



F-DS1E-X for ET 200S Fail-safe DOL starter Setting range 2.4...8 A
Mechanical switching Electronic protection AC-3, up to 3 kW / 400 V
expandable for Brake control module 2DI module 2DI module Circuit
breaker signaling parameterizable

product brand name	SIMATIC
product designation	Motor starters
design of the product	direct starter
product type designation	ET 200S
General technical data	
trip class	CLASS 10 and 20 adjustable
product function on-site operation	Yes
power loss [W] for rated value of the current at AC in hot operating state	10 W
• per pole	3.33 W
power loss [W] for rated value of the current without load current share typical	4.22 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
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
reference code acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	26.10.2016 00:00:00
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
breaking capacity maximum short-circuit current (Icu)	
• at 400 V rated value	50 kA

Electromagnetic compatibility	
EMC emitted interference acc. to IEC 60947-1	CISPR11, ambience A (industrial sector)
EMC 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-based interference 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 (λ_{dd})	3 800 FIT
• at rate of non-recognizable hazardous failures (λ_{du})	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 class IP on the front acc. to IEC 60529	IP20
touch protection on the front acc. to IEC 60529	finger-safe
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	2.4 ... 8 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
relative positive tolerance of the operating frequency	10 %
relative negative tolerance of the operating frequency	10 %
operating range relative to the operating voltage at AC at 50 Hz	200 ... 440 V
operational current	
• at AC-3 at 400 V rated value	8 A
operating power at AC-3 at 400 V rated value	3 kW
operating power for 3-phase motors at 400 V at 50 Hz	1.1 ... 3 kW
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
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
Installation/ mounting/ dimensions		
mounting position		vertical, horizontal
fastening method		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 the inputs		2 byte
• of the 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	EMC	Functional Safety/Safety of Machinery



[Type Examination Certificate](#)

Declaration of Conformity	Test Certificates	other
 EG-Konf.	Type Test Certificates/Test Report	Confirmation

Further information

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=3RK1301-0BB13-0AA4>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RK1301-0BB13-0AA4>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RK1301-0BB13-0AA4>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RK1301-0BB13-0AA4&lang=en

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