



Fail-safe direct-on-line starter High Feature; Electronic switching; Electronic overload protection up to 4 kW / 400 V; Adjustment range 2.8 .. 9 A; PROFlenergy; Option: 3DI/LC module

product brand name	SIMATIC
product category	Motor starter
product designation	Direct-on-line starter
product type designation	ET 200SP
<b>General technical data</b>	
equipment version according to IEC 60947-4-2	3
product function	Fail-safe direct-on-line starter
<ul style="list-style-type: none"> <li>on-site operation</li> </ul>	Yes
<ul style="list-style-type: none"> <li>intrinsic device protection</li> </ul>	Yes
<ul style="list-style-type: none"> <li>remote firmware update</li> </ul>	Yes
<ul style="list-style-type: none"> <li>for power supply reverse polarity protection</li> </ul>	Yes
power loss [W] for rated value of the current	
<ul style="list-style-type: none"> <li>at AC in hot operating state per pole</li> </ul>	1.7 W
insulation voltage rated value	500 V
degree of pollution	2
overvoltage category	III
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation	
<ul style="list-style-type: none"> <li>between main and auxiliary circuit</li> </ul>	500 V
consumed current maximum	180 mA
shock resistance	6g / 11 ms
vibration resistance	15 mm to 6 Hz; 2g to 500 Hz
operating frequency maximum	1 1/s
mechanical service life (operating cycles) of the main contacts typical	30 000 000
type of coordination	1
utilization category	
<ul style="list-style-type: none"> <li>according to IEC 60947-4-2</li> </ul>	AC-53a: 9 A: (8-0,7: 70-32)
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	04/15/2016
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1
Weight	0.42 kg
product function	
<ul style="list-style-type: none"> <li>direct start</li> </ul>	Yes
<ul style="list-style-type: none"> <li>reverse starting</li> </ul>	No
product component motor brake output	No
product function short circuit protection	Yes
design of short-circuit protection	fuse

<b>maximum short-circuit current breaking capacity (Icu)</b>	
• at 400 V rated value	55 kA
• at 500 V rated value	55 kA
• at 500 V according to UL 60947 rated value	100 kA
<b>maximum short-circuit current breaking capacity (Icu) in the IT network</b>	
• at 400 V rated value	55 kA
• at 500 V rated value	55 kA
<b>Electromagnetic compatibility</b>	
EMC emitted interference according to IEC 60947-1	class A
EMC immunity according to IEC 60947-1	Class A
<b>conducted interference</b>	
• due to burst according to IEC 61000-4-4	3 kV
• due to conductor-earth surge according to IEC 61000-4-5	4 kV
• due to conductor-conductor surge according to IEC 61000-4-5	2 kV
• due to high-frequency radiation according to IEC 61000-4-6	Class A
<b>field-based interference according to IEC 61000-4-3</b>	20 V/m
<b>electrostatic discharge according to IEC 61000-4-2</b>	8 kV air discharge
<b>conducted HF interference emissions according to CISPR11</b>	Class A for industrial environment
<b>field-bound HF interference emission according to CISPR11</b>	Class A for industrial environment
<b>Safety related data</b>	
product function suitable for safety function	Yes
<b>suitability for use</b>	
• safety-related switching on	No
• safety-related switching OFF	Yes
<b>safe state</b>	Load circuit open
<b>test wear-related service life necessary</b>	Yes
<b>function test interval maximum</b>	0.083 a
<b>diagnostics test interval by internal test function maximum</b>	600 s
<b>stop category according to IEC 60204-1</b>	0
proportion of dangerous failures with high demand rate according to SN 31920	50 %
<b>B10 value with high demand rate according to SN 31920</b>	1 000 000
<b>IEC 62061</b>	
<b>Safety Integrity Level (SIL) according to IEC 62061</b>	SIL 3
<b>ISO 13849</b>	
<b>performance level (PL) according to ISO 13849-1</b>	PL e
<b>category according to ISO 13849-1</b>	4
<b>device type according to ISO 13849-1</b>	1
<b>overdimensioning according to ISO 13849-2 necessary</b>	No
<b>IEC 61508</b>	
Safety Integrity Level (SIL) according to IEC 61508	SIL 3
<b>safety device type according to IEC 61508-2</b>	Type B
<b>PFH according to IEC 61508 relating to SIL</b>	6E-9 1/h; for switching frequency 30/h
PFDavg with low demand rate according to IEC 61508	9E-7; for switching frequency 30/h
<b>Safe failure fraction (SFF)</b>	99.5 %
hardware fault tolerance according to IEC 61508	1
<b>T1 value</b>	
• of service life according to IEC 61508	20 a
<b>Electrical Safety</b>	
<b>touch protection against electrical shock</b>	finger-safe
<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>ATEX</b>	
<b>Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX</b>	SIL 1
<b>hardware fault tolerance according to IEC 61508 relating to ATEX</b>	1
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	3

