SIEMENS

Data sheet 3RM1301-3AA04



Fail-safe reversing starter, 3RM1, 500 V, 0 - 0.12 kW, 0.1 - 0.5 A, 24 V DC, screw/spring-type terminals

product brand name product category product designation design of the product product type designation

SIRIUS

Motor starter

Failsafe reversing starters

General technical data

trip class

equipment variant according to IEC 60947-4-2 product function

- intrinsic device protection
- for power supply reverse polarity protection

suitability for operation device connector 3ZY12

insulation voltage rated value

overvoltage category

surge voltage resistance rated value

maximum permissible voltage for safe isolation

- · between main and auxiliary circuit
- between control and auxiliary circuit

shock resistance

vibration resistance

operating frequency maximum

mechanical service life (operating cycles) typical

reference code according to IEC 81346-2

Substance Prohibitance (Date)

product function

- direct start
- reverse starting

product function short circuit protection

With electronic overload protection and safety-related disconnection

CLASS 10A

fail-safe reversing starter

Yes Yes

500 V

Ш

6 kV

500 V

250 V

6g / 11 ms

1 ... 6 Hz, 15 mm; 20 m/s², 500 Hz

1 1/s

15 000 000

03/01/2017

No Yes

No

Electromagnetic compatibility

EMC emitted interference according to IEC 60947-1 EMC immunity according to IEC 60947-1

conducted interference

- due to burst according to IEC 61000-4-4
- due to conductor-earth surge according to IEC
- due to conductor-conductor surge according to IEC 61000-4-5
- due to high-frequency radiation according to IEC 61000-4-6

field-based interference according to IEC 61000-4-3 electrostatic discharge according to IEC 61000-4-2 conducted HF interference emissions according to

class A Class A

3 kV / 5 kHz

4 kV signal lines 2 kV

2 kV

10 V

10 V/m

6 kV contact discharge / 8 kV air discharge

Class B for the domestic, business and commercial environments

CISPR11

field-bound HF interference emission according to CISPR11

Class B for the domestic, business and commercial environments

3 - E - 4		41		4
Safety		I I a T o I	III o les h	100
	I OIG		0.0	

Safety related data	
safety device type according to IEC 61508-2	Туре В
B10d value	2 500 000
Safety Integrity Level (SIL) according to IEC 61508	3
SIL Claim Limit (subsystem) according to EN 62061	SILCL 3
performance level (PL) according to EN ISO 13849-1	e
category according to EN ISO 13849-1	4
stop category according to EN 60204-1	0
Safe failure fraction (SFF)	99 %
average diagnostic coverage level (DCavg)	99 %
diagnostics test interval by internal test function	600 s
maximum	
function test interval maximum	1 a
failure rate [FIT]	
 at rate of recognizable hazardous failures (λdd) 	1 400 FIT
 at rate of non-recognizable hazardous failures (λdu) 	16 FIT
PFHD with high demand rate according to EN 62061	0.00000002 1/h
PFDavg with low demand rate according to IEC 61508	0
MTTFd	75 a
hardware fault tolerance according to IEC 61508	1
safe state	Load circuit open
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe
hardware fault tolerance according to IEC 61508 relating to ATEX	0
PFDavg with low demand rate according to IEC 61508 relating to ATEX	0.0005
PFHD with high demand rate according to EN 62061 relating to ATEX	0.00000005 1/h
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL2
T1 value for proof test interval or service life according to IEC 61508 relating to ATEX	3 a

Main circuit

number of poles for main current circuit	3
design of the switching contact	Hybrid
adjustable current response value current of the	0.1 0.5 A
current-dependent overload release	
minimum load [%]	20 %; from set rated current
type of the motor protection	solid-state solid-state
operating voltage rated value	48 500 V
relative symmetrical tolerance of the operating	10 %
voltage	
operating frequency 1 rated value	50 Hz
operating frequency 2 rated value	60 Hz
relative symmetrical tolerance of the operating	10 %
frequency	
operational current	
 at AC at 400 V rated value 	0.5 A
at AC-3 at 400 V rated value	0.5 A
 at AC-53a at 400 V at ambient temperature 40 °C 	0.5 A
rated value	
ampacity when starting maximum	4 A
operating power for 3-phase motors at 400 V at 50 Hz	0 0.12 kW
Inputs/ Outputs	
input voltage at digital input	

