



Basic unit SIMOCODE pro S, PROFIBUS DP interface 1.5 Mbit/s, 4I/2O freely parameterizable, Us: 24 V DC, input for thermistor connection Monostable relay outputs, expandable by a multifunctional module

<b>product brand name</b>	SIRIUS
<b>product designation</b>	Motor management system
<b>design of the product</b>	Basic device 0
<b>product type designation</b>	SIMOCODE pro S
<b>General technical data</b>	
<b>product function</b>	
• bus communication	Yes
• data acquisition function	Yes
• diagnostics function	Yes
• password protection	Yes
• test function	Yes
• maintenance function	Yes
<b>product component</b>	
• input for thermistor connection	Yes
• digital input	Yes
• input for analog temperature sensors	No
• input for ground fault detection	No
• relay output	Yes
<b>product extension</b>	
• temperature monitoring module	Yes
• current measuring module	Yes
• current/voltage measuring module	No
• fail-safe digital I/O module	No
• ground-fault monitoring module	Yes
• control unit with display	No
• control unit	Yes
• analog I/O module	No
<b>consumed active power</b>	2.1 W
insulation voltage with degree of pollution 3 at AC rated value	300 V
<b>surge voltage resistance rated value</b>	4 000 V
<b>protection class IP</b>	IP20
<b>shock resistance</b>	
• when mounted on current measuring module according to IEC 60068-2-27	10 g / 11 ms
• according to IEC 60068-2-27	15g / 11 ms
<b>switching capacity current of the NO contacts of the relay outputs at AC-15</b>	
• at 24 V	6 A
• at 120 V	6 A
• at 230 V	3 A
<b>switching capacity current of the NO contacts of the relay</b>	

<b>outputs at DC-13</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> <li>• at 60 V</li> <li>• at 125 V</li> </ul>	<p>2 A</p> <p>0.55 A</p> <p>0.25 A</p>
<b>mechanical service life (operating cycles) typical</b>	10 000 000
electrical endurance (operating cycles) typical	100 000
<b>buffering time in the event of power failure</b>	0.05 s
<b>reference code according to IEC 81346-2</b>	F
continuous current of the NO contacts of the relay outputs	
<ul style="list-style-type: none"> <li>• at 50 °C</li> <li>• at 60 °C</li> </ul>	<p>6 A</p> <p>5 A</p>
<b>type of input characteristic</b>	Type 1 in accordance with EN 61131-2
<b>Substance Prohibition (Date)</b>	05/01/2012
<b>SVHC substance name</b>	Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8 2,2',6,6'-Tetrabrom-4,4'-isopropylidendi - 79-94-7
<b>certificate of suitability</b>	
<ul style="list-style-type: none"> <li>• according to ATEX directive 2014/34/EU</li> <li>• acc. to Equipment and Protective System Intended for Use in Potentially Explosive Atmospheres Regulations 2016 (S.I. 2016 No.1107)</li> <li>• according to UKCA</li> </ul>	<p>BVS 06 ATEX F001</p> <p>ITS21UKEX0464, ITS21UKEX0455X</p> <p>ITS21UKEX0464</p>
explosion device group and category according to ATEX directive 2014/34/EU	II (2) G, II (2 ) D, I (M2)
<b>Electromagnetic compatibility</b>	
EMC emitted interference according to IEC 60947-1	class A
EMC immunity according to IEC 60947-1	corresponds to degree of severity 3
<b>conducted interference</b>	
<ul style="list-style-type: none"> <li>• due to burst according to IEC 61000-4-4</li> <li>• due to conductor-earth surge according to IEC 61000-4-5</li> <li>• due to conductor-conductor surge according to IEC 61000-4-5</li> <li>• due to high-frequency radiation according to IEC 61000-4-6</li> </ul>	<p>2 kV (power ports) / 1 kV (signal ports)</p> <p>2 kV</p> <p>1 kV</p> <p>10 V</p>
<b>field-based interference according to IEC 61000-4-3</b>	10 V/m
<b>electrostatic discharge according to IEC 61000-4-2</b>	6 kV contact discharge / 8 kV air discharge
<b>conducted HF interference emissions according to CISPR11</b>	corresponds to degree of severity A
<b>field-bound HF interference emission according to CISPR11</b>	corresponds to degree of severity A
<b>Inputs/ Outputs</b>	
<b>product function</b>	
<ul style="list-style-type: none"> <li>• parameterizable inputs</li> <li>• parameterizable outputs</li> </ul>	<p>Yes</p> <p>Yes</p>
<b>number of inputs</b>	4
<ul style="list-style-type: none"> <li>• for thermistor connection</li> </ul>	1
number of digital inputs with a common reference potential	4
<b>digital input version</b>	
<ul style="list-style-type: none"> <li>• type 1 acc. to IEC 61131</li> </ul>	Yes
input voltage at digital input at DC rated value	24 V
<b>number of outputs</b>	2
<b>number of semiconductor outputs</b>	0
<b>number of outputs as contact-affected switching element</b>	2
<b>switching behavior</b>	monostable
<b>type of relay outputs</b>	Monostable
<b>wire length for digital signals maximum</b>	300 m
<b>wire length for thermistor connection</b>	
<ul style="list-style-type: none"> <li>• with conductor cross-section = 0.5 mm<sup>2</sup> maximum</li> <li>• with conductor cross-section = 1.5 mm<sup>2</sup> maximum</li> <li>• with conductor cross-section = 2.5 mm<sup>2</sup> maximum</li> </ul>	<p>50 m</p> <p>150 m</p> <p>250 m</p>
<b>Protective and monitoring functions</b>	
<b>product function</b>	
<ul style="list-style-type: none"> <li>• asymmetry detection</li> <li>• blocking current evaluation</li> </ul>	<p>Yes</p> <p>Yes</p>

