SIEMENS

Data sheet

3RW5075-2TB05



SIRIUS soft starter 200-600 V 370 A, 24 V AC/DC Spring-loaded terminals Thermistor input

rigure similar	Figure	similar
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product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW50
manufacturer's article number	
 of standard HMI module usable 	<u>3RW5980-0HS01</u>
 of high feature HMI module usable 	<u>3RW5980-0HF00</u>
 of communication module PROFINET standard usable 	<u>3RW5980-0CS00</u>
 of communication module PROFIBUS usable 	<u>3RW5980-0CP00</u>
 of communication module Modbus TCP usable 	<u>3RW5980-0CT00</u>
 of communication module Modbus RTU usable 	<u>3RW5980-0CR00</u>
 of communication module Ethernet/IP 	<u>3RW5980-0CE00</u>
 of circuit breaker usable at 400 V 	<u>3VA2580-6HN32-0AA0; Type of assignment 1, lq = 65 kA</u>
 of circuit breaker usable at 500 V 	<u>3VA2580-6HN32-0AA0; Type of assignment 1, lq = 65 kA</u>
 of the gG fuse usable up to 690 V 	2x3NA3365-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	<u>3NE1 334-2; Type of coordination 2, Iq = 65 kA</u>
 of back-up R fuse link for semiconductor protection usable up to 690 V 	<u>3NE3 336; Type of coordination 2. Iq = 65 kA</u>
 of line contactor usable up to 480 V 	<u>3RT1075</u>
 of line contactor usable up to 690 V 	<u>3RT1075</u>
eneral technical data	
starting voltage [%]	30 100 %
stopping voltage [%]	50 50 %
start-up ramp time of soft starter	0 20 s
ramp-down time of soft starter	0 20 s
current limiting value [%] adjustable	130 700 %
accuracy class acc. to IEC 61557-12	5 %
certificate of suitability	
CE marking	Yes
UL approval	Yes
CSA approval	Yes
product component is supported	
HMI-Standard	Yes
HMI-High Feature	Yes
product feature integrated bypass contact system	Yes
number of controlled phases	2

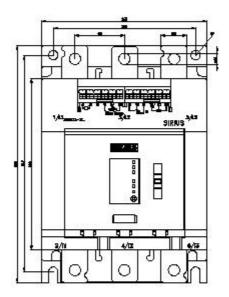
trip class	CLASS 10A / 10E (preset) / 20E; acc. to IEC 60947-4-2
buffering time in the event of power failure	
 for main current circuit 	100 ms
for control circuit	100 ms
insulation voltage rated value	600 V
degree of pollution	3, acc. to IEC 60947-4-2
impulse voltage rated value	6 kV
blocking voltage of the thyristor maximum	1 600 V
service factor	1
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
 between main and auxiliary circuit 	600 V
shock resistance	15 g / 11 ms, from 12 g / 11 ms with potential contact lifting
vibration resistance	15 mm to 6 Hz; 2g to 500 Hz
reference code acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	23.09.2019 00:00:00
product function	
 ramp-up (soft starting) 	Yes
 ramp-down (soft stop) 	Yes
Soft Torque	Yes
 adjustable current limitation 	Yes
 pump ramp down 	Yes
 intrinsic device protection 	Yes
 motor overload protection 	Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)
 evaluation of thermistor motor protection 	Yes; Type A PTC or Klixon / Thermoclick
auto-RESET	Yes
manual RESET	Yes
 remote reset 	Yes; By turning off the control supply voltage
 communication function 	Yes
 operating measured value display 	Yes; Only in conjunction with special accessories
 error logbook 	Yes; Only in conjunction with special accessories
 via software parameterizable 	No
 via software configurable 	Yes
PROFlenergy	Yes; in connection with the PROFINET Standard communication module
 voltage ramp 	Yes
torque control	No
analog output	No
Power Electronics	
operational current	
• at 40 °C rated value	370 A
• at 50 °C rated value	328 A
• at 60 °C rated value	300 A
operating voltage	
rated value	200 600 V
relative negative tolerance of the operating voltage	-15 %
relative positive tolerance of the operating voltage	10 %
operating power for 3-phase motors	
• at 230 V at 40 °C rated value	110 kW
• at 400 V at 40 °C rated value	200 kW
• at 500 V at 40 °C rated value	250 kW
Operating frequency 1 rated value	50 Hz
Operating frequency 2 rated value	60 Hz
relative negative tolerance of the operating frequency	-10 %
relative positive tolerance of the operating frequency	10 %
adjustable motor current	
 at rotary coding switch on switch position 1 	160 A
 at rotary coding switch on switch position 2 	174 A

