

Basic unit SIMOCODE pro C, PROFIBUS DP interface 12 Mbit/s, RS 485, 4I/3O freely parameterizable, Us: 24 V DC, input for thermistor connection Monostable relay outputs



Product brand name	SIRIUS
Product designation	Motor management system
Design of the product	basic unit 1
Product type designation	SIMOCODE pro C

### General technical data

<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	No
• Current measuring module	Yes
• Current/voltage measuring module	No
• failsafe digital I/O module	No
• Ground fault monitoring module	No
• Control unit with display	No
• Control unit	Yes
• analog I/O module	No
<b>Consumed active power</b>	2.3 W
<b>Insulation voltage</b>	
• with degree of pollution 3 rated value	300 V
<b>Surge voltage resistance rated value</b>	4 000 V
<b>Protection class IP</b>	IP20
<b>Shock resistance</b>	
• acc. to IEC 60068-2-27	15g / 11 ms
<b>Vibration resistance</b>	1-6 Hz / 15 mm; 6-500 Hz / 2 g
<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 outputs at DC-13</b>	
• at 24 V	2 A
• at 60 V	0.55 A
• at 125 V	0.25 A
<b>Mechanical service life (switching cycles)</b>	
• typical	10 000 000
<b>Electrical endurance (switching cycles)</b>	
• typical	100 000
<b>Buffering time in the event of power failure</b>	0.05 s
<b>Reference code acc. to DIN EN 81346-2</b>	F
<b>Continuous current of the NO contacts of the relay outputs</b>	
• at 50 °C	6 A
• at 60 °C	5 A
<b>Type of input characteristic</b>	Type 1 in accordance with EN 61131-2
Explosion device group and category according to ATEX directive 2014/34/EU	II (2) G, II (2) D, I (M2)

## Electromagnetic compatibility

### EMC emitted interference

• acc. to IEC 60947-1	class A
<b>EMI immunity acc. to IEC 60947-1</b>	corresponds to degree of severity 3
<b>Conducted interference</b>	
• due to burst acc. to IEC 61000-4-4	2 kV (power ports) / 1 kV (signal ports)
• due to conductor-earth surge acc. to IEC 61000-4-5	2 kV
• due to conductor-conductor surge acc. to IEC 61000-4-5	1 kV
• due to high-frequency radiation acc. to IEC 61000-4-6	10 V
<b>Field-bound parasitic coupling acc. to IEC 61000-4-3</b>	10 V/m
<b>Electrostatic discharge acc. to IEC 61000-4-2</b>	6 kV contact discharge / 8 kV air discharge
<b>Conducted HF-interference emissions acc. to CISPR11</b>	corresponds to degree of severity A
<b>Field-bound HF-interference emission acc. to CISPR11</b>	corresponds to degree of severity A

### Inputs/ Outputs

<b>Product function</b>	
• Parameterizable inputs	Yes
• Parameterizable outputs	Yes
<b>Number of inputs</b>	4
• for thermistor connection	1
<b>Number of digital inputs</b>	
• with a common reference potential	4
<b>Digital input version</b>	
• Type 1 acc. to IEC 61131	Yes
Input voltage at digital input at DC rated value	24 V
<b>Number of outputs</b>	3
<b>Number of semiconductor outputs</b>	0
<b>Number of outputs as contact-affected switching element</b>	3
<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>	
• with conductor cross-section = 0.5 mm <sup>2</sup> maximum	50 m
• with conductor cross-section = 1.5 mm <sup>2</sup> maximum	150 m
• with conductor cross-section = 2.5 mm <sup>2</sup> maximum	250 m

### Protective and monitoring functions

<b>Product function</b>	
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• Phase unbalance	Yes
• blocking current evaluation	Yes
• 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 k $\Omega$
<b>Response value of thermoresistor</b>	3 400 ... 3 800 $\Omega$
• of the short-circuit control	9 $\Omega$
<b>Release value of thermoresistor</b>	1 500 ... 1 650 $\Omega$

#### Motor control functions

<b>Product function</b>	
• parameterizable overload relay	Yes
• circuit breaker control	Yes
• direct start	Yes
• reverse starting	Yes
• star-delta circuit	No
• 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

