## **SIEMENS**

Data sheet 3RW5227-1TC05



SIRIUS soft starter 200-600 V 93 A, 24 V AC/DC Screw terminals Thermistor input

product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW52
manufacturer's article number	
<ul> <li>of standard HMI module usable</li> </ul>	3RW5980-0HS00
<ul> <li>of high feature HMI module usable</li> </ul>	3RW5980-0HF00
<ul> <li>of communication module PROFINET standard usable</li> </ul>	3RW5980-0CS00
<ul> <li>of communication module PROFIBUS usable</li> </ul>	3RW5980-0CP00
<ul> <li>of communication module Modbus TCP usable</li> </ul>	3RW5980-0CT00
<ul> <li>of communication module Modbus RTU usable</li> </ul>	3RW5980-0CR00
<ul> <li>of communication module Ethernet/IP</li> </ul>	3RW5980-0CE00
<ul> <li>of circuit breaker usable at 400 V</li> </ul>	3VA2216-7MN32-0AA0; Type of coordination 1, Iq = 15 kA, CLASS 10
<ul> <li>of circuit breaker usable at 500 V</li> </ul>	3VA2216-7MN32-0AA0; Type of coordination 1, Iq = 10 kA, CLASS 10
<ul> <li>of circuit breaker usable at 400 V at inside-delta circuit</li> </ul>	3VA2220-7MN32-0AA0; Type of coordination 1, Iq = 15 kA, CLASS 10
<ul> <li>of circuit breaker usable at 500 V at inside-delta circuit</li> </ul>	3VA2220-7MN32-0AA0; Type of coordination 1, Iq = 10 kA, CLASS 10
<ul> <li>of the gG fuse usable up to 690 V</li> </ul>	3NA3136-6; Type of coordination 1, Iq = 65 kA
<ul> <li>of the gG fuse usable at inside-delta circuit up to 500 V</li> </ul>	3NA3136-6; Type of coordination 1, Iq = 65 kA
<ul> <li>of full range R fuse link for semiconductor protection usable up to 690 V</li> </ul>	3NE1224-0; Type of coordination 2, Iq = 65 kA
<ul> <li>of back-up R fuse link for semiconductor protection usable up to 690 V</li> </ul>	3NE4124; Type of coordination 2, Iq = 65 kA

General technical data	
starting voltage [%]	30 100 %
stopping voltage [%]	50 %; non-adjustable
start-up ramp time of soft starter	0 20 s
current limiting value [%] adjustable	130 700 %
certificate of suitability	
<ul> <li>CE marking</li> </ul>	Yes
UL approval	Yes
CSA approval	Yes
product component	
HMI-High Feature	No
<ul> <li>is supported HMI-Standard</li> </ul>	Yes
is supported HMI-High Feature	Yes
product feature integrated bypass contact system	Yes
number of controlled phases	3

