



SIRIUS Compact load feeder DOL starter 690 V 110...240 V AC/DC 50...60 Hz 3...12 A IP20 Connection main circuit: screw terminal Connection auxiliary circuit: screw terminal

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

SIRIUS
compact starter
direct starter
3RA61

General technical data

product function control circuit interface to parallel wiring	Yes
product extension auxiliary switch	Yes
power loss [W] for rated value of the current	
• at AC in hot operating state	1.8 W
• at AC in hot operating state per pole	0.6 W
• without load current share typical	6 W
insulation voltage rated value	690 V
degree of pollution	3
surge voltage resistance rated value	6 000 V
maximum permissible voltage for safe isolation	
• between main and auxiliary circuit	400 V
• between auxiliary and auxiliary circuit	250 V
• between control and auxiliary circuit	300 V
degree of protection NEMA rating	other
shock resistance	$a=60 \text{ m/s}^2 (6g)$ with 10 ms per 3 shocks in all axes
vibration resistance	$f=4 \dots 5.8 \text{ Hz}$, $d=15 \text{ mm}$; $f=5.8 \dots 500 \text{ Hz}$, $a=20 \text{ m/s}^2$; 10 cycles
mechanical service life (operating cycles)	
• of the main contacts typical	10 000 000
• of auxiliary contacts typical	10 000 000
• of the signaling contacts typical	10 000 000
electrical endurance (operating cycles) of auxiliary contacts	
• at DC-13 at 6 A at 24 V typical	30 000
• at AC-15 at 6 A at 230 V typical	200 000
type of assignment	continous operation according to IEC 60947-6-2
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	05/01/2012

Ambient conditions

installation altitude at height above sea level maximum	2 000 m
ambient temperature	
• during operation	-20 ... +60 °C
• during storage	-55 ... +80 °C
• during transport	-55 ... +80 °C
relative humidity during operation	10 ... 90 %

Main circuit

number of poles for main current circuit	3
adjustable current response value current of the	3 ... 12 A

current-dependent overload release	12 x I_e
formula for making capacity limit current	10 x I_e
formula for limit current breaking capacity	
yielded mechanical performance for 4-pole AC motor	
• at 400 V rated value	5.5 kW
• at 500 V rated value	5.5 kW
• at 690 V rated value	7.5 kW
operating voltage at AC-3 rated value maximum	690 V
operational current	
• at AC at 400 V rated value	12 A
• at AC-3 at 400 V rated value	12 A
• at AC-43	
— at 400 V rated value	11.5 A
— at 500 V rated value	12.4 A
— at 690 V rated value	8.9 A
operating power	
• at AC-3 at 400 V rated value	5.5 kW
• at AC-43	
— at 400 V rated value	5 500 W
— at 500 V rated value	5 500 W
— at 690 V rated value	7 500 W
no-load switching frequency	3 600 1/h
operating frequency	
• at AC-41 according to IEC 60947-6-2 maximum	750 1/h
• at AC-43 according to IEC 60947-6-2 maximum	250 1/h
Control circuit/ Control	
type of voltage	AC/DC
control supply voltage 1 at AC	
• at 50 Hz rated value	240 V
• at 50 Hz	110 ... 240 V
• at 60 Hz	110 ... 240 V
control supply voltage frequency	
• 1 rated value	50 Hz
• 2 rated value	60 Hz
control supply voltage 1	
• at DC rated value	240 V
• at DC	110 ... 240 V
holding power	
• at AC maximum	6 W
• at DC maximum	5.1 W
Auxiliary circuit	
number of NC contacts for auxiliary contacts	1
number of NO contacts for auxiliary contacts	1
number of NO contacts of instantaneous short-circuit trip unit for signaling contact	1
number of CO contacts of the current-dependent overload release for signaling contact	1
operational current of auxiliary contacts at AC-12 maximum	10 A
operational current of auxiliary contacts at DC-13 at 250 V	0.27 A
Protective and monitoring functions	
trip class	CLASS 10 and 20 adjustable
operating short-circuit current breaking capacity (Ics)	
• at 400 V	53 kA
• at 500 V rated value	3 kA
• at 690 V rated value	3 kA
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	12 A
• at 600 V rated value	12 A
yielded mechanical performance [hp] for 3-phase AC motor	
• at 200/208 V rated value	3 hp
• at 220/230 V rated value	3 hp

- at 460/480 V rated value
- at 575/600 V rated value

contact rating of auxiliary contacts according to UL

7.5 hp

10 hp

contacts 21-22, 13-14, 43-44 Q600 / A600, contacts 77-78 R300 / B300, contacts 95-96-98 R300 / D300

Short-circuit protection

product function short circuit protection

Yes
electromagnetic

design of short-circuit protection

fuse gL/gG: 10 A
6A gL/gG/400V
4A gL/gG/400V

design of the fuse link

- for short-circuit protection of the auxiliary switch required
- for short-circuit protection of the signaling switch of the short-circuit release required
- for short-circuit protection of the signaling switch of the overload release required