• at DC rated value

• with signal <0> at DC • for signal <1> at DC

input current at digital input • for signal <1> at DC

24 V 0 ... 5 V

8 mA

15 ... 30

# with signal * Ob a DC ImA Ima		
operational current of auxiliary contacts at AC-15 at 230 Y maximum operational current of auxiliary contacts at DC-13 at 24 V maximum operational current of auxiliary contacts at DC-13 at 24 V maximum operational current of auxiliary contacts at DC-13 at 24 V maximum operational current of auxiliary contacts at DC-13 at 24 V maximum operational current of auxiliary contacts at DC-13 at 22 V most operation of auxiliary contacts are provided at DC control supply voltage of the control supply voltage of DC control supply voltage at DC control supply voltage at DC control supply voltage at DC control supply voltage rated value operating range factor control supply voltage rated value operating rated value	with signal <0> at DC	1 mA
230 V maximum	number of CO contacts for auxiliary contacts	1
operational current of auxiliary contacts at DC-13 at 24 V maximum Control supply voltage of the control supply voltage relative negative tolerance of the control supply voltage at DC related value relative negative tolerance of the control supply voltage at DC related value operating range factor control supply voltage at DC control supply voltage rated value operating range factor rated value operating range factor value operating range factor rated value operating rated va		3 A
24 V maximum Type of Voltage of the control supply voltage control supply voltage at DC rated value Final Part of Voltage of the control supply voltage at DC rated value Final Voltage at DC rated value For initial value Final Voltage at DC rated value For initial value Final Voltage at DC rated value Final Voltage at DC		
Control circuiti Control type of voltage of the control supply voltage control supply voltage at DC rated value relative negative tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC control supply voltage 1 at DC rated value operating range factor control supply voltage rated value at DC control supply voltage factor control supply voltage rated value at DC • Initial value • (uli-scale value • (uli-scale value • (uli-scale value • (uli-scale value) • at DC at 24 V • at DC at 24 V • at whitching on of motor duration of inush current peak • at DC at 24 V at switching on of motor duration of inush current peak • at DC at 24 V at switching on of motor duration of inush current peak • at DC at 24 V at switching on of motor duration of inush current peak • at DC at 24 V at switching on of motor which bypass circuit • in switching state OFF — with bypass circuit • in switching state OFF — with bypass circuit • in switching state OFF — with bypass circuit • at 40 °C rated value • at 60 °C roted value • at 60 °C r		1 A
type of voltage of the control supply voltage control supply voltage at DC rated value relative negative tolerance of the control supply voltage at DC restored the control supply voltage at DC restored value relative positive tolerance of the control supply voltage at DC control supply voltage 1 at DC rated value operating range factor control supply voltage rated value at DC on initial value initial value		
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voltage at DC control supply voltage 1 at DC rated value operating range factor control supply voltage rated value at DC	_	25.0/
control supply voltage 1 at DC rated value operating range factor control supply voltage rated value at DC		25 //
operating range factor control supply voltage rated value at DC 0.8 • Initial value 0.8 • full-scale value 1.25 Control current at DC 13 mA • outring operation 57 mA inrush current peak • at DC at 24 V • at DC at 24 V at switching on of motor 140 mA duration of inrush current peak • at DC at 24 V at switching on of motor • at DC at 24 V at switching on of motor 80 ms • at DC at 24 V at switching on of motor 80 ms power loss (PM) in auxiliary and control circuit • in switching state OFF — with bypass circuit 0.35 W • in switching state OF 3043 ms — with bypass circuit 0.5 W • in switching state ON 1.37 W — with bypass circuit 0.5 M • in switching state ON 3043 ms Power Electronics 0 FG dealy time Operational current • at 60 °C rated value 0.5 A	-	24 V