trip class  buffering time in the event of power failure  • for main current circuit  • for control circuit  Insulation votage rated value  degree of pollution  • purple of the thyristor maximum  • pervice factor  • surge votage resistance rated value  • surge votage resistance rated value  • between main and auxiliary circuit  • between main and auxiliary circuit  • between main and auxiliary circuit  • between near and possible votage for safe isolation  • between main and auxiliary circuit  • between main and auxiliary circuit  • between resistance  • vibration resista		
• for main current circuit  • for control circuit  • for main current circuit  • for control circuit  • for main current circuit  • for control circuit  • for main current circuit  • for more control circuit  • for control circuit  • for control circuit  • for control circuit  • for control circuit  • at 40 °C rated value  • at 60 °C rated value  • at 15 °C rated value  • at 60 °C rated value	•	CLASS 10A (default) / 10E / 20E; acc. to IEC 60947-4-2
Final control circuit   100 ms   100		
Insulation voltage rated value   GoV   Government   Government   Gov	for main current circuit	100 ms
Impulse vottage of the thyristor maximum   1 800 V	for control circuit	100 ms
Impulse voltage rated value	insulation voltage rated value	600 V
blocking voltage of the thyristor maximum	degree of pollution	3, acc. to IEC 60947-4-2
		6 kV
surge voltage resistance rated value maximum permissible voltage for safe isolation between main and audiary circuit shock resistance tilization category according to IEC 60947-42 reference code according to IEC 81346-2  Substance Prohibitance (Date) varge voltage for safe isolation erference code according to IEC 81346-2  Substance Prohibitance (Date) varge voltage for safe isolation erference code according to IEC 81346-2  Substance Prohibitance (Date) varge voltage for safe isolation erference social according to IEC 81346-2  Substance Prohibitance (Date) varge voltage for safe isolation erference social according to IEC 81346-2  Substance Prohibitance (Date) varge voltage for safe isolation erference social according to IEC 81346-2  Substance Prohibitance (Date) varge voltage for safe isolation erference social according to IEC 81346-2  varge voltage for safe isolation evaluation of themistor protection evaluation of themistor motor protection evaluation of them		
withmum permissible voltage for safe isolation between main and auxiliary circuit between main and auxiliary circuit between main and auxiliary circuit vibration resistance vibration vibra		
between main and auxillary 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           utilization category according to IEC 60947-4-2         AC 53a           reference code according to IEC 61348-2         Q           Substance Prohibitance (Date)         Ves           ramp-up (soft starling)         Yes           * ramp-down (soft stop)         Yes           • Soft Torque         Yes           • adjustable current limitation         Yes           • pump ramp down         Yes           • intrinsic device protection         Yes           • valuation of thermistor motor protection         Yes, Full motor protection (thermistor motor protection and electronic motor overload protection)           • valuation of thermistor motor protection         Yes, Full motor protection (thermistor motor protection and electronic motor overload protection)           • valuation of thermistor motor protection         Yes, Full motor protection (thermistor motor protection and electronic motor overload protection)           • valuation Expert         Yes           • motor overload protection         Yes, Full motor protection (thermistor motor protection and electronic motor overload protection)           • remote reset         Yes           • remote reset		6 kV
shock resistance         15 g/ 11 ms, from 12 g / 11 ms with potential contact lifting           vibration resistance         15 mm to 6 Hz; 2g to 800 Hz           vibration resistance         15 mm to 6 Hz; 2g to 800 Hz           vibration resistance         AC S3a           verence code according to IEC 681346-2         Q           Substance Prohibitance (Date)         Yes           ramp-down (soft starting)         Yes           * ramp-down (soft stort)         Yes           * adjustable current limitation         Yes           * adjustable current limitation         Yes           * pump ramp down         Yes           * intrinsic device protection         Yes           * evaluation of thermistor motor protection         Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)           * evaluation of thermistor motor protection         Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)           * evaluation of thermistor motor protection         Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)           * evaluation of thermistor motor protection         Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)           * evaluation of thermistor motor protection         Yes; Full motor protection (thermistor motor protection)		
vibration resistance         15 mm to 6 Hz; 2g to 500 Hz           utilization category according to IEC 60947-4-2         AC 53a           reference code according to IEC 81348-2         Q           Substance Prohibitance (Date)         92/15/2018           product function         Yes           • ramp-down (soft stop)         Yes           • Soft Torque         Yes           • adjustable current limitation         Yes           • pump ramp down         Yes           • intrinsic device protection         Yes           • evaluation of thermistor motor protection         Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)           • evaluation of thermistor motor protection         Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)           • evaluation of thermistor motor protection         Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)           • remote reset         Yes         By Uning off the control supply voltage           • remote reset		
utilization category according to IEC 60947-4-2         AC 53a           reference code according to IEC 81346-2         Q           Substance Prohibitance (Date)         Ves           • ramp-down (soft starting)         Yes           • soft Torque         Yes           • adjustable current limitation         Yes           • pump ramp down         Yes           • adjustable current limitation         Yes           • pump ramp down         Yes           • intrinsic device protection         Yes; Full motor protection (thermistor motor protection motor overload protection)           • evaluation of themistor motor protection         Yes; Type A PTC or Klixon / Thermoclick           • evaluation of themistor motor protection         Yes; Type A PTC or Klixon / Thermoclick           • evaluation of themistor motor protection         Yes; Type A PTC or Klixon / Thermoclick           • evaluation of themistor motor protection         Yes           • evaluation of themistor motor protection         Yes           • evaluation of themistor motor protection         Yes           • protection (thermistor motor protection motor overload protection)         Yes           • protection (themistor motor protection         Yes           • protection (themistor motor protection         Yes           • peration (tradicy all the protection (tradicy all the		
Interest		
Substance Prohibitance (Date)         02/15/2018           product function         Yes           • ramp-up (soft starting)         Yes           • samp-down (soft stop)         Yes           • Soft Torque         Yes           • Soft Torque         Yes           • pump ramp down         Yes           • pump ramp down         Yes           • motor overload protection         Yes: Full motor protection (thermistor motor protection and electronic motor overload protection)           • evaluation of thermistor motor protection         Yes: Full motor protection (thermistor motor protection and electronic motor overload protection)           • evaluation of thermistor motor protection         Yes: Full motor protection (thermistor motor protection and electronic motor overload protection)           • evaluation of thermistor motor 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           • range treats         Yes         Pes           • amount reset         Yes         Pes           • emotor begins         Yes: During off the control supply voltage         Yes: Only in conjunction with special accessories           • error logbook         Yes: Yes: Only in conjunction with special accessories         Yes: Yes: Only in conjunction		
removup (soft starting)  • ramp-up (soft starting)  • ramp-down (soft stop)  • Soft Torque  • adjustable current limitation  • pump ramp down  • intrinsic device protection  • motor overload protection  • evaluation of thermister motor protection  • remove reset  • communication function  • operating measured value display  • removable terminal for control circuit  • orque control  • orgue control		
