## **SIEMENS**

Data sheet 3RA6500-1CB42



SIRIUS Compact load feeder Reversing starter for IO-Link 690 V 24 V DC 1...4 A IP20 Connection main circuit: Screw terminal Connection control circuit: screw terminal

product brand name	SIRIUS
product designation	Compact starter for IO-Link
design of the product	reversing starter
product type designation	3RA65
General technical data	
product function control circuit interface to parallel wiring	No
product extension auxiliary switch	Yes
power loss [W] for rated value of the current	
<ul> <li>at AC in hot operating state</li> </ul>	1 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	0.33 W
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
degree of protection NEMA rating	other
shock resistance	a=60 m/s2 (6g) with 10 ms per 3 shocks in all axes
mechanical service life (operating cycles)	
<ul> <li>of the main contacts typical</li> </ul>	10 000 000
<ul> <li>of auxiliary contacts typical</li> </ul>	10 000 000
<ul> <li>of the signaling contacts typical</li> </ul>	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
SVHC substance name	Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8 Bleititanzirkonoxid - 12626-81-2 2,2',6,6'-Tetrabrom-4,4'-isopropylidendi - 79-94-7
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 current- dependent overload release	1 4 A

formula for making capacity limit current	12 x le
formula for limit current breaking capacity	10 x le
yielded mechanical performance for 4-pole AC motor	IV A IV
at 400 V rated value	1.5 kW
at 500 V rated value	2.2 kW
at 690 V rated value     at 690 V rated value	3 kW
operating voltage at AC-3 rated value maximum	690 V
operational current	030 V
at AC at 400 V rated value	4 A
at AC-3 at 400 V rated value     at AC-3 at 400 V rated value	4 A
• at AC-43	70
— at 400 V rated value	3.6 A
— at 500 V rated value	3.9 A
— at 690 V rated value	3.8 A
operating power	0.0 A
at AC-3 at 400 V rated value	1.5 kW
• at AC-43	1.5 KVV
— at 400 V rated value	1 500 W
— at 500 V rated value	2 200 W
— at 690 V rated value  — at 690 V rated value	3 000 W
no-load switching frequency	3 600 1/h
operating frequency	V 000 mil
at AC-41 according to IEC 60947-6-2 maximum	750 1/h
at AC-41 according to IEC 60947-6-2 maximum     at AC-43 according to IEC 60947-6-2 maximum	250 1/h
Control circuit/ Control	250 7/11
type of voltage	DC
control supply voltage 1	
at DC rated value	24 V
• at DC	24 24 V
holding power	21217
norum g pomor	
at DC maximum	2.9 W
at DC maximum  Auxiliary circuit	2.9 W
Auxiliary circuit	2.9 W 0
Auxiliary circuit number of NC contacts for auxiliary contacts	0
Auxiliary circuit  number of NC contacts for auxiliary contacts  number of NO contacts for auxiliary contacts  number of NO contacts of instantaneous short-circuit trip unit for	0 0
number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload	0 0 0
Auxiliary circuit  number of NC contacts for auxiliary contacts  number of NO contacts for auxiliary contacts  number of NO contacts of instantaneous short-circuit trip unit for signaling contact  number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V	0 0 0 0
Auxiliary circuit  number of NC contacts for auxiliary contacts  number of NO contacts for auxiliary contacts  number of NO contacts of instantaneous short-circuit trip unit for signaling contact  number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum	0 0 0 0 10 A 0.27 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  number of NO contacts for auxiliary contacts  number of NO contacts of instantaneous short-circuit trip unit for signaling contact  number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V	0 0 0 0
Auxiliary circuit  number of NC contacts for auxiliary contacts  number of NO contacts for auxiliary contacts  number of NO contacts of instantaneous short-circuit trip unit for signaling contact  number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class operating short-circuit current breaking capacity (Ics)	0 0 0 0 10 A 0.27 A
Auxiliary circuit number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V Protective and monitoring functions trip class	0 0 0 0 10 A 0.27 A CLASS 10 and 20 adjustable
Auxiliary circuit  number of NC contacts for auxiliary contacts  number of NO contacts for auxiliary contacts  number of NO contacts of instantaneous short-circuit trip unit for signaling contact  number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class  operating short-circuit current breaking capacity (Ics)  • at 400 V  • at 500 V rated value	0 0 0 10 A 0.27 A CLASS 10 and 20 adjustable
Auxiliary circuit number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class  operating short-circuit current breaking capacity (Ics)  • at 400 V  • at 500 V rated value  • at 690 V rated value	0 0 0 0 10 A 0.27 A CLASS 10 and 20 adjustable
Auxiliary circuit number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class  operating short-circuit current breaking capacity (Ics)  • at 400 V  • at 500 V rated value  • at 690 V rated value  ULL/CSA ratings	0 0 0 10 A 0.27 A CLASS 10 and 20 adjustable
Auxiliary circuit  number of NC contacts for auxiliary contacts  number of NO contacts for auxiliary contacts  number of NO contacts of instantaneous short-circuit trip unit for signaling contact  number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class  operating short-circuit current breaking capacity (Ics)  • at 400 V  • at 500 V rated value  • at 690 V rated value  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor	0 0 0 10 A 0.27 A CLASS 10 and 20 adjustable
Auxiliary circuit  number of NC contacts for auxiliary contacts  number of NO contacts for auxiliary contacts  number of NO contacts of instantaneous short-circuit trip unit for signaling contact  number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class  operating short-circuit current breaking capacity (Ics)  • at 400 V  • at 500 V rated value  • at 690 V rated value  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value	0 0 0 10 A 0.27 A CLASS 10 and 20 adjustable 53 kA 3 kA 3 kA