#### Communication/ Protocol

• Protocol is supported PROFIBUS DP protocol	Yes
• Protocol is supported PROFINET IO protocol	No
• Protocol is supported PROFI-safe protocol	No
• Protocol is supported Modbus RTU	No

<ul style="list-style-type: none"> <li>• Protocol is supported EtherNet/IP</li> </ul>	No
<ul style="list-style-type: none"> <li>• Protocol is supported OPC UA Server</li> </ul>	No
<ul style="list-style-type: none"> <li>• Protocol is supported LLDP</li> </ul>	No
<ul style="list-style-type: none"> <li>• Protocol is supported Address Resolution Protocol (ARP)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Protocol is supported SNMP</li> </ul>	No
<ul style="list-style-type: none"> <li>• Protocol is supported HTTPS</li> </ul>	No
<ul style="list-style-type: none"> <li>• Protocol is supported NTP</li> </ul>	No
<ul style="list-style-type: none"> <li>• Protocol is supported Media Redundancy Protocol (MRP)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Product function is supported Device Level Ring (DLR)</li> </ul>	No
<b>Number of interfaces</b>	
<ul style="list-style-type: none"> <li>• acc. to PROFINET</li> </ul>	0
<ul style="list-style-type: none"> <li>• acc. to PROFIBUS</li> </ul>	1
<ul style="list-style-type: none"> <li>• according to Ethernet/IP</li> </ul>	0
<b>Product function</b>	
<ul style="list-style-type: none"> <li>• web server</li> </ul>	No
<ul style="list-style-type: none"> <li>• shared device</li> </ul>	No
<ul style="list-style-type: none"> <li>• at the Ethernet interface Autocrossover</li> </ul>	No
<ul style="list-style-type: none"> <li>• at the Ethernet interface Autonegotiation</li> </ul>	No
<ul style="list-style-type: none"> <li>• at the Ethernet interface Autosensing</li> </ul>	No
<ul style="list-style-type: none"> <li>• is supported PROFINET system redundancy</li> </ul>	No
<ul style="list-style-type: none"> <li>• supports PROFINET energy measured values</li> </ul>	No
<ul style="list-style-type: none"> <li>• supports PROFINET energy shutdown</li> </ul>	No
<b>Transfer rate maximum</b>	12 Mbit/s
<b>Identification &amp; maintenance function</b>	
<ul style="list-style-type: none"> <li>• I&amp;M0 - device-specific information</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• I&amp;M1 – higher-level designation/location designation</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• I&amp;M2 - installation date</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• I&amp;M3 - comment</li> </ul>	Yes
<b>Type of electrical connection</b>	
<ul style="list-style-type: none"> <li>• of the communication interface</li> </ul>	9-pin SUB-D socket (12 Mbit) / screw terminal (1.5 Mbit)
<b>Installation/ mounting/ dimensions</b>	
<b>Mounting position</b>	any
<b>Mounting type</b>	screw and snap-on mounting
<b>Height</b>	111 mm
<b>Width</b>	45 mm
<b>Depth</b>	95 mm
<b>Required spacing</b>	
<ul style="list-style-type: none"> <li>• top</li> </ul>	40 mm

• bottom	40 mm
• left	0 mm
• right	0 mm

### Connections/Terminals

<b>Product function</b>	
• removable terminal for auxiliary and control circuit	Yes
<b>Type of electrical connection</b>	
• for auxiliary and control current circuit	screw-type terminals
<b>Type of connectable conductor cross-sections</b>	
• solid	1x (0.5 ... 4.0 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )
• finely stranded with core end processing	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )
• at AWG conductors solid	1x (20 ... 12), 2x (20 ... 14)
• at AWG conductors stranded	1x (20 ... 14), 2x (20 ... 16)
<b>Tightening torque</b>	
• with screw-type terminals	0.8 ... 1.2 N·m
<b>Tightening torque [lbf·in]</b>	
• with screw-type terminals	7 ... 10.3 lbf·in
<b>Type of connectable conductor cross-sections for PROFIBUS wire</b>	2x 0.34 mm <sup>2</sup> , AWG 22