• ramp-up (soft starting)     • ramp-down (soft stop)     • soft Torque     • adjustable current limitation     • pump ramp down     • intrinsic device protection     • motor overload protection     • evaluation of thermistor motor protection     • evaluation of thermistor motor protection     • evaluation of thermistor motor protection     • inside-delta circuit     • inside-delta circuit     • auto-RESET     • manual RESET     • manual RESET     • remote reset     • communication function     • operating measured value display     • error logbook     • via software parameterizable     • via software parameterizable     • via software configurable     • FROFlenergy     • firmware update     • removable terminal for control circuit     • torque control     • at 40 °C rated value     • at 60 °C rated value     • at inside-delta circuit relative negative tolerance of the operating voltage at inside-delta circuit     relative negative tolerance of the operating voltage at inside-delta circuit     relative negative tolerance of the operating voltage at inside-delta circuit     relative negative tolerance of the operating voltage at inside-delta circuit     relative negative tolerance of the operating voltage at inside-delta circuit     relative negative tolerance of the operating voltage at inside-delta circuit     relative negative tolerance of the operating voltage at inside-delta circuit     relative negative tolerance of the operating voltage at inside-delta circuit     relative negative tolerance of the operating voltage at inside-delta circuit     relative negative tolerance of the operating voltage at inside-delta circuit     relative negative tolerance of the operating voltage at inside-delta circuit     relative negative tolerance of the operating voltage at inside-delta circuit     relative negative tolerance of the operating voltage at inside-delta circuit     relative negative tolerance of th		02/15/2018
ramp-down (soft stop)     Soft Torque	•	Von
Soft Torque  Adjustable current limitation  Apply ramp down  Intrinsic device protection  Apply read protection		
adjustable current limitation     pump ramp down     intrinsic device protection     motor overload protection     evaluation of thermistor motor protection     inside-delta circuit     auto-RESET     emanual RESET     emanual RESET     emonter eset     communication function     evering measured value display     error logbook     via software parameterizable     via software parameterizable     via software configurable     error logbook     via software configurable     error logbook     via software configurable     error logbook     via software configurable     vers     ermovable terminal for control circuit     torque control     analog output     vers     erando quitput     ves     erando quitput     erando q		1.77
pump ramp down Intrinsic device protection Intrinsic device protection Pess Full motor protection (thermistor motor protection and electronic motor overload protection) Pess Full motor protection (thermistor motor protection and electronic motor overload protection)  evaluation of thermistor motor protection Pess Type A PTC or Klixon / Thermoclick  earlo-RESET Pes Pes PTC or Klixon / Thermoclick Pes Pess PTC or Klixon / Thermoclick Pes Pton Internation Pess	·	1.55
• intrinsic device protection • motor overload protection • motor overload protection • motor overload protection • evaluation of thermistor motor protection • inside-delta circuit • auto-RESET • manual RESET • manual RESET • remote reset • communication function • operating measured value display • operating measured value display • ves; Only in conjunction with special accessories • remore remote reset • ves; Only in conjunction with special accessories • remore logbook • via software parameterizable • removable terminal for control circuit • firmware update • removable terminal for control circuit • torque control • analog output • orque control • analog output  **Operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value • at 60 °C rated value • at 60 °C rated value • at 80	-	
* motor overload protection     * evaluation of thermistor motor protection     * evaluation of thermistor motor protection     * inside-delta circuit     * auto-RESET     * auto-RESET     * manual RESET     * member seet     * communication function     * operating measured value display     * error logbook     * via software parameterizable     * via software parameterizable     * via software configurable     * removable terminal for control circuit     * torque control     * analog output  **Ower Electronics**  **Operational current**  * at 40 °C rated value     * at 50 °C rated value     * at 60 °C		
evaluation of thermistor motor protection  inside-delta circuit  auto-RESET  auto-RESET  remote reset  communication function  operating measured value display  via software parameterizable  via software parameterizable  via software configurable  removable terminal for control circuit  removable terminal for control circuit  ves  ves  ves  ves  ves  ves  ves  ve	·	
iniside-delta circuit auto-RESET auto-RESET yes manual RESET remote reset communication function perating measured value display error logbook via software parameterizable via software parameterizable removable terminal for control circuit removable terminal for control circuit ves removable terminal for control circuit ves relative negative tolerance of the operating voltage relative positive tolerance of the operating voltage relative positive tolerance of the operating voltage relative positive tolerance of the operating voltage at inside-delta circuit relative positive tolerance of the operating voltage at inside-delta circuit relative positive tolerance of the operating voltage at inside-delta circuit remote remote reset ves	Thotal eventual protection	
• auto-RESET • manual RESET • manual RESET • remote reset • communication function • operating measured value display • error logbook • dis software parameterizable • via software parameterizable • removable terminal for control circuit • firmware update • removable terminal for control circuit • torque control • analog output • over Electronics  operational current • at 40 °C rated value • at 60 °C rated valu	<ul> <li>evaluation of thermistor motor protection</li> </ul>	Yes; Type A PTC or Klixon / Thermoclick
manual RESET     remote reset     remote reset     communication function     operating measured value display     error logbook     via software parameterizable     via software configurable     via software configurable     removable terminal for control circuit     oranglo gutput      removable terminal for control circuit     oranglo gutput      ves     releative notes      oranglo gutput      ves     ves; Only in conjunction with special accessories     No     ves     ves; Only in conjunction with special accessories      ves     ves; Only in conjunction with special accessories      ves     ves; Only in conjunction with special accessories      ves     ves     ves; Only in conjunction with special accessories      ves     ves     ves; Only in conjunction with special accessories      ves     ves     ves     ves; Only in conjunction with special accessories      ves     ves     ves     ves; Only in conjunction with special accessories      ves     ves     ves     ves; In connection with the PROFINET Standard communication     module     ves     ves; In connection with the PROFINET Standard communication     module     ves     ves; In connection with the PROFINET Standard communication     ves     ves; In connection with the PROFINET Standard communication     ves     ves; In connection with the PROFINET S	<ul> <li>inside-delta circuit</li> </ul>	Yes
Yes; By turning off the control supply voltage     communication function     operating measured value display     error logbook     via software parameterizable     via software configurable     via software configurable     via software update     PROFlenergy     Yes     removable terminal for control circuit     value control     analog output     value     at 40 °C rated value     at 50 °C rated value     at 60 °C rated value     at	auto-RESET	Yes
communication function     operating measured value display     error logbook     via software parameterizable     via software parameterizable     via software configurable     via software configurable     via software parameterizable     via software configurable     via software configurable     via software update     removable terminal for control circuit     ves     removable terminal for control circuit     ves     removable terminal for control circuit     ves     verification of the control circuit     ves     verification of the control circuit     ves     verification of the control circuit     ves	manual RESET	Yes
operating measured value display     error logbook     via software parameterizable     via software configurable     via software configurable     via software configurable     via software update     PROFlenergy     Yes; in connection with the PROFINET Standard communication module     firmware update     removable terminal for control circuit     ves     removable terminal for control circuit     von     analog output     No  Power Electronics  Operational current     at 40 °C rated value     at 50 °C rated value     at 60 °C rated	• remote reset	Yes; By turning off the control supply voltage
error logbook via software parameterizable No via software configurable via software configurable PROFlenergy Pres; in connection with the PROFINET Standard communication module removable terminal for control circuit torque control analog output No  Power Electronics  operational current at 40 °C rated value at 60 °C rated	<ul> <li>communication function</li> </ul>	
via software parameterizable via software configurable via software configurable PROFlenergy Yes; in connection with the PROFINET Standard communication module removable terminal for control circuit totrque control analog output No  Power Electronics  poperational current at 40 °C rated value at 50 °C rated value at 60 °C		