value at DC 0.8 • Initial value 1.25 • Control current at DC 1.3 mA • during operation 57 mA • at DC at 24 V 300 mA • at DC at 24 V at switching on of motor 140 mA duration of Inrush current peak 80 ms • at DC at 24 V at switching on of motor 80 ms • at DC at 24 V at switching on of motor 80 ms • out DC at 24 V at switching on of motor 80 ms • out DC at 24 V at switching on of motor 80 ms • out DC at 24 V at switching on of motor 80 ms • out DC at 24 V at switching on of motor 80 ms • out DC at 24 V at switching on of motor 80 ms • out DC at 24 V at switching on of motor 80 ms • out DC at 24 V at switching on of motor 80 ms • out DC at 24 V at switching on of motor 90 ms • out DC at 24 V at switching on of motor 90 ms • out DC at 24 V at switching on of motor 90 ms • out DC at 24 V at switching on of motor 90 ms • out DC at 24 V at switching on of motor 90 ms • out DC at 24 V at switching on of mo		
• full-scale value 1.25 control current at DC • in standby mode of operation 57 mA • during operation 57 mA inush current peak • at DC at 24 V 300 mA • at DC at 24 V 40 mA duration of inrush current peak • at DC at 24 V at switching on of motor 40 mA duration of inrush current peak • at DC at 24 V at switching on of motor 80 ms • at DC at 24 V at switching on of motor 80 ms • at DC at 24 V at switching on of motor • at DC at 24 V at switching on of motor • at DC at 24 V at switching on of motor • in switching state ON — with bypass circuit 0.35 W • in switching state ON — with bypass circuit 0.35 W • in switching state ON — with bypass circuit 0.35 W • in switching state ON — with bypass circuit 0.5 A • at 50 °C rated value 0.5 A • at 60 °C rated		
control current at DC in islandby mode of operation oduring operation inrush current peak i at DC at 24 V at DC at 25 V at DC at 25 V at switching on of motor duration of inrush current peak at DC at 24 V at DC at 25 V at switching on of motor power loss (IV) in auxiliary and control circuit in switching state OFF — with bypass circuit in switching state OFF — with bypass circuit in switching state ON — with bypass circuit in switching state ON ON-delay time ON-delay time ON-delay time ON-delay time OFF-delay time OFF-delay time Os A at 50 °C rated value at 50 °C rated value at 50 °C rated value 0.5 A at 55 °C rated value 0.5 A at 55 °C rated value 0.5 A at 50 °C rated value 0.5 A at 65 °	initial value	0.8
in is standby mode of operation during operation struch current peak at DC at 24 V 1 switching on of motor duration of inrush current peak at DC at 24 V 3 switching on of motor duration of inrush current peak at DC at 24 V 3 switching on of motor so were loss [W] in auxiliary and control circuit in switching state OFF with bypass circuit at in switching state ON with bypass circuit ON-delay time OF-delay time OF-dela	• full-scale value	1.25
during operation inrush current peak	control current at DC	
inush current peak ■ at DC at 24 V at switching on of motor duration of inrush current peak ■ at DC at 24 V at switching on of motor et at DC at 24 V at switching on of motor ■ at DC at 24 V at switching on of motor ■ at DC at 24 V at switching on of motor ■ at DC at 24 V at switching on of motor ■ with bypass circuit ■ in switching state OF — with bypass circuit ■ in switching state ON — with bypass circuit ■ in switching state ON — with bypass circuit ■ 1.37 W Response times ON-delay time OFF-delay time OFF-delay time OFF-delay time OFF-delay time ■ at 40 °C rated value ■ at 50 °C rated value ■ 3.54 National current ■ at 40 °C rated value ■ 3.54 National current ■ at 40 °C rated value ■ 3.55 °C rated value ■ 3.56 National current ■ 3.57 National current ■ 4.48 National current ■ 4.49 National current ■ 4.49 National current ■ 5.40 National current ■ 5.40 National current ■ 6.5 76 ms O.5 A ■ at 50 °C rated value ■ 3.50 °C rated	· · · · · · · · · · · · · · · · · · ·	13 mA
at DC at 24 V	during operation	57 mA
at DC at 24 V at switching on of motor duration of inrush current peak at DC at 24 V at switching on of motor 80 ms power loss [W] in auxiliary and control circuit in switching state OFF — with bypass circuit in switching state ON — with bypass circuit in switching state ON — with bypass circuit in switching state ON — with bypass circuit ON-delay time OFF-delay time OFF-de	inrush current peak	
duration of inrush current peak • at DC at 24 V at switching on of motor power loss [W] in auxiliary and control circuit • in switching state OFF — with bypass circuit • in switching state ON — with bypass circuit • in switching state ON — with bypass circuit • in switching state ON — with bypass circuit • in switching state ON — with bypass circuit • in switching state ON — with bypass circuit • in switching state ON — with bypass circuit		300 mA
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at DC at 24 V at switching on of motor power loss [W] in auxiliary and control circuit in switching state OF with bypass circuit in switching state ON with switch or sale d value with side-by-side mounting with side-by-side m	·	
