

|                            | Specification                       | Symbol                                                                                                                                                          | Condition / Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                            | 61-80-LC2                                            | 121-80-LC2                                                    | 151-80-LC2                                                                           | 241-80-LC2                                                      | Unit   |  |
|----------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------|--------|--|
| ABSOLUTE MAXIMUM RATINGS   | Maximum Operating Voltage           | V <sub>O(max)</sub>                                                                                                                                             | I <sub>off</sub> < 50 μADC, T <sub>case</sub> = 70°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                            | 6                                                    | 12                                                            | 15                                                                                   | 24                                                              | kVDC   |  |
|                            | Maximum Isolation Voltage           | V <sub>I</sub>                                                                                                                                                  | Between HV switch and control / GND, continuously                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                            | ± 180                                                |                                                               |                                                                                      |                                                                 | kVDC   |  |
|                            | Max. Housing Insulation Voltage     | V <sub>INS</sub>                                                                                                                                                | Between switch and housing surface, 3 minutes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                            | ± 200                                                |                                                               |                                                                                      |                                                                 | kVDC   |  |
|                            | Maximum Turn-On Peak Current        | I <sub>P(max)</sub>                                                                                                                                             | T <sub>case</sub> = 25°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | t <sub>p</sub> < 200 μs, duty cycle <1%<br>t <sub>p</sub> < 1 ms, duty cycle <1%<br>t <sub>p</sub> < 10 ms, duty cycle <1%<br>t <sub>p</sub> < 100 ms, duty cycle <1%                                                      | 800<br>472<br>228<br>216                             |                                                               |                                                                                      |                                                                 | ADC    |  |
|                            | Maximum Continuous Load Current     | I <sub>L(max)</sub>                                                                                                                                             | T <sub>case</sub> = 25°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Standard devices<br>Devices with option DLC                                                                                                                                                                                | 6.8<br>66                                            |                                                               |                                                                                      |                                                                 | ADC    |  |
|                            | Max. Continuous Power Dissipation   | P <sub>d(max)</sub>                                                                                                                                             | T <sub>case</sub> = 25°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Standard devices & FC, forced air 4 m/s<br>Devices with option DLC                                                                                                                                                         | 16.8<br>1700                                         | 30<br>2200                                                    | 42<br>2500                                                                           | 60<br>2700                                                      | Watt   |  |
|                            | Linear Derating                     |                                                                                                                                                                 | Above 25°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Standard devices & FC, forced air 4 m/s<br>Devices with option DLC                                                                                                                                                         | 0.01<br>0.89                                         | 0.03<br>1.74                                                  | 0.03<br>2.14                                                                         | 0.05<br>3.43                                                    | W/K    |  |
|                            | Operating Temperature Range         | T <sub>O</sub>                                                                                                                                                  | Standard devices & options CF, GCF, ILC. (Option DLC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                            | -40...70 (60)                                        |                                                               |                                                                                      |                                                                 | °C     |  |
|                            | Storage Temperature Range           | T <sub>S</sub>                                                                                                                                                  | Switches with option ILC may require frost protection!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                            | -40...90                                             |                                                               |                                                                                      |                                                                 | °C     |  |
|                            | Max. Permissible Magnetic Field     | B                                                                                                                                                               | Homogeneous steady-field, surrounding the whole switch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                            | 25                                                   |                                                               |                                                                                      |                                                                 | mT     |  |
| Max. Auxiliary Voltage     | V <sub>aux</sub>                    | Built-in overvoltage limiter (replaceable)                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 5.5                                                                                                                                                                                                                        |                                                      |                                                               |                                                                                      | VDC                                                             |        |  |
| ELECTRICAL CHARACTERISTICS | Permissible Operating Voltage Range | V <sub>O</sub>                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            | 0... ± 6                                             | 0... ± 12                                                     | 0... ± 15                                                                            | 0... ± 24                                                       | kVDC   |  |
|                            | Typical Breakdown Voltage           | V <sub>br</sub>                                                                                                                                                 | <b>NOTE:</b> V <sub>br</sub> is a test parameter for quality control purposes only. Not applicable in normal operation!<br>I <sub>off</sub> > 0.5 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                            | 7                                                    | 14                                                            | 17                                                                                   | 27                                                              | kVDC   |  |
