## **SIEMENS**

Data sheet 3RB2056-1FW2



Overload relay 50...200 A for motor protection Size S6, Class 10E Contactor mounting/stand-alone installation Main circuit: straight-through transformer Auxiliary circuit: Screw terminal Manual-Automatic-Reset

product type designation ground type designation ground type designation ground type designation general technical data size of overload relay Size of contactor can be combined company-specific insulation voltage with degree of pollution 3 at AC rated value ground type of the provided for safe isolation in relevorks with grounded star point between auxiliary and auxiliary circuit between auxiliary and auxiliary circuit between main	product brand name	SIRIUS		
Second of overload relay   Second of company-specific   Second overload relay   Second overload rela	product designation	solid-state overload relay		
size of contactor can be combined company-specific insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value 8 kV	product type designation	3RB2		
size of contactor can be combined company-specific insulation voltage with degree of pollution 3 at AC rated value  surge voltage resistance rated value  maximum permissible voltage for safe isolation in networks with grounded star point  • between auxiliary and auxiliary circuit  • between main and auxiliary circuit  • botween main and auxiliary circuit  • during transport  • during	General technical data			
insulation voltage with degree of pollution 3 at AC rated value  surge voltage resistance rated value  maximum permissible voltage for safe isolation in networks with grounded star point  • between auxiliary and auxiliary circuit  • between main and auxiliary circuit  • acc. to IEC 60068-2-27  vibration resistance  thermal current  type of protection according to ATEX directive  2014/34/EU  certificate of suitability according to ATEX directive  2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature  • during operation  -25 +60 °C  • during transport  40 +80 °C  temperature compensation  relative humidity during operation  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  1 000 V	size of overload relay	S6		
surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point  • between auxiliary and auxiliary circuit • between auxiliary and auxiliary circuit • between main and auxiliary circuit • shock resistance • acc. to IEC 60068-2-27 • 15g / 11 ms • acc. to IEC 60068-2-27 • 15g / 11 ms • acc. to IEC 60068-2-27 • 15g / 11 ms • acc. to IEC 60068-2-27 • 15g / 11 ms • acc. to IEC 60068-2-27 • 15g / 11 ms • acc. to IEC 60068-2-27 • 15g / 11 ms • acc. to IEC 60068-2-27 • 15g / 11 ms • acc. to IEC 60068-2-27 • 15g / 11 ms • acc. to IEC 60068-2-27 • 15g / 12 ms • acc. to IEC 81346-2  Ex II (2) G [Ex e] [Ex d] [Ex px]; Ex II (2) D [Ex t] [Ex p]  2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport  40 +80 °C • during transport  40 +80 °C • during transport  40 +80 °C  temperature compensation relative humidity during operation  10 95 %  Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value  1 000 V	size of contactor can be combined company-specific	S6		
maximum permissible voltage for safe isolation in networks with grounded star point  • between auxiliary and auxiliary circuit • between main and auxiliary circuit • acc. to IEC 60068-2-27  15g / 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 200 A  type of protection according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport  temperature compensation relative humidity during operation  Main circuit  number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value  1 000 V	0 0 1	1 000 V		
networks with grounded star point  • between auxiliary and auxiliary circuit  • between maxiliary and auxiliary circuit  • between main and auxiliary circuit  • between main and auxiliary circuit  • between main and auxiliary circuit  • botween main and auxiliary circuit  • botok resistance  • acc. to IEC 60068-2-27  **Ubration resistance  • thermal current  **Ubration resistance  **Total Current  **Total Curre	surge voltage resistance rated value	8 kV		
between auxiliary and auxiliary circuit     between main and auxiliary circuit     between main and auxiliary circuit     between main and auxiliary circuit     shock resistance     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     200 A  type of protection according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  minstellation altitude at height above sea level maximum ambient temperature     during operation     during storage     during transport  temperature compensation relative humidity during operation  Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage     rated value  1000 V				
between main and auxiliary circuit     between main and auxiliary circuit     shock resistance     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     200 A  type of protection according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  ambient conditions  installation altitude at height above sea level maximum ambient temperature     during operation     during storage     during transport     temperature compensation relative humidity during operation  Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage     rated value  100 V  15g / 11 ms 15g / 12 ms 10 cycles 11 (2) G Ex tj (Ex pl (Ex pl) Ex tl (2) D (Ex tj (Ex pl) 15g / 12 ms 11 (2) G (Ex pl) Ex tl (2) G (Ex pl) Ex tl (2) D (Ex tj (Ex pl) 16 / 12 ms 17 / 12 ms 18 / 12 ms 18 / 12 ms 18 / 12 ms 19 / 12 ms	<ul> <li>between auxiliary and auxiliary circuit</li> </ul>	300 V		
between main and auxiliary circuit     shock resistance	<ul> <li>between auxiliary and auxiliary circuit</li> </ul>	300 V		
shock resistance  • acc. to IEC 60068-2-27  vibration resistance  thermal current  200 A  type of protection according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/4/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature  • during operation  • during storage  • during transport  temperature compensation  relative humidity during operation  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  • rated value  15g / 11 ms  15g / 10 cycles  200 A //  16 EX   16 Cy D   Ex t]   Ex pl   (2) D   Ex t]   (2) D   (Ex t]   (2) D   (	<ul> <li>between main and auxiliary circuit</li> </ul>	600 V		
acc. to IEC 60068-2-27  vibration resistance  thermal current  type of protection according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature  during operation  during storage  during storage  during transport  temperature compensation  relative humidity during operation  adjustable current response value current of the current-dependent overload release  operating voltage  rated value  15g / 11 ms  1-6 Hz, 15 mm; 6-500 Hz, 20 m/s²; 10 cycles  Ex II (2) G [Ex e] [Ex d] [Ex px]; Ex II (2) D [Ex t] [Ex p]  200 A  Ex II (2) G [Ex e] (Ex d] [Ex px]; Ex II (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex p)  201-20 (Ex till (2) D [Ex t] (Ex px]; Ex II (2) D [Ex till (2)	between main and auxiliary circuit	690 V		