Auxiliary circuit number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class operating short-circuit current breaking capacity (Ics)  • at 400 V  • at 500 V rated value • at 690 V rated value  UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value	0 0 0 10 A 0.27 A CLASS 10 and 20 adjustable
Auxiliary circuit number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class operating short-circuit current breaking capacity (Ics)  • at 400 V  • at 500 V rated value • at 690 V rated value  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor • at 480 V rated value  • at 600 V rated value  yielded mechanical performance [hp] for 3-phase AC motor	0 0 0 10 A 0.27 A CLASS 10 and 20 adjustable 53 kA 3 kA 3 kA
Auxiliary circuit number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class  operating short-circuit current breaking capacity (Ics)  • at 400 V  • at 500 V rated value  • at 690 V rated value  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  yielded mechanical performance [hp] for 3-phase AC motor  • at 200/208 V rated value	0 0 0 10 A 0.27 A CLASS 10 and 20 adjustable 53 kA 3 kA 3 kA
Auxiliary circuit  number of NC contacts for auxiliary contacts  number of NO contacts for auxiliary contacts  number of NO contacts of instantaneous short-circuit trip unit for signaling contact  number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class  operating short-circuit current breaking capacity (Ics)  • at 400 V  • at 500 V rated value  • at 690 V rated value  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  yielded mechanical performance [hp] for 3-phase AC motor  • at 200/208 V rated value  • at 220/230 V rated value	0 0 0 10 A 0.27 A CLASS 10 and 20 adjustable 53 kA 3 kA 3 kA 4 A 4 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  number of NO contacts for auxiliary contacts  number of NO contacts of instantaneous short-circuit trip unit for signaling contact  number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class  operating short-circuit current breaking capacity (Ics)  • at 400 V  • at 500 V rated value  • at 690 V rated value  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  yielded mechanical performance [hp] for 3-phase AC motor  • at 200/208 V rated value  • at 220/230 V rated value  • at 460/480 V rated value	0 0 10 A 0.27 A CLASS 10 and 20 adjustable 53 kA 3 kA 3 kA 4 A 4 A 4 A 0.75 hp 0.75 hp 2 hp
Auxiliary circuit number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class  operating short-circuit current breaking capacity (Ics)  • at 400 V  • at 500 V rated value  • at 690 V rated value  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  yielded mechanical performance [hp] for 3-phase AC motor  • at 200/208 V rated value  • at 220/230 V rated value  • at 460/480 V rated value  • at 460/480 V rated value  • at 575/600 V rated value	0 0 0 10 A 0.27 A CLASS 10 and 20 adjustable 53 kA 3 kA 3 kA 4 A 4 A
Auxiliary circuit number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V Protective and monitoring functions trip class operating short-circuit current breaking capacity (Ics)	0 0 0 10 A 0.27 A  CLASS 10 and 20 adjustable  53 kA 3 kA 3 kA 4 A 4 A 4 A 0.75 hp 0.75 hp 2 hp 3 hp
Auxiliary circuit number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class  operating short-circuit current breaking capacity (Ics)  • at 400 V  • at 500 V rated value  • at 690 V rated value  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  vielded mechanical performance [hp] for 3-phase AC motor  • at 200/208 V rated value  • at 220/230 V rated value  • at 460/480 V rated value  • at 575/600 V rated value  • at 575/600 V rated value  Short-circuit protection  product function short circuit protection	0 0 0 10 A 0.27 A  CLASS 10 and 20 adjustable  53 kA 3 kA 3 kA 4 A 4 A 4 A 9.75 hp 0.75 hp 2 hp 3 hp Yes
number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class  operating short-circuit current breaking capacity (Ics)  at 400 V  at 500 V rated value  at 690 V rated value  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  at 480 V rated value  yielded mechanical performance [hp] for 3-phase AC motor  at 200/208 V rated value  at 220/230 V rated value  at 460/480 V rated value  at 460/480 V rated value  at 575/600 V rated value  Short-circuit protection  product function short circuit protection  design of short-circuit protection	0 0 0 10 A 0.27 A  CLASS 10 and 20 adjustable  53 kA 3 kA 3 kA 4 A 4 A 0.75 hp 0.75 hp 2 hp 3 hp
Auxiliary circuit  number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class operating short-circuit current breaking capacity (Ics)  at 400 V  at 500 V rated value  at 690 V rated value  IUL/CSA ratings  full-load current (FLA) for 3-phase AC motor  at 480 V rated value  yielded mechanical performance [hp] for 3-phase AC motor  at 200/208 V rated value  at 200/208 V rated value  at 460/480 V rated value  at 460/480 V rated value  at 575/600 V rated value  short-circuit protection  product function short circuit protection design of the fuse link	0 0 0 10 A 0.27 A  CLASS 10 and 20 adjustable 53 kA 3 kA 3 kA 4 A 4 A 4 A  0.75 hp 0.75 hp 2 hp 3 hp  Yes electromagnetic
number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of NO contacts of instantaneous short-circuit trip unit for signaling contact number of CO contacts of the current-dependent overload release for signaling contact  operational current of auxiliary contacts at AC-12 maximum operational current of auxiliary contacts at DC-13 at 250 V  Protective and monitoring functions  trip class  operating short-circuit current breaking capacity (Ics)  at 400 V  at 500 V rated value  at 690 V rated value  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  at 480 V rated value  yielded mechanical performance [hp] for 3-phase AC motor  at 200/208 V rated value  at 220/230 V rated value  at 460/480 V rated value  at 460/480 V rated value  at 575/600 V rated value  Short-circuit protection  product function short circuit protection  design of short-circuit protection	0 0 0 10 A 0.27 A  CLASS 10 and 20 adjustable  53 kA 3 kA 3 kA 4 A 4 A 4 A 9.75 hp 0.75 hp 2 hp 3 hp Yes