• power factor monitoring	No
• ground fault detection	Yes
• phase failure detection	Yes
• phase sequence recognition	No
• voltage detection	No
• monitoring of number of start operations	Yes
• overvoltage detection	No
• overcurrent detection 1 phase	Yes
• undervoltage detection	No
• undercurrent detection 1 phase	Yes
• active power monitoring	No
<b>product function</b>	
• current detection	Yes
• overload protection	Yes
• evaluation of thermistor motor protection	Yes
<b>total cold resistance number of sensors in series maximum</b>	1.5 kΩ
<b>response value of thermoresistor</b>	3 400 ... 3 800 Ω
• of the short-circuit control	9 Ω
<b>release value of thermoresistor</b>	1 500 ... 1 650 Ω
<b>Motor control functions</b>	
<b>product function</b>	
• parameterizable overload relay	Yes
• circuit breaker control	Yes
• direct start	Yes
• reverse starting	Yes
• star-delta circuit	Yes
• star-delta reversing circuit	No
• Dahlander circuit	No
• Dahlander reversing circuit	No
• pole-changing switch circuit	No
• pole-changing switch reversing circuit	No
• slide control	No
• valve control	No
<b>Communication/ Protocol</b>	
<b>protocol is supported</b>	
• PROFIBUS DP protocol	Yes
• PROFINET IO protocol	No
• PROFI-safe protocol	No
• Modbus RTU	No
• EtherNet/IP	No
• OPC UA Server	No
• LLDP	No
• Address Resolution Protocol (ARP)	No
• SNMP	No
• HTTPS	No
• NTP	No
• Media Redundancy Protocol (MRP)	No
<b>number of interfaces</b>	
• according to PROFINET	0
• according to PROFIBUS	1
• according to Ethernet/IP	0
<b>product function</b>	
• web server	No
• shared device	No
• at the Ethernet interface Autocrossover	No
• at the Ethernet interface Autonegotiation	No
• at the Ethernet interface Autosensing	No
• is supported Device Level Ring (DLR)	No
• is supported PROFINET system redundancy (S2)	No
• supports PROFIenergy measured values	No
• supports PROFIenergy shutdown	No

