

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



Product brand name	SIRIUS
Design of the product	basic unit 2
Product type designation	SIMOCODE pro V

General technical data

Product function	
<ul style="list-style-type: none"> • soft starter control • data acquisition function • Diagnostics function • Password protection • Test function • maintenance function 	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
Product component	
<ul style="list-style-type: none"> • input for thermistor connection • Digital input • input for analog temperature sensors • input for ground fault detection • Relay output 	<p>Yes</p> <p>Yes</p> <p>No</p> <p>No</p> <p>Yes</p>
Product extension	

• Temperature monitoring module	Yes
• Current measuring module	Yes
• Current/voltage measuring module	Yes
• failsafe digital I/O module	Yes
• Ground fault monitoring module	Yes
• decoupling module	Yes
• digital I/O module	Yes
• Control unit with display	Yes
• Control unit	Yes
• analog I/O module	Yes
Apparent power consumption	10 V·A
Consumed active power	7 W
Insulation voltage	
• with degree of pollution 3 rated value	300 V
Surge voltage resistance rated value	4 000 V
Protection class IP	IP20
Shock resistance	
• acc. to IEC 60068-2-27	15g / 11 ms
Vibration resistance	1-6 Hz / 15 mm; 6-500 Hz / 2 g
Switching behavior	monostable
Switching capacity current of the NO contacts of the relay outputs at AC-15	
• at 24 V	6 A
• at 120 V	6 A
• at 230 V	3 A
Switching capacity current of the NO contacts of the relay outputs at DC-13	
• at 24 V	2 A
• at 60 V	0.55 A
Mechanical service life (switching cycles)	
• typical	10 000 000
Electrical endurance (switching cycles)	
• typical	100 000
Buffering time in the event of power failure	0.2 s
Continuous current of the NO contacts of the relay outputs	
• at 50 °C	6 A
• at 60 °C	5 A
Type of input characteristic	Type 1 in accordance with EN 61131-2
Electromagnetic compatibility	
EMC emitted interference	
• acc. to IEC 60947-1	class A

EMI immunity acc. to IEC 60947-1	corresponds to degree of severity 3
Conducted interference	
<ul style="list-style-type: none"> • due to burst acc. to IEC 61000-4-4 	2 kV (power ports) / 1 kV (signal ports)
<ul style="list-style-type: none"> • due to conductor-earth surge acc. to IEC 61000-4-5 	2 kV
<ul style="list-style-type: none"> • due to conductor-conductor surge acc. to IEC 61000-4-5 	1 kV
<ul style="list-style-type: none"> • due to high-frequency radiation acc. to IEC 61000-4-6 	10 V
Field-bound parasitic coupling acc. to IEC 61000-4-3	10 V/m
Electrostatic discharge acc. to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge
Conducted HF-interference emissions acc. to CISPR11	corresponds to degree of severity A
Field-bound HF-interference emission acc. to CISPR11	corresponds to degree of severity A

Inputs/ Outputs

Product function	
<ul style="list-style-type: none"> • Parameterizable inputs 	Yes
<ul style="list-style-type: none"> • Parameterizable outputs 	Yes
Number of inputs	4
<ul style="list-style-type: none"> • for thermistor connection 	1
Number of digital inputs	
<ul style="list-style-type: none"> • with a common reference potential 	4
Digital input version	
<ul style="list-style-type: none"> • Type 1 acc. to IEC 61131 	Yes
Input voltage at digital input at DC rated value	24 V
Number of outputs	3
Number of outputs as contact-affected switching element	3
Number of semiconductor outputs	0
Wire length for digital signals maximum	300 m
Wire length for thermistor connection	
<ul style="list-style-type: none"> • with conductor cross-section = 0.5 mm² maximum 	50 m
<ul style="list-style-type: none"> • with conductor cross-section = 1.5 mm² maximum 	150 m
<ul style="list-style-type: none"> • with conductor cross-section = 2.5 mm² maximum 	250 m