mounting position	any
• recommended	vertical, on horizontal standard DIN rail
fastening method	screw and snap-on mounting
height	170 mm
width	90 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	0 (45 0 3) 4 40 3
• solid	2x (1.5 6 mm²), 1x 10 mm²
finely stranded with core end processing	2x (1.5 6 mm²)
type of connectable conductor cross-sections	
• for auxiliary contacts	0.5 4 mm² 2v /0.5 2.5 mm²)
— 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)
for AWG cables for auxiliary contacts  Safety related data	2x (20 14)
Safety related data	
proportion of dangerous failures	EO 0/
with high demand rate according to SN 31920	50 %
B10 value with high demand rate according to SN 31920	1 500 000
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe
Communication/ Protocol	V.
product function bus communication	Yes
protocol is supported	
AS-Interface protocol	No
• IO-Link protocol	Yes
product function control circuit interface with IO link	Yes
IO-Link transfer rate	COM2 (38,4 kBaud)
point-to-point cycle time between master and IO-Link device minimum	2.5 ms
type of voltage supply via input/output link master	No
data volume	
<ul> <li>of the address range of the inputs with cyclical transfer total</li> </ul>	2 byte
<ul> <li>of the address range of the outputs with cyclical transfer total</li> </ul>	2 byte
Electromagnetic compatibility	
conducted interference	
• due to burst according to IEC 61000-4-4	4 kV main circuits, 2 kV auxiliary circuits, 2 kV IO-Link, 2 kV limit switches, 2 kV line hand-held device
• due to conductor-earth surge according to IEC 61000-4-5	4 kV main circuits, 0.5 kV auxiliary voltage with upstream overvoltage protection
<ul> <li>due to conductor-conductor surge according to IEC 61000-4-5</li> </ul>	2 kV main circuits, 0.5 kV auxiliary voltage with upstream overvoltage protection
<ul> <li>due to high-frequency radiation according to IEC 61000- 4-6</li> </ul>	0.15-80Mhz at 10V
field-based interference according to IEC 61000-4-3	80 3000 MHz at 10V/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	Yes
Display	
number of LEDs	5
display version as status display of the input/output link device	green/red dual LED
Approvals Certificates	

