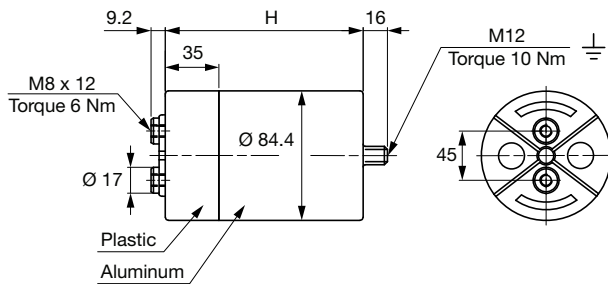
### DIMENSIONS in millimeters



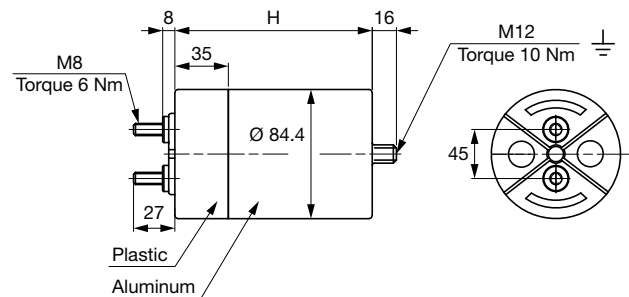
Drawing 1  
i.e.: HDMKP...-...I



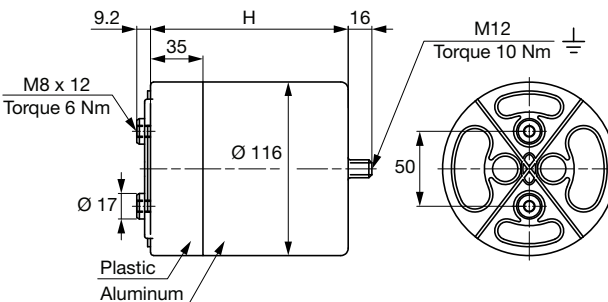
Drawing 2  
i.e.: HDMKP...-...B



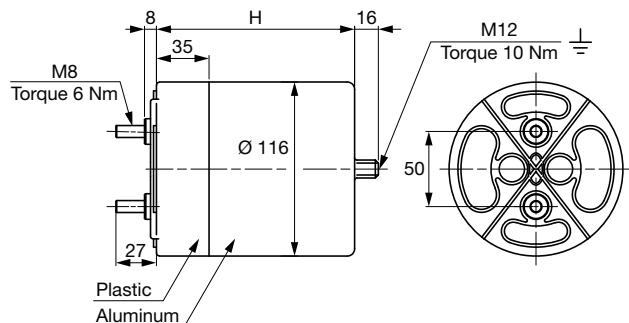
Drawing 3  
i.e.: HDMKP...-...I



Drawing 4  
i.e.: HDMKP...-...B



Drawing 5  
i.e.: HDMKP...-...I



Drawing 6  
i.e.: HDMKP...-...B

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Other voltage, current, and capacitance values are available on request without additional cost and lead time for the individual design.



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