|                            | Typical Off-State Current           | I <sub>off</sub>                                                                                                                                                | 0.8xV <sub>O</sub> , T <sub>case</sub> =25...70°C, reduced I <sub>off</sub> on request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                            | < 40                                                 |                                                               |                                                                                      |                                                                 | μADC   |  |
|                            | Typical Turn-On Resistance          | R <sub>stat</sub>                                                                                                                                               | Each switching path<br>t <sub>p</sub> < 1μs, duty cycle < 1%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.1 x I <sub>P(max)</sub> , T <sub>case</sub> =25°C<br>1.0 x I <sub>P(max)</sub> , T <sub>case</sub> =25°C<br>1.0 x I <sub>P(max)</sub> , T <sub>case</sub> =70°C                                                          | 0.29<br>0.70<br>1.70                                 | 0.82<br>1.99<br>4.00                                          | 0.76<br>1.51<br>3.75                                                                 | 1.15<br>2.28<br>5.67                                            | Ohm    |  |
|                            | Typical Propagation Delay Time      | t <sub>d(on)</sub>                                                                                                                                              | Resistive load, 0.1 x I <sub>P(max)</sub> , 0.8 x V <sub>O(max)</sub> , 50-50%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                            | 250                                                  |                                                               |                                                                                      |                                                                 | ns     |  |
|                            | Typical Output Pulse Jitter         | t <sub>j</sub>                                                                                                                                                  | Impedance matched input, V <sub>aux</sub> / V <sub>ctrl</sub> = 5.00 VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                            | 3                                                    |                                                               |                                                                                      |                                                                 | ns     |  |
|                            | Typical Turn-On Rise Time           | t <sub>r(on)</sub>                                                                                                                                              | Resistive load, 10-90%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.1 x V <sub>O(max)</sub> , I <sub>L</sub> = 0.1 x I <sub>P(max)</sub><br>0.8 x V <sub>O(max)</sub> , I <sub>L</sub> = 0.1 x I <sub>P(max)</sub><br>0.8 x V <sub>O(max)</sub> , I <sub>L</sub> = 1.0 x I <sub>P(max)</sub> | 49<br>202<br>72                                      | 43<br>78<br>81                                                | TBD<br>TBD<br>TBD                                                                    | TBD<br>TBD<br>TBD                                               | ns     |  |
|                            | Typical Turn-Off Rise Time          | t <sub>off</sub> , t <sub>q</sub>                                                                                                                               | Resistive load, 10-90%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.1 x V <sub>O(max)</sub> , I <sub>L</sub> = 0.1 x I <sub>P(max)</sub><br>0.8 x V <sub>O(max)</sub> , I <sub>L</sub> = 1.0 x I <sub>P(max)</sub>                                                                           | 50<br>100                                            |                                                               |                                                                                      |                                                                 | ns     |  |
|                            | Maximum Turn-On Time                | t <sub>on(max)</sub>                                                                                                                                            | No limitation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                            | ∞                                                    |                                                               |                                                                                      |                                                                 | ns     |  |
|                            | Minimum Turn-On Time                | t <sub>on(min)</sub>                                                                                                                                            | t <sub>on(min)</sub> can be customized. Please consult factory                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                            | 250                                                  |                                                               |                                                                                      |                                                                 | ns     |  |
|                            | Maximum Turn-Off Time               | t <sub>off(max)</sub>                                                                                                                                           | No limitation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                            | ∞                                                    |                                                               |                                                                                      |                                                                 | ns     |  |
|                            | Minimum Turn-Off Time               | t <sub>off(min)</sub>                                                                                                                                           | t <sub>off(min)</sub> can be customized. Please consult factory                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            | 250                                                  |                                                               |                                                                                      |                                                                 | ns     |  |
|                            | Max. Continuous Switching Frequency | f <sub>(max)</sub>                                                                                                                                              | @ V <sub>aux</sub> = 5.00 V<br>Sw. shutdown if f <sub>(max)</sub> is exceeded                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Standard devices without HFS option<br>Standard devices with HFS supply<br>Opt. HFS + sufficient cooling option                                                                                                            | 4.7<br>100<br>200                                    | 1.2<br>100<br>200                                             | TBD<br>TBD<br>TBD                                                                    | 1<br>100<br>200                                                 | kHz    |  |
|                            | Maximum Burst Frequency             | f <sub>b(max)</sub>                                                                                                                                             | Use option HFB for >10 pulses within 20μs or less                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                            | 500                                                  |                                                               |                                                                                      |                                                                 | kHz    |  |
|                            | Maximum Number of Pulses / Burst    | N <sub>(max)</sub>                                                                                                                                              | @ f <sub>b(max)</sub><br><br>Note: Option HFB requires external buffer capacitors with a voltage rating of > 630VDC and a capacitance of 100nF per additional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Standard<br>Option I-HFB<br>Option HFB                                                                                                                                                                                     | >10<br>>100<br>>1000                                 |                                                               |                                                                                      |                                                                 | Pulses |  |
