








intelligent load feeder direct starter standard 0.4-4 A up to 690 V AC type of coordination 2 frame size S00 for ET 200SP system consisting of 3RC7140-1EE00, 3RV2311-1EC20, 3RT2017-2BB42

product brand name	SIRIUS
product designation	Intelligent load feeder
design of the product	Standard direct starter
product type designation	3RA8
manufacturer's article number	
<ul style="list-style-type: none"> • of the supplied contactor • of the supplied circuit-breakers • of the supplied link module 	3RT2017-2BB42 3RV2311-1EC20 3RC7140-1EE00
General technical data	
number of monitored phases	2
suitability for use	
<ul style="list-style-type: none"> • direct starter • reversing starter • star-delta starter 	Yes No No
product function external reset	Yes
product component RESET button	Yes
design of the overcurrent release	electronic
size of the circuit-breaker	S00
size of load feeder	S00
size of contactor can be combined company-specific	S00
product function	
<ul style="list-style-type: none"> • remote firmware update • disconnecter functionality • for power supply reverse polarity protection 	Yes Yes Yes
power loss [W] for rated value of the current at AC in hot operating state per pole	2.6 W
insulation voltage	
<ul style="list-style-type: none"> • rated value • for overvoltage category III according to IEC 60664 with degree of pollution 2 rated value 	690 V 690 V
degree of pollution	3
overvoltage category	3
surge voltage resistance rated value	6 kV
protection class IP	
<ul style="list-style-type: none"> • on the front • of the terminal 	IP20 IP20
shock resistance according to IEC 60068-2-27	6g / 11,0 ms (3 shocks); 10g / 6,0 ms (1000 shocks)
vibration resistance	5-8,4 Hz, 3,5 mm; 8,4-150 Hz, 1 g; 10 cycles / 10-60 Hz, 0,35 mm; 60-500 Hz, 5 g; 10 cycles
type of coordination	2
reference code according to IEC 81346-2	Q

reference code according to IEC 81346-2:2019	Q
continuous current rated value	4 A
Substance Prohibitance (Date)	06/21/2024
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 Sillicic acid, lead salt - 11120-22-2 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7
Weight	1.041 kg
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
• during operation	-20 ... +60 °C
• during storage	-40 ... +80 °C
• during transport	-40 ... +80 °C
• with upper limit without restrictions	40 °C
environmental category during operation according to IEC 60721	3C3 (without salt spray)
relative humidity during operation	10 ... 95 %
Main circuit	
number of poles for main current circuit	3
design of the switching contact	electromechanical
adjustable current response value current of the current-dependent overload release	0.4 ... 4 A
type of the motor protection	solid-state
type of voltage for main current circuit	AC
utilization category according to IEC 60947-4-1	AC-3e
operating voltage	
• rated value	690 V
• at AC-3 rated value maximum	690 V
• at AC-3e rated value maximum	690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	4 A
operational current	
• at AC-3	
— at 400 V rated value	4 A
— at 440 V rated value	4 A
— at 500 V rated value	4 A
— at 690 V rated value	4 A
• at AC-3e	
— at 400 V rated value	4 A
— at 440 V rated value	4 A
— at 500 V rated value	4 A
— at 690 V rated value	4 A
operating power	
• at AC-3	
— at 400 V rated value	1 500 W
— at 500 V rated value	2 200 W
— at 690 V rated value	3 000 W
• at AC-3e	
— at 400 V rated value	1 500 W
— at 500 V rated value	2 200 W
— at 690 V rated value	3 000 W
Control circuit/ Control	
type of voltage of the control supply voltage	DC
closing delay at DC	40 ... 110 ms
opening delay at DC	30 ... 50 ms
Auxiliary circuit	
product component auxiliary switch	No
product extension auxiliary switch	Yes
type of voltage for auxiliary and control circuit	DC
auxiliary voltage at DC rated value	24 V
auxiliary voltage at DC rated value	20.4 ... 28.8 V

