



Basic unit SIMOCODE pro V PB PROFIBUS DP interface 12 Mbit/s, RS 485, 4I/3O freely parameterizable, Us: 24 V 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
<b>General technical data</b>	
<b>product function</b>	
<ul style="list-style-type: none"> <li>• bus communication</li> <li>• data acquisition function</li> <li>• diagnostics function</li> <li>• password protection</li> <li>• test function</li> <li>• maintenance function</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>
<b>product component</b>	
<ul style="list-style-type: none"> <li>• input for thermistor connection</li> <li>• digital input</li> <li>• input for analog temperature sensors</li> <li>• input for ground fault detection</li> <li>• relay output</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> <li>No</li> <li>No</li> <li>Yes</li> </ul>
<b>product extension</b>	
<ul style="list-style-type: none"> <li>• temperature monitoring module</li> <li>• current measuring module</li> <li>• current/voltage measuring module</li> <li>• fail-safe digital I/O module</li> <li>• ground-fault monitoring module</li> <li>• control unit with display</li> <li>• control unit</li> <li>• analog I/O module</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>
<b>consumed active power</b>	2.6 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>	
<ul style="list-style-type: none"> <li>• according to IEC 60068-2-27</li> </ul>	15g / 11 ms
<b>switching capacity current of the NO contacts of the relay outputs at AC-15</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> <li>• at 120 V</li> <li>• at 230 V</li> </ul>	<ul style="list-style-type: none"> <li>6 A</li> <li>6 A</li> <li>3 A</li> </ul>
<b>switching capacity current of the NO contacts of the relay outputs at DC-13</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> </ul>	2 A

<ul style="list-style-type: none"> <li>• at 60 V</li> <li>• at 125 V</li> </ul>	0.55 A 0.25 A
<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>	6 A 5 A
<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>	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8
<b>Weight</b>	0.35 kg

### Electromagnetic compatibility

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>	2 kV (power ports) / 1 kV (signal ports) 2 kV 1 kV 10 V
<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

### Inputs/ Outputs

<b>product function</b> <ul style="list-style-type: none"> <li>• parameterizable inputs</li> <li>• parameterizable outputs</li> </ul>	Yes Yes
<b>number of inputs</b> <ul style="list-style-type: none"> <li>• for thermistor connection</li> </ul>	4 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>	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> <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>	50 m 150 m 250 m

### Protective and monitoring functions

<b>product function</b> <ul style="list-style-type: none"> <li>• asymmetry detection</li> <li>• blocking current evaluation</li> <li>• power factor monitoring</li> <li>• ground fault detection</li> <li>• phase failure detection</li> <li>• phase sequence recognition</li> <li>• voltage detection</li> <li>• monitoring of number of start operations</li> <li>• overvoltage detection</li> <li>• overcurrent detection 1 phase</li> <li>• undervoltage detection</li> </ul>	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
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<ul style="list-style-type: none"> <li>• undercurrent detection 1 phase</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• active power monitoring</li> </ul>	Yes
<b>product function</b>	
<ul style="list-style-type: none"> <li>• current detection</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• overload protection</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• evaluation of thermistor motor protection</li> </ul>	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
<ul style="list-style-type: none"> <li>• of the short-circuit control</li> </ul>	9 Ω
<b>release value of thermoresistor</b>	1 500 ... 1 650 Ω

### Communication/ Protocol

<b>protocol is supported</b>	
<ul style="list-style-type: none"> <li>• PROFIBUS DP protocol</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• PROFINET IO protocol</li> </ul>	No
<ul style="list-style-type: none"> <li>• PROFI-safe protocol</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Modbus RTU</li> </ul>	No
<ul style="list-style-type: none"> <li>• EtherNet/IP</li> </ul>	No
<ul style="list-style-type: none"> <li>• OPC UA Server</li> </ul>	No
<ul style="list-style-type: none"> <li>• LLDP</li> </ul>	No
<ul style="list-style-type: none"> <li>• Address Resolution Protocol (ARP)</li> </ul>	No
<ul style="list-style-type: none"> <li>• SNMP</li> </ul>	No
<ul style="list-style-type: none"> <li>• HTTPS</li> </ul>	No
<ul style="list-style-type: none"> <li>• NTP</li> </ul>	No
<ul style="list-style-type: none"> <li>• Media Redundancy Protocol (MRP)</li> </ul>	No
<b>number of interfaces</b>	
<ul style="list-style-type: none"> <li>• according to PROFINET</li> </ul>	0
<ul style="list-style-type: none"> <li>• according 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 Device Level Ring (DLR)</li> </ul>	No
<ul style="list-style-type: none"> <li>• is supported PROFINET system redundancy (S2)</li> </ul>	No
<ul style="list-style-type: none"> <li>• supports PROFIenergy measured values</li> </ul>	No
<ul style="list-style-type: none"> <li>• supports PROFIenergy 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
type of electrical connection of the communication interface	9-pin SUB-D socket (12 Mbit) / screw terminal (1.5 Mbit)

### Installation/ mounting/ dimensions

<b>mounting position</b>	any
<b>fastening method</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>	
<ul style="list-style-type: none"> <li>• top</li> </ul>	40 mm
<ul style="list-style-type: none"> <li>• bottom</li> </ul>	40 mm
<ul style="list-style-type: none"> <li>• left</li> </ul>	0 mm
<ul style="list-style-type: none"> <li>• right</li> </ul>	0 mm

### Connections/ Terminals

<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> </ul>	1x (0.5 ... 4.0 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )

<ul style="list-style-type: none"> <li>finely stranded with core end processing</li> <li>for AWG cables solid</li> <li>for AWG cables stranded</li> </ul>	<p>1x (0.5 ... 2.5 mm<sup>2</sup>), 2x (0.5 ... 1.5 mm<sup>2</sup>)</p> <p>1x (20 ... 12), 2x (20 ... 14)</p> <p>1x (20 ... 14), 2x (20 ... 16)</p>
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
<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>	5 ... 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>ATEX</b>	
<b>certificate of suitability</b>	
<ul style="list-style-type: none"> <li>IECEX</li> <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>Yes; IECEX BVS 20.0020 / IECEX PTB 18.0004X</p> <p>BVS 06 ATEX F001, PTB 18 ATEX 5003 X</p> <p>ITS21UKEX0464, ITS21UKEX0455X</p> <p>ITS21UKEX0464, ITS21UKEX0455X</p>
explosion device group and category according to ATEX directive 2014/34/EU	II (2) G, II (2) D, I (M2) / I (M2), II (1/2) G, II (1G/2D)
<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 rated value</b>	24 V
<b>control supply voltage 1 at DC rated value</b>	24 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>	<p>0.8</p> <p>1.2</p>
<b>inrush current peak</b>	
<ul style="list-style-type: none"> <li>at 24 V</li> </ul>	11 A
<b>duration of inrush current peak</b>	
<ul style="list-style-type: none"> <li>at 24 V</li> </ul>	1.1 ms
<b>Approvals Certificates</b>	
<b>General Product Approval</b>	



[Confirmation](#)



EMV

For use in hazardous locations



[KC](#)



For use in hazardous locations

Test Certificates

Marine / Shipping

[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping

other

Environment

Industrial Communication



[Confirmation](#)

[Environmental Confirmations](#)



#### Further information

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=3UF7010-1AB00-0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7010-1AB00-0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3UF7010-1AB00-0>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UF7010-1AB00-0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7010-1AB00-0&lang=en)

Test report No. A0258, protective separation

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