vibration resistance thermal current 200 A  type of protection according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport  during transport  temperature compensation relative humidity during operation  Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release  • rated value  1-6 Hz, 15 mm; 6-500 Hz, 20 m/s²; 10 cycles  200 A  Ex II (2) G [Ex e] [Ex d] [Ex px] ; Ex II (2) D [Ex t] [Ex p]  201 (Ex e] [Ex d] (Ex px] ; Ex II (2) D [Ex t] (Ex p)  204 (Ex e] [Ex d] (Ex ex px] ; Ex II (2) D [Ex t] (Ex px]  204 (Ex e] [Ex d] (Ex ex px] ; Ex II (2) D [Ex t] (Ex px]  205 (Ex e] (Ex e] [Ex d] (Ex ex px] ; Ex II (2) D [Ex t] (Ex px]  204 (Ex ex px] ; Ex II (2) D [Ex t] (Ex px]  205 (Ex e] (Ex e] [Ex d] (Ex ex px] ; Ex II (2) D [Ex t] (Ex px]  204 (Ex ex II (2) D [Ex t] (Ex px]  204 (Ex ex II (2) D [Ex t] (Ex px]  205 (Ex e] [Ex d] (Ex ex px] ; Ex II (2) D [Ex t] (Ex px]  204 (Ex ex II (2) D [Ex t] (Ex px]  204 (Ex ex II (2) D [Ex t] (Ex px]  205 (Ex ex ex II (2) D [Ex t] (Ex px]  206 (Ex ex II (2) D [Ex t] (Ex px]  207 (Ex ex II (2) D [Ex t] (Ex px] ; Ex II (2) D [Ex t] (Ex px]  200 (Ex ex II (2) D [Ex t] (Ex px] ; Ex II (2) D [Ex t] (Ex px]  200 (Ex ex II (2) D [Ex t] (Ex px] ; Ex I	shock resistance	15g / 11 ms		
thermal current  type of protection according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum ambient temperature  • during operation • during storage • during storage • during transport  temperature compensation relative humidity during operation  Main circuit  number of poles for main current circuit adjustable current response value current of the current-dependent overload release  operating voltage • rated value	• acc. to IEC 60068-2-27	15g / 11 ms		
type of protection according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2  F Substance Prohibitance (Date)  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  operating voltage  • rated value 1 000 V	vibration resistance	1-6 Hz, 15 mm; 6-500 Hz, 20 m/s²; 10 cycles		
2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature  • during operation • during storage • during transport  temperature compensation relative humidity during operation  Main circuit  number of poles for main current circuit adjustable current response value current of the current-dependent overload release  • rated value  PTB 06 ATEX 3001  PTB 06 ATEX 3001  2 00.0  F  C  Teleficate of suitability according to ATEX directive  PTB 06 ATEX 3001  ATEX 3001  2 00.0  Teleficate of C  - 40 +80 °C  - 40 +80 °C  - 25 +60 °C  - 25 +20	thermal current	200 A		
reference code acc. to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum  ambient temperature  • during operation • during storage • during transport  -40 +80 °C  • during transport  -40 +80 °C  temperature compensation -25 +60 °C  temperature compensation -25 +60 °C  relative humidity during operation  10 95 %  Main circuit  number of poles for main current circuit adjustable current response value current of the current-dependent overload release  operating voltage • rated value  1 000 V		Ex II (2) G [Ex e] [Ex d] [Ex px] ; Ex II (2) D [Ex t] [Ex p]		
Substance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum  ambient temperature  during operation  during storage  during transport  temperature compensation  relative humidity during operation  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  rated value  o 1.00 V	, ,	PTB 06 ATEX 3001		
Ambient conditions installation altitude at height above sea level maximum  ambient temperature  • during operation • during storage • during transport  -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 adjustable current response value current of the current-dependent overload release operating voltage • rated value  1 000 V	reference code acc. to IEC 81346-2	F		
installation altitude at height above sea level maximum  ambient temperature  • during operation  • during storage  • during transport  -40 +80 °C  temperature compensation  relative humidity during operation  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  2 000 m  -25 +60 °C  -40 +80 °C  -40 +80 °C  -25 +60 °C  7 -25 +60 °C  -25 +60 °C  50 200 A	Substance Prohibitance (Date)	01.07.2006		
ambient temperature  • during operation  • during storage  • during transport  -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  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  1 000 V	Ambient conditions			
<ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> <li>40 +80 °C</li> <li>during transport</li> <li>40 +80 °C</li> <li>temperature compensation</li> <li>25 +60 °C</li> <li>relative humidity during operation</li> <li>10 95 %</li> <li>Main circuit</li> <li>number of poles for main current circuit</li> <li>adjustable current response value current of the current-dependent overload release</li> <li>operating voltage</li> <li>rated value</li> <li>1 000 V</li> </ul>	installation altitude at height above sea level maximum	2 000 m		
<ul> <li>● during storage</li> <li>-40 +80 °C</li> <li>● during transport</li> <li>-40 +80 °C</li> <li>temperature compensation</li> <li>-25 +60 °C</li> <li>relative humidity during operation</li> <li>10 95 %</li> <li>Main circuit</li> <li>number of poles for main current circuit</li> <li>adjustable current response value current of the current-dependent overload release</li> <li>operating voltage</li> <li>● rated value</li> <li>1 000 V</li> </ul>	ambient temperature			
● during transport	<ul> <li>during operation</li> </ul>	-25 +60 °C		
temperature compensation -25 +60 °C relative humidity during operation 10 95 %  Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value  -25 +60 °C  3  50 95 %	<ul><li>during storage</li></ul>	-40 +80 °C		
relative humidity during operation  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  1 000 V	during transport	-40 +80 °C		
Main circuit       number of poles for main current circuit     3       adjustable current response value current of the current-dependent overload release     50 200 A       operating voltage     1 000 V	temperature compensation	-25 +60 °C		
number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  1 000 V	relative humidity during operation	10 95 %		
adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  50 200 A  1 000 V	Main circuit			
current-dependent overload release  operating voltage  ● rated value 1 000 V	number of poles for main current circuit	3		
• rated value 1 000 V	,	50 200 A		
	operating voltage			
operating frequency rated value 50 60 Hz	rated value	1 000 V		
	operating frequency rated value	50 60 Hz		