via software configurable PROFlenergy Yes; in connection with the PROFINET Standard communication module Yes removable terminal for control circuit Yes torque control analog output No  Power Electronics  Operational current      at 40 °C rated value     at 60 °C rat	_	
PROFlenergy Yes; in connection with the PROFINET Standard communication module  firmware update removable terminal for control circuit torque control analog output No  Power Electronics  Poperational current at 40 °C rated value at 50 °C rated value at 60 °C rated value at 40 °C rated value 161 A at 40 °C rated value at 50 °C rated value 161 A at 50 °C rated value at 50 °C rated value 163 A at 60 °C rated value 20 600 V rated value at inside-delta circuit rated value 200 600 V relative negative tolerance of the operating voltage relative positive tolerance of the operating voltage at inside-delta circuit relative positive tolerance of the operating voltage at inside-delta circuit  at relative positive tolerance of the operating voltage at inside-delta circuit  at relative positive tolerance of the operating voltage at inside-delta circuit  at relative positive tolerance of the operating voltage at inside-delta circuit  at relative positive tolerance of the operating voltage at inside-delta circuit  at relative positive tolerance of the operating voltage at inside-delta circuit  at relative positive tolerance of the operating voltage at inside-delta circuit  at relative positive tolerance of the operating voltage at inside-delta circuit	·	
e firmware update e removable terminal for control circuit e torque control e analog output No  Power Electronics  Operational current e at 40 °C rated value e at 60 °C rated value e at 40 °C rated value e at 40 °C rated value for crated value e at 40 °C rated value e at 40 °C rated value e at 40 °C rated value for crated value e at 40 °C rated value for crated value e at 40 °C rated value for crated value e at 60 °C rated value e at 60 °C rated value for crated value e at 60 °C rated value for crated value e at 60 °C rated value e at 60 °C rate	_	
• removable terminal for control circuit  • torque control • analog output  No  Power Electronics  operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value • at 50 °C rated value • at 50 °C rated value • at 50 °C rated value • at 60 °C rated value • at 50 °C rated value • at 60 °C rated value • at inside-delta circuit rated value • at inside-delta circuit rated value  relative negative tolerance of the operating voltage relative positive tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  at ordinary voltage  10 %	0,	module
<ul> <li>torque control</li> <li>analog output</li> <li>No</li> <li>Power Electronics</li> <li>operational current <ul> <li>at 40 °C rated value</li> <li>at 50 °C rated value</li> <li>at 60 °C rated value</li> <li>at 60 °C rated value</li> </ul> </li> <li>operational current at inside-delta circuit <ul> <li>at 40 °C rated value</li> <li>at 40 °C rated value</li> <li>at 50 °C rated value</li> <li>at 50 °C rated value</li> <li>at 60 °C rated value</li> <li>at inside-delta circuit rated value</li> <li>at inside-delta circuit rated value</li> <li>crelative positive tolerance of the operating voltage</li> <li>relative negative tolerance of the operating voltage at inside-delta circuit</li> </ul> </li> <li>relative positive tolerance of the operating voltage at inside-delta circuit</li> <li>relative positive tolerance of the operating voltage at inside-delta circuit</li> </ul> <li>10 %</li>	·	
• analog output     • analog output  Power Electronics  operational current     • at 40 °C rated value     • at 50 °C rated value     • at 60 °C rated value     • at 60 °C rated value     • at 40 °C rated value     • at 50 °C rated value     • at 60 °C rated value     • at inside-delta circuit rated value     • at inside-delta circuit rated value     • relative positive tolerance of the operating voltage     relative negative tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit		1.77
operational current  • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value  • at 40 °C rated value • at 60 °C rated value  • at 40 °C rated value  • at 40 °C rated value  • at 40 °C rated value  • at 50 °C rated value • at 50 °C rated value • at 60 °C rated value • at 60 °C rated value • at 60 °C rated value • at inside-delta circuit rated value  • at inside-delta circuit rated value  relative negative tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  10 %		
operational current  • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value  operational current at inside-delta circuit  • at 40 °C rated value  76 A  operational current at inside-delta circuit  • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value • at 60 °C rated value • at 60 °C rated value  • rated value • rated value • rated value • at inside-delta circuit rated value  relative negative tolerance of the operating voltage  relative negative tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  10 %	<u> </u>	NO NO
<ul> <li>at 40 °C rated value</li> <li>at 50 °C rated value</li> <li>at 60 °C rated value</li> <li>operational current at inside-delta circuit</li> <li>at 40 °C rated value</li> <li>at 40 °C rated value</li> <li>at 50 °C rated value</li> <li>at 60 °C rated value</li> <li>at inside-delta circuit rated value</li> <li>200 600 V</li> <li>at inside-delta circuit rated value</li> <li>relative negative tolerance of the operating voltage</li> <li>relative negative tolerance of the operating voltage at inside-delta circuit</li> <li>relative positive tolerance of the operating voltage at inside-delta circuit</li> <li>10 %</li> </ul>		
at 50 °C rated value at 60 °C rated value  operational current at inside-delta circuit  at 40 °C rated value at 50 °C rated value at 50 °C rated value at 60 °C rated value at inside-delta circuit rated value at inside-delta circuit rated value  relative negative tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  10 %	•	00.4
at 60 °C rated value  operational current at inside-delta circuit  at 40 °C rated value  at 50 °C rated value  at 60 °C rated value  at inside-delta circuit rated value  at inside-delta circuit rated value  relative negative tolerance of the operating voltage  relative negative tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  at 60 °C rated value  200 600 V  200 600 V  -15 %  -15 %  -15 %  -15 %		
operational current at inside-delta circuit  • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value • at 60 °C rated value  • rated value • rated value • at inside-delta circuit rated value  relative negative tolerance of the operating voltage relative negative tolerance of the operating voltage relative positive tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  10 %		
<ul> <li>at 40 °C rated value</li> <li>at 50 °C rated value</li> <li>at 60 °C rated value</li> <li>at 60 °C rated value</li> <li>perating voltage</li> <li>rated value</li> <li>at inside-delta circuit rated value</li> <li>relative negative tolerance of the operating voltage</li> <li>relative negative tolerance of the operating voltage</li> <li>relative negative tolerance of the operating voltage</li> <li>10 %</li> <li>relative positive tolerance of the operating voltage at inside-delta circuit</li> <li>relative positive tolerance of the operating voltage at inside-delta circuit</li> </ul>		10 /
<ul> <li>at 50 °C rated value</li> <li>at 60 °C rated value</li> <li>operating voltage <ul> <li>rated value</li> <li>at inside-delta circuit rated value</li> <li>relative negative tolerance of the operating voltage</li> <li>relative positive tolerance of the operating voltage at inside-delta circuit</li> <li>relative positive tolerance of the operating voltage at inside-delta circuit</li> </ul> </li> <li>143 A  131 A  200 600 V  200 600 V  15 %  10 %  15 %  10 %</li></ul>	•	161 A
<ul> <li>at 60 °C rated value</li> <li>operating voltage         <ul> <li>rated value</li> <li>at inside-delta circuit rated value</li> </ul> </li> <li>relative negative tolerance of the operating voltage         relative negative tolerance of the operating voltage</li></ul>		
operating voltage  • rated value  • at inside-delta circuit rated value  relative negative tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  10 %		
<ul> <li>rated value</li> <li>at inside-delta circuit rated value</li> <li>200 600 V</li> <li>relative negative tolerance of the operating voltage</li> <li>relative positive tolerance of the operating voltage</li> <li>relative negative tolerance of the operating voltage at inside-delta circuit</li> <li>relative positive tolerance of the operating voltage at inside-delta circuit</li> <li>10 %</li> </ul>		
● at inside-delta circuit rated value  200 600 V  relative negative tolerance of the operating voltage relative positive tolerance of the operating voltage 10 %  relative negative tolerance of the operating voltage at inside-delta circuit  relative positive tolerance of the operating voltage at inside-delta circuit  10 %		200 600 V
relative positive tolerance of the operating voltage relative negative tolerance of the operating voltage at inside-delta circuit relative positive tolerance of the operating voltage at inside-delta circuit		
relative positive tolerance of the operating voltage relative negative tolerance of the operating voltage at inside-delta circuit relative positive tolerance of the operating voltage at inside-delta circuit	relative negative tolerance of the operating voltage	-15 %
relative positive tolerance of the operating voltage at inside-delta circuit  10 %		10 %
inside-delta circuit		-15 %
operating power for 3-phase motors		10 %
	operating power for 3-phase motors	

