## **SIEMENS**

Data sheet 3RM1302-3AA04

Motor starter SIRIUS 3RM1 Reversing starter SAFETY 500 V; 0.4 - 2.0 A; 24 V DC Control circuit push-in Main circuit screw terminal



Figure similar

General technical data				
Product brand name	SIRIUS			
Product category	Motor starter			
Product designation	Failsafe reversing starters			
Design of the product	With electronic overload protection and safety-related disconnection			
Trip class	CLASS 10A			
Protection class IP	IP20			
Suitability for operation Device connector 3ZY12	Yes			
Product function Intrinsic device protection	Yes			
Type of the motor protection	solid-state			
Installation altitude at height above sea level maximum	2 000 m			
Ambient temperature				
<ul><li>during operation</li></ul>	-25 +60 °C			
during transport	-40 +70 °C			
during storage	-40 +70 °C			
Relative humidity during operation	10 95 %			

Air pressure acc. to SN 31205	900 1 060 hPa			
Shock resistance	6g / 11 ms			
Vibration resistance	1 6 Hz, 15 mm; 20 m/s², 500 Hz			
Surge voltage resistance rated value	6 kV			
Insulation voltage rated value	500 V			
Mechanical service life (switching cycles) typical	30 000 000			
Conducted interference				
<ul> <li>due to conductor-conductor surge acc. to IEC 61000-4-5</li> </ul>	2 kV			
<ul> <li>due to conductor-earth surge acc. to IEC</li> <li>61000-4-5</li> </ul>	4 kV signal lines 2 kV			
• due to burst acc. to IEC 61000-4-4	3 kV / 5 kHz			
<ul> <li>due to high-frequency radiation acc. to IEC 61000-4-6</li> </ul>	10 V			
Electrostatic discharge acc. to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge			
Field-bound HF-interference emission acc. to CISPR11	Class B for the domestic, business and commercial environments			
Conducted HF-interference emissions acc. to CISPR11	Class B for the domestic, business and commercial environments			
maximum permissible voltage for safe isolation				
<ul> <li>between main and auxiliary circuit</li> </ul>	500 V			
between control and auxiliary circuit	250 V			
Equipment marking acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	Q			
Equipment marking acc. to DIN EN 61346-2	Q			

Safety related data	
Safety Integrity Level (SIL) acc. to IEC 61508	3
Performance level (PL) acc. to EN ISO 13849-1	е
Category acc. to EN ISO 13849-1	4
Safety device type acc. to IEC 61508-2	Type B
Hardware fault tolerance acc. to IEC 61508	1
PFHD with high demand rate acc. to EN 62061	0.00000002 1/h
PFDavg with low demand rate acc. to IEC 61508	0.000018
T1 value for proof test interval or service life acc. to	20 y
IEC 61508	
Safe state	Load circuit open
Stop category acc. to DIN EN 60204-1	0
Safe failure fraction (SFF)	99.4 %
MTTFd	75 y
Average diagnostic coverage level (DCavg)	99 %
Function test interval maximum	1 y
Diagnostics test interval by internal test function	600 s
maximum	

Failure rate [FIT] at rate of recognizable hazardous failures (λdd)	1 400 FIT
Failure rate [FIT] at rate of non-recognizable hazardous failures (λdu)	16 FIT
Protection against electrical shock	finger-safe
Off-delay time with safety-related request when	65 ms
switched off via control inputs maximum	
Off-delay time with safety-related request when	120 ms
switched off via supply voltage maximum	
ATEX	
Hardware fault tolerance acc. to IEC 61508 relating to ATEX	0
PFDavg with low demand rate acc. to IEC 61508 relating to ATEX	0.0005
PFHD with high demand rate acc. to EN 62061 relating to ATEX	0.00000005 1/h
Safety Integrity Level (SIL) acc. to IEC 61508 relating to ATEX	SIL2
T1 value for proof test interval or service life acc. to IEC 61508 relating to ATEX	3 y
Main circuit	
Number of poles for main current circuit	3
Operating voltage rated value	48 500 V
Relative symmetrical tolerance of the operating	10 %
voltage	
Operating frequency	
• 1 rated value	50 Hz
• 2 rated value	60 Hz
Relative symmetrical tolerance of the operating frequency	10 %
Operating current at AC-53a at 400 V at ambient temperature 40 °C rated value	2 A
Minimum load [% of IM]	20 %
Power loss [W] typical	0.3 W
Adjustable pick-up value current of the current- dependent overload release	0.4 2 A
Ampacity when starting maximum	16 A
Operating power for three-phase motors at 400 V at 50 Hz	0.09 0.75 kW
Operating frequency maximum	1 1/s
Control circuit/ Control	
Type of voltage of the control supply voltage	DC
Control supply voltage 1	
• at DC rated value	24 V