Protective and monitoring functions

Product function	
<ul style="list-style-type: none"> • Phase unbalance 	Yes
<ul style="list-style-type: none"> • blocking current evaluation 	Yes
<ul style="list-style-type: none"> • 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

Motor protection functions

Product function	
• Current detection	Yes
• Overload protection	Yes
• Evaluation of thermistor motor protection	Yes
Response value of thermoresistor	3 400 ... 3 800 Ω
Release value of thermoresistor	1 500 ... 1 650 Ω
Explosion device group and category acc. to ATEX product directive 94/9/EC	Ex II (2) GD / Ex I (M2)

Motor control functions

Product function	
• 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 PROFIsafe protocol	Yes
• Protocol is supported Modbus RTU	No
• Protocol is supported EtherNet/IP	No
• Protocol is supported OPC UA Server	No

<ul style="list-style-type: none"> • Protocol is supported LLDP 	No
<ul style="list-style-type: none"> • Protocol is supported Address Resolution Protocol (ARP) 	No
<ul style="list-style-type: none"> • Protocol is supported SNMP 	No
<ul style="list-style-type: none"> • Protocol is supported HTTPS 	No
<ul style="list-style-type: none"> • Protocol is supported NTP 	No
<ul style="list-style-type: none"> • Protocol is supported Media Redundancy Protocol (MRP) 	No
<ul style="list-style-type: none"> • Product function is supported Device Level Ring (DLR) 	No
Number of interfaces	
<ul style="list-style-type: none"> • acc. to PROFINET 	0
<ul style="list-style-type: none"> • acc. to PROFIBUS 	1
<ul style="list-style-type: none"> • according to Ethernet/IP 	0
Product function Bus communication	Yes
Product function	
<ul style="list-style-type: none"> • web server 	No
<ul style="list-style-type: none"> • shared device 	No
<ul style="list-style-type: none"> • at the Ethernet interface Autocrossover 	No
<ul style="list-style-type: none"> • at the Ethernet interface Autonegotiation 	No
<ul style="list-style-type: none"> • at the Ethernet interface Autosensing 	No
<ul style="list-style-type: none"> • is supported PROFINET system redundancy 	No
<ul style="list-style-type: none"> • supports PROFINET energy measured values 	No
<ul style="list-style-type: none"> • supports PROFINET energy shutdown 	No
Transfer rate maximum	12 Mbit/s
Identification & maintenance function	
<ul style="list-style-type: none"> • I&M0 - device-specific information 	Yes
<ul style="list-style-type: none"> • I&M1 – higher-level designation/location designation 	Yes
<ul style="list-style-type: none"> • I&M2 - installation date 	Yes
<ul style="list-style-type: none"> • I&M3 - comment 	Yes
Type of electrical connection	
<ul style="list-style-type: none"> • of the communication interface 	9-pin SUB-D socket (12 Mbit) / screw terminal (1.5 Mbit)

Installation/ mounting/ dimensions	
Mounting position	any
Mounting type	screw and snap-on mounting
Height	111 mm
Width	45 mm
Depth	124 mm
Required spacing	
<ul style="list-style-type: none"> • top 	40 mm
<ul style="list-style-type: none"> • bottom 	40 mm

• left	0 mm
• right	0 mm

Connections/Terminals

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

Ambient conditions

Installation altitude at height above sea level	
• 1 maximum	2 000 m
• 2 maximum	3 000 m
• 3 maximum	4 000 m; No protective separation at 40 °C
Ambient temperature	
• during operation	-25 ... +60 °C
• during storage	-40 ... +80 °C
• during transport	-40 ... +80 °C
Environmental category	
• 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
Relative humidity	
• during operation	5 ... 95 %
Contact rating of auxiliary contacts according to UL	B300 / R300

Short-circuit protection

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 _K < 500 A)

