SIEMENS

Data sheet 3RA6400-1BB42

phase-out type compact starter direct-on-line starter for IO-Link 690 V 24 V DC 0.32...1.25 A IP20 connection main circuit: screw terminal connection control circuit: screw terminal alternative 3RK1308 or 3RA8 requirement controller such as ET 200SP in use

product brand name	SIRIUS
product designation	Compact starter for IO-Link
design of the product	direct starter
product type designation	3RA64
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	
● at AC in hot operating state	0.1 W
● at AC in hot operating state per pole	0.03 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
vibration resistance	f= 4 ... 5.8 Hz, d= 15 mm; f= 5.8 ... 500 Hz, a= 20 m/s²; 10 cycles
mechanical service life (operating 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 (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 coordination	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	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'-methylenedi-p-cresol - 119-47-1
Net Weight	1.437 kg
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	0.32 ... 1.25 A
formula for making capacity limit current	38.4 x Ie
formula for limit current breaking capacity	32 x Ie
yielded mechanical performance for 4-pole AC motor	
● at 400 V rated value	0.37 kW
● at 500 V rated value	0.55 kW
● at 690 V rated value	0.75 kW
operating voltage at AC-3 rated value maximum	690 V
operational current	
● at AC at 400 V rated value	1.25 A
● at AC-3 at 400 V rated value	1.25 A
● at AC-43	
— at 400 V rated value	1.1 A
— at 500 V rated value	1.2 A
— at 690 V rated value	1.1 A
operating power	
● at AC-3 at 400 V rated value	0.37 kW
● at AC-43	
— at 400 V rated value	370 W
— at 500 V rated value	550 W
— at 690 V rated value	750 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	DC
control supply voltage 1 at DC rated value	24 V
control supply voltage 1 at DC	24 ... 24 V
holding power	
● at DC maximum	2.9 W
Auxiliary circuit	
number of NC contacts for auxiliary contacts	0
number of NO contacts for auxiliary contacts	0
number of NO contacts of instantaneous short-circuit trip unit for signaling contact	0
number of CO contacts of the current-dependent overload release for signaling contact	0
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
operating short-circuit current breaking capacity (Ics)	
● at 400 V rated value	53 kA
● at 500 V rated value	3 kA
● at 690 V rated value	3 kA
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
● at 480 V rated value	1.25 A
● at 600 V rated value	1.25 A
yielded mechanical performance [hp] for 3-phase AC motor	
● at 460/480 V rated value	0.5 hp
● at 575/600 V rated value	0.5 hp
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
Installation/ mounting/ dimensions	
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
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 (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	
— 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	2x (20 ... 14)
Safety related data	
proportion of dangerous failures	
● with high demand rate according to SN 31920	50 %
B10 value with high demand rate according to SN 31920	3 000 000
Electrical Safety	
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	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	
● of the address range of the inputs with cyclical transfer total	2 byte
● of the address range of the outputs with cyclical transfer total	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
● due to conductor-conductor surge according to IEC 61000-4-5	2 kV main circuits, 0.5 kV auxiliary voltage with upstream overvoltage protection
● 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	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	3
display version as status display of the input/output link device	green/red dual LED