power loss [W] in auxiliary and control circuit • In switching state OFF — with bypass circuit • In switching state ON — with bypass circuit 1.37 W Response times ON-delay time OFF-delay time OFF-delay time OFF-delay time • at 40 °C rated value • at 50 °C rated value • at 50 °C rated value • at 60 °C rated value • at 60 °C rated value • at 60 °C rated value • at 80 °C rated value • o.5 A Installation/ mounting/ dimensions mounting position fastening method height vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail height vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail height vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail height vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail height vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail height vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail height on mm onthing position forwards on mm onthing onthing on mm onthing onthing on mm on the side on the si	• at DC at 24 V	80 ms
in switching state OFF with bypass circuit in switching state ON with bypass circuit 1,37 W Response times ON-delay time OFF-delay time		80 ms
- with bypass circuit in switching state ON — with bypass circuit 1.37 W Response times ON-delay time OFF-delay time OFF-delay time OFF-delay time OFF-delay time OFF-delay time OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 50 °C rated value • at 60 °C rated value installation/ mounting/ dimensions wounting position fastening method height • with side-by-side mounting • with side-by-side mounting • with side-by-side mounting • with side-by-side mounting - forwards - backwards - upwards - downwards - at the side • for grounded parts - forwards - at the side • for grounded parts - forwards - backwards - at the side - backwards - at the side - downwards - at the side side side side side side side sid		
• in switching state ON — with bypass circuit 1.37 W Response times ON-delay time 65 76 ms OFF-delay time 30 43 ms Power Electronics operational current • at 40 °C rated value 0.5 A • at 50 °C rated value 0.5 A • at 65 °C rated value 0.5 A • at 60 °C rated value 0.5 A • at 60 °C rated value 0.5 A Installation/ mounting/ dimensions mounting position vertical, horizontal, standing (observe derating) fastening method screw and snap-on mounting onto 35 mm DIN rail height vidth 23 mm depth 142 mm required spacing • with side-by-side mounting — forwards 0 mm — backwards 0 mm — downwards 50 mm — downwards 50 mm — downwards 50 mm — at the side 0 mm • for grounded parts — forwards 0 mm — backwards 0 mm — at the side 0 mm • for grounded parts — forwards 0 mm — at the side 4 mm — at the side 50 mm — at the side 4 mm — at the side 4 mm — at the side 50 mm — at the side 4 mm — at the side 4 mm — at the side 50 mm — at the side 4 mm — at the side 4 mm installation altitude at height above sea level maximum ambient temperature	_	
— with bypass circuit 1,37 W Response times ON-delay time 65 76 ms OFF-delay time 30 43 ms Power Electronics operational current • at 40 °C rated value 0.5 A • at 50 °C rated value 0.5 A • at 60 °C rated value 0.5 A • at 60 °C rated value 0.5 A Installation/ mounting/ dimensions vertical, horizontal, standing (observe derating) mounting position vertical, horizontal, standing (observe derating) fastening method screw and snap-on mounting onto 35 mm DIN rail height 100 mm width 323 mm 323 mm depth 142 mm required spacing • with side-by-side mounting • forwards 0 mm — backwards 0 mm — downwards 50 mm — at the side 0 mm — backwards 0 mm — backwards 0 mm — backwards 0 mm — backwards 0 mm — conversed		0.35 W
Response times ON-delay time OFF-delay time OFF-delay time 30 43 ms Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value • o.5 A Installation/ mounting/ dimensions mounting position fastening method height 100 mm vidth 23 mm depth required spacing • with side-by-side mounting • forwards • backwards • backwards • omm • downwards • Jo mm • downwards • downwards • at the side • for grounded parts - forwards • backwards • Jo mm • omm • forwards • for grounded parts - forwards • Jo mm • J	_	
ON-delay time OFF-delay time 30 43 ms Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value • o.5 A Installation/ mounting/ dimensions mounting position fastening method height vidth 100 mm vidth 42 mm required spacing • with side-by-side mounting • forwards • backwards • backwards • o mm • of mwards • downwards • o mm • at the side • for grounded parts • forwards • backwards • backwards • o mm • of mackwards • backwards • bo mm • forwards • bo mm • bo mm • forwards • bo mm • forwards • bo mm • bo mm • forwards • bo mm • bo mm • forwards • bo mm		1.37 W
Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 50 °C rated value • at 50 °C rated value • at 60 °C rated value Installation/mounting/ dimensions mounting position fastening method height vidth • at 100 mm vidth • at 23 mm • with side-by-side mounting • with side-by-side mounting • with side-by-side mounting • with side-by-side mounting • backwards - upwards - downwards - at the side • for grounded parts - forwards - backwards - backwards - at the side • for grounded parts - forwards - backwards - backwards - backwards - backwards - backwards - o mm • for grounded parts - forwards - backwards -	Response times	
Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 55 °C rated value • at 60 °C rated value o.5 A		
operational current • at 40 °C rated value • at 50 °C rated value • at 50 °C rated value • at 55 °C rated value • at 60 °C rated value • o.5 A Installation/ mounting/ dimensions mounting position fastening method height vidth 23 mm depth vidth 42 mm required spacing • with side-by-side mounting — forwards — backwards — omm — downwards — ownwards — at the side • of mm • for grounded parts — forwards — backwards — backwards — upwards — at the side • for grounded parts — forwards — backwards — upwards — backwards — omm - upwards — backwards — omm - of orwards — omm - ownwards - omm - ownwards - omm - ownwards - own		
at 40 °C rated value at 50 °C rated value bat 55 °C rated value cat 60 °C rated value c	OFF-delay time	
at 50 °C rated value at 55 °C rated value bat 60 °C rated value cat 60 °C rated value	OFF-delay time	
at 55 °C rated value at 60 °C rated value 0.5 A Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards — downwards — at the side • for grounded parts — forwards — backwards — at the side • for grounded parts — forwards — backwards — downwards — backwards — o mm • for grounded parts — forwards — backwards — o mm • for grounded parts — forwards — backwards — backwards — o mm • for grounded parts — forwards — backwards — backwards — o mm • for grounded parts — forwards — backwards — backwards — backwards — backwards — o mm • for grounded parts — forwards — backwards — backwards — backwards — o mm • for grounded parts — forwards — backwards — backwards — o mm • for grounded parts — forwards — backwards — o mm • for grounded parts — forwards — backwards — o mm • for grounded parts — forwards — backwards — o mm • for grounded parts — forwards — o mm • for grounded parts — forwards — o mm • for grounded parts — forwards — o mm • for grounded parts — forwards — o mm • for grounded parts — forwards — o mm • for grounded parts — forwards — o mm • for grounded parts — forwards — o mm • for grounded parts — forwards — o mm • for grounded parts — forwards — o mm • for grounded parts — forwards — o mm • for grounded parts — forwards — o mm • for grounded parts — forwards — o mm • for grounded parts —	OFF-delay time Power Electronics	
at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — upwards — downwards — at the side — backwards — torreads — at the side — backwards — at the side — forwards — downwards — at the side — backwards — o mm for grounded parts forwards — of mm for grounded parts forwards — backwards — o mm for grounded parts forwards — at the side — backwards — o mm Ambient conditions installation altitude at height above sea level maximum ambient temperature vertical, horizontal, standing (observe derating) screw and snap-on mounting (observe derating) screw and snap-on mounting (observe derating) screw and snap-on mounting onto 35 mm DIN rail not may be read on mounting onto 35 mm DIN rail not make and snap-on mounting onto 35 m	OFF-delay time Power Electronics operational current	30 43 ms
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fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards — upwards — downwards — at the side — for grounded parts — forwards — upwards — at the side • with side — downwards — at the side — downwards — upwards — backwards — o mm • for grounded parts — forwards — at the side — downwards — upwards — backwards — o mm • for grounded parts — forwards — backwards — upwards — upwards — at the side — downwards — at the side — at the side — at the side — downwards — at the side — at the side — at the side — downwards Ambient conditions installation altitude at height above sea level maximum ambient temperature screw and snap-on mounting onto 35 mm DIN rail 100 mm 23 mm 142 mm 0 mm 0 mm 0 mm 4 0 mm 4 000 m; For derating see manual	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 55 °C rated value	30 43 ms 0.5 A 0.5 A 0.5 A
