

Failsafe reversing starter, Electronic switching Electronic overload protection up to 4 kW / 400 V; 2.8 A to 9 A High-Feature Option: 3DI/LC module PROFlenergy



Product brand name	SIMATIC
Product category	Motor starter
Product designation	Reversing starter
Product type designation	ET 200SP

General technical data	
Trip class	CLASS OFF / 5 / 10 adjustable
Equipment variant acc. to IEC 60947-4-2	3
Product function	Fail-safe reversing starter
<ul style="list-style-type: none"> • on-site operation • Intrinsic device protection • Remote firmware update • for power supply Reverse polarity protection 	<ul style="list-style-type: none"> Yes Yes Yes Yes
Power loss [W] for rated value of the current	
<ul style="list-style-type: none"> • at AC in hot operating state per pole 	1.7 W
Insulation voltage	
<ul style="list-style-type: none"> • rated value 	500 V
Degree of pollution	2
Overvoltage category	III
maximum permissible voltage for safe isolation	

<ul style="list-style-type: none"> • between main and auxiliary circuit 	500 V
Protection class IP	IP20
Shock resistance	6g / 11 ms
Vibration resistance	15 mm to 6 Hz; 2g to 500 Hz
Mechanical service life (switching cycles) <ul style="list-style-type: none"> • of the main contacts typical 	15 000 000
Type of assignment	1
Usage category <ul style="list-style-type: none"> • acc. to IEC 60947-4-2 	AC-53a: 9 A: (8-0,7: 70-32)
Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	Q
Reference code acc. to DIN EN 81346-2	Q
Reference code acc. to DIN EN 61346-2	A
Product function <ul style="list-style-type: none"> • direct start • reverse starting 	Yes Yes
Product component Motor brake output	No
Product function Short circuit protection	Yes
Design of short-circuit protection	fuse
Maximum short-circuit current breaking capacity (Icu) <ul style="list-style-type: none"> • at 400 V rated value • at 500 V rated value • at 500 V acc. to UL 60947 rated value 	55 kA 55 kA 100 kA
Maximum short-circuit current breaking capacity (Icu) in the IT network <ul style="list-style-type: none"> • at 400 V rated value • at 500 V rated value 	55 kA 55 kA

Electromagnetic compatibility

EMC emitted interference <ul style="list-style-type: none"> • acc. to IEC 60947-1 	class A
EMI immunity acc. to IEC 60947-1	Class A
Conducted interference <ul style="list-style-type: none"> • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 • due to high-frequency radiation acc. to IEC 61000-4-6 	3 kV 4 kV 2 kV Class A
Field-bound parasitic coupling acc. to IEC 61000-4-3	20 V/m
Electrostatic discharge acc. to IEC 61000-4-2	8 kV air discharge
Conducted HF-interference emissions acc. to CISPR11	Class A for industrial environment

Field-bound HF-interference emission acc. to CISPR11	Class A for industrial environment
Safety related data	
Safety device type acc. to IEC 61508-2	Type B
B10d value	2 200 000
Safety Integrity Level (SIL) acc. to IEC 61508	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
Diagnostics test interval by internal test function maximum	600 s
PFH acc. to IEC 61508 relating to SIL	0.0000000036 1/h
PFDavg with low demand rate acc. to IEC 61508	0.00000041
Hardware fault tolerance acc. to IEC 61508	1
T1 value for proof test interval or service life acc. to IEC 61508	20 y
Safe state	Load circuit open
Protection against electrical shock	finger-safe
Main circuit	
Number of poles for main current circuit	3
Design of the switching contact	Hybrid
Adjustable pick-up value current of the current-dependent overload release	2.8 ... 9 A
Minimum load [%]	50 %
Type of the motor protection	solid-state
Operating voltage	
• rated value	48 ... 500 V
Relative symmetrical tolerance of the operating voltage	10 %
Operating frequency 1 rated value	50 Hz
Operating frequency 2 rated value	60 Hz
Relative symmetrical tolerance of the operating frequency	5 %
Relative positive tolerance of the operating frequency	5 %
Relative negative tolerance of the operating frequency	5 %
Operating current	
• at AC at 400 V rated value	9 A
Ampacity when starting maximum	90 A
Operating power for three-phase motors at 400 V at 50 Hz	1.5 ... 4 kW
Inputs/ Outputs	
Number of digital inputs	5

