SIEMENS

Data sheet 3RK1301-0AB13-1AA4

F-RS1E-X FOR ET 200S FAILSAFE REVERSING STARTER SETTING RANGE 0.3...3A MECHANICAL SWITCHING ELECTRONIC PROTECTION EXPANDABLE FOR BRAKE CONTROL MODULE 2DI MODULE 2DI MODULE SIGNAL FROM CIRCUIT-BREAKER PARAMETERIZABLE

Figure similar

Product brand name	Sirius
Product designation	motor starter ET 200S
Design of the product	reversing starter

General technical data

Product function	
• on-site operation	Yes
Power loss [W] typical	9 W
Insulation voltage	
• rated value	500 V
Degree of pollution	3 at 400 V, 2 at 500 V according to IEC60664 (IEC61131)
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
• between main and auxiliary circuit	400 V
Protection class IP	IP20
Shock resistance	5g / 11 ms
Vibration resistance	2g
Operating frequency maximum	80 1/h

Mechanical service life (switching cycles)	
• of the main contacts typical	100 000
Type of assignment	2
Equipment marking	
• acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	A
• acc. to DIN EN 61346-2	Q
• acc. to DIN EN 81346-2	Q
Product function	
• direct start	No
• reverse starting	Yes
Product component Motor brake output	Yes
Product feature	
• brake control with 230 V AC	No
• brake control with 24 V DC	No
• brake control with 180 V DC	No
• brake control with 500 V DC	No
Product extension braking module for brake control	Yes
Product function Short circuit protection	Yes
Design of short-circuit protection	circuit-breakers
Trip class	CLASS 10 and 20 adjustable
Maximum short-circuit current breaking capacity (Icu)	
• at 400 V rated value	50 kA

Electromagnetic compatibility

EMC emitted interference	
• acc. to IEC 60947-1	CISPR11, ambience A (industrial sector)
EMI immunity acc. to IEC 60947-1	corresponds to degree of severity 3, ambience A (industrial sector)
Conducted interference	
• due to burst acc. to IEC 61000-4-4	2 kV on voltage supply, inputs and outputs
• due to conductor-earth surge acc. to IEC 61000-4-5	2 kV (U > 24 V DC)
• due to conductor-conductor surge acc. to IEC 61000-4-5	1 kV (U > 24 V DC)
Field-bound parasitic coupling acc. to IEC 61000-4-3	80 MHz ... 1 GHz 10 V/m, 1.4 GHz ...2 Hz 3 V/m, 2 GHz ... 2.7 GHz 1 V/m

Safety related data

Safety device type acc. to IEC 61508-2	Type B
SIL Claim Limit (subsystem) acc. to EN 62061	SILCL 3
Performance level (PL) acc. to EN ISO 13849-1	e
Category acc. to EN ISO 13849-1	4
Stop category acc. to DIN EN 60204-1	0

Safe failure fraction (SFF)	99.5 %
Average diagnostic coverage level (DCavg)	99 %
Failure rate [FIT]	
• at rate of recognizable hazardous failures (λdd)	3 800 FIT
• at rate of non-recognizable hazardous failures (λdu)	25 FIT
PFHD with high demand rate acc. to EN 62061	0.0000000018 1/h
PFDavg with low demand rate acc. to IEC 61508	0.00008
Average probability of failure on demand (PFDavg) with low demand rate acc. to IEC 61508	0.00008 1/y
MTBF	11 y
MTTFd	31 y
Hardware fault tolerance acc. to IEC 61508	1
T1 value for proof test interval or service life acc. to IEC 61508	10 y
Safe state	Load circuit open
Protection against electrical shock	finger-safe

Inputs/ Outputs

Product function	
• digital inputs parameterizable	Yes
• digital outputs parameterizable	No
Number of digital inputs	2
Number of sockets	
• for digital output signals	0
• for digital input signals	0

Main circuit

Number of poles for main current circuit	3
Design of the switching contact	electromechanical
Adjustable pick-up value current of the current-dependent overload release	0.3 ... 3 A
Type of the motor protection	solid-state
Operating voltage	
• rated value	200 ... 400 V
Operating frequency 1 rated value	50 Hz
Operating frequency 2 rated value	60 Hz
Operating range relative to the operating voltage at AC	
• at 50 Hz	200 ... 440 V
Operating power	
• **at AC-3**	
— at 400 V rated value	1.1 kW
Operating power for three-phase motors at 400 V at 50 Hz	0.1 ... 1.1 kW

Supply voltage	
Type of voltage of the supply voltage	DC
Supply voltage 1 at DC	24 ... 24 V
Supply voltage 1 at DC rated value	
• minimum permissible	20.4 V
• maximum permissible	28.8 V

Control circuit/ Control	
Type of voltage of the control supply voltage	DC
Control supply voltage at DC	
• rated value	21.6 ... 26.4 V
Control supply voltage 1	
• at DC rated value	21.6 ... 26.4 V
• at DC	24 ... 24 V

Power Electronics	
Relative negative tolerance of the operating frequency	10 %
Relative positive tolerance of the operating frequency	10 %

Installation/ mounting/ dimensions	
Mounting position	vertical, horizontal
Mounting type	pluggable on terminal module
Height	290 mm
Width	130 mm
Depth	150 mm

Ambient conditions	
Installation altitude at height above sea level	
• maximum	2 000 m
Ambient temperature	
• during operation	0 ... 60 °C
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
Relative humidity during operation	5 ... 95 %

Communication/ Protocol	
Protocol is supported	
• PROFIBUS DP protocol	Yes
• PROFINET protocol	Yes
Design of the interface	
• PROFINET protocol	Yes
Product function Bus communication	Yes
Protocol is supported	
• AS-interface protocol	No
Product function	

• supports PROFIenergy measured values	No
• supports PROFIenergy shutdown	No
Address space memory of address range	
• of inputs	2 byte
• of outputs	2 byte
Type of electrical connection	
• of the communication interface	via backplane bus
• for communication transmission	via backplane bus

Connections/Terminals

Type of electrical connection	
• for main current circuit	screw-type terminals
Type of electrical connection	
• 1 for digital input signals	using control module
• 2 for digital input signals	using control module
Type of electrical connection	
• at the manufacturer-specific device interface	plug
• for main energy infeed	screw-type terminals
• for load-side outgoing feeder	Screw-type terminals
• for main energy transmission	via energy bus
• for supply voltage line-side	via backplane bus
• for supply voltage transmission	via backplane bus

UL/CSA ratings

Operating voltage	
• at AC at 60 Hz acc. to CSA and UL rated value	600 V

Certificates/approvals

General Product Approval				Functional Safety/Safety of Machinery	Declaration of Conformity
CCC	CSA	UL	EAC	Type Examination	EG-Konf.

Test Certificates	other	
Type Test Certificates/Test Report	Environmental Confirmations	Confirmation

Further information

Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RK1301-0AB13-1AA4

Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RK1301-0AB13-1AA4

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RK1301-0AB13-1AA4

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RK1301-0AB13-1AA4&lang=en

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