height width 23 mm depth 142 mm required spacing ■ with side-by-side mounting — forwards 0 mm — backwards 0 mm — upwards 50 mm — downwards 50 mm — at the side 0 mm ■ for grounded parts — forwards 0 mm — backwards 0 mm ■ for wards 50 mm Ambient conditions installation altitude at height above sea level maximum ambient temperature 100 mm 142 mm 144 mm 150 mm 150 mm 164 mm 175	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 55 °C rated value • at 60 °C rated value	0.5 A 0.5 A 0.5 A
width 23 mm depth 142 mm required spacing • with side-by-side mounting — forwards 0 mm — backwards 0 mm — upwards 50 mm — downwards 50 mm — at the side 0 mm • for grounded parts — forwards 0 mm — backwards 0 mm — at the side 0 mm • for grounded parts — forwards 0 mm — backwards 0 mm — backwards 0 mm — upwards 50 mm — at the side 4 mm — downwards 50 mm Ambient conditions installation altitude at height above sea level maximum ambient temperature	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 55 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions	30 43 ms 0.5 A 0.5 A 0.5 A 0.5 A
depth required spacing ● with side-by-side mounting — forwards — backwards — upwards — downwards — at the side — for grounded parts — forwards — backwards — o mm ● for grounded parts — forwards — backwards — backwards — backwards — upwards — at the side — o mm — at the side — o mm — backwards — o mm — upwards — at the side — at the	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 55 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position	30 43 ms 0.5 A 0.5 A 0.5 A 0.5 A vertical, horizontal, standing (observe derating)
required spacing	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 55 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method	30 43 ms 0.5 A 0.5 A 0.5 A 0.5 A 0.5 A vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail
 with side-by-side mounting — forwards — backwards — upwards — downwards — at the side — for grounded parts — forwards — backwards — backwards — upwards — upwards — at the side — at the side — at the side — downwards — at the side — at the side — downwards 50 mm Ambient conditions installation altitude at height above sea level maximum ambient temperature 4 000 m; For derating see manual 	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 55 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height	0.5 A 0.5 A 0.5 A 0.5 A 0.5 A vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail
forwards 0 mm backwards 0 mm upwards 50 mm downwards 50 mm at the side 0 mm for grounded parts forwards 0 mm backwards 0 mm backwards 0 mm upwards 50 mm at the side 4 mm downwards 50 mm Ambient conditions installation altitude at height above sea level maximum ambient temperature 0 mm 4 000 m; For derating see manual	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 55 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width	0.5 A 0.5 A 0.5 A 0.5 A 0.5 A vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail 100 mm 23 mm
 — backwards — upwards — downwards — downwards — at the side ● for grounded parts — forwards — backwards — upwards — upwards — at the side — at the side — downwards So mm Ambient conditions installation altitude at height above sea level maximum ambient temperature 4 000 m; For derating see manual 	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth	0.5 A 0.5 A 0.5 A 0.5 A 0.5 A vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail 100 mm 23 mm
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- downwards - at the side 0 mm ■ for grounded parts - forwards 0 mm - backwards 0 mm - upwards - upwards - at the side - downwards 50 mm 4 mm - downwards Installation altitude at height above sea level maximum ambient temperature 50 mm 4 000 m; For derating see manual	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 55 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards	30 43 ms 0.5 A 0.5 A 0.5 A 0.5 A 0.5 A vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail 100 mm 23 mm 142 mm
 — at the side for grounded parts — forwards — backwards — upwards — at the side — at the side — downwards Ambient conditions installation altitude at height above sea level maximum ambient temperature 0 mm 0 mm 4 mm 50 mm 4 mm 4 000 m; For derating see manual	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards	30 43 ms 0.5 A 0.5 A 0.5 A 0.5 A 0.5 A vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail 100 mm 23 mm 142 mm 0 mm 0 mm
for grounded parts — forwards — backwards — upwards — at the side — downwards — downwards Installation altitude at height above sea level maximum ambient temperature	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards — upwards	30 43 ms 0.5 A 0.5 A 0.5 A 0.5 A 0.5 A vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail 100 mm 23 mm 142 mm 0 mm 0 mm 50 mm
