Siemens □□□ Series Service Manual

3RW4422-1BC44

1. Description

3RW44 22-1BC44

2. Specifications

Specification	Value
Product	brand name SIRIUS
Product	feature
●	integrated bypass contact system Yes
●	Thyristors Yes
Product	function
●	Intrinsic device protection Yes
●	motor overload protection Yes
●	Evaluation of thermistor motor protection Yes
●	External reset Yes
●	Adjustable current limitation Yes
●	inside-delta circuit Yes
Product	component Motor brake output Yes
Reference	identifier acc. to DIN EN 61346-2 Q
Reference	indentifier acc. to DIN 40719 extended
according	to IEC 204-2 acc. to IEC 750
G	
Power	Electronics
Product	designation Soft starter

3. Product Information

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3RW44 22-1BC44

SIRIUS soft starter Values at 400 V, 40 °C Standard: 29

A, 15 kW Inside-delta: 50 A, 22 kW 200-460 V AC, 230

V AC Screw terminals

General technical data

Product brand name SIRIUS

Product feature

● integrated bypass contact system Yes

● Thyristors Yes

Product function

● Intrinsic device protection Yes

● motor overload protection Yes

● Evaluation of thermistor motor protection Yes

● External reset Yes

● Adjustable current limitation Yes

● inside-delta circuit Yes

Product component Motor brake output Yes

Reference identifier acc. to DIN EN 61346-2 Q

Reference indentifier acc. to DIN 40719 extended

according to IEC 204-2 acc. to IEC 750

G

Power Electronics

Product designation Soft starter

Operating current

● at 40 °C rated value A 29

● at 50 °C rated value A 26

● at 60 °C rated value A 23

Operating current for three-phase motors at insidedelta circuit

● at 40 °C rated value A 50

● at 50 °C rated value A 45

● at 60 °C rated value A 40

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Mechanical power output for three-phase motors

● at 230 V

— at standard circuit at 40 °C rated value W 5 500

— at inside-delta circuit at 40 °C rated value W 15 000

● at 400 V

— at standard circuit at 40 °C rated value W 15 000

— at inside-delta circuit at 40 °C rated value W 22 000

Yielded mechanical performance [hp] for three-phase

AC motor at 200/208 V at standard circuit at 50 °C

rated value

hp 7.5

Operating frequency rated value Hz 50 ... 60

Relative negative tolerance of the operating

frequency

% -10

Relative positive tolerance of the operating frequency % 10

Operating voltage at standard circuit rated value V 200 ... 460

Relative negative tolerance of the operating voltage

at standard circuit

% -15

Relative positive tolerance of the operating voltage at

standard circuit

% 10

Operating voltage at inside-delta circuit rated value V 200 ... 460

Relative negative tolerance of the operating voltage

at inside-delta circuit

% -15

Relative positive tolerance of the operating voltage at

inside-delta circuit

% 10

Minimum load [%] % 8

Adjustable motor current for motor overload

protection minimum rated value

A 5

Continuous operating current [% of Ie] at 40 °C % 115

Power loss [W] at operating current at 40 °C during

operation typical

W 8

Control electronics

Type of voltage of the control supply voltage AC

Control supply voltage frequency 1 rated value Hz 50

Control supply voltage frequency 2 rated value Hz 60

Relative negative tolerance of the control supply

voltage frequency

% -10

Relative positive tolerance of the control supply

voltage frequency

% 10

Control supply voltage 1 at AC

● at 50 Hz rated value V 230

● at 60 Hz rated value V 230

Relative negative tolerance of the control supply

voltage at AC at 60 Hz

% -15

Relative positive tolerance of the control supply

voltage at AC at 60 Hz

% 10

Display version for fault signal Display

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Mechanical data

Width mm 170

Height mm 192

Depth mm 270

Mounting type screw fixing

Mounting position with vertical mounting surface +/-90° rotatable, with

vertical mounting surface +/- 22.5° tiltable to the front

and back

Required spacing with side-by-side mounting

● upwards mm 100

● at the side mm 5

● downwards mm 75

Wire length maximum m 500

Number of poles for main current circuit 3

Connections/Terminals

Type of electrical connection

● for main current circuit box terminal

● for auxiliary and control current circuit screw-type terminals

Number of NC contacts for auxiliary contacts 0

Number of NO contacts for auxiliary contacts 3

Number of CO contacts for auxiliary contacts 1

Type of connectable conductor cross-sections for

main contacts for box terminal using the front

clamping point

● solid 2.5 ... 16 mm²

● finely stranded with core end processing 2.5 ... 35 mm²

● finely stranded without core end processing 4 ... 50 mm²

● stranded 4 ... 70 mm²

Type of connectable conductor cross-sections for

main contacts for box terminal using the back
clamping point
● solid 2,5 ... 16 mm²
● finely stranded with core end processing 2.5 ... 50 mm²
● finely stranded without core end processing 10 ... 50 mm²
● stranded 10 ... 70 mm²
Type of connectable conductor cross-sections for
main contacts for box terminal using both clamping
points
● solid 2x (2.5 ... 16 mm²)
● finely stranded with core end processing 2x (2.5 ... 35 mm²)
● finely stranded without core end processing 2x (4 ... 35 mm²)
● stranded 2x (4 ... 50 mm²)
Type of connectable conductor cross-sections at
AWG conductors for main contacts for box terminal
● using the back clamping point 10 ... 2/0
● using the front clamping point 10 ... 2/0
● using both clamping points 2x (10 ... 1/0)
Type of connectable conductor cross-sections for
auxiliary contacts
● solid 2x (0.5 ... 2.5 mm²)
● finely stranded with core end processing 2x (0.5 ... 1.5 mm²)
Type of connectable conductor cross-sections at
AWG conductors
● for auxiliary contacts 2x (20 ... 14)
● for auxiliary contacts finely stranded with core
end processing
2x (20 ... 16)
Ambient conditions
Installation altitude at height above sea level m 2,000
Environmental category
● during transport acc. to IEC 60721 3K6 (no formation of ice, no condensation), 3C3 (no
salt mist), 3S2 (sand must not get into the devices),
3M6
● during storage acc. to IEC 60721 3K6 (no formation of ice, no condensation), 3C3 (no
salt mist), 3S2 (sand must not get into the devices),
3M6
● during operation acc. to IEC 60721 3K6 (no formation of ice, no condensation), 3C3 (no
salt mist), 3S2 (sand must not get into the devices),
3M6
Ambient temperature
● during operation °C 60
● during storage °C -25 ... +80
Derating temperature °C 40
Protection class IP IP00
UL/CSA ratings
Yielded mechanical performance [hp] for three-phase
AC motor
● at 200/208 V
— at inside-delta circuit at 50 °C rated value hp 10
● at 220/230 V
— at standard circuit at 50 °C rated value hp 7.5
— at inside-delta circuit at 50 °C rated value hp 15
● at 460/480 V
— at standard circuit at 50 °C rated value hp 15
— at inside-delta circuit at 50 °C rated value hp 30
Contact rating of auxiliary contacts according to UL B300 / R300

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