### Ambient conditions

<b>Installation altitude at height above sea level</b>	
• 1 maximum	2 000 m
• 2 maximum	3 000 m; max. +50 °C (no protective separation)
• 3 maximum	4 000 m; No protective separation at 40 °C
<b>Environmental category</b>	
• during operation acc. to IEC 60721	3K6 (no formation of ice, no condensation, relative humidity 10 ... 95%), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
• during storage acc. to IEC 60721	1K6 (no condensation, relative humidity 10 ... 95%), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4
• during transport acc. to IEC 60721	2K2, 2C1, 2S1, 2M2
<b>Relative humidity</b>	
• during operation	5 ... 95 %
<b>Contact rating of auxiliary contacts according to UL</b>	B300 / R300

### Short-circuit protection

<b>Design of short-circuit protection</b>	
• 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)

### Safety related data

<b>Protection against electrical shock</b>	finger-safe
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Control circuit/ Control		
Product function soft starter control	No	
Type of voltage of the control supply voltage	DC	
Control supply voltage 1	24 V	
• at DC rated value		
Operating range factor control supply voltage rated value at DC		
• initial value		0.8
• Full-scale value		1.2

### Certificates/approvals

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



[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

[Declaration of the Compliance with the order](#)

Marine / Shipping	other
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[Confirmation](#)

[PROFIsafe-Certification](#)

other
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Profibus

[PROFINET-Certification](#)

### Further information

Information- and Downloadcenter (Catalogs, Brochures,...)  
<http://www.siemens.com/industrial-controls/catalogs>

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mfb=3UF7000-1AB00-0>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3UF7000-1AB00-0>

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

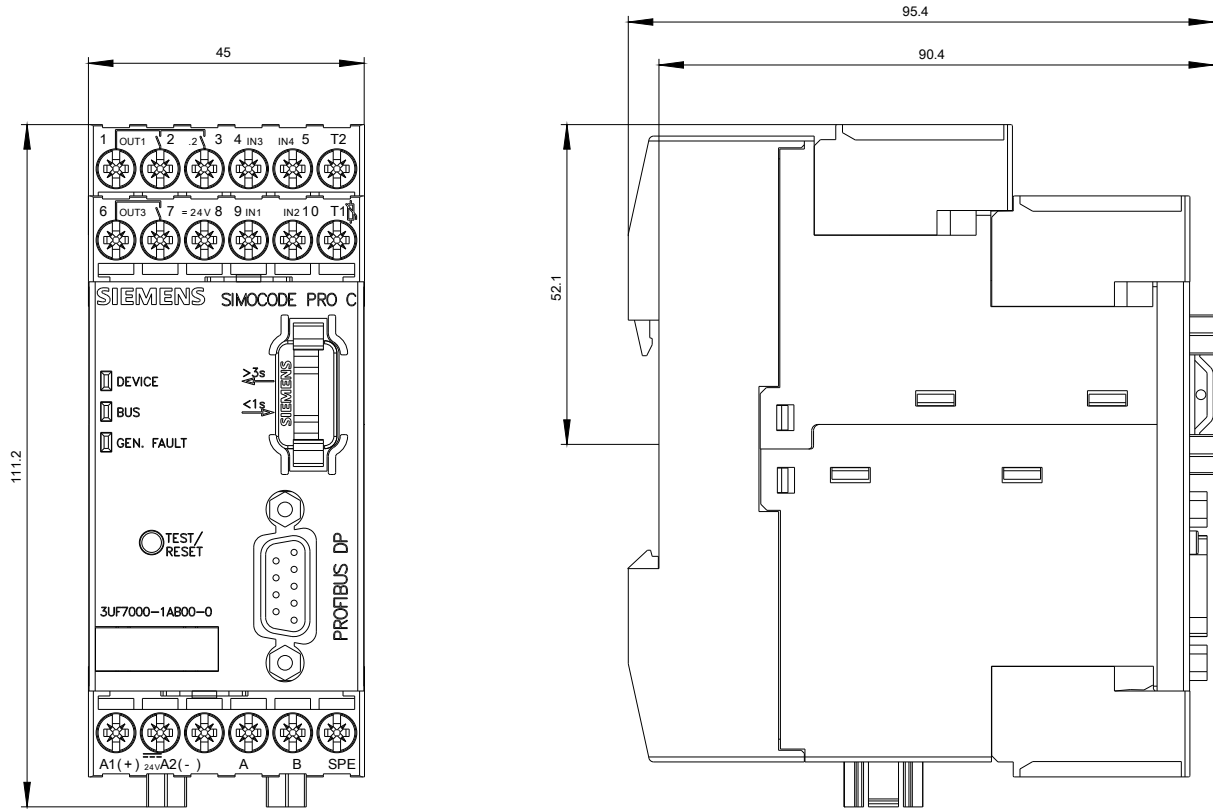
<https://support.industry.siemens.com/cs/ww/en/ps/3UF7000-1AB00-0>