inrush current peak for auxiliary voltage at DC at 24 V	2.5 A
duration of inrush current peak for auxiliary voltage at DC at 24 V	1 ms
power loss [W] at the auxiliary voltage in holding operation at DC at 24 V	0.9 W
Protective and monitoring functions	
type of protection function of the overcurrent release	electronic
product function	
<ul style="list-style-type: none"> ● ground fault detection ● phase failure detection ● phase sequence recognition ● overcurrent detection 1 phase ● undercurrent detection 3 phases ● undercurrent monitoring ● overcurrent and undercurrent monitoring ● undercurrent detection 1 phase ● overcurrent detection 3 phase ● overload protection ● overload warning ● temperature-compensated overload protection ● motor protection ● active current monitoring ● main switches with supply disconnect function and EM-STOP switches ● operating hours counter 	<ul style="list-style-type: none"> No Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes No Yes No No Yes
trip class	CLASS 10E / CLASS 20E
design of the overload release	electronic
response value current of instantaneous short-circuit trip unit	52 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
<ul style="list-style-type: none"> ● at 480 V rated value ● at 600 V rated value 	<ul style="list-style-type: none"> 4 A 4 A
yielded mechanical performance [hp]	
<ul style="list-style-type: none"> ● for single-phase AC motor <ul style="list-style-type: none"> — at 110/120 V rated value — at 230 V rated value ● for 3-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 — at 575/600 V rated value 	<ul style="list-style-type: none"> 0.16 hp 0.5 hp 1 hp 1 hp 3 hp 3 hp
conditional short-circuit current (I_q) with type of coordination 1	
<ul style="list-style-type: none"> ● at 480 AC Y/277 V rated value 	65 000 A
operating voltage	
<ul style="list-style-type: none"> ● according to UL 60947 rated value ● at AC at 60 Hz according to CSA and UL rated value 	<ul style="list-style-type: none"> 600 V 600 V
Short-circuit protection	
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
conditional short-circuit current (I_q)	
<ul style="list-style-type: none"> ● at 690 V according to IEC 60947-4-1 rated value ● at 400 V according to IEC 60947-4-1 rated value ● at 440 V according to IEC 60947-4-1 rated value ● at 500 V according to IEC 60947-4-1 rated value 	<ul style="list-style-type: none"> 1 000 A 150 000 A 100 000 A 10 000 A
conditional short-circuit current (I_q) with type of coordination 2	
<ul style="list-style-type: none"> ● at 230 V rated value ● at 400 V rated value 	<ul style="list-style-type: none"> 150 000 A 150 000 A
certificate of suitability ATEX	No
Installation/ mounting/ dimensions	
mounting position	vertical, on horizontal standard mounting rail

fastening method	screw and snap-on mounting onto 35 mm DIN rail
• mounting rail	Yes
height	198 mm
width	45 mm
depth	131 mm
required spacing	
• for grounded parts at 400 V	
— downwards	10 mm
— upwards	20 mm
— backwards	0 mm
— at the side	9 mm
— forwards	0 mm
• for live parts at 400 V	
— downwards	10 mm
— upwards	20 mm
— backwards	0 mm
— at the side	9 mm
— forwards	0 mm
• for grounded parts at 500 V	
— downwards	10 mm
— upwards	20 mm
— backwards	0 mm
— at the side	9 mm
— forwards	0 mm
• for live parts at 500 V	
— downwards	10 mm
— upwards	20 mm
— backwards	0 mm
— at the side	9 mm
— forwards	0 mm
• for grounded parts at 690 V	
— downwards	10 mm
— upwards	50 mm
— at the side	20 mm
— forwards	0 mm
• for live parts at 690 V	
— downwards	10 mm
— upwards	50 mm
— at the side	20 mm
— forwards	0 mm
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	No
type of electrical connection	
• for main current circuit	spring-loaded terminals
• for auxiliary and control circuit	spring-loaded terminals (push-in)
type of electrical connection for supply voltage line-side	spring-loaded terminals (push-in)
type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (0.5 ... 4 mm ²)
— stranded	2x (0.5 ... 4 mm ²)
— finely stranded with core end processing	2x (0.5 ... 2.5 mm ²)
• for AWG cables for main contacts	2x 20 ... 12
connectable conductor cross-section for main contacts	
• solid	0.5 ... 4 mm ²
• stranded	0.5 ... 4 mm ²
• finely stranded with core end processing	0.5 ... 2.5 mm ²
type of connectable conductor cross-sections at the inputs for supply voltage	
• solid	0.2 ... 1.5 mm ²
• finely stranded without core end processing	0.2 ... 1.5 mm ²