<b>design of the switching contact</b>	Hybrid
<b>adjustable current response value current of the current-dependent overload release</b>	2.8 ... 9 A
<b>minimum load [%]</b>	50 %; from smallest adjustable rated current
<b>type of the motor protection</b>	solid-state
operating voltage rated value	48 ... 500 V
<b>relative symmetrical tolerance of the operating voltage</b>	10 %
<b>operating frequency 1 rated value</b>	50 Hz
<b>operating frequency 2 rated value</b>	60 Hz
<b>relative symmetrical tolerance of the operating frequency</b>	5 %
<b>relative positive tolerance of the operating frequency</b>	5 %
<b>relative negative tolerance of the operating frequency</b>	5 %
operational current at AC at 400 V rated value	9 A
<b>ampacity when starting maximum</b>	90 A
operating power for 3-phase motors at 400 V at 50 Hz	1.5 ... 4 kW

#### Inputs/ Outputs

<b>number of digital inputs</b>	5
<ul style="list-style-type: none"> <li>note</li> <li>safety-related</li> </ul>	4 via 3DI/LC module 1
<b>type of input characteristic</b>	Type 1 in accordance with EN 61131-2
input voltage at digital input at DC rated value	24 V
input current at digital input for signal <1> typical	0 A
<b>address space memory of address range</b>	
<ul style="list-style-type: none"> <li>of the inputs</li> <li>of the outputs</li> </ul>	4 byte 2 byte

#### Supply voltage

<b>type of voltage of the supply voltage</b>	DC
<b>supply voltage 1 at DC rated value</b>	
<ul style="list-style-type: none"> <li>minimum permissible</li> <li>maximum permissible</li> </ul>	20.4 V 28.8 V
<b>supply voltage at DC rated value</b>	24 V
<b>consumed current for rated value of supply voltage</b>	
<ul style="list-style-type: none"> <li>in standby mode of operation</li> <li>during operation</li> <li>at switching on of motor</li> </ul>	95 mA 90 mA 180 mA
<b>power loss [W] for rated value of supply voltage</b>	
<ul style="list-style-type: none"> <li>in switching state OFF with bypass circuit</li> <li>in switching state ON with bypass circuit</li> </ul>	2.2 W 4.32 W
inrush current peak at 24 V	25 A; Observe the manual for group configuration
duration of inrush current peak at 24 V	0.14 ms

#### Response times

<b>ON-delay time</b>	35 ms
<b>OFF-delay time</b>	35 ... 50 ms
<b>OFF-delay time with safety-related request</b>	
<ul style="list-style-type: none"> <li>when switched off via control inputs maximum</li> <li>when switched off via supply voltage maximum</li> </ul>	55 ms 120 ms

#### Power Electronics

<b>operational current</b>	
<ul style="list-style-type: none"> <li>at 40 °C rated value</li> <li>at 50 °C rated value</li> <li>at 55 °C rated value</li> <li>at 60 °C rated value</li> </ul>	9 A 9 A 9 A 9 A

#### Installation/ mounting/ dimensions

<b>mounting position</b>	Vertical, horizontal (observe derating)
<b>fastening method</b>	pluggable in BaseUnit
<b>height</b>	142 mm
<b>width</b>	30 mm
<b>depth</b>	150 mm
required spacing with side-by-side mounting	
<ul style="list-style-type: none"> <li>upwards</li> <li>downwards</li> </ul>	50 mm 50 mm