<ul style="list-style-type: none"> Note safety-related 	4 via 3DI/LC module 1
Type of input characteristic	Type 1 in accordance with EN 61131-2
Input voltage at digital input	
<ul style="list-style-type: none"> at DC rated value with signal <0> at DC for signal <1> at DC 	24 V 0 ... 5 V 15 ... 30
Input current at digital input	
<ul style="list-style-type: none"> for signal <1> typical 	0.009 A

Supply voltage

Type of voltage of the supply voltage	DC
Supply voltage 1 at DC rated value	
<ul style="list-style-type: none"> minimum permissible maximum permissible 	20.4 V 28.8 V
Supply voltage at DC rated value	24 V
Consumed current	
<ul style="list-style-type: none"> for rated value of supply voltage in standby mode for rated value of supply voltage during operation at rated value of supply voltage at switching on 	95 mA 160 mA 250 mA
Power loss [W] for rated value of supply voltage	
<ul style="list-style-type: none"> in switching state OFF with bypass circuit in switching state ON with bypass circuit 	2.3 W 3.8 W
Inrush current peak	
<ul style="list-style-type: none"> at 24 V 	25 A
Duration of inrush current peak	
<ul style="list-style-type: none"> at 24 V 	0.145 ms

Response times

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

Installation/ mounting/ dimensions

Mounting type	pluggable in BaseUnit
Height	142 mm
Width	30 mm
Depth	150 mm
Required spacing	
<ul style="list-style-type: none"> with side-by-side mounting 	

— upwards	50 mm
— downwards	50 mm

Ambient conditions

Installation altitude at height above sea level	
• maximum	2 000 m; For derating see manual
Ambient temperature	
• during operation	-25 ... +60 °C; For derating see manual
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
Environmental category during operation acc. 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	
• acc. to SN 31205	900 ... 1 060 hPa

Communication/ Protocol

Protocol is supported	
• PROFIBUS DP protocol	Yes
• PROFINET protocol	Yes
Product function Bus communication	Yes
Protocol is supported	
• AS-Interface protocol	No
Product function	
• supports PROFIenergy measured values	Yes
• supports PROFIenergy shutdown	Yes
address range memory of address range	
• of the inputs	4 byte
• of the outputs	2 byte
Type of electrical connection	
• of the communication interface	Plug contact to Base Unit

Connections/ Terminals

Type of electrical connection	
• 1 for digital input signals	Pluggable module - accessory
• 2 for digital input signals	Plug contact to Base Unit
Type of electrical connection	
• 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
Wire length for motor unshielded maximum	200 m

UL/CSA ratings

Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	9 A

Current with locked rotor (LRA) for three-phase AC motor at 480 V rated value	72 A
Yielded mechanical performance [hp] <ul style="list-style-type: none"> for single-phase AC motor <ul style="list-style-type: none"> at 110/120 V rated value at 230 V rated value for three-phase AC motor <ul style="list-style-type: none"> at 200/208 V rated value at 220/230 V rated value at 460/480 V rated value 	0.33 hp 1 hp 2 hp 2 hp 5 hp
Operating voltage <ul style="list-style-type: none"> at AC at 60 Hz acc. to CSA and UL rated value 	480 V

Certificates/ approvals

General Product Approval	EMC	For use in hazardous locations
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Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Type Examination Certificate](#)



[Type Test Certificates/Test Report](#)



other

[Confirmation](#)



