

Basic unit SIMOCODE pro V PB PROFIBUS DP interface 12 Mbit/s, RS 485, 4I/3O freely parameterizable, Us: 110...240 V AC/DC, input for thermistor connection Monostable relay outputs, expandable by extension modules



<b>Product brand name</b>	SIRIUS
<b>Product designation</b>	Motor management system
<b>Design of the product</b>	basic unit 2
<b>Product type designation</b>	SIMOCODE pro V PB

**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	Yes
• Current measuring module	Yes
• Current/voltage measuring module	Yes
• failsafe digital I/O module	Yes
• Ground fault monitoring module	Yes
• Control unit with display	Yes
• Control unit	Yes
• analog I/O module	Yes
<b>Apparent power consumption</b>	8.3 V·A
<b>Consumed active power</b>	3.6 W
<b>Insulation voltage</b>	
• 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>	
• 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>	0.2 s
<b>Reference code acc. to DIN EN 81346-2</b>	F
Continuous current of the NO contacts of the relay outputs	
• at 50 °C	6 A
• at 60 °C	5 A
<b>Type of input characteristic</b>	Type 1 in accordance with EN 61131-2
<b>Certificate of suitability</b>	
• IECEx	Yes; IECEx PTB 18.0004X
• according to ATEX directive 2014/34/EU	BVS 06 ATEX F001, PTB 18 ATEX 5003 X

Explosion device group and category according to ATEX directive 2014/34/EU	II (2) G, II (2) D, I (M2) / I (1G/M2), II (1/2) G, II (1G/2D)
--	--

### Electromagnetic compatibility

<b>EMC emitted interference</b>	
<ul style="list-style-type: none"> <li>• acc. to IEC 60947-1</li> </ul>	class A
<b>EMI immunity acc. to IEC 60947-1</b>	corresponds to degree of severity 3
<b>Conducted interference</b>	
<ul style="list-style-type: none"> <li>• due to burst acc. to IEC 61000-4-4</li> </ul>	2 kV (power ports) / 1 kV (signal ports)
<ul style="list-style-type: none"> <li>• due to conductor-earth surge acc. to IEC 61000-4-5</li> </ul>	2 kV
<ul style="list-style-type: none"> <li>• due to conductor-conductor surge acc. to IEC 61000-4-5</li> </ul>	1 kV
<ul style="list-style-type: none"> <li>• due to high-frequency radiation acc. to IEC 61000-4-6</li> </ul>	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>	
<ul style="list-style-type: none"> <li>• Parameterizable inputs</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Parameterizable outputs</li> </ul>	Yes
<b>Number of inputs</b>	4
<ul style="list-style-type: none"> <li>• for thermistor connection</li> </ul>	1
<b>Number of digital inputs</b>	
<ul style="list-style-type: none"> <li>• with a common reference potential</li> </ul>	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>	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>	
<ul style="list-style-type: none"> <li>• with conductor cross-section = 0.5 mm<sup>2</sup> maximum</li> </ul>	50 m
<ul style="list-style-type: none"> <li>• with conductor cross-section = 1.5 mm<sup>2</sup> maximum</li> </ul>	150 m

- with conductor cross-section = 2.5 mm<sup>2</sup> maximum

250 m

### Protective and monitoring functions

<b>Product function</b>	
• Phase unbalance	Yes
• blocking current evaluation	Yes
• power factor monitoring	Yes
• Ground fault detection	Yes
• Phase failure detection	Yes
• phase sequence recognition	Yes
• voltage detection	Yes
• Monitoring of number of start operations	Yes
• Overvoltage detection	Yes
• Overcurrent detection 1 phase	Yes
• undervoltage detection	Yes
• undercurrent detection 1 phase	Yes
• active power monitoring	Yes
<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

### Motor control functions

<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	Yes
• Dahlander circuit	Yes
• Dahlander reversing circuit	Yes
• pole-changing switch circuit	Yes
• pole-changing switch reversing circuit	Yes
• Slide control	Yes
• valve control	Yes

