



SIRIUS Compact load feeder DOL starter 690 V 110...240 V AC/DC 50...60 Hz 8...32 A IP20 Connection main circuit: plug-in, without terminals Connection auxiliary circuit: screw terminal

product brand name	SIRIUS
product designation	compact starter
design of the product	direct starter
product type designation	3RA61
<b>General technical data</b>	
product function control circuit interface to parallel wiring	Yes
product extension auxiliary switch	Yes
<b>power loss [W] for rated value of the current</b>	
• at AC in hot operating state	5.4 W
• at AC in hot operating state per pole	1.8 W
• without load current share typical	5.8 W
<b>insulation voltage rated value</b>	690 V
<b>degree of pollution</b>	3
<b>surge voltage resistance rated value</b>	6 000 V
<b>maximum permissible voltage for protective separation</b>	
• between main and auxiliary circuit	400 V
• between auxiliary and auxiliary circuit	250 V
• between control and auxiliary circuit	300 V
<b>degree of protection NEMA rating</b>	other
<b>shock resistance</b>	$a=60 \text{ m/s}^2$ (6g) with 10 ms per 3 shocks in all axes
<b>vibration resistance</b>	$f=4 \dots 5.8 \text{ Hz}$ , $d=15 \text{ mm}$ ; $f=5.8 \dots 500 \text{ Hz}$ , $a=20 \text{ m/s}^2$ ; 10 cycles
<b>mechanical service life (operating cycles)</b>	
• of the main contacts typical	10 000 000
• of auxiliary contacts typical	10 000 000
• of the signaling contacts typical	10 000 000
<b>electrical endurance (operating cycles) of auxiliary contacts</b>	
• at DC-13 at 6 A at 24 V typical	30 000
• at AC-15 at 6 A at 230 V typical	200 000
<b>type of coordination</b>	continuous operation according to IEC 60947-6-2
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitance (Date)</b>	05/01/2012
<b>SVHC substance name</b>	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 Lead titanium zirconium oxide - 12626-81-2 6,6'-di-tert-butyl-2,2'-methylene-di-p-cresol - 119-47-1
<b>Net Weight</b>	1.434 kg
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	

• during operation	-20 ... +60 °C
• during storage	-55 ... +80 °C
• during transport	-55 ... +80 °C
relative humidity during operation	10 ... 90 %
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	3
<b>adjustable current response value current of the current-dependent overload release</b>	8 ... 32 A
<b>formula for making capacity limit current</b>	$12 \times I_e$
<b>formula for limit current breaking capacity</b>	$10 \times I_e$
<b>yielded mechanical performance for 4-pole AC motor</b>	
• at 400 V rated value	15 kW
• at 500 V rated value	11 kW
• at 690 V rated value	11 kW
<b>operating voltage at AC-3 rated value maximum</b>	690 V
<b>operational current</b>	
• at AC at 400 V rated value	32 A
• at AC-3 at 400 V rated value	32 A
• at AC-43	
— at 400 V rated value	29 A
— at 500 V rated value	17.6 A
— at 690 V rated value	12.8 A
<b>operating power</b>	
• at AC-3 at 400 V rated value	15 kW
• at AC-43	
— at 400 V rated value	15 000 W
— at 500 V rated value	11 000 W
— at 690 V rated value	11 000 W
<b>no-load switching frequency</b>	3 600 1/h
<b>operating frequency</b>	
• 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
<b>Control circuit/ Control</b>	
<b>type of voltage</b>	AC/DC
<b>control supply voltage 1 at AC</b>	
• at 50 Hz rated value	240 V
• at 50 Hz	110 ... 240 V
• at 60 Hz	110 ... 240 V
<b>control supply voltage frequency</b>	
• <b>1 rated value</b>	50 Hz
• <b>2 rated value</b>	60 Hz
<b>control supply voltage 1 at DC rated value</b>	240 V
<b>control supply voltage 1 at DC</b>	110 ... 240 V
<b>holding power</b>	
• at AC maximum	5.2 W
• at DC maximum	5.8 W
<b>Auxiliary circuit</b>	
<b>number of NC contacts for auxiliary contacts</b>	1
<b>number of NO contacts for auxiliary contacts</b>	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
<b>operational current of auxiliary contacts at AC-12 maximum</b>	10 A
operational current of auxiliary contacts at DC-13 at 250 V	0.27 A
<b>Protective and monitoring functions</b>	
<b>trip class</b>	CLASS 10 and 20 adjustable
<b>operating short-circuit current breaking capacity (Ics)</b>	
• at 400 V rated value	53 kA
• at 500 V rated value	1 kA