<ul style="list-style-type: none"> finely stranded with core end processing 	0.2 ... 1.0 mm ²		
type of connectable conductor cross-sections at the inputs for supply voltage for AWG cables solid	24 ... 16		
Electrical Safety			
touch protection against electrical shock	IP20		
touch protection on the front according to IEC 60529	finger-safe		
Communication/ Protocol			
protocol is supported other protocols	Yes		
product function bus communication	Yes		
product function control circuit interface with IO link	No		
product function control circuit interface with AS-interface	No		
data volume			
<ul style="list-style-type: none"> of the address range of the inputs with cyclical transfer total 	16 byte		
<ul style="list-style-type: none"> of the address range of the outputs with cyclical transfer total 	2 byte		
address space memory of address range			
<ul style="list-style-type: none"> of the inputs 	16 byte		
<ul style="list-style-type: none"> of the outputs 	2 byte		
type of electrical connection of the communication interface	RJ45		
Electromagnetic compatibility			
conducted interference			
<ul style="list-style-type: none"> due to burst according to IEC 61000-4-4 	2 kV		
<ul style="list-style-type: none"> due to conductor-earth surge according to IEC 61000-4-5 	2 kV		
<ul style="list-style-type: none"> due to conductor-conductor surge according to IEC 61000-4-5 	1 kV		
<ul style="list-style-type: none"> due to high-frequency radiation according to IEC 61000-4-6 	10 V		
field-based interference according to IEC 61000-4-3	10 V/m		
electrostatic discharge according to IEC 61000-4-2	8 kV air discharge		
conducted HF interference emissions according to CISPR11	Class A for industrial environment		
field-bound HF interference emission according to CISPR11	Class A for industrial environment		
Supply voltage			
type of voltage of the supply voltage	DC		
supply voltage 1 at DC rated value			
<ul style="list-style-type: none"> minimum permissible 	19.2 V		
<ul style="list-style-type: none"> maximum permissible 	28.8 V		
auxiliary voltage at DC rated value	20.4 ... 28.8 V		
supply voltage at DC rated value	24 V		
inrush current peak with supply voltage at DC at 24 V	1.25 A		
duration of inrush current peak with supply voltage at DC at 24 V	5 ms		
power loss [W] at supply voltage at DC at 24 V	0.5 W		
Approvals Certificates			
General Product Approval	EMV	Test Certificates	other
 EG-Konf.		 UL	 RCM
		Type Test Certificates/Test Report	Confirmation
other	Environment		
	Environmental Conformations		
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=3RA8412-1EE00>

Cax online generator

<https://support.automation.siemens.com/WW/CAxorder/default.aspx?lang=en&mlfb=3RA8412-1EE00>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA8412-1EE00>

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

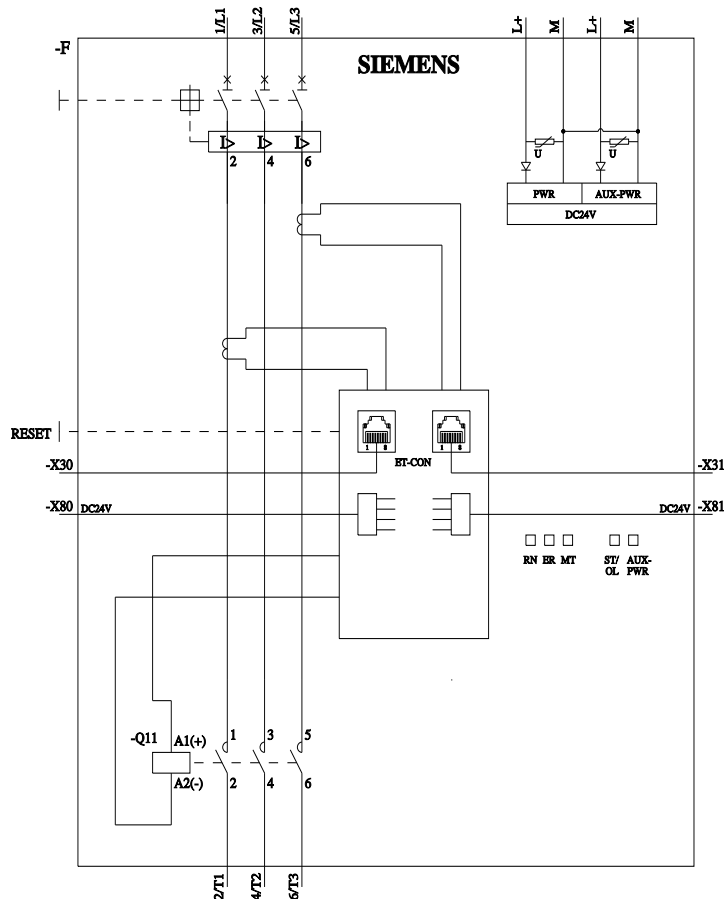
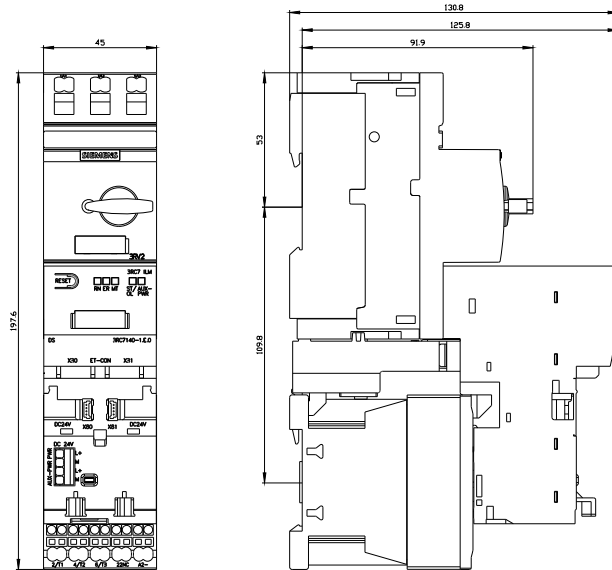
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA8412-1EE00&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RA8412-1EE00/char>

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

<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA8412-1EE00&objecttype=14&gridview=view1>



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