SIEMENS

Data sheet 3RA6120-1EB32

SIRIUS Compact load feeder DOL starter 690 V 24 V AC/DC 50...60 Hz 8...32 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	5.4 W
● at AC in hot operating state per pole	1.8 W
● without load current share typical	3.5 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 m/s2 (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/s²; 10 cycles
mechanical service life (switching 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 (switching 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	8 ... 32 A

current-dependent overload release	
formula for making capacity limit current	12 x Ie
formula for breaking capacity limit current	10 x Ie
yielded mechanical performance for 4-pole AC motor	
● at 400 V rated value	15 kW
● at 500 V rated value	11 kW
● at 690 V rated value	11 kW
operating voltage at AC-3 rated value maximum	690 V
operational current	
● 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
operating power	
● 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
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	24 V
● at 50 Hz	24 ... 24 V
● at 60 Hz rated value	24 V
● at 60 Hz	24 V
control supply voltage frequency	
● 1 rated value	50 Hz
● 2 rated value	60 Hz
control supply voltage 1	
● at DC rated value	24 V
● at DC	24 ... 24 V
holding power	
● at AC maximum	3.5 W
● at DC maximum	3.1 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
breaking capacity operating short-circuit current (Ics)	
● at 400 V	53 kA
● at 500 V rated value	1 kA
● at 690 V rated value	1 kA
UL/CSA ratings	
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
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	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
Installation/ mounting/ dimensions	
mounting position	any
● recommended	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	screw-type terminals
● for auxiliary and control circuit	screw-type terminals
type of connectable conductor cross-sections	
● for main contacts	
— solid	2x (2.5 ... 6 mm²), 1x 10 mm²
— finely stranded with core end processing	2x (2.5 ... 6 mm²)
● at AWG cables for main contacts	2x (14 ... 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	0.5 ... 2.5 mm², 2x (0.5 ... 1.5 mm²)
● at AWG cables for auxiliary contacts	2x (20 ... 14)
Safety related data	
B10 value with high demand rate according to SN 31920	2 000 000
proportion of dangerous failures	
● with low demand rate according to SN 31920	40 %
● with high demand rate according to SN 31920	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	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	4 kV main contacts, 2 kV auxiliary contacts
● due to conductor-earth surge according to IEC 61000-4-5	4 kV main contacts, 2 kV auxiliary contacts
● due to conductor-conductor surge according to IEC 61000-4-5	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