**EMC** 

**Functional** Safety/Safety of Machinery



Confirmation









**Declaration of Conformity** 

**Test Certificates** 

Marine / Shipping





Type Test Certificates/Test Report







other **Dangerous Good** 

> Confirmation **Transport Information**

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

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

Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

om/mall/en/en/Catalog/product?mlfb=3RA6500-1CB42

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RA6500-1CB42}$ 

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

https://support.industry.siemens.com/cs/ww/en/ps/3RA6500-1CB42

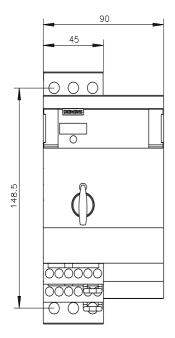
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

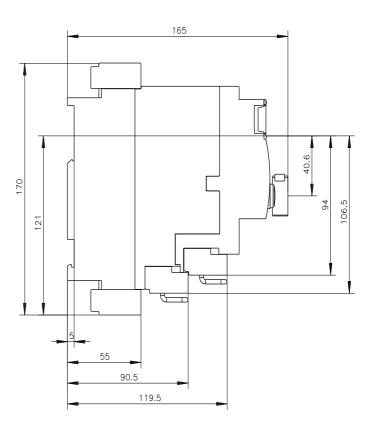
Characteristic: Tripping characteristics, I2t, Let-through current

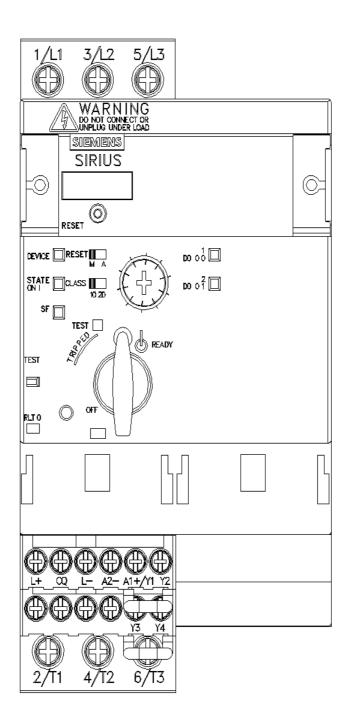
https://support.industry.siemens.com/cs/ww/en/ps/3RA6500-1CB42/char

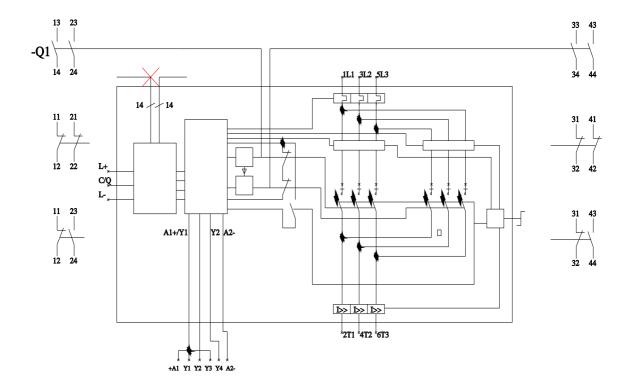
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6500-1CB42&objecttype=14&gridview=view1









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