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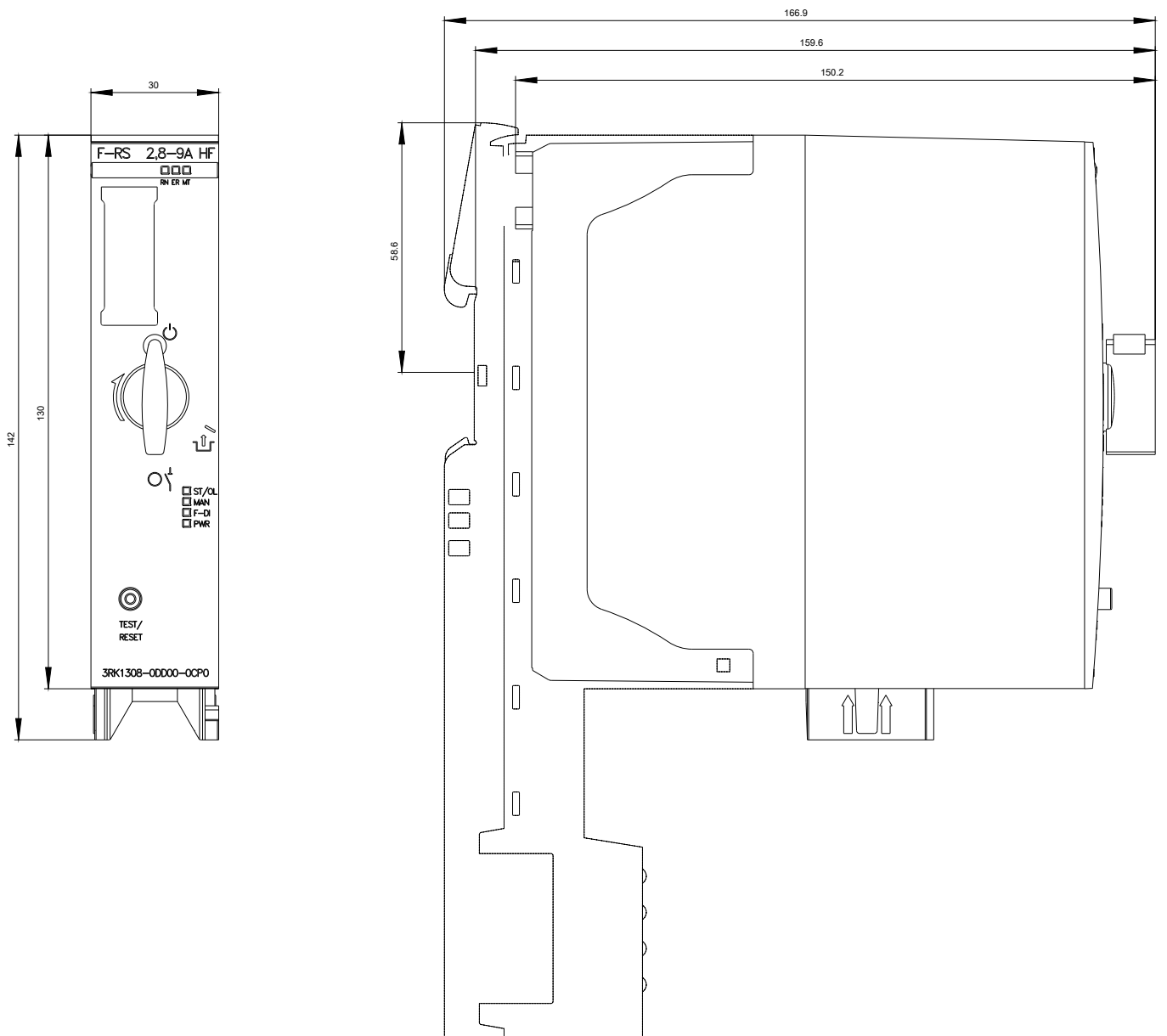