at 220 V at 40 °C rated value	20 144
• at 230 V at 40 °C rated value	22 kW
at 230 V at inside-delta circuit at 40 °C rated value	45 kW
• at 400 V at 40 °C rated value	45 kW
<ul> <li>at 400 V at inside-delta circuit at 40 °C rated value</li> </ul>	90 kW
• at 500 V at 40 °C rated value	55 kW
at 500 V at inside-delta circuit at 40 °C rated value	110 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	
<ul> <li>at rotary coding switch on switch position 1</li> </ul>	40.5 A
<ul> <li>at rotary coding switch on switch position 2</li> </ul>	44 A
<ul> <li>at rotary coding switch on switch position 3</li> </ul>	47.5 A
<ul> <li>at rotary coding switch on switch position 4</li> </ul>	51 A
<ul> <li>at rotary coding switch on switch position 5</li> </ul>	54.5 A
<ul> <li>at rotary coding switch on switch position 6</li> </ul>	58 A
<ul> <li>at rotary coding switch on switch position 7</li> </ul>	61.5 A
<ul> <li>at rotary coding switch on switch position 8</li> </ul>	65 A
<ul> <li>at rotary coding switch on switch position 9</li> </ul>	68.5 A
<ul> <li>at rotary coding switch on switch position 10</li> </ul>	72 A
<ul> <li>at rotary coding switch on switch position 11</li> </ul>	75.5 A
<ul> <li>at rotary coding switch on switch position 12</li> </ul>	79 A
<ul> <li>at rotary coding switch on switch position 13</li> </ul>	82.5 A
<ul> <li>at rotary coding switch on switch position 14</li> </ul>	86 A
<ul> <li>at rotary coding switch on switch position 15</li> </ul>	89.5 A
<ul> <li>at rotary coding switch on switch position 16</li> </ul>	93 A
• minimum	40.5 A
adjustable motor current	
<ul> <li>for inside-delta circuit at rotary coding switch on switch position 1</li> </ul>	70.1 A
<ul> <li>for inside-delta circuit at rotary coding switch on switch position 2</li> </ul>	76.2 A
<ul> <li>for inside-delta circuit at rotary coding switch on switch position 3</li> </ul>	82.3 A
<ul> <li>for inside-delta circuit at rotary coding switch on switch position 4</li> </ul>	88.3 A
<ul> <li>for inside-delta circuit at rotary coding switch on switch position 5</li> </ul>	94.4 A
<ul> <li>for inside-delta circuit at rotary coding switch on switch position 6</li> </ul>	100 A
<ul> <li>for inside-delta circuit at rotary coding switch on switch position 7</li> </ul>	107 A
for inside-delta circuit at rotary coding switch on switch position 8      for inside delta circuit at retery coding switch on	113 A
for inside-delta circuit at rotary coding switch on switch position 9      for inside delta circuit at rotary coding switch on	119 A
for inside-delta circuit at rotary coding switch on switch position 10     for inside delta circuit at rotary coding switch on	125 A
for inside-delta circuit at rotary coding switch on switch position 11     for inside delta circuit at rotary coding switch on	131 A
for inside-delta circuit at rotary coding switch on switch position 12	137 A
<ul> <li>for inside-delta circuit at rotary coding switch on switch position 13</li> </ul>	143 A
<ul> <li>for inside-delta circuit at rotary coding switch on switch position 14</li> </ul>	149 A
for inside-delta circuit at rotary coding switch on switch position 15	155 A
for inside-delta circuit at rotary coding switch on switch position 16	161 A
at inside-delta circuit minimum	70.1 A
minimum load [%]	15 %; Relative to smallest settable le
power loss [W] for rated value of the current at AC	