Ambient conditions	
installation altitude at height above sea level maximum	4 000 m; For derating see manual
<b>ambient temperature</b>	
• during operation	-25 ... +60 °C; For derating see manual
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
environmental category during operation according to IEC 60721	3K6 (no formation of ice, no condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices)
relative humidity during operation	10 ... 95 %
air pressure according to SN 31205	900 ... 1 060 hPa

Communication/ Protocol	
<b>protocol is supported</b>	
• PROFIBUS DP protocol	Yes
• PROFINET protocol	Yes
<b>product function bus communication</b>	Yes
protocol is supported AS-Interface protocol	No
<b>product function</b>	
• supports PROFinergy measured values	Yes
• supports PROFinergy shutdown	Yes
type of electrical connection of the communication interface	Plug contact to Base Unit

Connections/ Terminals	
<b>type of electrical connection</b>	
• 1 for digital input signals	Pluggable module - accessory
• 2 for digital input signals	Plug contact to Base Unit
<b>type of electrical connection</b>	
• for main energy infeed	Plug contact to Base Unit
• for load-side outgoing feeder	Plug contact to Base Unit
• for supply voltage line-side	Plug contact to Base Unit
<b>wire length for motor unshielded maximum</b>	200 m

UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor at 480 V rated value	9 A
current with locked rotor (LRA) for 3-phase AC motor at 480 V rated value	72 A
<b>yielded mechanical performance [hp]</b>	
• for single-phase AC motor	
— at 110/120 V rated value	0.33 hp
— at 230 V rated value	1 hp
• for 3-phase AC motor	
— at 200/208 V rated value	2 hp
— at 220/230 V rated value	2 hp
— at 460/480 V rated value	5 hp
operating voltage at AC at 60 Hz according to CSA and UL rated value	480 V

Approvals Certificates	
General Product Approval	EMV



EMV	For use in hazardous locations	Functional Safety	Test Certificates	Maritime application
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[KC](#)



[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)



Maritime application	other	Dangerous goods	Environment
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[Confirmation](#)

[Transport Information](#)

[Environmental Confirmations](#)

## Industrial Communication



## 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=3RK1308-0CD00-0CP0>

Cax online generator

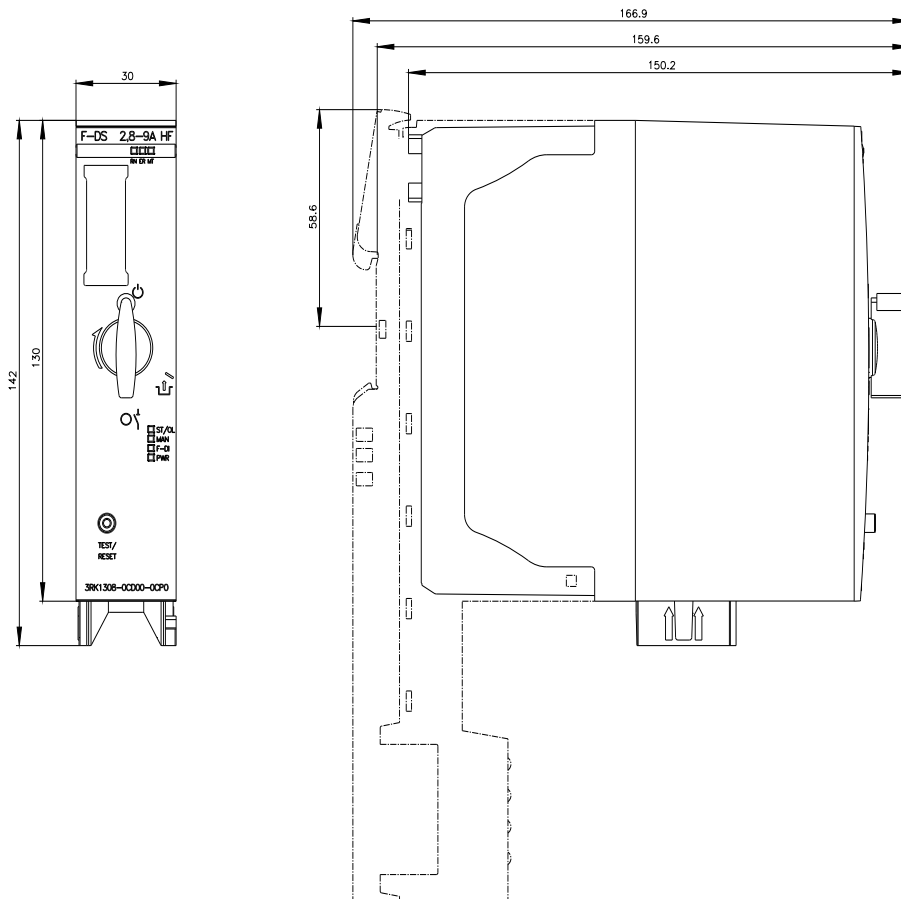
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RK1308-0CD00-0CP0>

