

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: plug-in, without terminals



product brand name	SIRIUS
Product designation	compact starter
Design of the product	direct starter
Product type designation	3RA61

General technical data	
Product function	
<ul style="list-style-type: none"> Control circuit interface to parallel wiring 	Yes
Product extension	
<ul style="list-style-type: none"> Auxiliary switch 	Yes
Power loss [W] for rated value of the current	
<ul style="list-style-type: none"> at AC in hot operating state 	5.4 W
<ul style="list-style-type: none"> at AC in hot operating state per pole 	1.8 W
Power loss [W] for rated value of the current without load current share typical	5.8 W
<ul style="list-style-type: none"> Insulation voltage rated value 	690 V
Degree of pollution	3
Surge voltage resistance rated value	6 000 V
maximum permissible voltage for safe isolation	
<ul style="list-style-type: none"> 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	8 ... 32 A
Formula for making capacity limit current	12 x I _e
Formula for interruption capacity limit current	10 x I _e
Mechanical power output for 4-pole AC motor	
<ul style="list-style-type: none"> • at 400 V rated value 	15 kW
<ul style="list-style-type: none"> • at 500 V rated value 	11 kW
<ul style="list-style-type: none"> • at 690 V rated value 	11 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 	32 A
<ul style="list-style-type: none"> • at AC-43 	
<ul style="list-style-type: none"> — at 400 V rated value 	29 A
<ul style="list-style-type: none"> — at 500 V rated value 	17.6 A
<ul style="list-style-type: none"> — at 690 V rated value 	12.8 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>15 kW</p> <p>15 000 W</p> <p>11 000 W</p> <p>11 000 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 • at 60 Hz 	<p>110 ... 240 V</p> <p>110 ... 240 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 	110 ... 240 V
Holding power	
<ul style="list-style-type: none"> • at AC maximum • at DC maximum 	<p>5.2 W</p> <p>5.8 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

1 kA

1 kA

UL/CSA ratings

Full-load current (FLA) for three-phase AC motor	
<ul style="list-style-type: none"> • at 480 V rated value 	32 A
Yielded mechanical performance [hp]	
<ul style="list-style-type: none"> • for three-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value 	7.5 hp 10 hp 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

Short-circuit protection

Product function Short circuit protection	Yes
Design of short-circuit protection	electromagnetic
Design of the fuse link	
<ul style="list-style-type: none"> • for short-circuit protection of the auxiliary switch required 	fuse gL/gG: 10 A
<ul style="list-style-type: none"> • for short-circuit protection of the signaling switch of the short-circuit release required 	6A gL/gG/400V
<ul style="list-style-type: none"> • for short-circuit protection of the signaling switch of the overload release required 	4A gL/gG/400V

Installation/ mounting/ dimensions

<ul style="list-style-type: none"> • mounting position 	any
<ul style="list-style-type: none"> • Mounting position recommended 	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	
<ul style="list-style-type: none"> • removable terminal for main circuit 	Yes
<ul style="list-style-type: none"> • removable terminal for auxiliary and control circuit 	Yes
<ul style="list-style-type: none"> • Type of electrical connection for main current circuit 	plug-in without terminals
<ul style="list-style-type: none"> • Type of electrical connection for auxiliary and control current circuit 	plug-in without terminals

Safety related data

B10 value	
<ul style="list-style-type: none"> • with high demand rate acc. to SN 31920 	2 000 000

Proportion of dangerous failures	
<ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 	40 % 50 %
Failure rate [FIT]	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • AS-Interface protocol • IO-Link protocol 	No No
Product function Control circuit interface with IO link	No

Electromagnetic compatibility

Conducted interference	
<ul style="list-style-type: none"> • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 • due to high-frequency radiation acc. 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-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
--	----

Display

number of LEDs	2
-----------------------	---

Certificates/ approvals

General Product Approval	EMC	Functional Safety/Safety of Machinery
--------------------------	-----	---------------------------------------



Declaration of Conformity	Test Certificates	Marine / Shipping
---------------------------	-------------------	-------------------



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
-------------------	-------



[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=3RA6120-0EP30>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-0EP30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-0EP30>

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

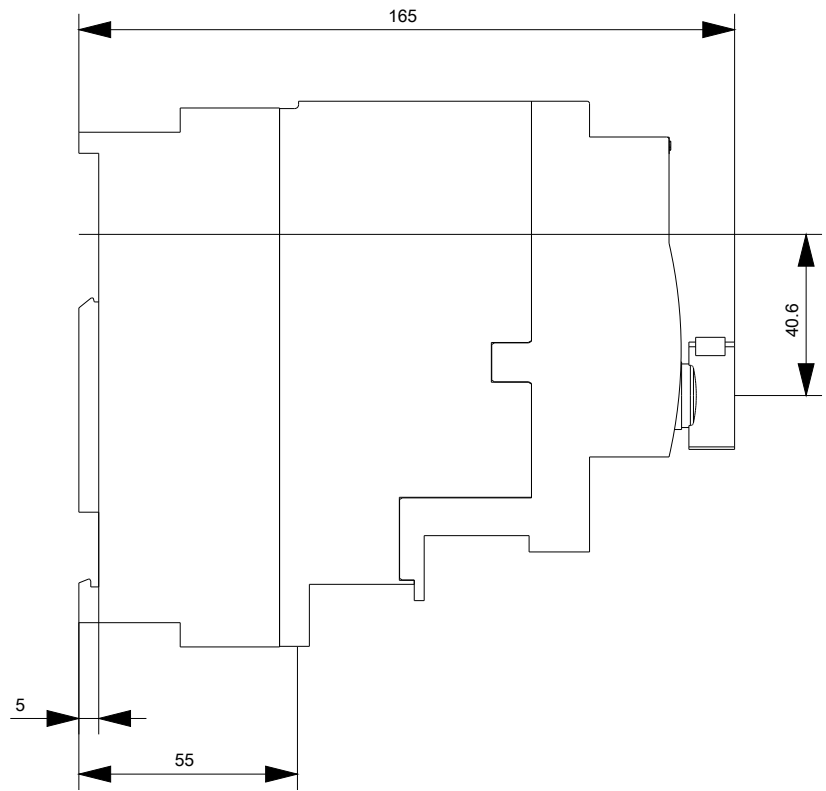
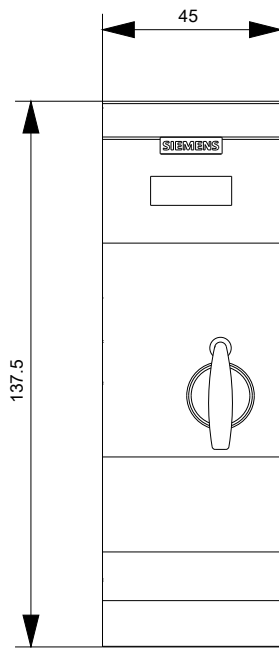
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-0EP30&lang=en

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-0EP30/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-0EP30&objecttype=14&gridview=view1>





last modified:

08/13/2020