

SIRIUS Compact load feeder DOL starter 690 V 24 V AC/DC 50...60 Hz 0.1...0.4 A IP20 Connection main circuit: screw terminal
Connection auxiliary circuit: screw terminal



product brand name	SIRIUS
Product designation	compact starter
Design of the product	direct starter
Product type designation	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	0.01 W
• at AC in hot operating state per pole	0.01 W
Power loss [W] for rated value of the current without load current share typical	2.9 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

<ul style="list-style-type: none"> • between auxiliary and auxiliary circuit 	250 V
<ul style="list-style-type: none"> • between control and auxiliary circuit 	300 V
<ul style="list-style-type: none"> • Protection class IP 	IP20
Degree of protection NEMA rating	other
Shock resistance	a=60 m/s ² (6g) with 10 ms per 3 shocks in all axes
Vibration resistance	f= 4 ... 5.8 Hz, d= 15 mm; f= 5.8 ... 500 Hz, a= 20 m/s ² ; 10 cycles
Mechanical service life (switching cycles)	
<ul style="list-style-type: none"> • of the main contacts typical 	10 000 000
<ul style="list-style-type: none"> • of auxiliary contacts typical 	10 000 000
<ul style="list-style-type: none"> • of the signaling contacts typical 	10 000 000
Electrical endurance (switching cycles) of auxiliary contacts	
<ul style="list-style-type: none"> • at DC-13 at 6 A at 24 V typical 	30 000
<ul style="list-style-type: none"> • 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 acc. to DIN EN 81346-2	Q

Ambient conditions

Installation altitude at height above sea level	
<ul style="list-style-type: none"> • maximum 	2 000 m
Ambient temperature	
<ul style="list-style-type: none"> • during operation 	-20 ... +60 °C
<ul style="list-style-type: none"> • during storage 	-55 ... +80 °C
<ul style="list-style-type: none"> • during transport 	-55 ... +80 °C
Relative humidity during operation	10 ... 90 %

Main circuit

Number of poles for main current circuit	3
adjustable pick-up value current of the current-dependent overload release	0.1 ... 0.4 A
Formula for making capacity limit current	120 x I _e
Formula for interruption capacity limit current	100 x I _e
Mechanical power output for 4-pole AC motor	
<ul style="list-style-type: none"> • at 400 V rated value 	0.09 kW
<ul style="list-style-type: none"> • at 500 V rated value 	0.12 kW
<ul style="list-style-type: none"> • at 690 V rated value 	0.18 kW
Operating voltage	
<ul style="list-style-type: none"> • at AC-3 rated value maximum 	690 V
Operating current	
<ul style="list-style-type: none"> • at AC at 400 V rated value 	0.4 A
<ul style="list-style-type: none"> • at AC-43 	
<ul style="list-style-type: none"> — at 400 V rated value 	0.3 A
<ul style="list-style-type: none"> — at 500 V rated value 	0.32 A
<ul style="list-style-type: none"> — at 690 V rated value 	0.35 A

Operating power	
<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value • at AC-43 <ul style="list-style-type: none"> — at 400 V rated value — at 500 V rated value — at 690 V rated value 	<p>90 W</p> <p>90 W</p> <p>120 W</p> <p>180 W</p>
No-load switching frequency	3 600 1/h
Operating frequency	
<ul style="list-style-type: none"> • at AC-41 acc. to IEC 60947-6-2 maximum • at AC-43 acc. to IEC 60947-6-2 maximum 	<p>750 1/h</p> <p>250 1/h</p>

Control circuit/ Control	
type of voltage	AC/DC
Control supply voltage 1 at AC	
<ul style="list-style-type: none"> • at 50 Hz rated value • at 60 Hz rated value 	<p>24 V</p> <p>24 V</p>
control supply voltage frequency	
<ul style="list-style-type: none"> • 1 rated value • 2 rated value 	<p>50 Hz</p> <p>60 Hz</p>
Control supply voltage 1	
<ul style="list-style-type: none"> • at DC rated value 	24 V
Holding power	
<ul style="list-style-type: none"> • at AC maximum • at DC maximum 	<p>2.8 W</p> <p>2.9 W</p>

