## **SIEMENS**

Data sheet 3RB3016-1TB0



Overload relay 4...16 A Electronic For motor protection Size S00, Class 10E Contactor mounting Main circuit: Screw Auxiliary circuit: Screw Manual-Automatic-Reset

product brand name	SIRIUS
product designation	solid-state overload relay
product type designation	3RB3
General technical data	
size of overload relay	S00
size of contactor can be combined company-specific	S00
power loss [W] for rated value of the current at AC in hot operating state	1.1 W
• per pole	0.37 W
insulation voltage with degree of pollution 3 at AC rated value	690 V
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation	
<ul> <li>in networks with ungrounded star point between auxiliary and auxiliary circuit</li> </ul>	300 V
<ul> <li>in networks with grounded star point between auxiliary and auxiliary circuit</li> </ul>	300 V
<ul> <li>in networks with ungrounded star point between main and auxiliary circuit</li> </ul>	600 V
<ul> <li>in networks with grounded star point between main and auxiliary circuit</li> </ul>	690 V
shock resistance	15g / 11 ms
• according to IEC 60068-2-27	15g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 9g / 11 ms
thermal current	16 A
reference code according to IEC 81346-2	F
Substance Prohibitance (Date)	10/01/2009
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8
Weight	0.223 kg
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
during operation	-25 +60 °C
during storage	-40 +80 °C
during transport	-40 +80 °C
temperature compensation	-25 +60 °C
relative humidity during operation	10 95 %
Main circuit	
number of poles for main current circuit	3
adjustable current response value current of the current- dependent overload release	4 16 A
operating voltage	
• rated value	690 V