<b>transfer rate maximum</b>	1.5 Mbit/s
<b>identification &amp; maintenance function</b>	
<ul style="list-style-type: none"> <li>• I&amp;M0 - device-specific information</li> <li>• I&amp;M1 - higher level designation/location designation</li> <li>• I&amp;M2 - installation date</li> <li>• I&amp;M3 - comment</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
type of electrical connection of the communication interface	Screw-type terminal (1.5 Mbit)
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	any
<b>fastening method</b>	screw and snap-on mounting
<b>height</b>	100 mm
<b>width</b>	22.5 mm
<b>depth</b>	124.5 mm
<b>required spacing</b>	
<ul style="list-style-type: none"> <li>• top</li> <li>• bottom</li> <li>• left</li> <li>• right</li> </ul>	<p>40 mm</p> <p>40 mm</p> <p>0 mm</p> <p>0 mm</p>
<b>Connections/ Terminals</b>	
<b>product component removable terminal for auxiliary and control circuit</b>	Yes
<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> <li>• for AWG cables solid</li> </ul>	<p>1x (0.5 ... 2.5 mm<sup>2</sup>), 2x ( 0.5 ... 1.5 mm<sup>2</sup>)</p> <p>1x (0.5 ... 2.5 mm<sup>2</sup>), 2x (0.5 ... 1 mm<sup>2</sup>)</p> <p>1x (20 ... 14), 2x (20 ... 16)</p>
tightening torque with screw-type terminals	0.6 ... 0.8 N·m
tightening torque [lbf·in] with screw-type terminals	5.2 ... 7 lbf·in
<b>type of connectable conductor cross-sections for PROFIBUS wire</b>	2x 0.34 mm <sup>2</sup> , AWG 22
<b>Ambient conditions</b>	
<b>installation altitude at height above sea level</b>	
<ul style="list-style-type: none"> <li>• 1 maximum</li> <li>• 2 maximum</li> <li>• 3 maximum</li> </ul>	<p>2 000 m</p> <p>3 000 m; max. +50 °C (no protective separation)</p> <p>4 000 m; max. +40 °C (no protective separation)</p>
<b>ambient temperature</b>	
<ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> <li>• during transport</li> </ul>	<p>-25 ... +60 °C</p> <p>-40 ... +80 °C</p> <p>-40 ... +80 °C</p>
<b>environmental category</b>	
<ul style="list-style-type: none"> <li>• during operation according to IEC 60721</li> <li>• during storage according to IEC 60721</li> <li>• during transport according to IEC 60721</li> </ul>	<p>3K6 (no formation of ice, no condensation, relative humidity 10 ... 95%), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6</p> <p>1K6 (no condensation, relative humidity 10 ... 95%), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4</p> <p>2K2, 2C1, 2S1, 2M2</p>
<b>relative humidity</b>	
<ul style="list-style-type: none"> <li>• during operation</li> </ul>	10 ... 95 %
<b>contact rating of auxiliary contacts according to UL</b>	B300 / R300
<b>Short-circuit protection</b>	
design of short-circuit protection per output	Fuse links: gG 6 A, quick-response 10 A (IEC 60947-5-1), miniature circuit-breaker C char.: 1.6 A (IEC 60947-5-1) or 6 A (I <sub>K</sub> < 500 A)
<b>Electrical Safety</b>	
<b>touch protection against electrical shock</b>	finger-safe
<b>Galvanic isolation</b>	
<b>(electrically) protective separation according to IEC 60947-1</b>	All circuits with protective separation (double creepage paths and clearances), the information in the "Protective Separation" test report, No. A0258, must be observed (link see further information)
<b>Control circuit/ Control</b>	
<b>product function soft starter control</b>	Yes
<b>type of voltage of the control supply voltage</b>	DC
<b>control supply voltage at DC</b>	
<ul style="list-style-type: none"> <li>• rated value</li> </ul>	24 V
control supply voltage 1 at DC rated value	24 V

<b>operating range factor control supply voltage rated value at DC</b>	
• initial value	0.85
• full-scale value	1.2
<b>inrush current peak</b>	
• at 24 V	7.5 A
<b>duration of inrush current peak</b>	
• at 24 V	2.2 ms

#### Approvals Certificates

General Product Approval	EMC	For use in hazardous locations
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[Confirmation](#)



For use in hazardous locations	Declaration of Conformity	Test Certificates
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[Explosion Protection Certificate](#)



[Special Test Certificate](#)

Test Certificates	Marine / Shipping
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[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



#### other

[Confirmation](#)



#### 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=3UF7020-1AB01-0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7020-1AB01-0>

