



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   |
| <b>General technical data</b>  |   |
| product function on-site operation   | Yes   |
| 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 protective separation between main and auxiliary circuit | 400 V   |
| shock resistance   | 5g / 11 ms  |
| vibration resistance   | 2g  |
| operating frequency maximum  | 80 1/h  |
| mechanical service life (operating cycles) of the main contacts typical                  | 100 000   |
| type of assignment   | 2   |
| reference code according to IEC 81346-2  | Q   |
| Substance Prohibitance (Date)  | 10/26/2016  |
| 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  |
| maximum short-circuit current breaking capacity (Icu)                                    |   |
| • at 400 V rated value   | 50 kA   |
| <b>Electromagnetic compatibility</b>   |   |
| EMC emitted interference according to IEC 60947-1  | CISPR11, ambience A (industrial sector)                             |
| EMC immunity according to IEC 60947-1  | corresponds to degree of severity 3, ambience A (industrial sector) |
| conducted interference   |   |
| • due to burst according to IEC 61000-4-4  | 2 kV on voltage supply, inputs and outputs                          |
| • due to conductor-earth surge according to IEC 61000-4-5                                | 2 kV (U > 24 V DC)  |
| • due to conductor-conductor surge according to IEC 61000-4-5                            | 1 kV (U > 24 V DC)  |

|   |  |
|---|--|
| <b>field-based interference according to IEC 61000-4-3</b>                                      | 80 MHz ... 1 GHz 10 V/m, 1.4 GHz ... 2 Hz 3 V/m, 2 GHz ... 2.7 GHz 1 V/m |
| <b>Safety related data</b>  |  |
| <b>safety device type according to IEC 61508-2</b>  | Type B   |
| <b>safe state</b>   | Load circuit open  |
| <b>SIL Claim Limit (subsystem) according to EN 62061</b>  | SILCL 3  |
| performance level (PL) according to EN ISO 13849-1  | e  |
| category according to EN ISO 13849-1  | 4  |
| <b>stop category according to EN 60204-1</b>  | 0  |
| <b>average diagnostic coverage level (DCavg)</b>  | 99 %   |
| PFHD with high demand rate according to EN 62061  | 1.8E-9 1/h   |
| <b>failure rate [FIT]</b>   |  |
| • at rate of recognizable hazardous failures ( $\lambda_{dd}$ )                                 | 3 800 FIT  |
| • at rate of non-recognizable hazardous failures ( $\lambda_{du}$ )                             | 25 FIT   |
| <b>Safe failure fraction (SFF)</b>  | 99.5 %   |
| <b>PFDavg with low demand rate according to IEC 61508</b>                                       | 8E-5   |
| <b>Average probability of failure on demand (PFDavg) with low demand rate acc. to IEC 61508</b> | 8E-5 1/y   |
| <b>MTBF</b>   | 14 a   |
| <b>MTTFd</b>  | 31 a   |
| <b>hardware fault tolerance according to IEC 61508</b>  | 1  |
| <b>protection class IP on the front according to IEC 60529</b>                                  | IP20   |
| <b>touch protection on the front according to IEC 60529</b>                                     | finger-safe  |
| <b>Main circuit</b>   |  |
| <b>number of poles for main current circuit</b>   | 3  |
| <b>design of the switching contact</b>  | electromechanical  |
| <b>adjustable current response value current of the current-dependent overload release</b>      | 2.4 ... 8 A  |
| <b>type of the motor protection</b>   | solid-state  |
| operating voltage rated value   | 200 ... 400 V  |
| <b>operating frequency 1 rated value</b>  | 50 Hz  |
| <b>operating frequency 2 rated value</b>  | 60 Hz  |
| <b>relative positive tolerance of the operating frequency</b>                                   | 10 %   |
| <b>relative negative tolerance of the operating frequency</b>                                   | 10 %   |
| operating range relative to the operating voltage at AC at 50 Hz                                | 200 ... 440 V  |
| <b>operational current</b>  |  |
| • 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   |
| <b>Inputs/ Outputs</b>  |  |
| <b>product function</b>   |  |
| • digital inputs parameterizable  | Yes  |
| • digital outputs parameterizable   | No   |
| <b>number of digital inputs</b>   | 2  |
| <b>number of sockets</b>  |  |
| • for digital output signals  | 0  |
| • for digital input signals   | 0  |
| <b>Supply voltage</b>   |  |
| <b>type of voltage of the supply voltage</b>  | DC   |
| <b>supply voltage 1 at DC</b>   | 24 ... 24 V  |
| <b>supply voltage 1 at DC rated value</b>   |  |
| • minimum permissible   | 20.4 V   |
| • maximum permissible   | 28.8 V   |
| <b>Control circuit/ Control</b>   |  |
| <b>type of voltage of the control supply voltage</b>  | DC   |
| control supply voltage at DC rated value  | 21.6 ... 26.4 V  |
| <b>control supply voltage 1</b>   |  |
| • at DC rated value   | 21.6 ... 26.4 V  |
| • at DC   | 24 ... 24 V  |
| <b>Installation/ mounting/ dimensions</b>   |  |
| <b>mounting position</b>  | vertical, horizontal   |
| <b>fastening method</b>   | pluggable on terminal module   |

|  |                      |
|--|----------------------|
| height   | 290 mm               |
| width  | 65 mm                |
| depth  | 150 mm               |
| <b>Ambient conditions</b>  |                      |
| installation altitude at height above sea level maximum              | 2 000 m              |
| <b>ambient temperature</b>   |                      |
| • during operation   | 0 ... 60 °C          |
| • during storage   | -40 ... +70 °C       |
| • during transport   | -40 ... +70 °C       |
| relative humidity during operation                                   | 5 ... 95 %           |
| <b>Communication/ Protocol</b>                                       |                      |
| <b>protocol is supported</b>   |                      |
| • PROFIBUS DP protocol   | Yes                  |
| • PROFINET protocol  | Yes                  |
| design of the interface PROFINET protocol                            | Yes                  |
| <b>product function bus communication</b>                            | Yes                  |
| protocol is supported AS-Interface protocol                          | No                   |
| <b>address space memory of address range</b>                         |                      |
| • of the inputs  | 2 byte               |
| • of the outputs   | 2 byte               |
| <b>type of electrical connection</b>                                 |                      |
| • of the communication interface                                     | via backplane bus    |
| • for communication transmission                                     | via backplane bus    |
| <b>Connections/ Terminals</b>  |                      |
| type of electrical connection for main current circuit               | screw-type terminals |
| <b>type of electrical connection</b>                                 |                      |
| • 1 for digital input signals  | using control module |
| • 2 for digital input signals  | using control module |
| <b>type of electrical connection</b>                                 |                      |
| • 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    |
| <b>UL/CSA ratings</b>  |                      |
| operating voltage at AC at 60 Hz according to CSA and UL rated value | 600 V                |
| <b>Certificates/ approvals</b>                                       |                      |
| General Product Approval   | EMC                  |



[Confirmation](#)



|                                       |                           |                   |       |                |
|---------------------------------------|---------------------------|-------------------|-------|----------------|
| Functional Safety/Safety of Machinery | Declaration of Conformity | Test Certificates | other | Dangerous Good |
|---------------------------------------|---------------------------|-------------------|-------|----------------|

[Type Examination Certificate](#)



[Type Test Certificates/Test Report](#)

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#### Further information

Siemens has decided to exit the Russian market (see here).

<https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business>

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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

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