Auxiliary circuit	
Number of NC contacts for auxiliary contacts	1
Number of NO contacts for auxiliary contacts	1
Number of NO contacts	
<ul style="list-style-type: none"> • of instantaneous short-circuit trip unit for signaling contact 	1
Number of CO contacts	
<ul style="list-style-type: none"> • of the current-dependent overload release for signaling contact 	1
Operating current of auxiliary contacts at AC-12 maximum	10 A
<ul style="list-style-type: none"> • operating current of auxiliary contacts at DC-13 at 250 V 	0.27 A

Protective and monitoring functions	
Trip class	CLASS 10 and 20 adjustable
Operational short-circuit current breaking capacity (Ics)	
<ul style="list-style-type: none"> • at 400 V 	53 kA

- at 500 V rated value
- at 690 V rated value

3 kA

3 kA

UL/CSA ratings

Full-load current (FLA) for three-phase AC motor

- at 480 V rated value
- at 600 V rated value

0.4 A

0.4 A

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

Short-circuit protection

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
- 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

fuse gL/gG: 10 A

6A gL/gG/400V

4A gL/gG/400V

Installation/ mounting/ dimensions

- **mounting position**
- Mounting position recommended

any

vertical, on horizontal standard mounting rail

Mounting type

screw and snap-on mounting

Height

170 mm

Width

45 mm

Depth

165 mm

Connections/ Terminals

Product function

- removable terminal for main circuit
- removable terminal for auxiliary and control circuit

Yes

Yes

- Type of electrical connection for main current circuit

screw-type terminals

- Type of electrical connection for auxiliary and control current circuit

screw-type terminals

Type of connectable conductor cross-sections

- for main contacts
 - solid
 - finely stranded with core end processing
- at AWG conductors for main contacts

2x (1.5 ... 6 mm²), 1x 10 mm²2x (1.5 ... 6 mm²)

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

Type of connectable conductor cross-sections

- for auxiliary contacts
 - solid

0.5 ... 4 mm², 2x (0.5 ... 2.5 mm²)

- finely stranded with core end processing
- at AWG conductors for auxiliary contacts

0.5 ... 2.5 mm², 2x (0.5 ... 1.5 mm²)
2x (20 ... 14)

Safety related data

B10 value	
• with high demand rate acc. to SN 31920	3 000 000
Proportion of dangerous failures	
• with low demand rate acc. to SN 31920	40 %
• with high demand rate acc. to SN 31920	50 %
Failure rate [FIT]	
• with low demand rate acc. to SN 31920	100 FIT
T1 value for proof test interval or service life acc. to IEC 61508	20 y

Communication/ Protocol

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 acc. to IEC 61000-4-4	4 kV main contacts, 2 kV auxiliary contacts
• due to conductor-earth surge acc. to IEC 61000-4-5	4 kV main contacts, 2 kV auxiliary contacts
• due to conductor-conductor surge acc. to IEC 61000-4-5	2 kV main contacts, 1 kV auxiliary contacts
• due to high-frequency radiation acc. to IEC 61000-4-6	0.15-80Mhz at 10V
Field-bound parasitic coupling acc. to IEC 61000-4-3	10 V/m
Electrostatic discharge acc. to IEC 61000-4-2	8 kV
Conducted HF-interference emissions acc. to CISPR11	150 kHz ... 30 MHz Class A
Field-bound HF-interference emission acc. 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	Functional Safety/Safety of Machinery
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Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[Confirmation](#)

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=3RA6120-1AB32>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-1AB32>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1AB32>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-1AB32&lang=en

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1AB32/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-1AB32&objecttype=14&gridview=view1>