### Communication/ Protocol

• Protocol is supported PROFIBUS DP protocol	Yes
• Protocol is supported PROFINET IO protocol	No
• Protocol is supported PROFI-safe protocol	Yes
• Protocol is supported Modbus RTU	No
• Protocol is supported EtherNet/IP	No
• Protocol is supported OPC UA Server	No
• Protocol is supported LLDP	No
• Protocol is supported Address Resolution Protocol (ARP)	No
• Protocol is supported SNMP	No
• Protocol is supported HTTPS	No
• Protocol is supported NTP	No
• Protocol is supported Media Redundancy Protocol (MRP)	No
• Product function is supported Device Level Ring (DLR)	No
<b>Number of interfaces</b>	
• acc. to PROFINET	0
• acc. 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 PROFINET system redundancy	No
• supports PROFIenergy measured values	No
• supports PROFIenergy shutdown	No
<b>Transfer rate maximum</b>	12 Mbit/s
<b>Identification &amp; maintenance function</b>	
• I&M0 - device-specific information	Yes
• I&M1 – higher-level designation/location designation	Yes
• I&M2 - installation date	Yes
• I&M3 - comment	Yes
<b>Type of electrical connection</b>	
• of the communication interface	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>	124 mm
<b>Required spacing</b>	
• top	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; max. +40 °C (no protective separation)
<b>Ambient temperature</b>	
• during operation	-25 ... +60 °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>	
<ul style="list-style-type: none"> <li>per output</li> </ul>	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_K < 500 A)

### Safety related data

<b>Protection against electrical shock</b>	finger-safe
--	-------------

### Galvanic isolation

<b>(electrically) protective separation acc. 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)
---	--

### Control circuit/ Control

<b>Product function soft starter control</b>	Yes
<b>Type of voltage of the control supply voltage</b>	AC/DC
<b>Control supply voltage at AC</b>	
<ul style="list-style-type: none"> <li>at 50 Hz rated value</li> <li>at 60 Hz rated value</li> </ul>	110 ... 240 V 110 ... 240 V
<b>Control supply voltage frequency</b>	
<ul style="list-style-type: none"> <li>1 rated value</li> <li>2 rated value</li> </ul>	50 Hz 60 Hz
<b>Relative symmetrical tolerance of the control supply voltage frequency</b>	5 %
<b>Control supply voltage at DC</b>	
<ul style="list-style-type: none"> <li>rated value</li> </ul>	110 ... 240 V
<b>Operating range factor control supply voltage rated value at DC</b>	
<ul style="list-style-type: none"> <li>initial value</li> <li>Full-scale value</li> </ul>	0.85 1.1
<b>Operating range factor control supply voltage rated value at AC at 50 Hz</b>	
<ul style="list-style-type: none"> <li>initial value</li> <li>Full-scale value</li> </ul>	0.85 1.1
<b>Operating range factor control supply voltage rated value at AC at 60 Hz</b>	
<ul style="list-style-type: none"> <li>initial value</li> <li>Full-scale value</li> </ul>	0.85 1.1

### Certificates/ approvals

General Product Approval	EMC	For use in hazardous locations
--------------------------	-----	--------------------------------



For use in hazardous locations	Declaration of Conformity	Test Certificates	Marine / Shipping
--------------------------------	---------------------------	-------------------	-------------------



[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
-------------------	-------



[Confirmation](#)



Profibus

[PROFINET-Certification](#)

#### Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**

[www.siemens.com/ic10](http://www.siemens.com/ic10)

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3UF7010-1AU00-0>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7010-1AU00-0>

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

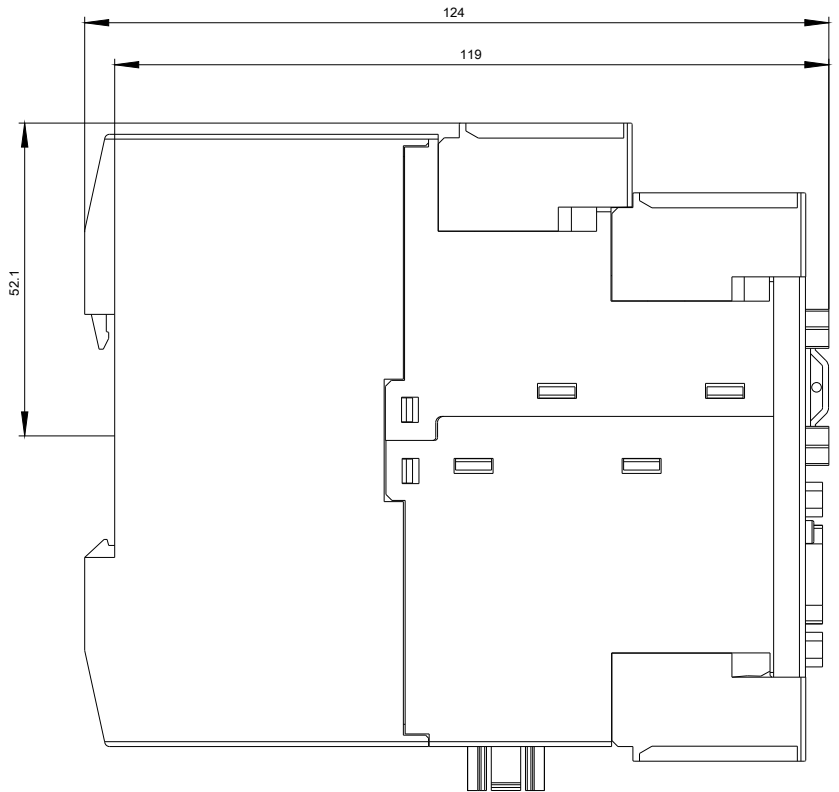
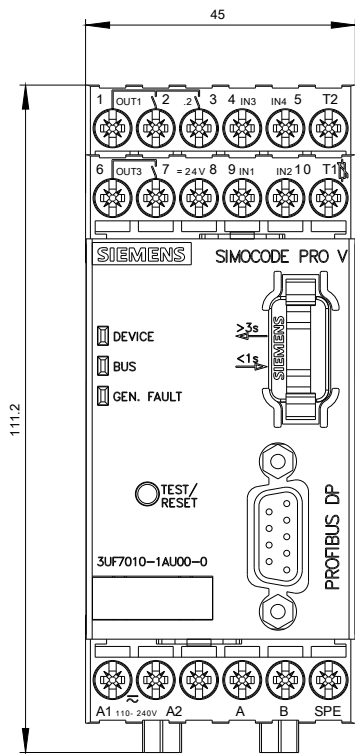
<https://support.industry.siemens.com/cs/ww/en/ps/3UF7010-1AU00-0>

