Siemens □□□ Series Service Manual

3RW4427-1BC44

1. Description

3RW44 27-1BC44

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 27-1BC44

SIRIUS soft starter Values at 400 V, 40 °C Standard: 93

A, 45 kW Inside-delta: 161 A, 90 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 93

● at 50 °C rated value A 82

● at 60 °C rated value A 72

Operating current for three-phase motors at insidedelta circuit

● at 40 °C rated value A 161

● at 50 °C rated value A 142

● at 60 °C rated value A 125

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Mechanical power output for three-phase motors

● at 230 V

— at standard circuit at 40 °C rated value W 22 000

— at inside-delta circuit at 40 °C rated value W 45 000

● at 400 V

— at standard circuit at 40 °C rated value W 45 000

— at inside-delta circuit at 40 °C rated value W 90 000

Yielded mechanical performance [hp] for three-phase

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

rated value

hp 25

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 18

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

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

operation typical

W 55

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

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