|                            | Coupling Capacitance                | C <sub>C</sub>                                                                                                                                                  | HV side against control side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                            | <100                                                 |                                                               |                                                                                      |                                                                 | pF     |  |
|                            | Natural Capacitance                 | C <sub>N</sub>                                                                                                                                                  | Between switch poles, @ 0.5 x V <sub>O(max)</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                            | 375                                                  | 214                                                           | 166                                                                                  | 107                                                             | pF     |  |
|                            | Control Voltage Range               | V <sub>ctrl</sub>                                                                                                                                               | The V <sub>ctrl</sub> has no impact on the output pulse shape.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                            | 3 ... 10                                             |                                                               |                                                                                      |                                                                 | VDC    |  |
|                            | Auxiliary Supply Voltage Range      | V <sub>aux</sub>                                                                                                                                                | The +5 V supply is not required in the HFS mode.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                            | 4.5 ... 5.5                                          |                                                               |                                                                                      |                                                                 | VDC    |  |
|                            | Typical Auxiliary Supply Current    | I <sub>aux</sub>                                                                                                                                                | V <sub>aux</sub> = 5.00 VDC, T <sub>case</sub> = 25°C.<br>Active current limitation above 1A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.01 x f <sub>(max)</sub><br>@ f <sub>(max)</sub>                                                                                                                                                                          | 210<br>800                                           | 280<br>800                                                    | 300<br>800                                                                           | 310<br>800                                                      | mADC   |  |
|                            | Fault Signal Output                 |                                                                                                                                                                 | Switch will be turn off, if f>f <sub>(max)</sub> , V <sub>aux</sub> <4.75V or T <sub>case</sub> >75°C<br>Fault condition is indicated by a logical "L"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                            | >4.0<br><0.8                                         |                                                               |                                                                                      |                                                                 | VDC    |  |
|                            | Opt. HFS, Ext. Supply Voltage V1    | V <sub>HFS(V1)</sub>                                                                                                                                            | Stability ±3%, current consumption <0.4 mA/kHz @ 25°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                            | 15                                                   |                                                               |                                                                                      |                                                                 | VDC    |  |
|                            | Opt. HFS, Ext. Supply Voltage V2    | V <sub>HFS(V2)</sub>                                                                                                                                            | Stability ±3%, current consumption <0.5 mA/kHz @ 25°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                            | 117                                                  | 156                                                           | TBD                                                                                  | TBD                                                             | VDC    |  |
|                            | Intrinsic Diode Forward Voltage     | V <sub>F</sub>                                                                                                                                                  | T <sub>case</sub> = 25°C, I <sub>F</sub> = 0.3 x I <sub>P(max)</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                            | 80                                                   | 95                                                            | 110                                                                                  | 113                                                             | VDC    |  |
|                            | Diode Reverse Recovery Time         | t <sub>rrc</sub>                                                                                                                                                | T <sub>case</sub> = 25°C, I <sub>F</sub> = 0.3 x I <sub>P(max)</sub> , di/dt = 100 A/μs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                            | <250ns                                               |                                                               |                                                                                      |                                                                 | ns     |  |
|                            | HOUSING                             | Dimensions                                                                                                                                                      | LxWxH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Standard housing<br>Devices with option DLC                                                                                                                                                                                | 200x100x81<br>200x100x130                            | 200x100x75<br>200x100xX                                       | TBD<br>TBD                                                                           | TBD<br>TBD                                                      | mm³    |  |
|                            |                                     | Weight                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Standard housing<br>Devices with option DLC                                                                                                                                                                                | TBD<br>TBD<br>TBD                                    |                                                               |                                                                                      |                                                                 | Kg     |  |