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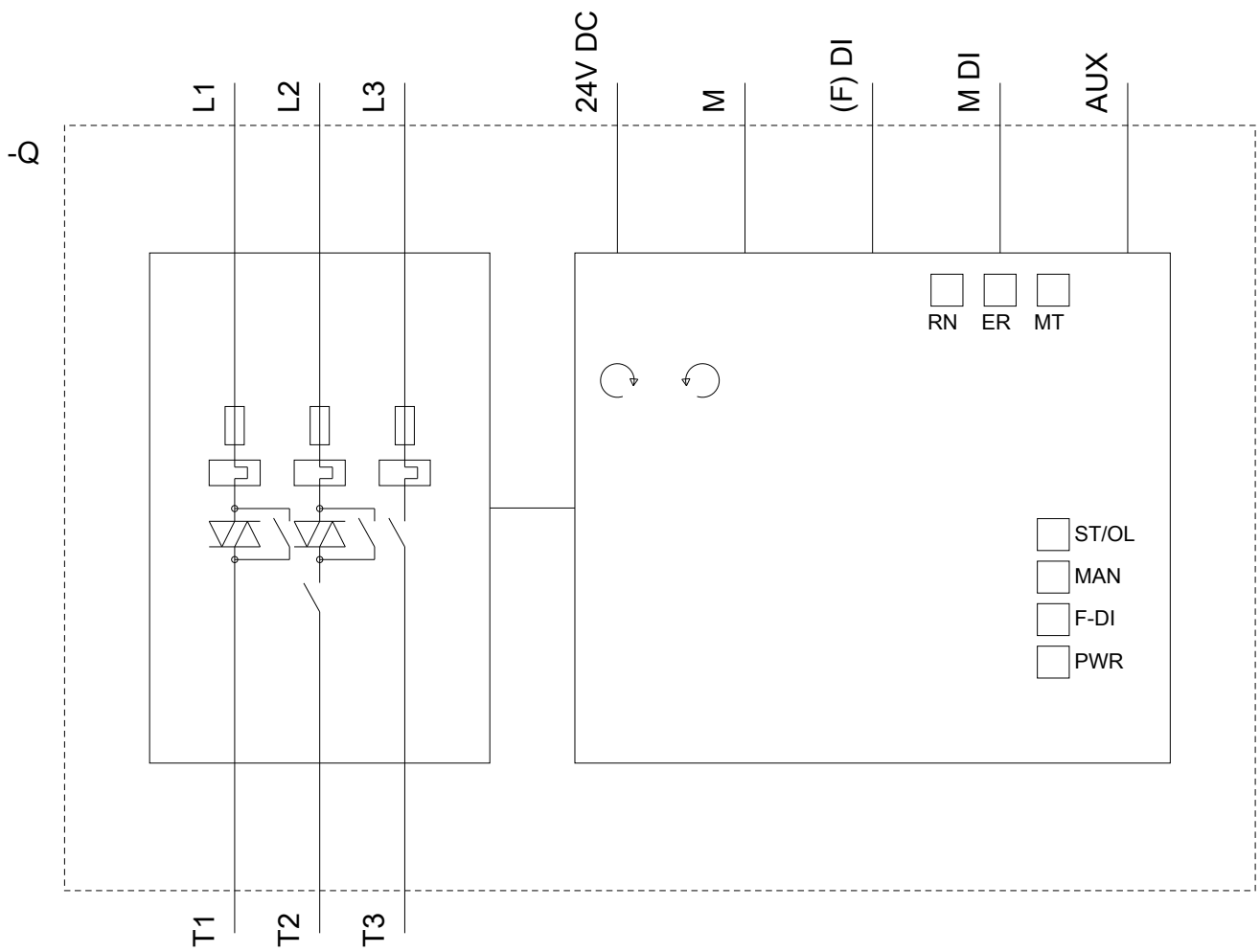
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