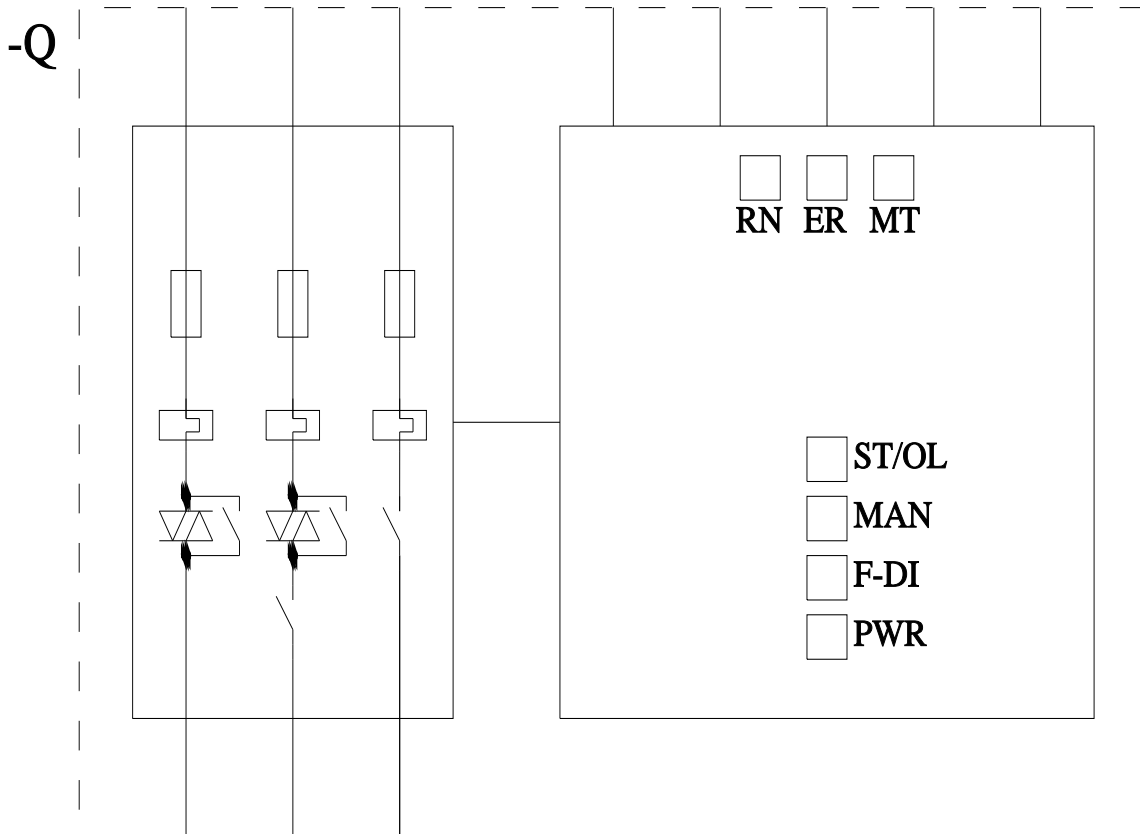
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RK1308-0CD00-0CP0>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RK1308-0CD00-0CP0&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RK1308-0CD00-0CP0&lang=en)





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