Installation/ mounting/ dimensions

mounting position

- recommended

any
vertical, on horizontal standard DIN rail

fastening method

screw and snap-on mounting

height

170 mm

width

45 mm

depth

165 mm

Connections/ Terminals

product component removable terminal for main circuit

Yes

product component removable terminal for auxiliary and control circuit

Yes

type of electrical connection

- for main current circuit
- for auxiliary and control circuit

screw-type terminals
screw-type terminals

type of connectable conductor cross-sections

- for main contacts

2x (1.5 ... 6 mm²), 1x 10 mm²

— solid

— finely stranded with core end processing

- at AWG cables for main contacts

2x (1.5 ... 6 mm²)

2x (16 ... 10), 1x 8

type of connectable conductor cross-sections

- for auxiliary contacts

— solid

— finely stranded with core end processing

- at AWG cables for auxiliary contacts

0.5 ... 4 mm², 2x (0.5 ... 2.5 mm²)

0.5 ... 2.5 mm², 2x (0.5 ... 1.5 mm²)

2x (20 ... 14)

Safety related data

B10 value with high demand rate according to SN 31920

3 000 000

proportion of dangerous failures

- with low demand rate according to SN 31920
- with high demand rate according to SN 31920

40 %

50 %

failure rate [FIT] with low demand rate according to SN 31920

100 FIT

T1 value for proof test interval or service life according to IEC 61508

20 y

protection class IP on the front according to IEC 60529

IP20

touch protection on the front according to IEC 60529

finger-safe

Communication/ Protocol

product function bus communication

No

protocol is supported

- AS-Interface protocol
- IO-Link protocol

No

No

product function control circuit interface with IO link

No

Electromagnetic compatibility

conducted interference

- due to burst according to IEC 61000-4-4
- due to conductor-earth surge according to IEC 61000-4-5
- due to conductor-conductor surge according to IEC 61000-4-5

4 kV main contacts, 2 kV auxiliary contacts

4 kV main contacts, 2 kV auxiliary contacts

2 kV main contacts, 1 kV auxiliary contacts

• due to high-frequency radiation according to IEC 61000-4-6	0.15-80Mhz at 10V
field-based interference according to IEC 61000-4-3	10 V/m
electrostatic discharge according to IEC 61000-4-2	8 kV
conducted HF interference emissions according to CISPR11	150 kHz ... 30 MHz Class A
field-bound HF interference emission according to CISPR11	30 ... 1000 MHz Class A

Supply voltage

Supply voltage required Auxiliary voltage	No
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Display

number of LEDs	2
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Certificates/ approvals

General Product Approval	EMC
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[Confirmation](#)



Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Type Test Certificates/Test Report](#)



Marine / Shipping	other	Dangerous Good
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[Confirmation](#)

[Transport Information](#)

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=3RA6120-1DP32>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-1DP32>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1DP32>

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

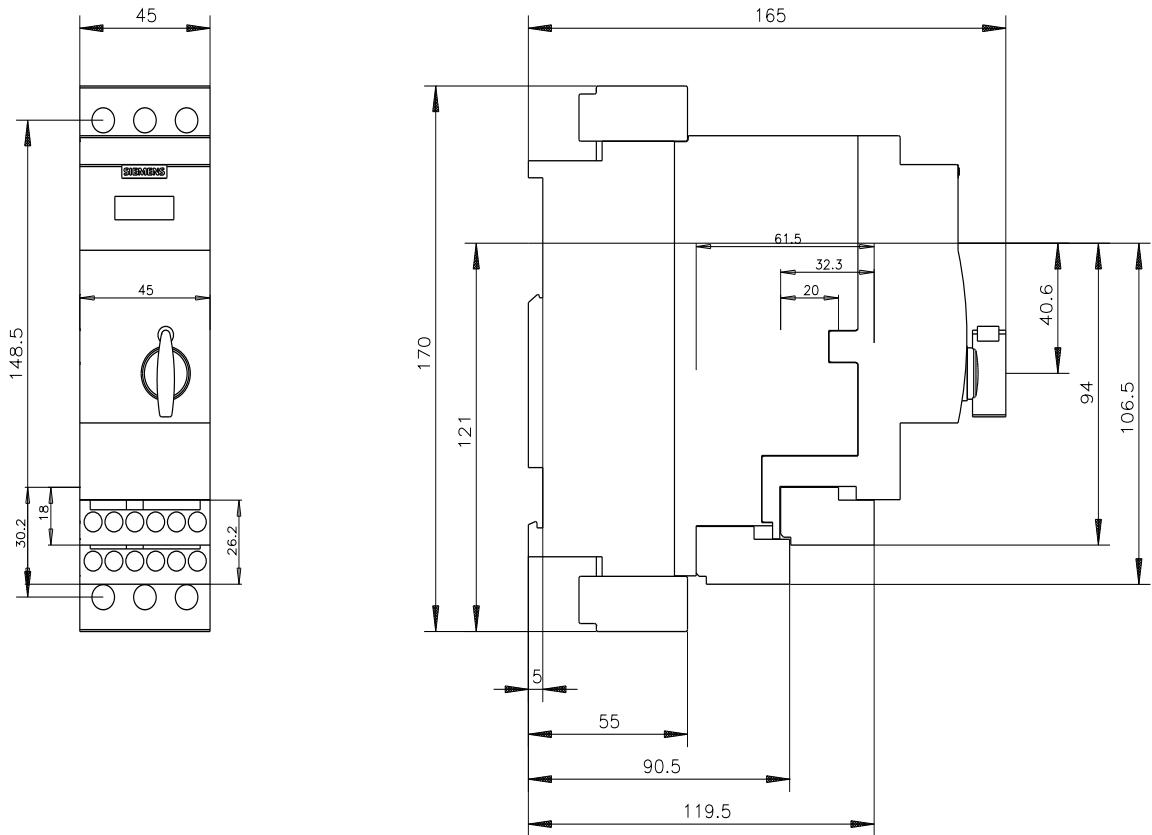
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-1DP32&lang=en