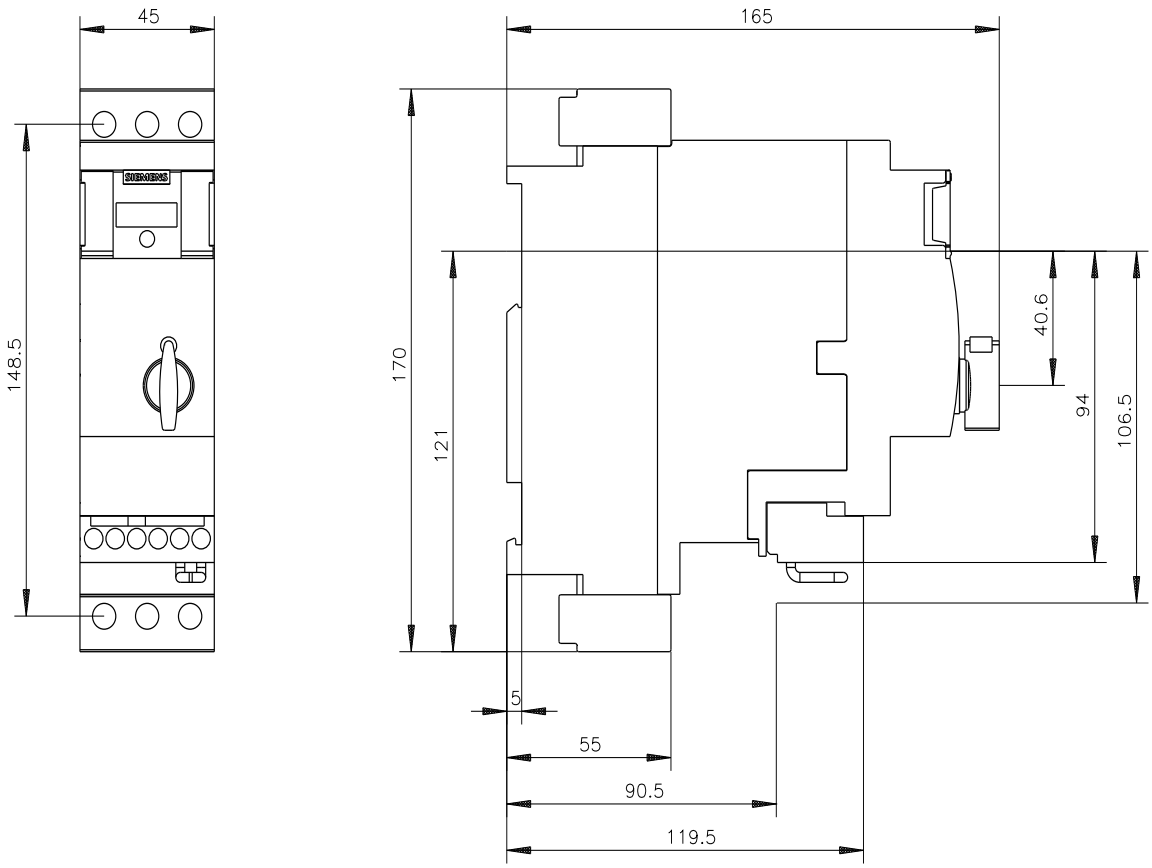
Approvals Certificates

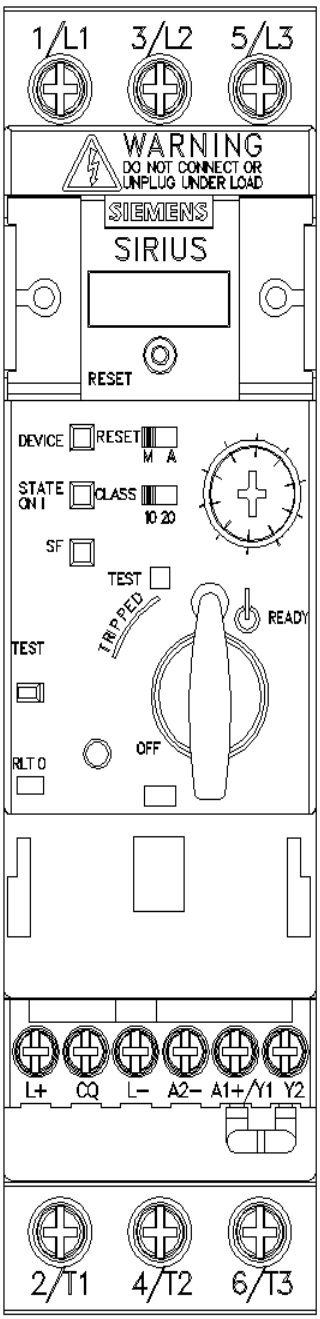
Environment	General Product Approval				
Environmental Confirmations	CCC	UKCA	CE EG-Konf.	UL	EAC

EMV	Functional Saftey	Test Certificates	other		Dangerous goods
RCM	VDE	Type Test Certificates/Test Report	产品合格 QC PASS	Confirmation	Transport Information

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=3RA6400-1BB42
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RA6400-1BB42
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6400-1BB42&lang=en
Cax online generator
https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6400-1BB42
Characteristic curves
https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod__no>





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