• at 690 V rated value	1 kA
<b>UL/CSA ratings</b>	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	32 A
yielded mechanical performance [hp] for 3-phase AC motor	
• at 200/208 V rated value	7.5 hp
• at 220/230 V rated value	10 hp
• at 460/480 V rated value	20 hp
contact rating of auxiliary contacts according to UL	contacts 21-22, 13-14, 43-44 Q600 / A600, contacts 77-78 R300 / B300, contacts 95-96-98 R300 / D300
<b>Short-circuit protection</b>	
product function short circuit protection	Yes
design of short-circuit protection	electromagnetic
design of the fuse link	
• for short-circuit protection of the auxiliary switch required	fuse gL/gG: 10 A
• for short-circuit protection of the signaling switch of the short-circuit release required	6A gL/gG/400V
• for short-circuit protection of the signaling switch of the overload release required	4A gL/gG/400V
<b>Installation/ mounting/ dimensions</b>	
mounting position	any
mounting position recommended	vertical, on horizontal standard DIN rail
fastening method	screw and snap-on mounting
height	170 mm
width	45 mm
depth	165 mm
<b>Connections/ Terminals</b>	
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	plug-in without terminals
• for auxiliary and control circuit	screw-type terminals
type of connectable conductor cross-sections for main contacts	
• solid	2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup>
• finely stranded with core end processing	2x (2.5 ... 6 mm <sup>2</sup> )
type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid	0.5 ... 4 mm <sup>2</sup> , 2x (0.5 ... 2.5 mm <sup>2</sup> )
— finely stranded with core end processing	0.5 ... 2.5 mm <sup>2</sup> , 2x (0.5 ... 1.5 mm <sup>2</sup> )
• for AWG cables for auxiliary contacts	2x (20 ... 14)
<b>Safety related data</b>	
proportion of dangerous failures	
• with low demand rate according to SN 31920	40 %
• with high demand rate according to SN 31920	50 %
B10 value with high demand rate according to SN 31920	2 000 000
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
IEC 61508	
T1 value for proof test interval or service life according to IEC 61508	20 a
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe
<b>Communication/ Protocol</b>	
product function bus communication	No
protocol is supported	
• AS-Interface protocol	No
• IO-Link protocol	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
- due to high-frequency radiation according to IEC 61000-4-6

4 kV main contacts, 2 kV auxiliary contacts  
4 kV main contacts, 2 kV auxiliary contacts  
2 kV main contacts, 1 kV auxiliary contacts  
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

## Display

### number of LEDs

2

## Approvals Certificates

### General Product Approval

EMV



## Functional Safety

## Test Certificates

## Maritime application

## other

## Dangerous goods



[Type Test Certificates/Test Report](#)



[Confirmation](#)

[Transport Information](#)

## Environment

[Environmental Confirmations](#)

## Further information

### Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

### Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

### 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=3RA6120-1EP33>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1EP33>

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

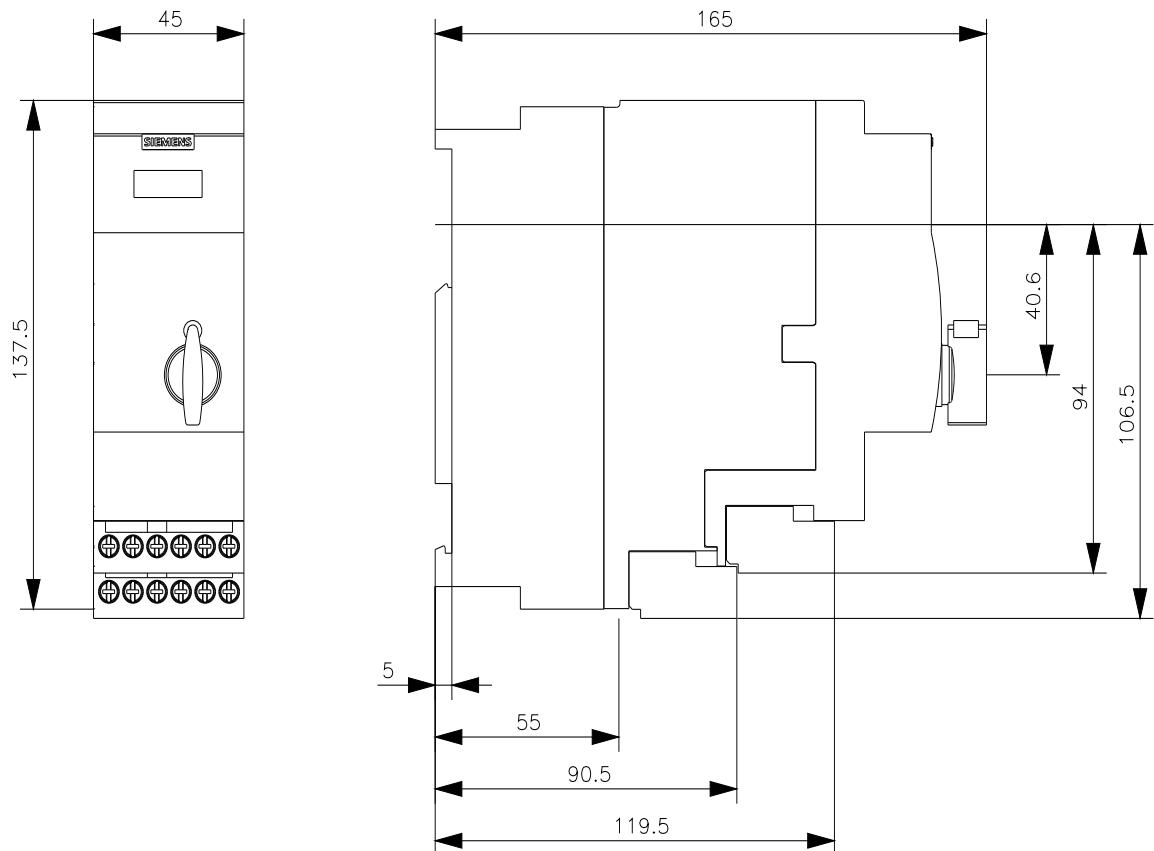
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA6120-1EP33&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-1EP33&lang=en)