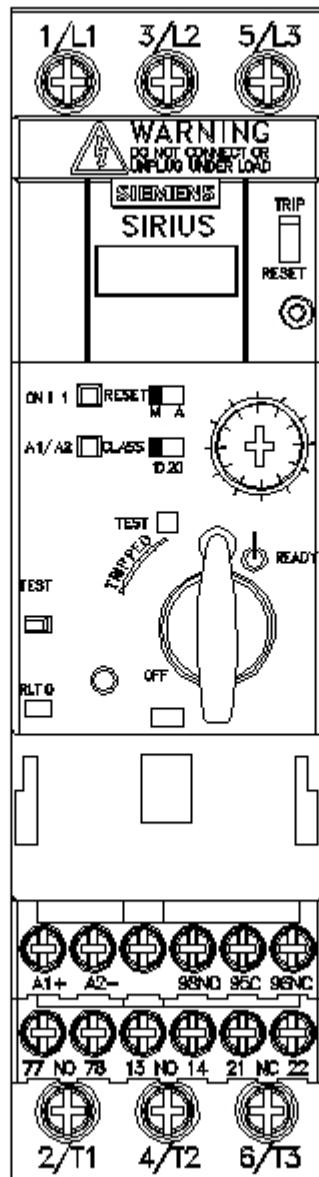
Characteristic: Tripping characteristics, I^tt, Let-through current

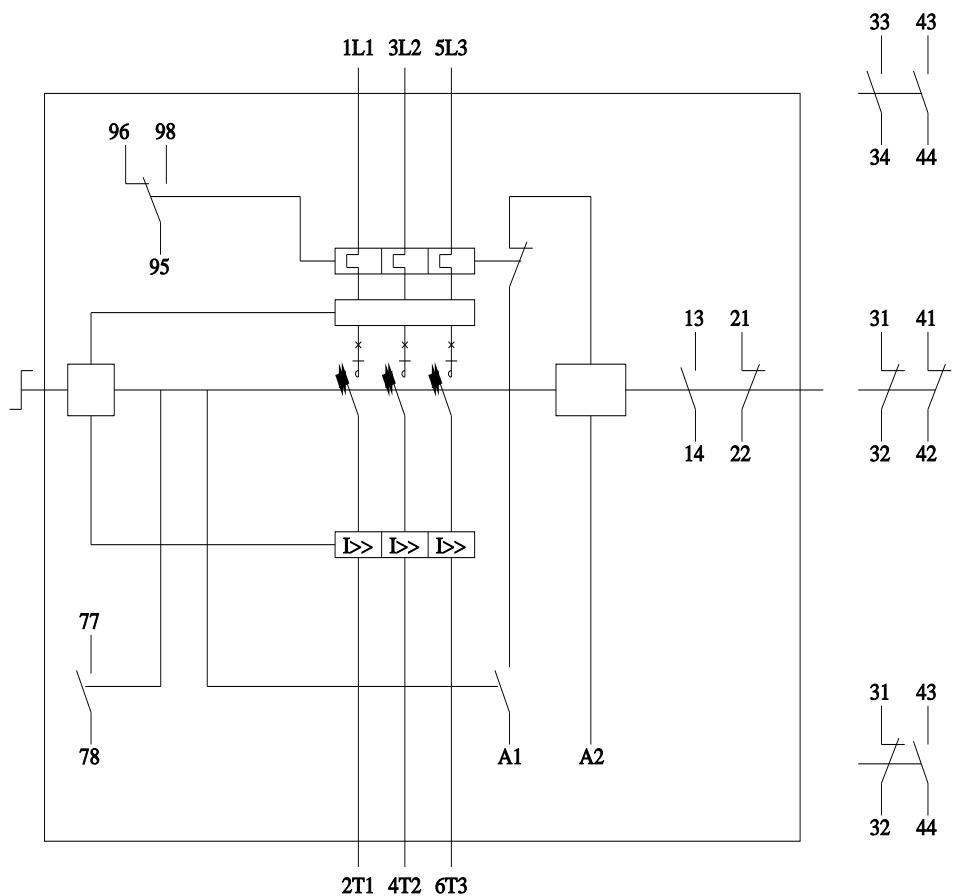
<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1DP32/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-1DP32&objecttype=14&gridview=view1>







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11/21/2022