Safety related data	
Protection against electrical shock	finger-safe
Galvanic isolation	
Design of the electrical isolation	Protective separation in accordance with IEC 60947-1 for all circuits
Control circuit/ Control	
Type of voltage of the control supply voltage	AC/DC
Control supply voltage at AC	
<ul style="list-style-type: none"> at 50 Hz rated value at 60 Hz rated value 	110 ... 240 V
Control supply voltage at DC	
<ul style="list-style-type: none"> rated value 	110 ... 240 V
Control supply voltage frequency	
<ul style="list-style-type: none"> 1 rated value 2 rated value 	50 Hz 60 Hz
Relative symmetrical tolerance of the control supply voltage frequency	5 %
Operating range factor control supply voltage rated value at DC	
<ul style="list-style-type: none"> initial value Full-scale value 	0.85 1.1
Operating range factor control supply voltage rated value at AC at 50 Hz	
<ul style="list-style-type: none"> initial value Full-scale value 	0.85 1.1
Operating range factor control supply voltage rated value at AC at 60 Hz	
<ul style="list-style-type: none"> initial value Full-scale value 	0.85 1.1
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			Marine / Shipping
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[Explosion Protection Certificate](#)



[Special Test Certificate](#)

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

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[Confirmation](#)



Profibus

other

[PROFINET-Certification](#)

[PROFIsafe-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=3UF7010-1AU00-0>

Cax online generator

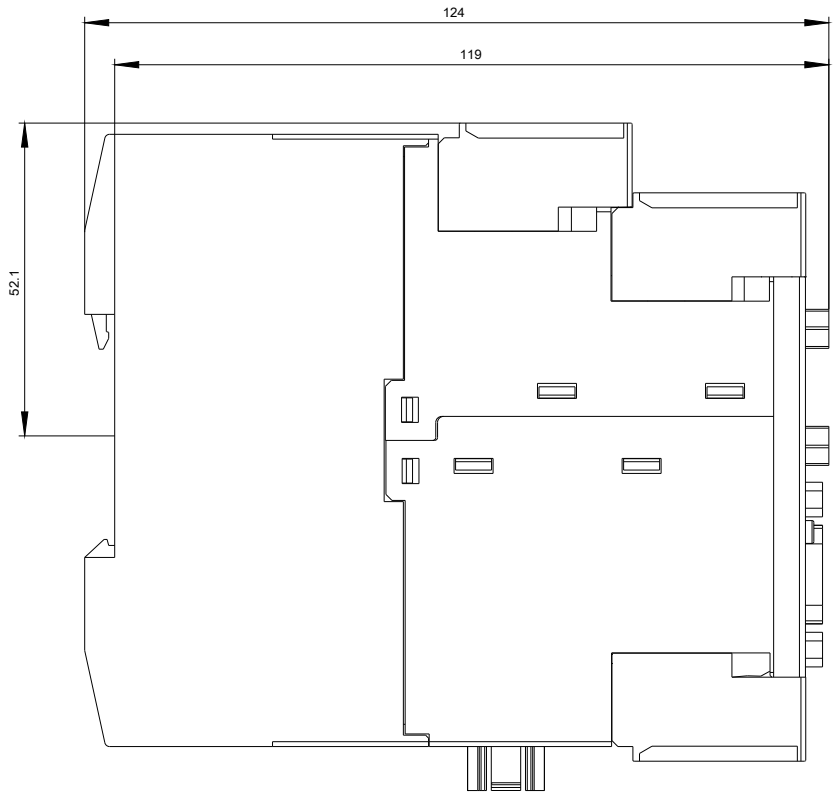
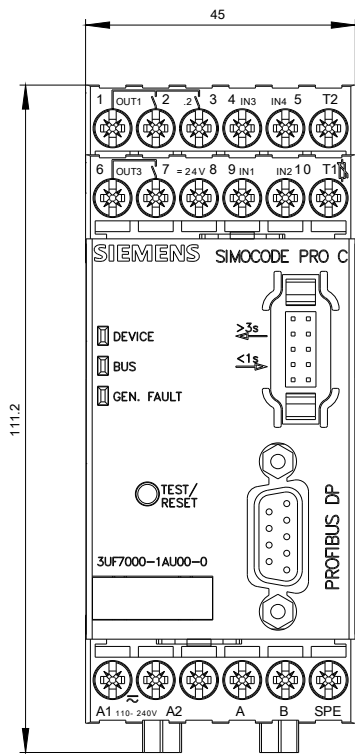
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3UF7010-1AU00-0>