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

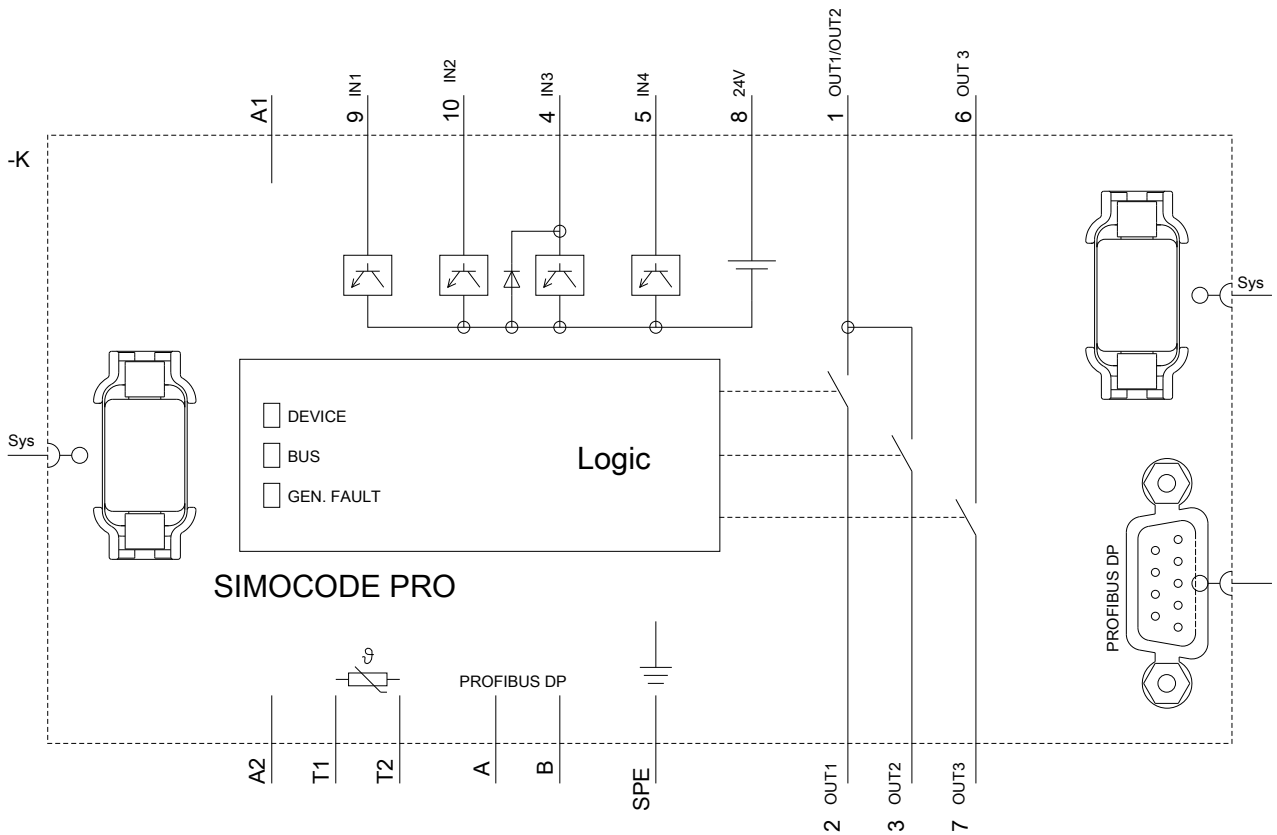
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mfb=3UF7000-1AB00-0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3UF7000-1AB00-0&lang=en)

**Test report No. A0258, protective separation**

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







last modified:

06/03/2019