Display

number of LEDs	2

Certificates/ approvals

General Product Approval

Confirmation

EMC

Functional Safety/Safety of Machinery

Declaration of Conformity

Test Certificates

Type Test Certificates/Test Report

Marine / Shipping

Marine / Shipping

other

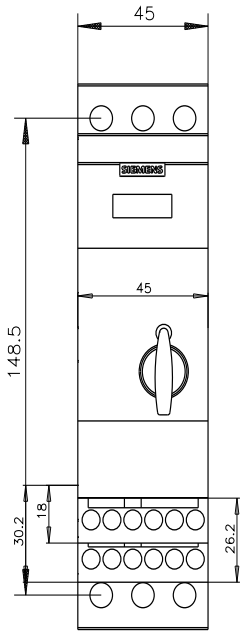
Confirmation

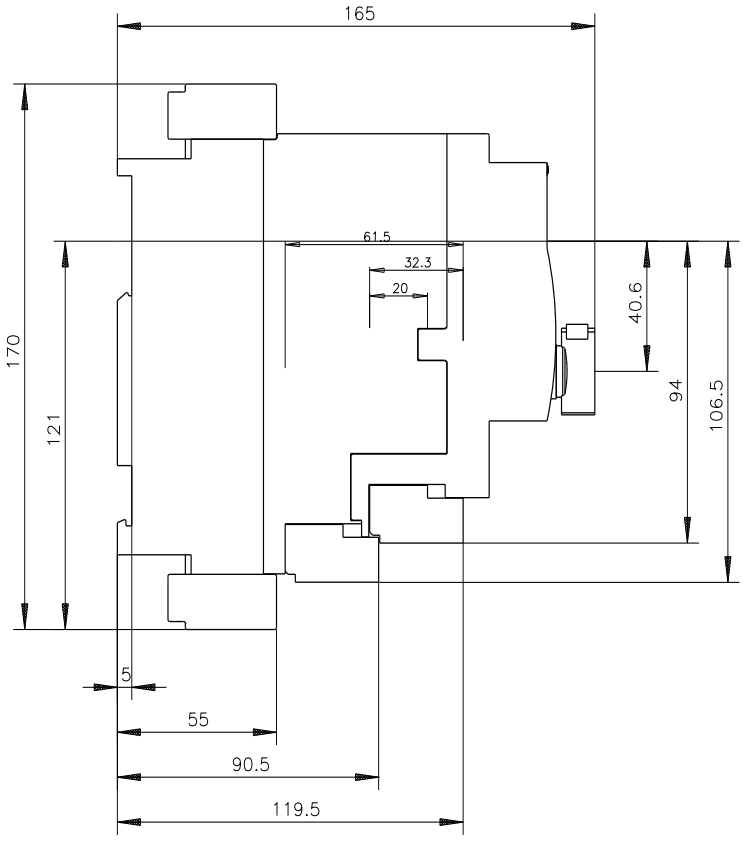
Dangerous Good

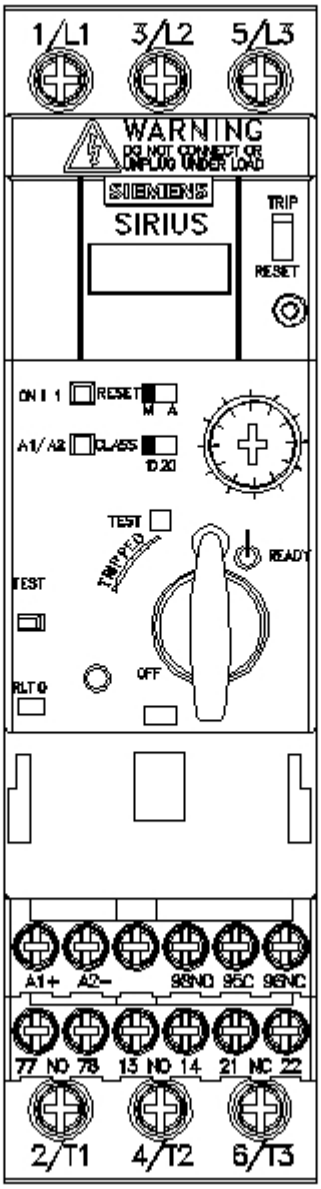
Transport Information

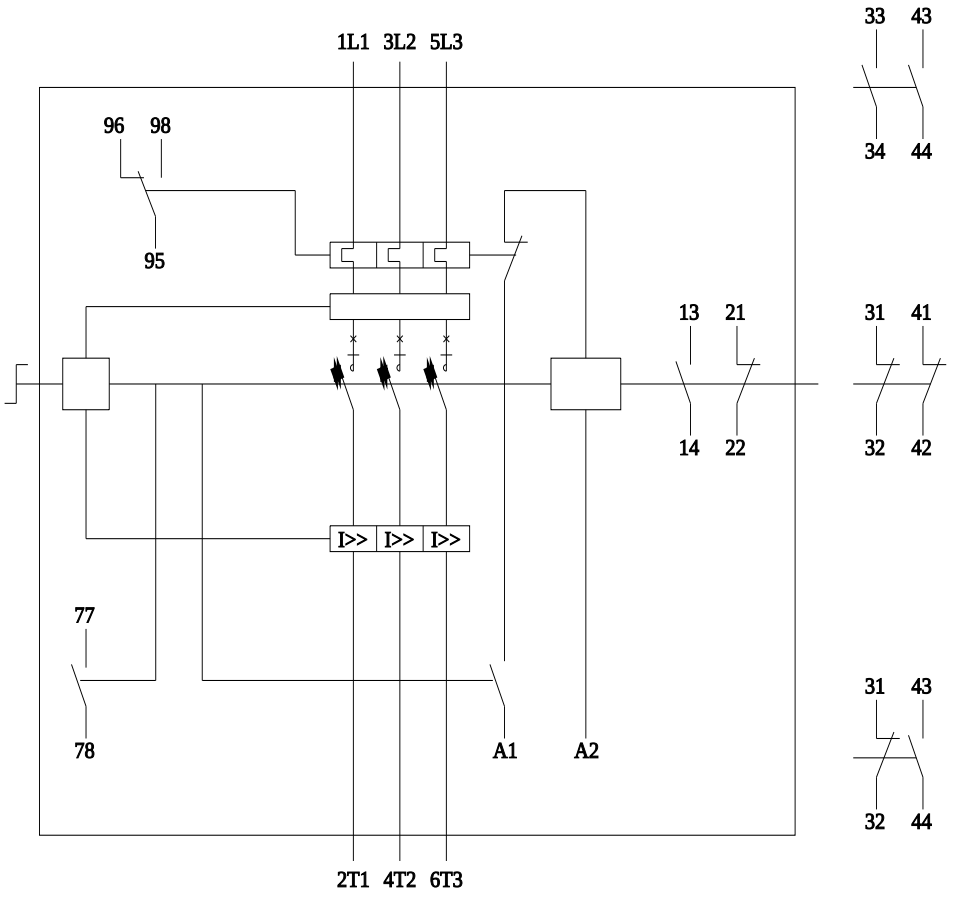
Further information

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=3RA6120-1EB32
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-1EB32
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1EB32
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-1EB32&lang=en
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1EB32/char
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-1EB32&objecttype=14&gridview=view1









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