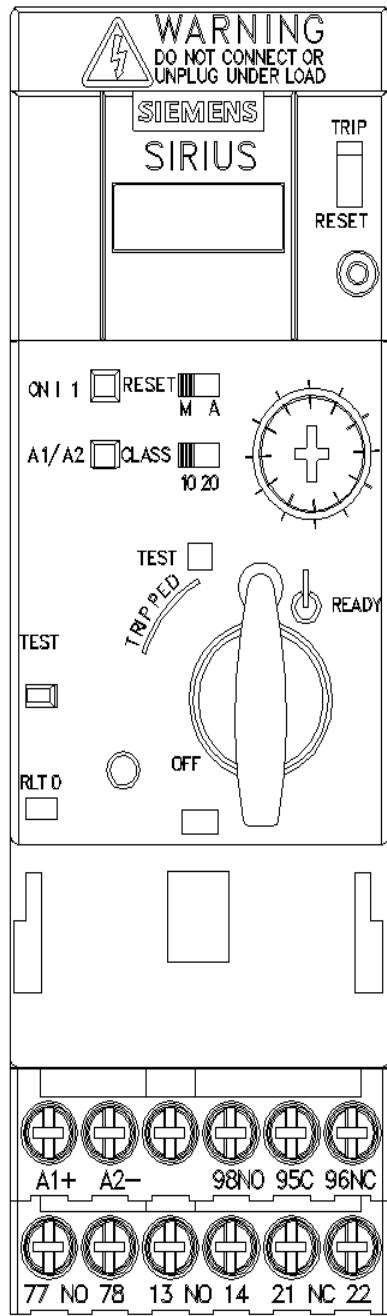
### Cax online generator

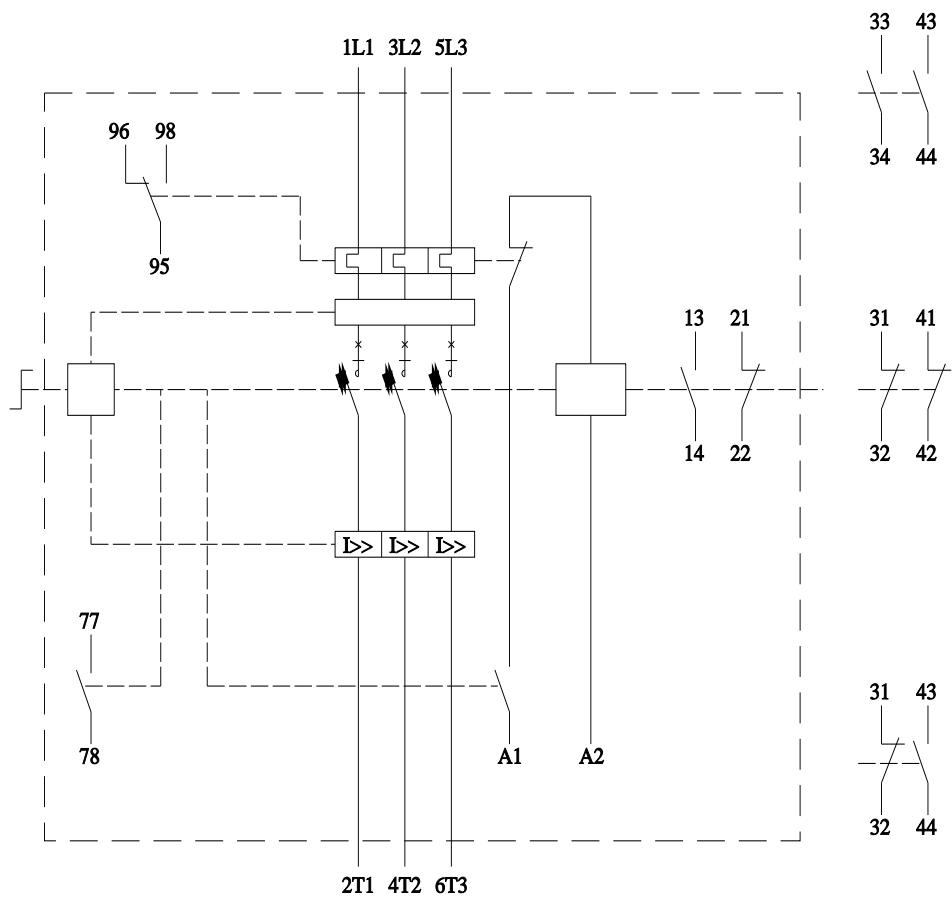
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-1EP33>

### Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP="HAUPT"></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)







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