<ul> <li>at 40 °C after startup</li> </ul>	40 W
<ul> <li>at 50 °C after startup</li> </ul>	37 W
at 60 °C after startup	35 W
power loss [W] at AC at current limitation 350 %	
at 40 °C during startup	1 270 W
• at 50 °C during startup	1 077 W
• at 60 °C during startup	959 W
5 .	
Control circuit/ Control	AO/DO
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
<ul> <li>at 50 Hz rated value</li> </ul>	24 V
at 60 Hz rated value	24 V
relative negative tolerance of the control supply voltage at AC at 50 Hz	-20 %
relative positive tolerance of the control supply	20 %
voltage at AC at 50 Hz	00.07
relative negative tolerance of the control supply voltage at AC at 60 Hz	-20 %
relative positive tolerance of the control supply voltage at AC at 60 Hz	20 %
control supply voltage frequency	50 60 Hz
relative negative tolerance of the control supply voltage frequency	-10 %
relative positive tolerance of the control supply voltage frequency	10 %
control supply voltage	
at DC rated value	24 V
relative negative tolerance of the control supply voltage at DC	-20 %
relative positive tolerance of the control supply voltage at DC	20 %
control supply current in standby mode rated value	160 mA
holding current in bypass operation rated value	380 mA
locked-rotor current at close of bypass contact maximum	7.6 A
inrush current peak at application of control supply voltage maximum	3.3 A
duration of inrush current peak at application of control supply voltage	12.1 ms
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), C1 miniature circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply
Inputs/ Outputs	
number of digital inputs	1
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 250 V rated value     at DC-13 at 24 V rated value	1 A
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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	306 mm
width	185 mm
depth	203 mm
required spacing with side-by-side mounting	
• forwards	10 mm
<ul><li>forwards</li><li>backwards</li></ul>	10 mm 0 mm