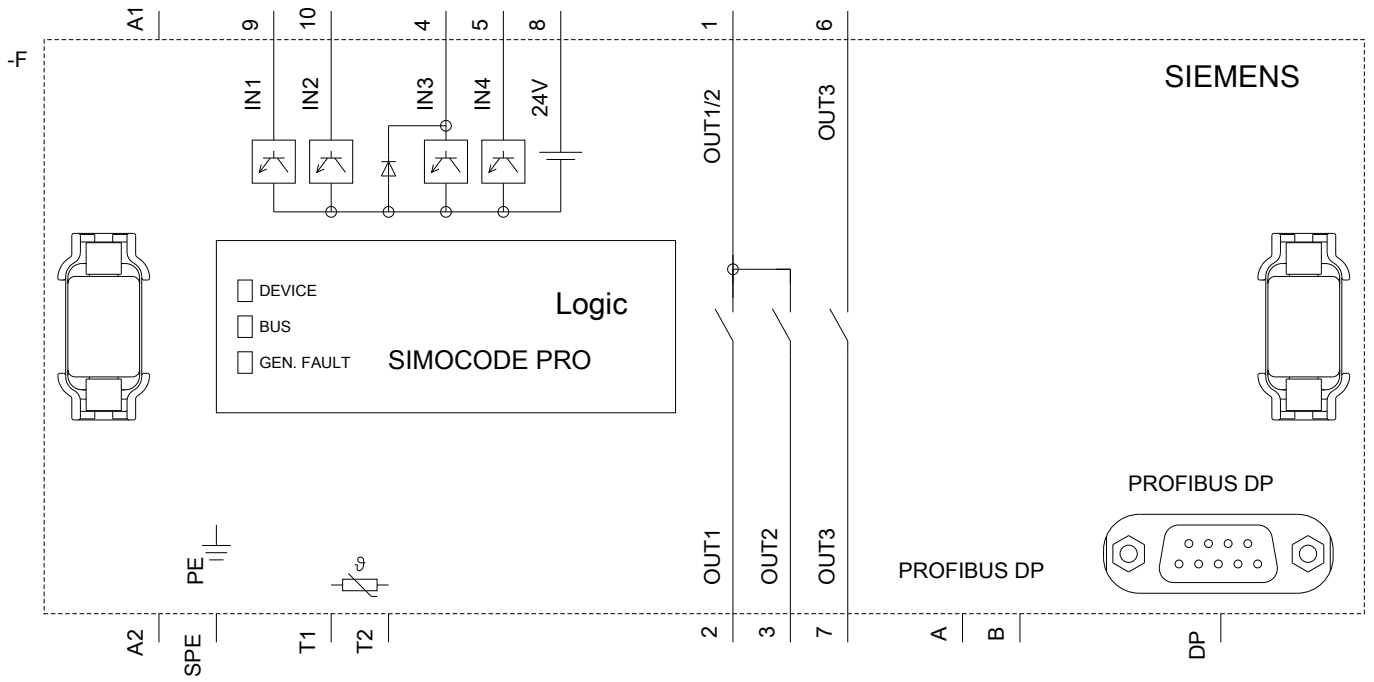
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UF7010-1AU00-0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7010-1AU00-0&lang=en)

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

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





last modified:

07/24/2020