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# Data sheet

## 3RB3046-2UB0

Overload relay 12.5...50 A for motor protection Size S3, Class 20E Contactor mounting Main circuit: Screw Auxiliary circuit: Screw Manual-Automatic-Reset



Figure similar

Product brand name	SIRIUS
Product designation	solid-state overload relay
Product type designation	3RB3
General technical data	
Size of overload relay	S3
Size of contactor can be combined company-specific	S3
Power loss [W] total typical	0.9 W
Insulation voltage with degree of pollution 3 rated	1 000 V
value	
Surge voltage resistance rated value	8 kV
maximum permissible voltage for safe isolation	
<ul> <li>in networks with grounded star point between</li> </ul>	300 V
auxiliary and auxiliary circuit	
<ul> <li>in networks with grounded star point between</li> </ul>	300 V
auxiliary and auxiliary circuit	
<ul> <li>in networks with grounded star point between</li> </ul>	600 V
main and auxiliary circuit	

<ul> <li>in networks with grounded star point between main and auxiliary circuit</li> </ul>	690 V		
Protection class IP			
• on the front	IP20		
• of the terminal	IP00		
Shock resistance	8g / 11 ms		
• acc. to IEC 60068-2-27	15g / 11 ms		
Vibration resistance	1-6 Hz, 15 mm; 6-500 Hz, 20 m/s²; 10 cycles		
Thermal current	50 A		
Recovery time			
<ul> <li>after overload trip with automatic reset typical</li> </ul>	3 min		
<ul> <li>after overload trip with remote-reset</li> </ul>	0 min		
<ul> <li>after overload trip with manual reset</li> </ul>	0 min		
Type of protection	II (2) G [Ex e] [Ex d] [Ex px] II (2) D [Ex t] [Ex p]		
Certificate of suitability relating to ATEX	PTB 09 ATEX 3001		
Protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529		
Reference code acc. to DIN EN 81346-2	F		
Ambient conditions			
Installation altitude at height above sea level			
• maximum	2 000 m		
Ambient temperature			
<ul> <li>during operation</li> </ul>	-25 +60 °C		
• during stress of	40 + 90 °C		

<ul> <li>during storage</li> </ul>	-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 pick-up value current of the current-	12.5 50 A
dependent overload release	
Operating voltage	
• rated value	1 000 V
<ul> <li>at AC-3 rated value maximum</li> </ul>	1 000 V
Operating frequency rated value	50 60 Hz
Operating current rated value	50 A
Operating power	
<ul> <li>for three-phase motors at 400 V at 50 Hz</li> </ul>	7.5 22 kW
<ul> <li>for AC motors at 500 V at 50 Hz</li> </ul>	11 30 kW
<ul> <li>for AC motors at 690 V at 50 Hz</li> </ul>	11 45 kW