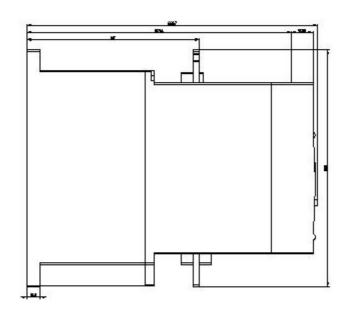
• at rotary coding switch on switch position 3188 A• at rotary coding switch on switch position 4202 A• at rotary coding switch on switch position 5216 A• at rotary coding switch on switch position 6230 A• at rotary coding switch on switch position 7244 A• at rotary coding switch on switch position 8258 A• at rotary coding switch on switch position 9272 A• at rotary coding switch on switch position 10286 A• at rotary coding switch on switch position 11300 A• at rotary coding switch on switch position 12314 A• at rotary coding switch on switch position 13328 A• at rotary coding switch on switch position 14342 A• at rotary coding switch on switch position 15356 A• at rotary coding switch on switch position 16370 A	
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 at rotary coding switch on switch position 14 at rotary coding switch on switch position 15 356 A 	
at rotary coding switch on switch position 15 356 A	
• at rotary county switch position to 370 A	
• minimum 160 A	
power loss [W] for rated value of the current at AC	
• at 40 °C after startup 36 W	
• at 50 °C after startup 29 W	
• at 60 °C after startup 24 W	
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup 3 726 W	
• at 50 °C during startup 3 124 W	
• at 60 °C during startup 2 748 W	
type of the motor protection Electronic, tripping in the event of thermal overload of t	ine motor
Control circuit/ Control	
type of voltage of the control supply voltage AC/DC	
control supply voltage at AC	
• at 50 Hz rated value 24 V	
at 60 Hz rated value 24 V	
relative negative tolerance of the control supply -20 % voltage at AC at 50 Hz -20 %	
relative positive tolerance of the control supply 20 % voltage at AC at 50 Hz 20 %	
relative negative tolerance of the control supply -20 % voltage at AC at 60 Hz -20 %	
relative positive tolerance of the control supply 20 % voltage at AC at 60 Hz 20 %	
control supply voltage frequency 50 60 Hz	
relative negative tolerance of the control supply -10 %	
voltage frequency 10 %	
voltage frequency	
control supply voltage	
at DC rated value 24 V	
relative negative tolerance of the control supply -20 % voltage at DC -20 %	
relative positive tolerance of the control supply 20 % voltage at DC 20 %	
control supply current in standby mode rated value 160 mA	
holding current in bypass operation rated value 490 mA	
locked-rotor current at close of bypass contact 7.6 A	
maximum inrush current peak at application of control supply voltage 3.3 A	
maximum duration of inrush current peak at application of control 12.1 ms	
supply voltage design of the overvoltage protection Varistor	
design of the overvoltage protection Varistor design of short-circuit protection for control circuit 4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA)	A) C1 miniaturo
circuit breaker (Icu= 1 kA), 6 A quick-acting lise (Icu= 1 kA), 7 quick-acting lise (Icu= 1 kA), 7 quick-acting lise (Icu	