|                            | FUNCTIONS                           | Control Signal Input<br>Logic GND / 5V Return<br>5V Auxiliary Supply<br>Fault Signal Output<br>Inhibit Signal Input<br>LED Indicators<br>Temperature Protection | <b>Pin 1 / Yellow (LS-C: Pin 1).</b> TTL compatible (LS-C: With 100Ω termination). Schmitt-Trigger characteristics. Control voltage 2-10 V (3-5 V for low jitter).<br><b>Pin 2 / Black (LS-C: Shielding).</b> The ground pin is internally connected with the safety earthings terminals (threaded inserts) on bottom side.<br><b>Pin 3 / Red (LS-C: Pin 4).</b> The 5 V input is used for rep rates up to the specified max. frequency f <sub>(max)</sub> . Higher rep rates require option HFS.<br><b>Pin 4 / Orange (LS-C: Pin 3).</b> TTL output, short circuit proof. Indicating switch & driver over-heat, over-frequency, low auxiliary voltage. L = Fault.<br><b>Pin 5 / Green (LS-C: Pin 2).</b> TTL compatible, Schmitt-Trigger characteristics for the connection of external safety circuits. L = Switch Inhibited.<br><b>GREEN:</b> "Auxiliary power good, switch OFF". <b>YELLOW:</b> "Control signal received, switch ON". <b>RED:</b> "Fault condition, switch OFF"<br>Switches with option DLC: 65°C, response time < 3 s @ 3xPd(max), ΔT=25K (40 to 65°C), coolant flow > 3l / min. Separate driver protection. |                                                                                                                                                                                                                            |                                                      |                                                               |                                                                                      |                                                                 |        |  |
|                            |                                     |                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            |                                                      |                                                               |                                                                                      |                                                                 |        |  |
|                            | ORDERING                            | HTS 61-80-LC2                                                                                                                                                   | Fast HV Mosfet Switch, 6kV, 800 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Option LP                                                                                                                                                                                                                  | Low Pass. Input filter for increased noise immunity. |                                                               | Option I-PC                                                                          | Integrated part components according to customer specification. |        |  |
| HTS 121-80-LC2             |                                     | Fast HV Mosfet Switch, 12kV, 800 A                                                                                                                              | Option HFB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | High Frequency Burst (improved capability by external capacitors)                                                                                                                                                          |                                                      | Option UL-94                                                  | Flame retardant casting resin, UL94-V0                                               |                                                                 |        |  |
| HTS 151-80-LC2             |                                     | Fast HV Mosfet Switch, 15kV, 800 A                                                                                                                              | Option HFS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | High Frequency Switching (two auxiliary supply inputs V1 & V2)                                                                                                                                                             |                                                      | Option I-FWD                                                  | Integrated Free-Wheeling Diode. In connection with inductive load only.              |                                                                 |        |  |
| HTS 241-80-LC2             |                                     | Fast HV Mosfet Switch, 241kV, 800 A                                                                                                                             | Option I-HFS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Integrated High Frequency Burst                                                                                                                                                                                            |                                                      | Option I-FWDN                                                 | Integrated Freewheeling Diode Network. In connection with inductive load.            |                                                                 |        |  |
|                            |                                     |                                                                                                                                                                 | Option S-TT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Soft Transition Time decrease the rise and fall time by 20%                                                                                                                                                                |                                                      | Option PT-C                                                   | Pigtail for control connection: Flexible leads (l=75mm) with lomo                    |                                                                 |        |  |
|                            |                                     |                                                                                                                                                                 | Option Min-On                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Individually increased "Min. On-Time" to avoid unwanted triggering                                                                                                                                                         |                                                      | Option SEP-C                                                  | Separated control unit. Control unit with LED indicators in a separate               |                                                                 |        |  |
|                            |                                     |                                                                                                                                                                 | Option Min-Off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Individually increased "Min. Off-Time" to avoid unwanted triggering                                                                                                                                                        |                                                      | Option TH                                                     | Tubular Housing                                                                      |                                                                 |        |  |
|                            |                                     |                                                                                                                                                                 | Option PCC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Pulser Configuration. Switch combined with custom specific parts.                                                                                                                                                          |                                                      | Option CF                                                     | Copper Cooling Fins. P <sub>d(max)</sub> can be increased by the factor 3 to 10.     |                                                                 |        |  |
|                            |                                     |                                                                                                                                                                 | Option ISO-120                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 120kV Isolation. Isolation Voltage increased to 120kV.                                                                                                                                                                     |                                                      | Option DLC                                                    | Direct Liquid Cooling. P <sub>d(max)</sub> can be increased by the factor 10 to 100. |                                                                 |        |  |
|                            |                                     |                                                                                                                                                                 | Option ISO-200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 200kV Isolation. Isolation Voltage increased to 200kV.                                                                                                                                                                     |                                                      | FOR FURTHER PRODUCT OPTIONS PLEASE REFER TO THE OPTIONS PAGE. |                                                                                      |                                                                 |        |  |