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     0       • for auxiliary contacts     0       Operating current of auxiliary contacts at AC-15     • for auxiliary contacts at AC-15       • at 24 V     4 A       • at 110 V     4 A       • at 120 V     4 A       • at 120 V     4 A       • at 230 V     3 A       Operating current of auxiliary contacts at DC-13     • at 24 V       • at 24 V     2 A       • at 25 V     3 A       Operating current of auxiliary contacts at DC-13     • at 24 V       • at 25 V     0.55 A       • at 10 V     0.3 A       • at 10 V     0.3 A       • at 125 V     0.11 A       Protective and monitoring functions     Trip class       CLASS 20E     Design of the overload release       electronic     UL/CSA ratings       Full-load current (FLA) for three-phase AC motor     • at 480 V rated value       • at 480 V rated value     50 A       • at 480 V rated value<	Number of NO contacts for auxiliary contacts <ul> <li>Note</li> </ul> Number of CO contacts		
• Notefor message "tripped"Number of CO contacts0Operating current of auxiliary contacts at AC-154A• at 24 V4A• at 10 V4A• at 120 V4A• at 120 V4A• at 120 V4A• at 125 V3AOperating current of auxiliary contacts at DC-132A• at 24 V0.55 A• at 25 V0.3 A• at 25 V0.3 A• at 20 V0.3 A• at 20 V0.3 A• at 20 V0.3 A• at 20 V0.11 AProtective and monitoring functionsTrip classCLASS 20EDesign of the overload releaseelectronicUL/CSA ratings50 A• at 80 V rated value50 A• at 800 V rated value50 A• at 800 V rated value50 A• at 800 V rated value50 A• at 600 V rated value50 A	Note     Number of CO contacts		
Number of CO contacts       0         Operating current of auxiliary contacts at AC-15       4         • at 24 V       4 A         • at 110 V       4 A         • at 120 V       4 A         • at 220 V       3 A         Operating current of auxiliary contacts at DC-13       -         • at 24 V       2 A         • at 60 V       0.55 A         • at 10 V       0.3 A         • at 220 V       0.11 A         Protective and monitoring functions       -         Trip class       CLASS 20E         Design of the overload release       electronic         UL/CSA ratings       -         Full-load current (FLA) for three-phase AC motor       -         • at 480 V rated value       50 A         • at 600 V rated value       50 A         • bool / R300       -         Short-circuit protection	Number of CO contacts	for message "tripped"	
• for auxiliary contacts0Operating current of auxiliary contacts at AC-154 A• at 24 V4 A• at 110 V4 A• at 120 V4 A• at 120 V4 A• at 230 V3 AOperating current of auxiliary contacts at DC-13			
Operating current of auxiliary contacts at AC-15     4 A       • 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       Operating current of auxiliary contacts at DC-13		0	
• at 24 V4 A• at 110 V4 A• at 120 V4 A• at 125 V4 A• at 230 V3 AOperating current of auxiliary contacts at DC-13• at 24 V2 A• at 60 V0.55 A• at 110 V0.3 A• at 125 V0.3 A• at 220 V0.11 AProtective and monitoring functionsTrip classCLASS 20EDesign of the overload releaseelectronicUL/CSA ratingsFull-load current (FLA) for three-phase AC motor• at 480 V rated value50 A• at 600 V rated value50 A• Contact rating of auxiliary contacts according to ULB600 / R300Short-circuit protectionDesign of the fuse link	-		
e at 110 V       4 A         e at 120 V       4 A         e at 125 V       4 A         e at 230 V       3 A         Operating current of auxiliary contacts at DC-13		4 A	
<ul> <li>at 120 V</li> <li>at 125 V</li> <li>at 125 V</li> <li>at 230 V</li> <li>3 A</li> <li>Operating current of auxiliary contacts at DC-13</li> <li>at 24 V</li> <li>2 A</li> <li>at 60 V</li> <li>0.55 A</li> <li>at 110 V</li> <li>0.3 A</li> <li>at 125 V</li> <li>0.3 A</li> <li>at 220 V</li> <li>0.11 A</li> <li>Protective and monitoring functions</li> <li>Trip class</li> <li>CLASS 20E</li> <li>Design of the overload release</li> <li>Ever the fuse link</li> </ul>		4 A	
<ul> <li>at 125 V</li> <li>at 125 V</li> <li>4 A</li> <li>at 230 V</li> <li>3 A</li> <li>Operating current of auxiliary contacts at DC-13</li> <li>at 24 V</li> <li>2 A</li> <li>at 60 V</li> <li>0.55 A</li> <li>at 110 V</li> <li>0.3 A</li> <li>at 125 V</li> <li>0.3 A</li> <li>at 220 V</li> <li>0.11 A</li> <li>Protective and monitoring functions</li> <li>Trip class</li> <li>CLASS 20E</li> <li>Design of the overload release</li> <li>electronic</li> <li>UL/CSA ratings</li> <li>Full-load current (FLA) for three-phase AC motor         <ul> <li>at 480 V rated value</li> <li>50 A</li> <li>at 600 V rated value</li> <li>50 A</li> </ul> </li> <li>Short-circuit protection</li> <li>Design of the fuse link</li> </ul>			
<ul> <li>at 230 V</li> <li>3 A</li> <li>Operating current of auxiliary contacts at DC-13         <ul> <li>at 24 V</li> <li>2 A</li> <li>at 60 V</li> <li>0.55 A</li> <li>at 110 V</li> <li>0.3 A</li> <li>at 125 V</li> <li>0.11 A</li> </ul> </li> <li>Protective and monitoring functions         <ul> <li>Trip class</li> <li>CLASS 20E</li> <li>Design of the overload release</li> <li>electronic</li> </ul> </li> <li>UL/CSA ratings</li> <li>Full-load current (FLA) for three-phase AC motor         <ul> <li>at 480 V rated value</li> <li>50 A</li> <li>at 600 V rated value</li> <li>50 A</li> </ul> </li> <li>Stort-circuit protection</li> <li>Design of the fuse link</li> </ul>			
Operating current of auxiliary contacts at DC-13       • at 24 V       • at 60 V       • at 60 V       • at 110 V       • at 110 V       • at 125 V       • at 220 V       Protective and monitoring functions       Trip class       CLASS 20E       Design of the overload release       electronic       UL/CSA ratings       Full-load current (FLA) for three-phase AC motor       • at 600 V rated value       50 A       Contact rating of auxiliary contacts according to UL       B600 / R300			