operational current rated value	200 A		
operational current rated value	200 A		
• for 3-phase motors at 400 V at 50 Hz	30 90 kW		
• for AC motors at 500 V at 50 Hz	30 132 kW		
	55 160 kW		
• for AC motors at 690 V at 50 Hz	55 100 KW		
Auxiliary circuit	integrated		
design of the auxiliary switch number of NC contacts for auxiliary contacts	integrated 1		
-			
• note	for contactor disconnection		
number of NO contacts for auxiliary contacts  • 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			
full-load current (FLA) for 3-phase AC motor			
at 480 V rated value	200 A		
• at 600 V rated value	200 A		
contact rating of auxiliary contacts according to UL	B600 / R300		
Short-circuit protection			
design of the fuse link			
for short-circuit protection of the main circuit			
<ul> <li>— with type of coordination 1 required</li> </ul>	gG: 355 A, Class L: 601 A		
<ul> <li>— with type of assignment 2 required</li> </ul>	gG: 315 A		
<ul> <li>for short-circuit protection of the auxiliary switch</li> </ul>	fuse gG: 6 A		
required			
Installation/ mounting/ dimensions			
mounting position	any		
fastening method	Contactor mounting/stand-alone installation		
height	119 mm		
width	120 mm		
depth Connections/ Terminals	155 mm		
Connections/ Terminals product component removable terminal for auxiliary	Yes		
and control circuit	165		
type of electrical connection			
<ul> <li>for main current circuit</li> </ul>	straight-through transformers		
for auxiliary and control circuit	screw-type terminals		
arrangement of electrical connectors for main current circuit	Top and bottom		
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)		
<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)		
at AWG cables for auxiliary contacts	2x (20 14)		
tightening torque			