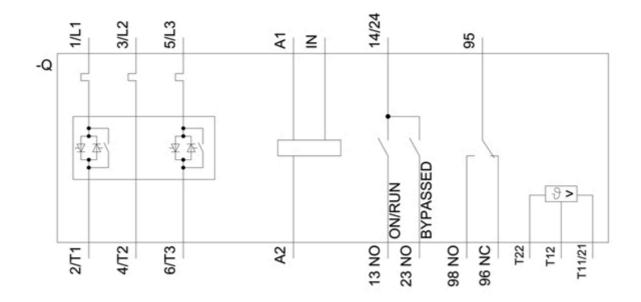
Inputs/ Outputs	
number of digital inputs	1
number of inputs for thermistor connection	1; Type A PTC or Klixon / Thermoclick
number of digital outputs	3
not parameterizable	2
digital output version	2 normally-open contacts (NO) / 1 changeover contact (CO)
number of analog outputs	0
switching capacity current of the relay outputs	
 at AC-15 at 250 V rated value 	3 A
 at DC-13 at 24 V rated value 	1 A
Installation/ mounting/ dimensions	-
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method	screw fixing
height	230 mm
width	160 mm
depth	282 mm
required spacing with side-by-side mounting	
 forwards 	10 mm
 backwards 	0 mm
upwards	100 mm
 downwards 	75 mm
at the side	5 mm
weight without packaging	7.3 kg
Connections/ Terminals	
type of electrical connection	
for main current circuit	busbar connection
for control circuit	spring-loaded terminals
width of connection bar maximum	45 mm
wire length for thermistor connection	
 with conductor cross-section = 0.5 mm² maximum 	50 m
 with conductor cross-section = 1.5 mm² maximum 	150 m
• with conductor cross-section = 2.5 mm ² maximum	250 m
type of connectable conductor cross-sections	
 for main contacts for box terminal using the front clamping point solid 	95 300 mm²
 for main contacts for box terminal using the front clamping point finely stranded with core end processing 	70 240 mm²
 for main contacts for box terminal using the front clamping point finely stranded without core end processing 	70 240 mm²
 for main contacts for box terminal using the front clamping point stranded 	95 300 mm²
 at AWG cables for main contacts for box terminal using the front clamping point 	3/0 600 kcmil
 for main contacts for box terminal using the back clamping point solid 	120 240 mm²
 at AWG cables for main contacts for box terminal using the back clamping point 	250 500 kcmil
 for main contacts for box terminal using both clamping points solid 	min. 2x 70 mm², max. 2x 240 mm²
 for main contacts for box terminal using both clamping points finely stranded with core end processing 	min. 2x 50 mm², max. 2x 185 mm²
 for main contacts for box terminal using both clamping points finely stranded without core end processing 	min. 2x 50 mm², max. 2x 185 mm²
 for main contacts for box terminal using both clamping points stranded 	min. 2x 70 mm², max. 2x 240 mm²
 for main contacts for box terminal using the back clamping point finely stranded with core end 	120 185 mm²