• at 24 V2 A• at 60 V0.55 A• at 110 V0.3 A• at 125 V0.3 A• at 220 V0.11 AProtective and monitoring functionsTrip classCLASS 20EDesign of the overload releaseelectronicUL/CSA ratingsFull-load current (FLA) for three-phase AC motor• at 480 V rated value50 A• at 600 V rated value50 AShort-circuit protectionB600 / R300			
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• at 110 V0.3 A• at 125 V0.3 A• at 220 V0.11 AProtective and monitoring functionsTrip classCLASS 20EDesign of the overload releaseelectronicUL/CSA ratingsFull-load current (FLA) for three-phase AC motor• at 480 V rated value50 A• at 600 V rated value50 A• at 600 V rated value50 A• at 600 V rated value50 AShort-circuit protectionDesign of the fuse link			
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Protective and monitoring functions       Trip class     CLASS 20E       Design of the overload release     electronic       UL/CSA ratings     Electronic       Full-load current (FLA) for three-phase AC motor     50 A       • at 480 V rated value     50 A       • at 600 V rated value     50 A       Contact rating of auxiliary contacts according to UL     B600 / R300			
Trip class       CLASS 20E         Design of the overload release       electronic         UL/CSA ratings          Full-load current (FLA) for three-phase AC motor          • at 480 V rated value       50 A         • at 600 V rated value       50 A         Contact rating of auxiliary contacts according to UL       B600 / R300         Short-circuit protection          Design of the fuse link	• at 220 V	0.11 A	
Trip class       CLASS 20E         Design of the overload release       electronic         UL/CSA ratings          Full-load current (FLA) for three-phase AC motor          • at 480 V rated value       50 A         • at 600 V rated value       50 A         Contact rating of auxiliary contacts according to UL       B600 / R300         Short-circuit protection          Design of the fuse link	Protective and monitoring functions		
UL/CSA ratings         Full-load current (FLA) for three-phase AC motor         • at 480 V rated value       50 A         • at 600 V rated value       50 A         Contact rating of auxiliary contacts according to UL       B600 / R300         Short-circuit protection       Design of the fuse link		CLASS 20E	
Full-load current (FLA) for three-phase AC motor       50 A         • at 480 V rated value       50 A         • at 600 V rated value       50 A         Contact rating of auxiliary contacts according to UL       B600 / R300         Short-circuit protection       Design of the fuse link	Design of the overload release	electronic	
Full-load current (FLA) for three-phase AC motor       50 A         • at 480 V rated value       50 A         • at 600 V rated value       50 A         Contact rating of auxiliary contacts according to UL       B600 / R300         Short-circuit protection       Design of the fuse link	III /CSA ratings		
• at 480 V rated value         50 A           • at 600 V rated value         50 A           Contact rating of auxiliary contacts according to UL         B600 / R300           Short-circuit protection         Design of the fuse link			
• at 600 V rated value         50 A           Contact rating of auxiliary contacts according to UL         B600 / R300           Short-circuit protection         Design of the fuse link		50 A	
Contact rating of auxiliary contacts according to UL     B600 / R300       Short-circuit protection     Design of the fuse link			
Short-circuit protection       Design of the fuse link			
Design of the fuse link		B600 / R300	
	Contact rating of auxiliary contacts according to UL	B600 / R300	
• for short-circuit protection of the main circuit	Contact rating of auxiliary contacts according to UL Short-circuit protection	B600 / R300	
	Contact rating of auxiliary contacts according to UL Short-circuit protection Design of the fuse link	B600 / R300	
	Contact rating of auxiliary contacts according to UL Short-circuit protection Design of the fuse link • for short-circuit protection of the main circuit		
	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	gG: 200 A	
	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	gG: 200 A gG: 200 A	
required	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	gG: 200 A	
Installation/ mounting/ dimensions	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	gG: 200 A gG: 200 A	
Mounting position any	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	gG: 200 A gG: 200 A	
Mounting type direct mounting	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	gG: 200 A gG: 200 A fuse gG: 6 A	
Height 106 mm	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	gG: 200 A gG: 200 A fuse gG: 6 A	
Width     70 mm	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 Mounting type	gG: 200 A gG: 200 A fuse gG: 6 A	
Depth 124 mm	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 Mounting type Height Width	gG: 200 A gG: 200 A fuse gG: 6 A any direct mounting 106 mm 70 mm	
Required spacing	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 Mounting type Height Width Depth	gG: 200 A gG: 200 A fuse gG: 6 A any direct mounting 106 mm 70 mm	
with side-by-side mounting	Contact rating of auxiliary contacts according to UL Short-circuit protection Design of the fuse link  • for short-circuit protection of the main circuit	gG: 200 A gG: 200 A fuse gG: 6 A any direct mounting 106 mm 70 mm	
— forwards 0 mm	Contact rating of auxiliary contacts according to UL Short-circuit protection Design of the fuse link  • for short-circuit protection of the main circuit	gG: 200 A gG: 200 A fuse gG: 6 A any direct mounting 106 mm 70 mm	

— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
<ul> <li>for grounded parts</li> </ul>	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— at the side	6 mm
— downwards	0 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	6 mm

Connections/Terminals		
Product function		
<ul> <li>removable terminal for auxiliary and control circuit</li> </ul>	Yes	
Type of electrical connection		
<ul> <li>for main current circuit</li> </ul>	screw-type terminals	
<ul> <li>for auxiliary and control current circuit</li> </ul>	screw-type terminals	
Arrangement of electrical connectors for main current circuit	Top and bottom	
Type of connectable conductor cross-sections		
<ul> <li>for main contacts</li> </ul>		
— solid	2x (2.5 16 mm²)	
— stranded	2x 16 mm <sup>2</sup>	
— single or multi-stranded	1x (2,5 70 mm²), 2x (2,5 50 mm²)	
<ul> <li>— finely stranded with core end processing</li> </ul>	1x (2,5 50 mm²), 2x (2,5 35 mm²)	
<ul> <li>at AWG conductors for main contacts</li> </ul>	1x (10 2/0), 2x (10 1/0)	
Type of connectable conductor cross-sections		
<ul> <li>for auxiliary contacts</li> </ul>		
— solid	1x (0.5 4 mm²), 2x (0.5 2.5 mm²)	
— single or multi-stranded	1x (0,5 4 mm²), 2x (0,5 2,5 mm²)	
— finely stranded with core end processing	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)	
<ul> <li>at AWG conductors for auxiliary contacts</li> </ul>	2x (20 14)	
Tightening torque		
<ul> <li>for main contacts with screw-type terminals</li> </ul>	4.5 6 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	n		
Size of the screwdriver tip	Pozidriv PZ 2			
Design of the thread of the connection screw				
<ul> <li>for main contacts</li> </ul>	M6	M6		
<ul> <li>of the auxiliary and control contacts</li> </ul>	M3			
ommunication/ Protocol				
Type of voltage supply via input/output link maste	r No			
lectromagnetic compatibility				
Conducted interference				
• due to burst acc. to IEC 61000-4-4	2 kV (power ports), severity 3	1 kV (signal ports) cor	responds to degree of	
<ul> <li>due to conductor-earth surge acc. to IEC 61000-4-5</li> </ul>	2 kV (line to earth)	corresponds to degree	of severity 3	
• due to conductor-conductor surge acc. to IE 61000-4-5	C 1 kV (line to line) co	1 kV (line to line) corresponds to degree of severity 3		
• due to high-frequency radiation acc. to IEC 61000-4-6	10 V in frequency ra with 1 kHz	10 V in frequency range 0.15 to 80 MHz, modulation 80 $\%$ AM with 1 kHz		
Field-bound parasitic coupling acc. to IEC 61000-	<b>4-3</b> 10 V/m			
Electrostatic discharge acc. to IEC 61000-4-2	6 kV contact discha	6 kV contact discharge / 8 kV air discharge		
isplay Display version				
for switching status	Slide switch			
• for switching status	Onde Switch			
ertificates/approvals				
General Product Approval	EMC	For use in hazardous locations	Declaration of Conformity	
		XEx ATEX	EG-Konf.	
TestMarine / ShippingCertificates		other		
Type Test       Certificates/Test       Report       PRS	DNV-GL	Confirmation		