<ul><li>downwards</li></ul>	75 mm
at the side	5 mm
weight without packaging	6.9 kg
Connections/ Terminals	
type of electrical connection	
<ul> <li>for main current circuit</li> </ul>	box terminal
for control circuit	screw-type terminals
width of connection bar maximum	25 mm
wire length for thermistor connection	
<ul> <li>with conductor cross-section = 0.5 mm² maximum</li> </ul>	50 m
<ul> <li>with conductor cross-section = 1.5 mm² maximum</li> </ul>	150 m
• with conductor cross-section = 2.5 mm² maximum	250 m
type of connectable conductor cross-sections	
<ul> <li>for main contacts for box terminal using the front clamping point solid</li> </ul>	1x (2.5 16 mm²)
<ul> <li>for main contacts for box terminal using the front clamping point finely stranded with core end processing</li> </ul>	1x (2.5 50 mm²)
<ul> <li>for main contacts for box terminal using the front clamping point stranded</li> </ul>	1x (10 70 mm²)
<ul> <li>at AWG cables for main contacts for box terminal using the front clamping point</li> </ul>	1x (10 2/0)
<ul> <li>for main contacts for box terminal using the back clamping point solid</li> </ul>	1x (2.5 16 mm²)
at AWG cables for main contacts for box terminal using the back clamping point	1x (10 2/0)
<ul> <li>for main contacts for box terminal using both clamping points solid</li> </ul>	2x (2.5 16 mm²)
<ul> <li>for main contacts for box terminal using both clamping points finely stranded with core end processing</li> </ul>	2x (2.5 35 mm²)
<ul> <li>for main contacts for box terminal using both clamping points stranded</li> </ul>	2x (6 16 mm²), 2x (10 50 mm²)
<ul> <li>for main contacts for box terminal using the back clamping point finely stranded with core end processing</li> </ul>	1x (2.5 50 mm²)
<ul> <li>for main contacts for box terminal using the back clamping point stranded</li> </ul>	1x (10 70 mm²)
type of connectable conductor cross-sections	
<ul> <li>for control circuit solid</li> </ul>	1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)
for control circuit finely stranded with core end     processing.	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
processing  • at AWG cables for control circuit solid	1x (20 12), 2x (20 14)
wire length	(=0 12), =
between soft starter and motor maximum	800 m
at the digital inputs at AC maximum	100 m
at the digital inputs at DC maximum	1 000 m
tightening torque	
for main contacts with screw-type terminals	4.5 6 N·m
for auxiliary and control contacts with screw-type terminals	0.8 1.2 N·m
tightening torque [lbf·in]	
<ul> <li>for main contacts with screw-type terminals</li> </ul>	40 53 lbf·in
<ul> <li>for auxiliary and control contacts with screw-type terminals</li> </ul>	7 10.3 lbf·in
Ambient conditions	
installation altitude at height above sea level maximum	5 000 m; Derating as of 1000 m, see catalog
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 according to IEC 60721	3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6