— forwards — backwards — upwards — upwards — at the side — downwards Ambient conditions installation altitude at height above sea level maximum ambient temperature 0 mm 0 mm 4 mm 50 mm 4 mm 4 000 m; For derating see manual	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards — upwards — downwards	30 43 ms 0.5 A 0.5 A 0.5 A 0.5 A 0.5 A vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail 100 mm 23 mm 142 mm 0 mm 0 mm 50 mm 50 mm
 backwards upwards at the side downwards 50 mm 4 mm downwards 50 mm Ambient conditions installation altitude at height above sea level maximum ambient temperature 4 000 m; For derating see manual	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards — upwards — downwards — at the side	30 43 ms 0.5 A 0.5 A 0.5 A 0.5 A 0.5 A vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail 100 mm 23 mm 142 mm 0 mm 0 mm 50 mm 50 mm
 upwards at the side downwards 50 mm Ambient conditions installation altitude at height above sea level maximum ambient temperature 50 mm 4 000 m; For derating see manual 	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards — upwards — downwards — at the side • for grounded parts	30 43 ms 0.5 A 0.5 A 0.5 A 0.5 A 0.5 A vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail 100 mm 23 mm 142 mm 0 mm 0 mm 50 mm 50 mm 0 mm
 — at the side — downwards Ambient conditions installation altitude at height above sea level maximum ambient temperature 4 000 m; For derating see manual 	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards — upwards — downwards — at the side • for grounded parts — forwards	30 43 ms 0.5 A 0.5 A 0.5 A 0.5 A 0.5 A vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail 100 mm 23 mm 142 mm 0 mm 0 mm 50 mm 0 mm 0 mm
— downwards 50 mm Ambient conditions installation altitude at height above sea level maximum ambient temperature 4 000 m; For derating see manual	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards — upwards — downwards — at the side • for grounded parts — forwards — backwards — backwards — backwards — at the side • for grounded parts — forwards — backwards	30 43 ms 0.5 A 0.5 A 0.5 A 0.5 A 0.5 A vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail 100 mm 23 mm 142 mm 0 mm 0 mm 50 mm 0 mm 0 mm 0 mm
Ambient conditions installation altitude at height above sea level maximum ambient temperature 4 000 m; For derating see manual	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards — upwards — at the side • for grounded parts — forwards — backwards — at wards — at the side • for grounded parts — forwards — backwards — backwards — upwards — torwards — backwards — upwards	30 43 ms 0.5 A 0.5 A 0.5 A 0.5 A 0.5 A vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail 100 mm 23 mm 142 mm 0 mm 0 mm 50 mm 0 mm 0 mm 0 mm 0 mm
installation altitude at height above sea level maximum 4 000 m; For derating see manual ambient temperature	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards — upwards — at the side • for grounded parts — forwards — backwards — upwards — at the side • for wards — at the side • for grounded parts — hackwards — at the side • at the side — at the side — at the side	0.5 A 0.5 M vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail 100 mm 23 mm 142 mm 0 mm 0 mm 50 mm 0 mm 0 mm 0 mm 0 mm
ambient temperature	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards — upwards — downwards — at the side • for grounded parts — backwards — backwards — backwards — at the side • forwards — backwards — backwards — backwards — at the side — downwards — at the side — downwards	0.5 A 0.5 M vertical, horizontal, standing (observe derating) screw and snap-on mounting onto 35 mm DIN rail 100 mm 23 mm 142 mm 0 mm 0 mm 50 mm 0 mm 0 mm 0 mm 0 mm
	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards — upwards — downwards — at the side • for grounded parts — forwards — backwards — upwards — at the side — downwards	0.5 A 0.5 M 0.5 A 0.5 A 0.5 M 0.5 A
■ during operation	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 55 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards — upwards — downwards — at the side • for grounded parts — forwards — backwards — upwards — at the side — downwards — at the side — downwards — at the side — downwards Ambient conditions installation altitude at height above sea level maximum	0.5 A 0.5 M 0.5 A 0.5 A 0.5 M 0.5 A
	OFF-delay time Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 55 °C rated value • at 60 °C rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting — forwards — backwards — upwards — downwards — at the side • for grounded parts — forwards — backwards — upwards — at the side • for downwards — at the side — downwards Ambient conditions installation altitude at height above sea level maximum ambient temperature	0.5 A 0.5 M 0.5 A 0.5 A 0.5 M