Information- and Downloadcenter (Catalogs, Brochures,...) http://www.siemens.com/industrial-controls/catalogs

### Industry Mall (Online ordering system)

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#### Cax online generator

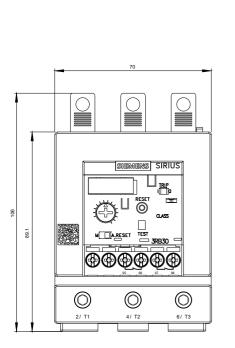
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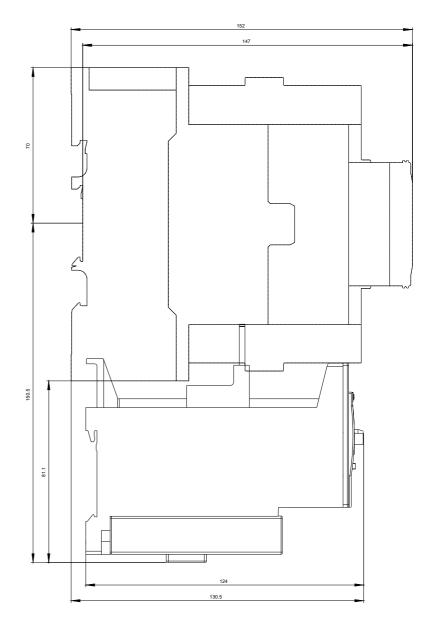
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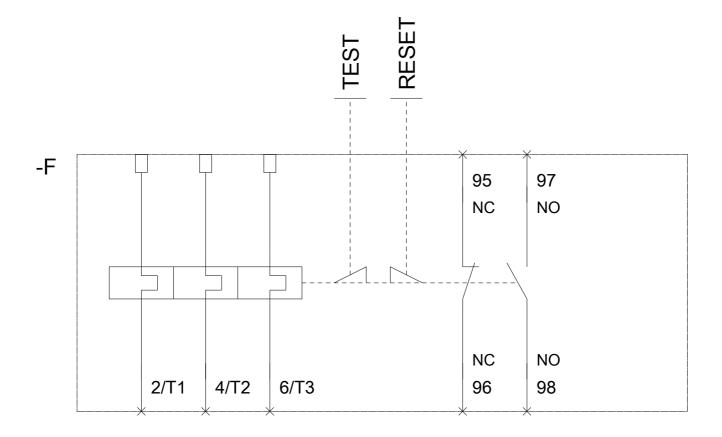
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RB3046-2UB0&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RB3046-2UB0/char

Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3046-2UB0&objecttype=14&gridview=view1







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