<ul> <li>for auxiliary contacts with screw-type terminals</li> </ul>	0.8 1.2 N·m				
design of the thread of the connection screw					
<ul> <li>of the auxiliary and control contacts</li> </ul>	M3				
Safety related data					
protection class IP on the front acc. to IEC 60529	IP20				
touch protection on the front acc. 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					
• due to burst acc. to IEC 61000-4-4	2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity $\ensuremath{\mathtt{3}}$				
<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				
<ul> <li>due to conductor-conductor surge acc. 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 acc. 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 acc. to IEC 61000-4-3	10 V/m				
electrostatic discharge acc. to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge				
Display					
display version for switching status	Slide switch				
Certificates/ approvals					
General Product Approval		EMC	For use in hazard-		

**(1)** 

**General Product Approval** 









**EMC** 



ous locations

Declaration of Conformity

**Test Certificates** 

Marine / Shipping



Type Test Certificates/Test Report

Special Test Certificate







Marine / Shipping

other



Miscellaneous

Confirmation

## **Further information**

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=3RB2056-1FW2

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RB2056-1FW2}$ 

 ${\bf Service \& Support~(Manuals,~Certificates,~Characteristics,~FAQs,...)}$ 

https://support.industry.siemens.com/cs/ww/en/ps/3RB2056-1FW2

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

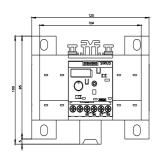
 $\underline{\text{http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RB2056-1FW2\&lang=en}$ 

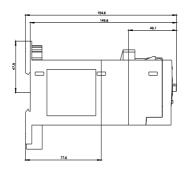
Characteristic: Tripping characteristics, I2t, Let-through current

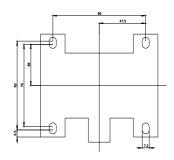
https://support.industry.siemens.com/cs/ww/en/ps/3RB2056-1FW2/char

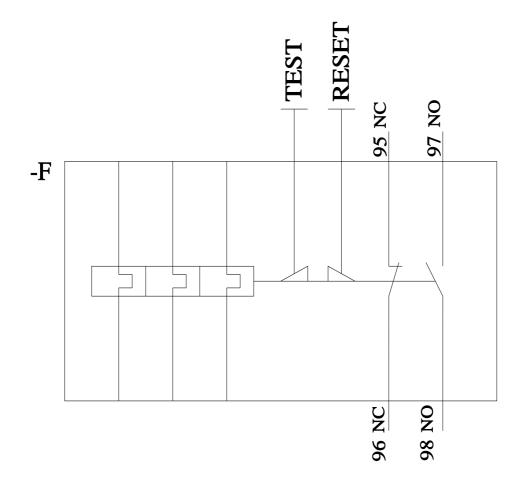
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB2056-1FW2&objecttype=14&gridview=view1









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