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

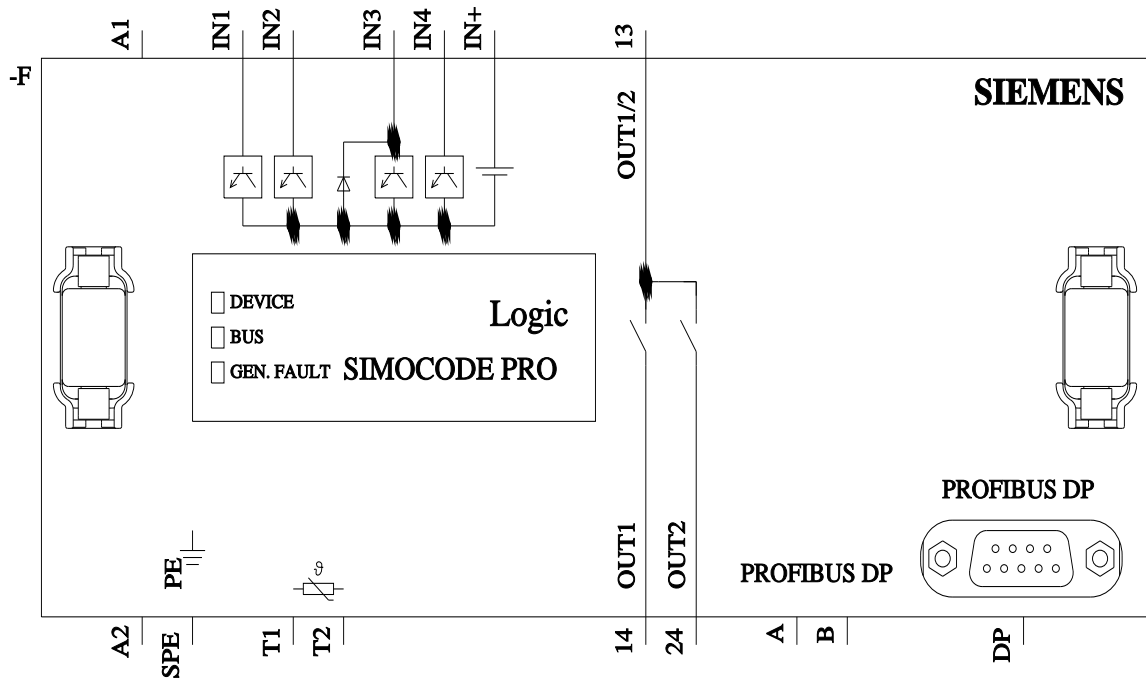
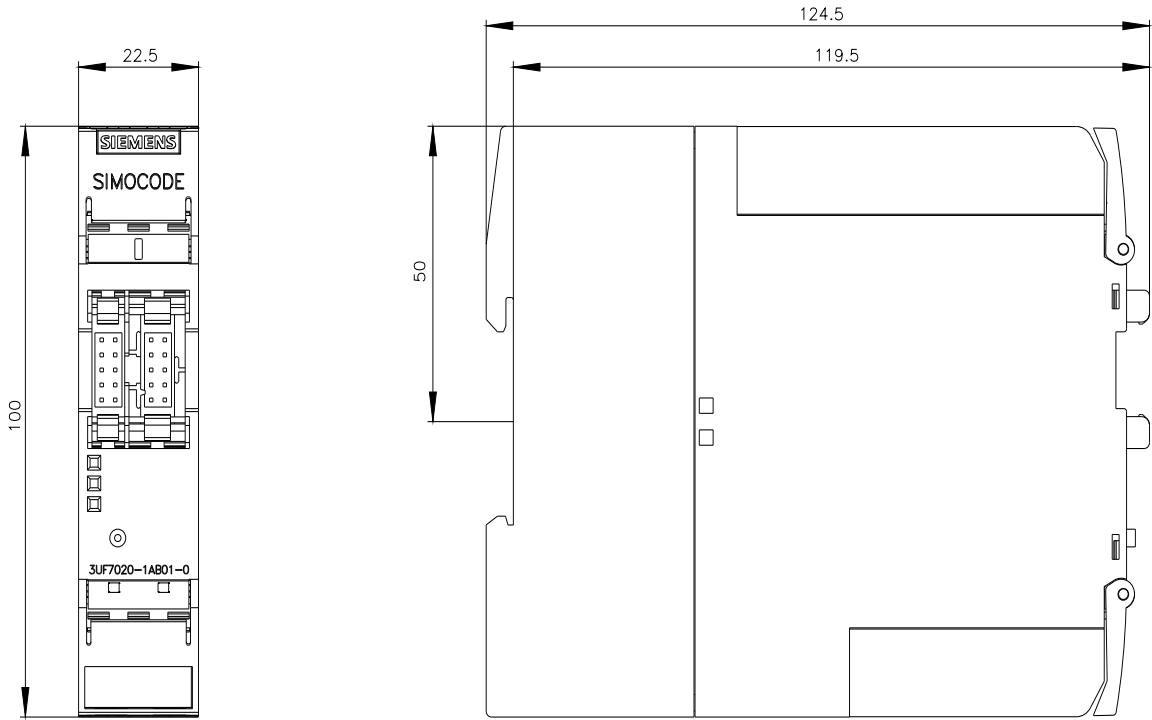
<https://support.industry.siemens.com/cs/ww/en/ps/3UF7020-1AB01-0>

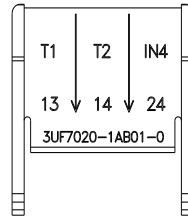
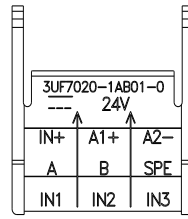
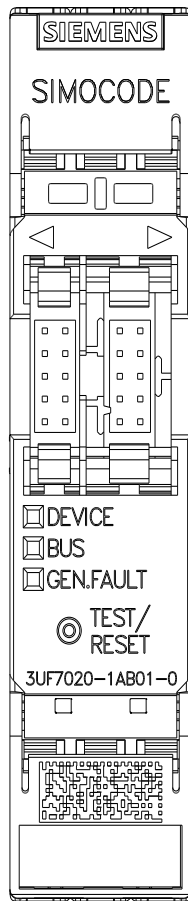
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UF7020-1AB01-0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7020-1AB01-0&lang=en)

Test report No. A0258, protective separation

<https://support.industry.siemens.com/cs/ww/en/view/109748152>





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