at AC-3e rated value maximum	690 V
operating frequency rated value	50 60 Hz
operational current rated value	16 A
operational current at AC-3e at 400 V rated value	16 A
operating power	1071
for 3-phase motors at 400 V at 50 Hz	2.2 7.5 kW
for 3-pnase motors at 400 V at 50 Hz      for AC motors at 500 V at 50 Hz	2.2 7.5 kW
for AC motors at 500 V at 50 Hz      for AC motors at 690 V at 50 Hz	3 11 kW
	3 11 KVV
Auxiliary circuit	
design of the auxiliary switch	integrated
number of NC contacts for auxiliary contacts	1
• note	for contactor disconnection
number of NO contacts for auxiliary contacts	1
• note	for message "tripped"
number of CO contacts for auxiliary contacts	0
operational current of auxiliary contacts at AC-15	
• at 24 V	4 A
• at 110 V	4 A
• at 120 V	4 A
• at 125 V	4 A
• at 230 V	3 A
operational current of auxiliary contacts at DC-13	
• at 24 V	2 A
● at 60 V	0.55 A
● at 110 V	0.3 A
● at 125 V	0.3 A
● at 220 V	0.11 A
Protective and monitoring functions	
trip class	CLASS 10E
design of the overload release	electronic
UL/CSA ratings	
UL/CSA ratings full-load current (FLA) for 3-phase AC motor	
	16 A
full-load current (FLA) for 3-phase AC motor	16 A 16 A
full-load current (FLA) for 3-phase AC motor • at 480 V rated value	
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value	16 A
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL	16 A
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection	16 A
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link	16 A
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  • for short-circuit protection of the main circuit	16 A B600 / R300
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  • for short-circuit protection of the main circuit  — with type of coordination 1 required	16 A B600 / R300 gG: 50 A, RK5: 60 A
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  • for short-circuit protection of the main circuit  — with type of coordination 1 required  — with type of assignment 2 required	16 A B600 / R300 gG: 50 A, RK5: 60 A gG: 50 A, J: 60 A
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  • for short-circuit protection of the main circuit  — with type of coordination 1 required  — with type of assignment 2 required  • for short-circuit protection of the auxiliary switch required	16 A B600 / R300 gG: 50 A, RK5: 60 A gG: 50 A, J: 60 A
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  • for short-circuit protection of the main circuit  — with type of coordination 1 required  — with type of assignment 2 required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions	16 A B600 / R300  gG: 50 A, RK5: 60 A gG: 50 A, J: 60 A fuse gG: 6 A
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  • for short-circuit protection of the main circuit  — with type of coordination 1 required  — with type of assignment 2 required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position  fastening method	16 A B600 / R300  gG: 50 A, RK5: 60 A gG: 50 A, J: 60 A fuse gG: 6 A
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full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  • for short-circuit protection of the main circuit  — with type of coordination 1 required  — with type of assignment 2 required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position  fastening method  height  width	16 A B600 / R300  gG: 50 A, RK5: 60 A gG: 50 A, J: 60 A fuse gG: 6 A  any Contactor mounting 79 mm
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  • for short-circuit protection of the main circuit  — with type of coordination 1 required  — with type of assignment 2 required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position  fastening method  height	16 A B600 / R300  gG: 50 A, RK5: 60 A gG: 50 A, J: 60 A fuse gG: 6 A  any Contactor mounting 79 mm 45 mm
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full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  • for short-circuit protection of the main circuit  — with type of coordination 1 required  — with type of assignment 2 required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position  fastening method  height  width  depth  Connections/ Terminals  product component removable terminal for auxiliary and	16 A B600 / R300  gG: 50 A, RK5: 60 A gG: 50 A, J: 60 A fuse gG: 6 A  any Contactor mounting 79 mm 45 mm 73 mm
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full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  • for short-circuit protection of the main circuit  — with type of coordination 1 required  — with type of assignment 2 required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position  fastening method  height  width  depth  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  • for main current circuit  • for auxiliary and control circuit  arrangement of electrical connectors for main current	16 A B600 / R300  gG: 50 A, RK5: 60 A gG: 50 A, J: 60 A fuse gG: 6 A  any Contactor mounting 79 mm 45 mm 73 mm
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full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  • for short-circuit protection of the main circuit  — with type of coordination 1 required  — with type of assignment 2 required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position  fastening method  height  width  depth  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  • for main current circuit  • for auxiliary and control circuit  arrangement of electrical connectors for main current circuit  type of connectable conductor cross-sections for main contacts	gG: 50 A, RK5: 60 A gG: 50 A, J: 60 A fuse gG: 6 A  any Contactor mounting 79 mm 45 mm 73 mm  Yes  screw-type terminals screw-type terminals Top and bottom
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  • for short-circuit protection of the main circuit  — with type of coordination 1 required  — with type of assignment 2 required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position  fastening method  height  width  depth  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  • for main current circuit  • for auxiliary and control circuit  arrangement of electrical connectors for main current circuit  type of connectable conductor cross-sections for main contacts  • solid	16 A B600 / R300  gG: 50 A, RK5: 60 A gG: 50 A, J: 60 A fuse gG: 6 A  any Contactor mounting 79 mm 45 mm 73 mm  Yes  screw-type terminals screw-type terminals Top and bottom  1x (0.5 4 mm²), 2x (0.5 1.5 mm²), 2x (0.75 4 mm²)
full-load current (FLA) for 3-phase AC motor  at 480 V rated value  at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  for short-circuit protection of the main circuit  with type of coordination 1 required  with type of assignment 2 required  for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position  fastening method  height  width  depth  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  for main current circuit  for auxiliary and control circuit  arrangement of electrical connectors for main current circuit  type of connectable conductor cross-sections for main contacts  solid  solid or stranded	16 A B600 / R300  gG: 50 A, RK5: 60 A gG: 50 A, J: 60 A fuse gG: 6 A  any Contactor mounting 79 mm 45 mm 73 mm  Yes  screw-type terminals screw-type terminals Top and bottom  1x (0.5 4 mm²), 2x (0.5 1.5 mm²), 2x (0.75 4 mm²) 1x (0,5 4 mm²), 2x (0,5 1,5 mm²), 2x (0,75 4 mm²)
full-load current (FLA) for 3-phase AC motor  at 480 V rated value  at 600 V rated value  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  for short-circuit protection of the main circuit  with type of coordination 1 required  with type of assignment 2 required  for short-circuit protection of the auxiliary switch required  installation/ mounting/ dimensions  mounting position  fastening method  height  width  depth  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  for main current circuit  for auxiliary and control circuit  arrangement of electrical connectors for main current circuit  type of connectable conductor cross-sections for main contacts  solid  solid or stranded  finely stranded with core end processing	16 A B600 / R300  gG: 50 A, RK5: 60 A gG: 50 A, J: 60 A fuse gG: 6 A  any Contactor mounting 79 mm 45 mm 73 mm  Yes  screw-type terminals screw-type terminals Top and bottom  1x (0.5 4 mm²), 2x (0.5 1.5 mm²), 2x (0.75 4 mm²)
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— solid	1x (0.5 4 mm²), 2x (0.5 2.5 mm²)
<ul><li>— solid or stranded</li></ul>	1x (0,5 4 mm²), 2x (0,5 2,5 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
<ul> <li>for AWG cables for auxiliary contacts</li> </ul>	1x (20 14), 2x (20 14)
tightening torque	
<ul> <li>for main contacts with screw-type terminals</li> </ul>	0.8 1.2 N·m
<ul> <li>for auxiliary contacts with screw-type terminals</li> </ul>	0.8 1.2 N·m
design of screwdriver shaft	Diameter 5 to 6 mm
size of the screwdriver tip	Pozidriv PZ 2
design of the thread of the connection screw	
• for main contacts	M3
<ul> <li>of the auxiliary and control contacts</li> </ul>	M3
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
Communication/ Protocol	
type of voltage supply via input/output link master	No
Electromagnetic compatibility	
conducted interference	
<ul> <li>due to burst according to IEC 61000-4-4</li> </ul>	2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3
<ul> <li>due to conductor-earth surge according to IEC 61000-4-5</li> </ul>	2 kV (line to earth) corresponds to degree of severity 3
<ul> <li>due to conductor-conductor surge according to IEC 61000-4-5</li> </ul>	1 kV (line to line) corresponds to degree of severity 3
<ul> <li>due to high-frequency radiation according to IEC 61000- 4-6</li> </ul>	10 V in frequency range 0.15 to 80 MHz, modulation 80 % AM with 1 kHz
field-based interference according to IEC 61000-4-3	10 V/m
electrostatic discharge according to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge
Display	
display version for switching status	Slide switch
Approvals Certificates	
General Product Approval	
•	





