

SWITCH DISCONNECTOR FUSE 160A, FRAME SIZE 2, 4-POLE FOR LV HRC FUSE SIZE 000 AND 00 FRONT OPERATING LEFT BASIC UNIT WITHOUT HANDLE FLAT TERMINAL WITHOUT FUSES



Model	
Product brand name	SENTRON
Product designation	Switching device
Design of the product	3KF switch disconnecter with fuses
Design of the operating mechanism	without
Design of handle	Without
Direction of actuation	from the front
Type of the driving mechanism / motor drive	No
Number of poles	4
Size of disconnecting link	00 and 000
Size of switch disconnecter	2
Size of fuse link	NH000, NH00
Electrical endurance (switching cycles)	
• at AC-23 A / at 440 V / at 50/60 Hz	8 000
• at AC-23 A / at 690 V / at 50/60 Hz	5 000
• at DC-23 A / at 440 V	1 000
I <sup>2</sup> t value	
• with closed switch / for combination switch + fuse / at 500 V / maximum	150 600 A <sup>2</sup> ·s

<ul style="list-style-type: none"> <li>• with closed switch / for combination switch + fuse / at 400 V / maximum</li> </ul>	150 600 A <sup>2</sup> ·s
<ul style="list-style-type: none"> <li>• with closed switch / at 690 V / for combination switch + gG fuse / maximum</li> </ul>	89 640 A <sup>2</sup> ·s
<ul style="list-style-type: none"> <li>• with closed switch / at 690 V / for combination switch + aM fuse / maximum</li> </ul>	89 640 A <sup>2</sup> ·s
<ul style="list-style-type: none"> <li>• of the fuse / at 500 V / maximum permissible</li> </ul>	223 000 A <sup>2</sup> ·s
<ul style="list-style-type: none"> <li>• of the gG fuse / at 690 V / maximum permissible</li> </ul>	360 000 A <sup>2</sup> ·s
<ul style="list-style-type: none"> <li>• of the aM fuse / at 690 V / maximum permissible</li> </ul>	375 000 A <sup>2</sup> ·s
<b>Mechanical service life (switching cycles) / typical</b>	12 000
<b>Position / of the switch operating mechanism</b>	at the left end
<b>Fuse system</b>	LV HRC fuse
<b>Overvoltage category</b>	IV
<b>Operating voltage / with current paths in series</b>	
<ul style="list-style-type: none"> <li>• with degree of pollution 2 / at DC / rated value / Note</li> </ul>	440 / 3
<ul style="list-style-type: none"> <li>• with degree of pollution 3 / at DC / rated value / Note</li> </ul>	440 / 3
Insulation voltage / rated value	1 000 V
Surge voltage resistance / rated value	12 kV
<b>Overvoltage in percent / relative to the operating voltage / at AC / at 50/60 Hz</b>	10 %

<b>Protection class</b>	
<b>Protection class IP</b>	IP00
<b>Protection class IP</b>	
<ul style="list-style-type: none"> <li>• with closed switch / with cover or cable lug cover</li> </ul>	IP20
<ul style="list-style-type: none"> <li>• on the front</li> </ul>	IP00

<b>Dissipation</b>	
<b>Power loss [W]</b>	
<ul style="list-style-type: none"> <li>• with conventional rated thermal current / per pole</li> </ul>	7.2 W
<ul style="list-style-type: none"> <li>• with conventional rated thermal current / per device</li> </ul>	21.6 W
<ul style="list-style-type: none"> <li>• with conventional rated thermal current / without fuse / per pole</li> </ul>	7.2 W
<ul style="list-style-type: none"> <li>• with conventional rated thermal current / without fuse / per device</li> </ul>	21.6 W
<ul style="list-style-type: none"> <li>• of the fuse / per fuse / maximum</li> </ul>	12 W
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	57.6 W
<b>Operating current</b>	

• at AC-21 A / at 400 V / maximum	160 A
• at AC-21 A / at 500 V / maximum	160 A
• at AC-21 A / at 690 V / maximum	160 A
• at AC-23 A / at 500 V / at 50/60 Hz / rated value / maximum	160 A
• at AC-22 A / at 500 V / at 50/60 Hz / rated value / maximum	160 A
• at AC-22 A / at 400 V / at 50/60 Hz / rated value / maximum	160 A
• at AC-22 A / at 690 V / at 50/60 Hz / rated value / maximum	160 A
• at AC-23 A / at 400 V / at 50/60 Hz / rated value / maximum	160 A
• at AC-23 A / at 690 V / at 50/60 Hz / rated value / maximum	160 A
• at DC-23 A / at 440 V / rated value / maximum	160 A
• at DC-23 A / at 220 V / rated value / maximum	160 A
• at DC-22 A / at 440 V / rated value / maximum	160 A
• at DC-22 A / at 220 V / rated value / maximum	160 A
• at DC-21 A / at 440 V / rated value / maximum	160 A
• at DC-21 A / at 220 V / maximum	160 A
<b>Continuous current</b>	
• rated value	160 A
• at 40 °C / rated value	160 A
• at 45 °C / rated value	160 A
• at 50 °C / rated value	160 A
• at 55 °C / rated value	160 A
• at 60 °C / rated value	160 A
• at 65 °C / rated value	160 A
• at 70 °C / rated value	160 A
Continuous current / at DC / rated value	160 A
<b>Let-through current / of the fuse / at 500 V / maximum permissible</b>	18 000 A
<b>Let-through current / of the gG fuse / at 690 V / maximum permissible</b>	25 500 A
<b>Let-through current / of the aM fuse / at 690 V / maximum permissible</b>	28 100 A
<b>Let-through current / with closed switch</b>	
• at 690 V / for combination switch + aM fuse / maximum permissible	16 870 A
• at 690 V / for combination switch + gG fuse / maximum permissible	16 870 A
• for combination switch + fuse / at 400 V / maximum permissible	18 200 A

