

SWITCH DISCONNECTOR FUSE 160A, FRAME SIZE 2, 4-POLE
FOR LV HRC FUSE SIZE 000 AND 00 FRONT OPERATING LEFT
COMPLETE ASSEMBLY DIRECT OPERATING MECHANISM
GREY 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	manual operating mechanism
Design of handle	Direct operating mechanism, gray
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 ² t value	
• with closed switch / for combination switch + fuse / at 500 V / maximum	150 600 A ² ·s

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

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

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

• 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
Continuous current	
• 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
Let-through current / of the fuse / at 500 V / maximum permissible	18 000 A
Let-through current / of the gG fuse / at 690 V / maximum permissible	25 500 A
Let-through current / of the aM fuse / at 690 V / maximum permissible	28 100 A
Let-through current / with closed switch	
• 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"> • for combination switch + fuse / at 500 V / maximum permissible 	18 200 A
Short-time current resistance (I _{cw}) / at 690 V AC/440 V DC / limited to 1 s / rated value	5 kA

Main circuit

Operating power / at AC-23 A	
<ul style="list-style-type: none"> • at 400 V / at 50/60 Hz / rated value 	90 kW
<ul style="list-style-type: none"> • at 500 V / at 50/60 Hz / rated value 	110 kW
<ul style="list-style-type: none"> • at 690 V / at 50/60 Hz / rated value 	132 kW
Operating voltage	
<ul style="list-style-type: none"> • at AC / at 50/60 Hz / rated value 	690 V
<ul style="list-style-type: none"> • at AC / rated value / maximum 	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
Suitability for use	
<ul style="list-style-type: none"> • Main switch 	Yes
<ul style="list-style-type: none"> • switch disconnector 	Yes
<ul style="list-style-type: none"> • EMERGENCY OFF switch 	No
<ul style="list-style-type: none"> • safety switch 	Yes
<ul style="list-style-type: none"> • maintenance/repair switch 	Yes
Product feature / interlock	Yes
Product component	
<ul style="list-style-type: none"> • Voltage trigger 	No
<ul style="list-style-type: none"> • undervoltage release 	No
<ul style="list-style-type: none"> • undervoltage release with leading contact 	No
Product feature / sealable	Yes
Product extension	
<ul style="list-style-type: none"> • Auxiliary switch 	Yes
<ul style="list-style-type: none"> • optional 	
<ul style="list-style-type: none"> — locking capability 	No
<ul style="list-style-type: none"> — motor drive 	No
<ul style="list-style-type: none"> — fuse monitoring 	Yes
Product function	
<ul style="list-style-type: none"> • fuse monitoring 	No

Short circuit

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

Connections

Arrangement of electrical connectors / for main current circuit	Top and bottom
Tightening torque / with screw-type terminals	
<ul style="list-style-type: none"> • minimum • maximum 	<p>15 N·m</p> <p>22 N·m</p>
<ul style="list-style-type: none"> • Type of connectable conductor cross-sections / for copper busbar • Type of connectable conductor cross-sections / for aluminum conductor / stranded / with lug • Type of connectable conductor cross-sections / for copper conductor / stranded / with lug / acc. to DIN 46234 • Type of connectable conductor cross-sections / for copper conductor / stranded / with lug / acc. to DIN 46235 	<p>1x (20x3 mm)</p> <p>1x (2.5 ... 95 mm²), 2x (2.5 ... 50 mm²)</p> <p>1x (2.5 ... 95 mm²), 2x (2.5 ... 50 mm²)</p> <p>1x (25 ... 70 mm²), 2x (25 ... 50 mm²)</p>
Type of electrical connection	
<ul style="list-style-type: none"> • for main current circuit 	flat connector

Mechanical Design

Height	150 mm
Width	237 mm
Depth	206.5 mm
Mounting position	any
Mounting type	floor mounting
Mounting type	
<ul style="list-style-type: none"> • front mounting with 4-hole attachment • front mounting with central attachment • rail mounting 	<p>No</p> <p>No</p> <p>No</p>
Net weight	3 050 g

Environmental conditions

Degree of pollution	3
Ambient temperature	
<ul style="list-style-type: none"> • during operation / minimum • during operation / maximum • during storage / minimum • during storage / maximum 	<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=3KF2416-2LF11>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3KF2416-2LF11>

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3KF2416-2LF11

CAX-Online-Generator

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

Tender specifications

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