Confirmation







For use in hazardous locations

Test Certificates

Marine / Shipping



<u>KC</u>



Type Test Certificates/Test Report

Special Test Certificate



Marine / Shipping other











Confirmation

**Environment** 

Environmental Confirmations

Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RB3016-1TB0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3016-1TB0

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

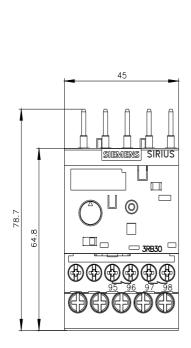
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RB3016-1TB0&lang=en">http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RB3016-1TB0&lang=en</a>

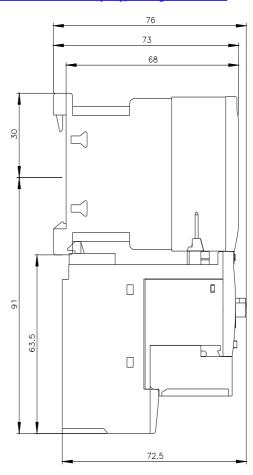
Characteristic: Tripping characteristics, I2t, Let-through current

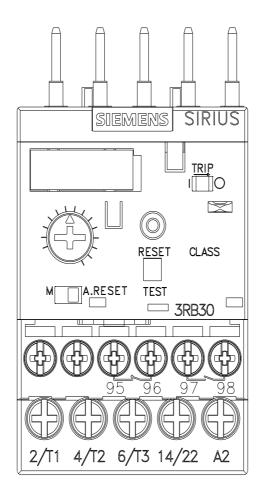
https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-1TB0/char

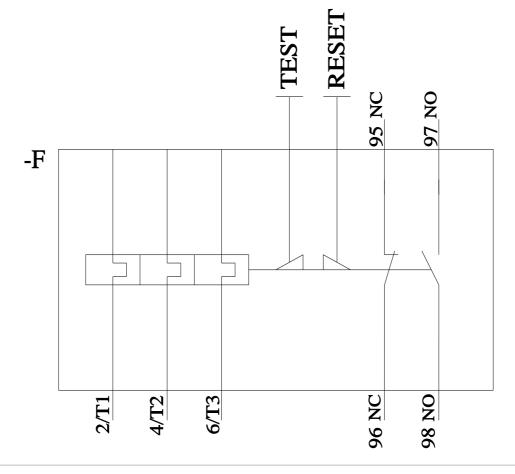
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3016-1TB0&objecttype=14&gridview=view1









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