<ul style="list-style-type: none"> <li>• for combination switch + fuse / at 500 V / maximum permissible</li> </ul>	18 200 A
Short-time current resistance (I <sub>cw</sub> ) / at 690 V AC/440 V DC / limited to 1 s / rated value	5 kA

### Main circuit

<b>Operating power / at AC-23 A</b>	
<ul style="list-style-type: none"> <li>• at 400 V / at 50/60 Hz / rated value</li> </ul>	90 kW
<ul style="list-style-type: none"> <li>• at 500 V / at 50/60 Hz / rated value</li> </ul>	110 kW
<ul style="list-style-type: none"> <li>• at 690 V / at 50/60 Hz / rated value</li> </ul>	132 kW
<b>Operating voltage</b>	
<ul style="list-style-type: none"> <li>• at AC / at 50/60 Hz / rated value</li> </ul>	690 V
<ul style="list-style-type: none"> <li>• at AC / rated value / maximum</li> </ul>	690 V

### Auxiliary circuit

Number of connected NC contacts / for auxiliary contacts	0
Number of connected NO contacts / for auxiliary contacts	0
Number of connected CO contacts / for auxiliary contacts	0
<b>Suitability for use</b>	
<ul style="list-style-type: none"> <li>• Main switch</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• switch disconnecter</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• EMERGENCY OFF switch</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• safety switch</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• maintenance/repair switch</li> </ul>	Yes
Product feature / interlock	No
<b>Product component</b>	
<ul style="list-style-type: none"> <li>• Voltage trigger</li> </ul>	No
<ul style="list-style-type: none"> <li>• undervoltage release</li> </ul>	No
<ul style="list-style-type: none"> <li>• undervoltage release with leading contact</li> </ul>	No
Product feature / sealable	Yes
<b>Product extension</b>	
<ul style="list-style-type: none"> <li>• Auxiliary switch</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• optional</li> </ul>	
<ul style="list-style-type: none"> <li>— locking capability</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— motor drive</li> </ul>	No
<ul style="list-style-type: none"> <li>— fuse monitoring</li> </ul>	Yes
<b>Product function</b>	
<ul style="list-style-type: none"> <li>• fuse monitoring</li> </ul>	No

### Short circuit

Short-circuit current making capacity (I <sub>cm</sub> ) / for switch disconnecter / at 690 V AC/440 V DC / without fuse link / rated value / minimum	7.65 kA
<b>Conditional short-circuit current / with line-side fuse protection</b>	
<ul style="list-style-type: none"> <li>• at 500 V / by gG fuse / rated value</li> <li>• at 690 V / by gG fuse / rated value</li> </ul>	<p>100 kA</p> <p>100 kA</p>

### Connections

Arrangement of electrical connectors / for main current circuit	Top and bottom
<b>Tightening torque / with screw-type terminals</b>	
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>15 N·m</p> <p>22 N·m</p>
<ul style="list-style-type: none"> <li>• Type of connectable conductor cross-sections / for copper busbar</li> <li>• Type of connectable conductor cross-sections / for aluminum conductor / stranded / with lug</li> <li>• Type of connectable conductor cross-sections / for copper conductor / stranded / with lug / acc. to DIN 46234</li> <li>• Type of connectable conductor cross-sections / for copper conductor / stranded / with lug / acc. to DIN 46235</li> </ul>	<p>1x (20x3 mm)</p> <p>1x (2.5 ... 95 mm<sup>2</sup>), 2x (2.5 ... 50 mm<sup>2</sup>)</p> <p>1x (2.5 ... 95 mm<sup>2</sup>), 2x (2.5 ... 50 mm<sup>2</sup>)</p> <p>1x (25 ... 70 mm<sup>2</sup>), 2x (25 ... 50 mm<sup>2</sup>)</p>
<b>Type of electrical connection</b>	
<ul style="list-style-type: none"> <li>• for main current circuit</li> </ul>	flat connector

### Mechanical Design

<b>Height</b>	150 mm
<b>Width</b>	237 mm
<b>Depth</b>	161.5 mm
<b>Mounting position</b>	any
<b>Mounting type</b>	floor mounting
<b>Mounting type</b>	
<ul style="list-style-type: none"> <li>• front mounting with 4-hole attachment</li> <li>• front mounting with central attachment</li> <li>• rail mounting</li> </ul>	<p>No</p> <p>No</p> <p>No</p>
<b>Net weight</b>	2 750 g

### Environmental conditions

<b>Degree of pollution</b>	3
<b>Ambient temperature</b>	
<ul style="list-style-type: none"> <li>• during operation / minimum</li> <li>• during operation / maximum</li> <li>• during storage / minimum</li> <li>• during storage / maximum</li> </ul>	<p>-25 °C</p> <p>70 °C</p> <p>-50 °C</p> <p>80 °C</p>

## Certificates

Equipment marking / acc. to DIN EN 61346-2

Q

**General Product Approval**

**other**



CCC



VDE

[Miscellaneous](#)

## Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**

<http://www.siemens.com/lowvoltage/catalogs>

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3KF2416-0LF11>

**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<https://support.industry.siemens.com/cs/ww/en/ps/3KF2416-0LF11>

**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)**

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3KF2416-0LF11](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3KF2416-0LF11)

**CAX-Online-Generator**

<http://www.siemens.com/cax>

**Tender specifications**

<http://www.siemens.com/specifications>