Operating range factor control supply voltage rated value				
• at DC	0.8 1.25			
Control current				
• at DC				
— in standby mode	13 mA			
— during operation	57 mA			
— when switching on	150 mA			
Input voltage at digital input				
• for signal <1>				
— at DC	15 30 V			
• with signal <0>				
— at DC	0 5 V			
Input current at digital input				
• for signal <1>				
— at DC	8 mA			
• with signal <0>				
— at DC	1 mA			
Switch-on delay time	90 120 ms			
Off-delay time	40 55 ms			
Auxiliary circuit				
Number of CO contacts for auxiliary contacts	1			
Operating current of auxiliary contacts				
● at AC-15 at 230 V maximum	3 A			
■ at DC-13 at 24 V maximum	1 A			
nstallation/ mounting/ dimensions				
Mounting position	vertical, horizontal, standing			
Mounting type	screw and snap-on mounting onto 35 mm standard mounting rail			
Width	22.5 mm			
Height	100 mm			
Depth	141.6 mm			
Connections/Terminals				
Type of electrical connection				
• for main current circuit	screw-type terminals			
• for auxiliary and control current circuit	PUSH-IN connection (spring-loaded connection)			
Type of connectable conductor cross-sections for main contacts				
• solid	1x (0,5 4 mm²), 2x (0,5 2,5 mm²)			
finely stranded				
with core end processing	1x (0,5 4 mm²), 2x (0,5 1,5 mm²)			

Type of connectable conductor cross-sections at AWG conductors for main contacts	1x (20 12), 2x (20 14)
Type of connectable conductor cross-sections for auxiliary contacts	
• solid	1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²)
• finely stranded	
<ul> <li>— with core end processing</li> </ul>	1x (0,5 1,0 mm²), 2x (0,5 1,0 mm²)
<ul> <li>without core end processing</li> </ul>	1x (0.5 1.5 mm²), 2x (0.5 1.5 mm²)
Type of connectable conductor cross-sections at AWG conductors for auxiliary contacts	1x (20 16), 2x (20 16)

UL ratings	
Full-load current (FLA) for three-phase AC motor at	2 A
480 V rated value	
Yielded mechanical performance [hp]	
<ul> <li>for single-phase AC motor</li> </ul>	
— at 230 V rated value	0.125 hp
<ul> <li>for three-phase AC motor</li> </ul>	
— at 200/208 V rated value	0.333 hp
— at 220/230 V rated value	0.333 hp
— at 460/480 V rated value	0.75 hp

## Certificates/approvals

General Product Approval	For use in	Functional	Declaration of
	hazardous	Safety/Safety	Conformity
	locations	of Machinery	









Type Examination



## other

Confirmation

## Further information

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

http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)

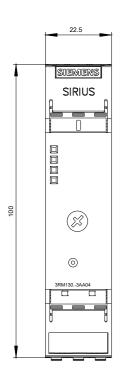
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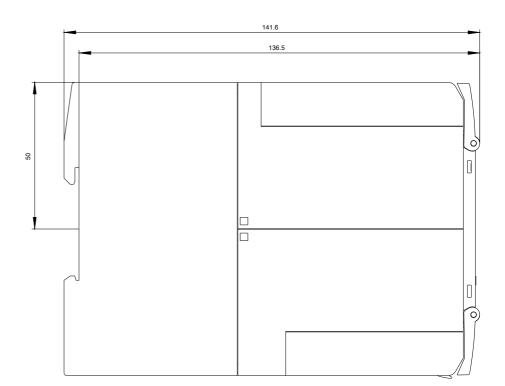
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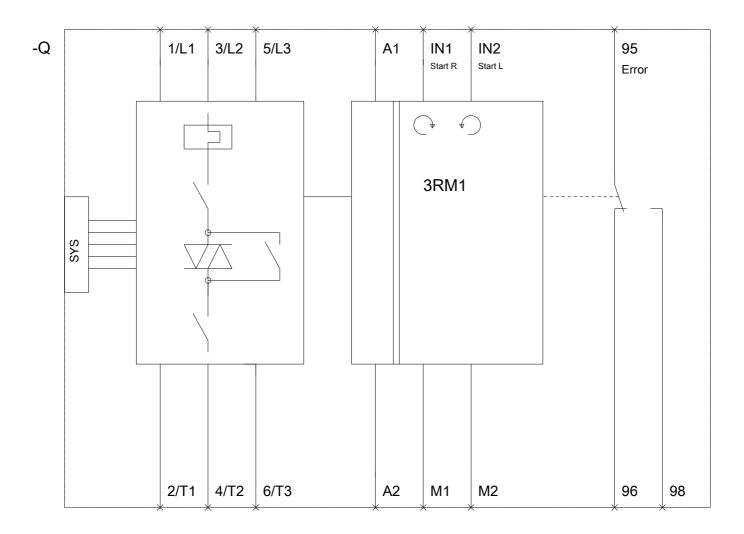
 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RM1302-3AA04}}$ 

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

https://support.industry.siemens.com/cs/ww/en/ps/3RM1302-3AA04







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