SIEMENS

Data sheet 3RK1301-0CB13-0AA4

F-DS1E-X for ET 200S Failsafe D-O-L starter setting range 2.4...16 A mechanical switching electronic protection AC-3, to 7.5 kW / 400 V expandable for Brake Cont. Module, 2DI module, 2DI Control Module motor starter protector signal. can be parameterized

Figure similar

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

General technical data

Product function	
• on-site operation	Yes
Power loss [W] typical	18 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	Yes
• reverse starting	No
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	14 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	2.4 ... 16 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	7.5 kW
Operating power for three-phase motors at 400 V at 50 Hz	1.1 ... 7.5 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	65 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
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=3RK1301-0CB13-0AA4

Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RK1301-0CB13-0AA4

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RK1301-0CB13-0AA4

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RK1301-0CB13-0AA4&lang=en

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