General Product Approval	EMC
Certificates/ approvals	
electromagnetic compatibility	in accordance with IEC 60947-4-2
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with cover
protection class IP on the front according to IEC 60529	IP00; IP20 with cover
Safety related data	
contact rating of auxiliary contacts according to UL	R300-B300
• at 575/600 V at inside-delta circuit at 50 °C rated value	125 hp
at 460/480 V at inside-delta circuit at 50 °C rated value	100 hp
value  ● at 220/230 V at inside-delta circuit at 50 °C rated value	50 hp
• at 200/208 V at inside-delta circuit at 50 °C rated	40 hp
at 400/480 V at 50 °C rated value     at 575/600 V at 50 °C rated value	75 hp
• at 460/480 V at 50 °C rated value	60 hp
• at 220/230 V at 50 °C rated value	30 hp
• at 200/208 V at 50 °C rated value	25 hp
to 575/600 V according to UL operating power [hp] for 3-phase motors	
circuit up to 575/600 V according to UL — usable for High Faults at inside-delta circuit up	Type: Class J / L, max. 250 A; Iq = 100 kA
according to UL  — usable for Standard Faults at inside-delta	Type: Class RK5 / K5, max. 300 A; Iq = 10 kA
according to UL  — usable for High Faults up to 575/600 V	Type: Class J / L, max. 250 A; Iq = 100 kA
— usable for Standard Faults up to 575/600 V	Type: Class RK5 / K5, max. 300 A; Iq = 10 kA
<ul> <li>usable for Standard Faults at 575/600 V at inside-delta circuit according to UL</li> <li>of the fuse</li> </ul>	Siemens type: 3VA51, max. 125 A; lq = 10 kA
<ul> <li>usable for Standard Faults at 575/600 V according to UL</li> </ul>	Siemens type: 3VA51, max. 125 A; lq = 10 kA
usable for High Faults at 460/480 V at insidedelta circuit according to UL	Siemens type: 3VA51, max. 125 A; Iq max = 65 kA
usable for Standard Faults at 460/480 V at inside-delta circuit according to UL	Siemens type: 3VA51, max. 125 A; Iq = 10 kA
usable for High Faults at 460/480 V according to UL	Siemens type: 3VA51, max. 125 A; Iq max = 65 kA
<ul> <li>of circuit breaker         <ul> <li>usable for Standard Faults at 460/480 V</li> </ul> </li> <li>according to UL</li> </ul>	Siemens type: 3VA51, max. 125 A; Iq = 10 kA
manufacturer's article number	
UL/CSA ratings	
PROFIBUS	Yes
Modbus TCP	Yes
Modbus RTU	Yes
EtherNet/IP	Yes
<ul> <li>PROFINET standard</li> </ul>	Yes
communication module is supported	
Communication/ Protocol	
EMC emitted interference	acc. to IEC 60947-4-2: Class A
<ul> <li>during transport according to IEC 60721</li> </ul>	2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)
	not get inside the devices), 1M4



Confirmation









**Test Certificates** 

Marine / Shipping





Type Test Certificates/Test Report







Marine / Shipping

other





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=3RW5227-1TC05

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5227-1TC05

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5227-1TC05

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

 $\underline{\text{http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RW5227-1TC05\&lang=en}}$ 

Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RW5227-1TC05/char

Characteristic: Installation altitude

Simulation Tool for Soft Starters (STS)

https://support.industry.siemens.com/cs/ww/en/view/101494917

last modified: 4/10/2022 🖸