processing	
 for main contacts for box terminal using the back clamping point finely stranded without core end processing 	120 185 mm²
 for main contacts for box terminal using the back clamping point stranded 	120 240 mm²
type of connectable conductor cross-sections	
 at AWG cables for main current circuit solid 	2/0 500 kcmil
 for DIN cable lug for main contacts stranded 	50 240 mm²
 for DIN cable lug for main contacts finely stranded 	70 240 mm²
type of connectable conductor cross-sections	
for control circuit solid	2x (0.25 1.5 mm²)
 for control circuit finely stranded with core end processing 	2x (0.25 1.5 mm ²)
 at AWG cables for control circuit solid 	2x (24 16)
at AWG cables for control circuit finely stranded with core end processing	2x (24 16)
wire length	
 between soft starter and motor maximum 	800 m
 at the digital inputs at AC maximum 	1 000 m
tightening torque	
 for main contacts with screw-type terminals 	14 24 N·m
 for auxiliary and control contacts with screw-type 	0.8 1.2 N·m
terminals	
tightening torque [lbf·in]	
 for main contacts with screw-type terminals 	124 210 lbf·in
 for auxiliary and control contacts with screw-type 	7 10.3 lbf·in
terminals	
Ambient conditions	
installation altitude at height above sea level maximum	5 000 m; Derating as of 1000 m, see manual
ambient temperature	
 during operation 	-25 +60 °C; Please observe derating at temperatures of 40 °C or above
 during storage and transport 	-40 +80 °C
environmental category	
during operation acc. to IEC 60721	3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
• during storage acc. to IEC 60721	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4
 during transport acc. to IEC 60721 	2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)
EMC emitted interference	acc. to IEC 60947-4-2: Class A
Communication/ Protocol	
communication module is supported	
PROFINET standard	Yes
EtherNet/IP	Yes
Modbus RTU	Yes
Modbus TCP	Yes
Modbus TCP PROFIBUS	Yes
• PROFIBUS	
PROFIBUS UL/CSA ratings	
• PROFIBUS UL/CSA ratings manufacturer's article number	
PROFIBUS UL/CSA ratings manufacturer's article number of the fuse — usable for Standard Faults up to 575/600 V	Yes
PROFIBUS UL/CSA ratings manufacturer's article number of the fuse — usable for Standard Faults up to 575/600 V according to UL — usable for High Faults up to 575/600 V	Yes Type: Class L, max. 1200 A; lq = 18 kA
PROFIBUS UL/CSA ratings manufacturer's article number of the fuse — usable for Standard Faults up to 575/600 V according to UL — usable for High Faults up to 575/600 V according to UL	Yes Type: Class L, max. 1200 A; lq = 18 kA
PROFIBUS UL/CSA ratings manufacturer's article number of the fuse — usable for Standard Faults up to 575/600 V according to UL — usable for High Faults up to 575/600 V according to UL operating power [hp] for 3-phase motors	Yes Type: Class L, max. 1200 A; lq = 18 kA Type: Class L, max. 1200 A; lq = 100 kA
PROFIBUS UL/CSA ratings manufacturer's article number of the fuse — usable for Standard Faults up to 575/600 V according to UL — usable for High Faults up to 575/600 V according to UL operating power [hp] for 3-phase motors e at 200/208 V at 50 °C rated value	Yes Type: Class L, max. 1200 A; lq = 18 kA Type: Class L, max. 1200 A; lq = 100 kA 100 hp 125 hp
PROFIBUS UL/CSA ratings manufacturer's article number of the fuse — usable for Standard Faults up to 575/600 V according to UL — usable for High Faults up to 575/600 V according to UL Operating power [hp] for 3-phase motors e at 200/208 V at 50 °C rated value e at 220/230 V at 50 °C rated value e at 460/480 V at 50 °C rated value	Yes Type: Class L, max. 1200 A; lq = 18 kA Type: Class L, max. 1200 A; lq = 100 kA 100 hp 125 hp 250 hp
PROFIBUS UL/CSA ratings manufacturer's article number of the fuse — usable for Standard Faults up to 575/600 V according to UL — usable for High Faults up to 575/600 V according to UL operating power [hp] for 3-phase motors e at 200/208 V at 50 °C rated value e at 220/230 V at 50 °C rated value	Yes Type: Class L, max. 1200 A; lq = 18 kA Type: Class L, max. 1200 A; lq = 100 kA 100 hp 125 hp

protection class IP on the front acc. to IEC 60529	IP00: IP20 with cover
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front with cover
TEX	
certificate of suitability	
• ATEX	Yes
• IECEx	Yes
hardware fault tolerance acc. to IEC 61508 relating to ATEX	0
PFDavg with low demand rate acc. to IEC 61508 relating to ATEX	0.09
PFHD with high demand rate acc. to EN 62061 relating to ATEX	0.000009 1/h
Safety Integrity Level (SIL) acc. to IEC 61508 relating to ATEX	SIL1
T1 value for proof test interval or service life acc. to IEC 61508 relating to ATEX	3 у
Certificates/ approvals	
General Product Approval	For use in hazardous locations
Declaration of Conformity Test Certific	ates other
Declaration of Conformity Test Certific Miscellaneous Type Test Certific ates/Test Ref	ertific- Confirmation
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