• during storage during transport 60721 relative humidity during operation air pressure according to SN 31205 protocol is supported PROFIsafe protocol protocol is supported AS-Interface protocol Connections/ Terminals • for main current circuit

environmental category during operation according to IEC

-40 ... +70 °C

-40 ... +70 °C

3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6

10 ... 95 % 900 ... 1 060 hPa

• PROFINET IO protocol No Nο product function bus communication No No

type of electrical connection

· for auxiliary and control circuit

wire length for motor unshielded maximum type of connectable conductor cross-sections

• for main contacts

solid

- finely stranded with core end processing

· at AWG cables for main contacts

connectable conductor cross-section for main contacts

solid or stranded

• finely stranded with core end processing

connectable conductor cross-section for auxiliary contacts

solid or stranded

• finely stranded with core end processing

• finely stranded without core end processing

type of connectable conductor cross-sections

• for auxiliary contacts

- solid

- finely stranded with core end processing

— finely stranded without core end processing

· at AWG cables for auxiliary contacts

AWG number as coded connectable conductor cross section

• for main contacts

· for auxiliary contacts

screw-type terminals for main circuit, spring-loaded terminals (push-in)

for control circuit screw-type terminals

spring-loaded terminals (push-in)

100 m

1x (0,5 ... 4 mm²), 2x (0,5 ... 2,5 mm²) 1x (0,5 ... 4 mm²), 2x (0,5 ... 1,5 mm²)

1x (20 ... 12), 2x (20 ... 14)

0.5 ... 4 mm²

0.5 ... 4 mm²

0.5 ... 1.5 mm²

0.5 ... 1 mm²

0.5 ... 1.5 mm²

1x (0.5 ... 1.5 mm²), 2x (0.5 ... 1.5 mm²)

1x (0,5 ... 1,0 mm²), 2x (0,5 ... 1,0 mm²)

1x (0.5 ... 1.5 mm²), 2x (0.5 ... 1.5 mm²)

1x (20 ... 16), 2x (20 ... 16)

20 ... 12

20 ... 16

UL/CSA ratings

operating voltage at AC rated value 480 V

Certificates/ approvals

General Product Approval

EMC





Confirmation







For use in hazardous locations

Functional Safety/Safety of Machinery

Declaration of Conformity

other



Type Examination Certificate



Confirmation

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)

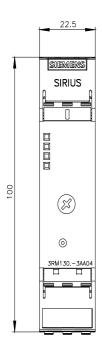
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RM1301-3AA04

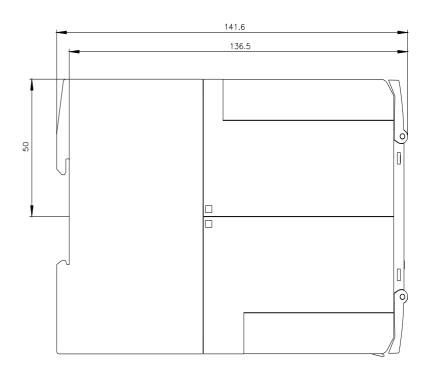
Cax online generator

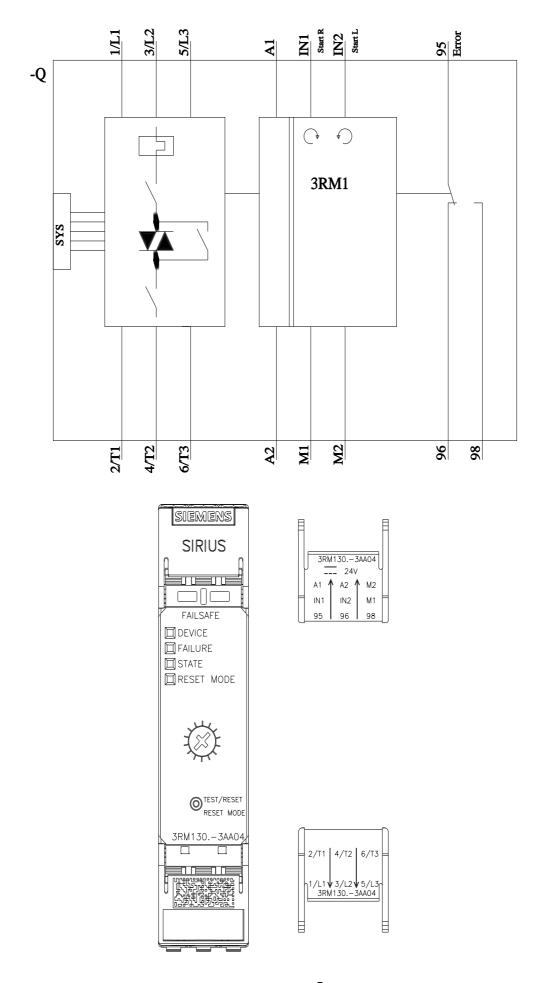
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RM1301-3AA04

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

https://support.industry.siemens.com/cs/ww/en/ps/3RM1301-3AA04







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