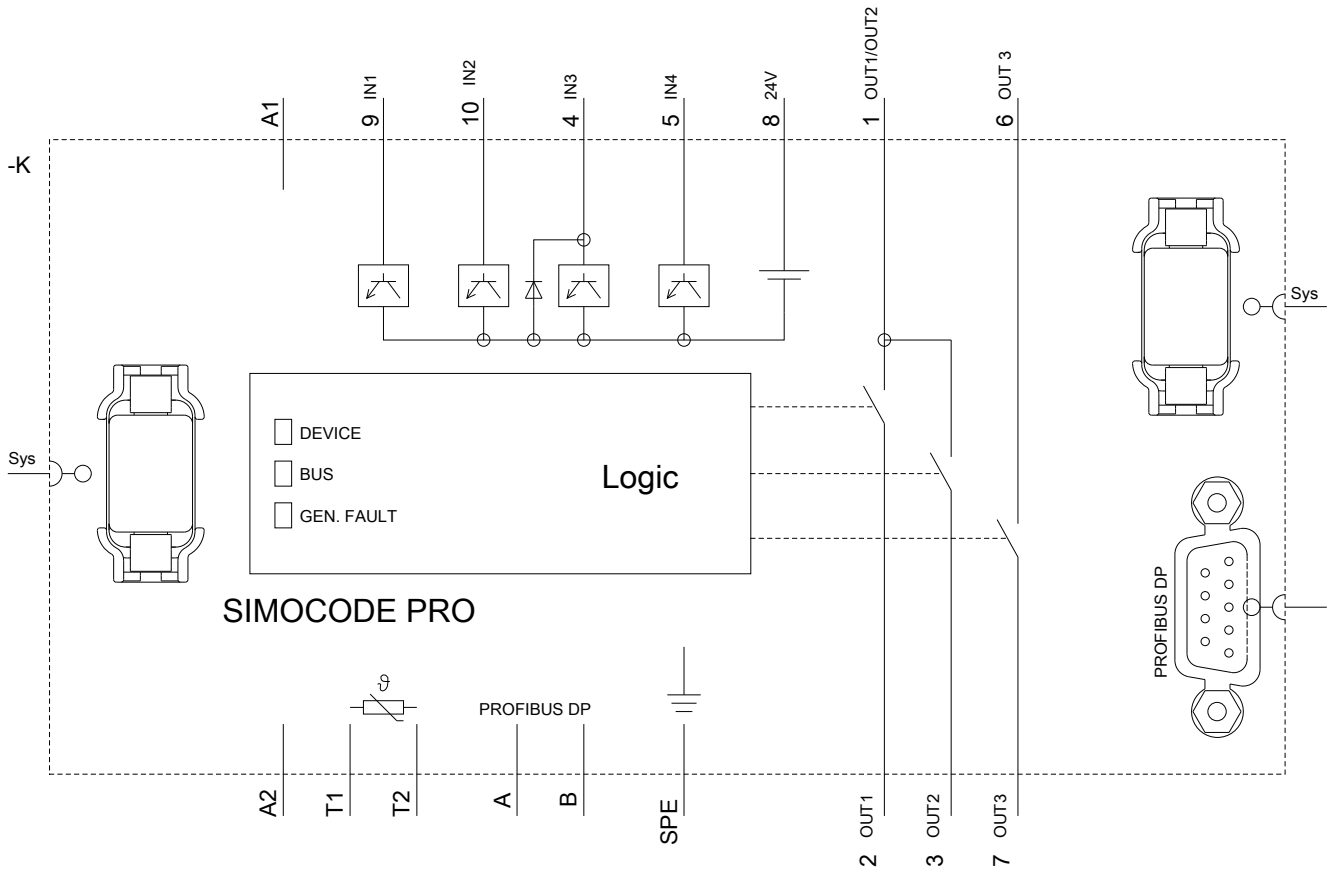
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<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?mfb=3UF7010-1AU00-0&lang=en





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