



Basic unit SIMOCODE pro V MR, MODBUS RTU interface 57.6 Kbps, 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
product designation	Motor management system
design of the product	basic unit 2
product type designation	SIMOCODE pro V MR
General technical data	
product function	
• bus communication	Yes
• data acquisition function	Yes
• diagnostics function	Yes
• password protection	Yes
• test function	Yes
• maintenance function	Yes
product component	
• input for thermistor connection	Yes
• digital input	Yes
• input for analog temperature sensors	No
• input for ground fault detection	No
• relay output	Yes
product extension	
• temperature monitoring module	Yes
• current measuring module	Yes
• current/voltage measuring module	Yes
• fail-safe digital I/O module	Yes
• ground-fault monitoring module	Yes
• control unit with display	Yes
• control unit	Yes
• analog I/O module	Yes
apparent power consumption	8.3 VA
consumed active power	3.6 W
insulation voltage with degree of pollution 3 at AC rated value	300 V
surge voltage resistance rated value	4 000 V
protection class IP	IP20
shock resistance	
• according to IEC 60068-2-27	15g / 11 ms
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	

<ul style="list-style-type: none"> • at 24 V • at 60 V • at 125 V 	2 A 0.55 A 0.25 A
mechanical service life (operating cycles) typical	10 000 000
electrical endurance (operating cycles) typical	100 000
buffering time in the event of power failure	0.2 s
reference code according to IEC 81346-2	F
continuous current of the NO contacts of the relay outputs <ul style="list-style-type: none"> • at 50 °C • at 60 °C 	6 A 5 A
type of input characteristic	Type 1 in accordance with EN 61131-2
Substance Prohibition (Date)	05/01/2012
SVHC substance name	Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8 4,4'-isopropylidendiphenol (Bisphenol A, - 80-05-7)
certificate of suitability <ul style="list-style-type: none"> • according to ATEX directive 2014/34/EU • acc. to Equipment and Protective System Intended for Use in Potentially Explosive Atmospheres Regulations 2016 (S.I. 2016 No.1107) • according to UKCA 	BVS 06 ATEX F001 ITS21UKEX0464, ITS21UKEX0455X ITS21UKEX0464, ITS21UKEX0455X
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 according to IEC 60947-1	class A
EMC immunity according to IEC 60947-1	corresponds to degree of severity 3
conducted interference <ul style="list-style-type: none"> • due to burst according to IEC 61000-4-4 • due to conductor-earth surge according to IEC 61000-4-5 • due to conductor-conductor surge according to IEC 61000-4-5 • due to high-frequency radiation according to IEC 61000-4-6 	2 kV (power ports) / 1 kV (signal ports) 2 kV 1 kV 10 V
field-based interference according to IEC 61000-4-3	10 V/m
electrostatic discharge according to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge
conducted HF interference emissions according to CISPR11	corresponds to degree of severity A
field-bound HF interference emission according to CISPR11	corresponds to degree of severity A

Inputs/ Outputs

product function <ul style="list-style-type: none"> • parameterizable inputs • parameterizable outputs 	Yes Yes
number of inputs <ul style="list-style-type: none"> • for thermistor connection 	4 1
number of digital inputs 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 semiconductor outputs	0
number of outputs as contact-affected switching element	3
switching behavior	monostable
type of relay outputs	Monostable
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 • with conductor cross-section = 1.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum 	50 m 150 m 250 m

Protective and monitoring functions

product function <ul style="list-style-type: none"> • asymmetry detection • blocking current evaluation • power factor monitoring 	Yes Yes Yes
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• 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
product function	
• current detection	Yes
• overload protection	Yes
• evaluation of thermistor motor protection	Yes
total cold resistance number of sensors in series maximum	1.5 kΩ
response value of thermoresistor	3 400 ... 3 800 Ω
• of the short-circuit control	9 Ω
release value of thermoresistor	1 500 ... 1 650 Ω

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	No
• PROFINET IO protocol	No
• PROFI-safe protocol	No
• Modbus RTU	Yes
• 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
number of interfaces	
• according to PROFINET	0
• according to PROFIBUS	0
• according to Ethernet/IP	0
• according to Modbus RTU	1
product function	
• 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

transfer rate maximum	0.057 Mbit/s
identification & maintenance function	
<ul style="list-style-type: none"> • I&M0 - device-specific information • I&M1 - higher level designation/location designation • I&M2 - installation date • I&M3 - comment 	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
type of electrical connection of the communication interface	9-pin D-sub socket (57.6 Kbit) / screw terminal (57.6 Kbit)
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting
height	111 mm
width	45 mm
depth	124 mm
required spacing	
<ul style="list-style-type: none"> • top • bottom • left • right 	<p>40 mm</p> <p>40 mm</p> <p>0 mm</p> <p>0 mm</p>
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	Yes
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • solid • finely stranded with core end processing • for AWG cables solid • for AWG cables stranded 	<p>1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²)</p> <p>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)</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
type of connectable conductor cross-sections for PROFIBUS wire	2x 0.34 mm ² , AWG 22
Ambient conditions	
installation altitude at height above sea level	
<ul style="list-style-type: none"> • 1 maximum • 2 maximum • 3 maximum 	<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>
ambient temperature	
<ul style="list-style-type: none"> • during operation • during storage • during transport 	<p>-25 ... +60 °C</p> <p>-40 ... +80 °C</p> <p>-40 ... +80 °C</p>
environmental category	
<ul style="list-style-type: none"> • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 	<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>
relative humidity	
<ul style="list-style-type: none"> • 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)
Electrical Safety	
touch protection against electrical shock	finger-safe
Galvanic isolation	
(electrically) protective separation according to IEC 60947-1	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	
product function soft starter control	Yes
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 	110 ... 240 V

<ul style="list-style-type: none"> at 60 Hz rated value 	110 ... 240 V
control supply voltage frequency	
<ul style="list-style-type: none"> 1 rated value 	50 Hz
<ul style="list-style-type: none"> 2 rated value 	60 Hz
relative symmetrical tolerance of the control supply voltage frequency	5 %
control supply voltage at DC	
<ul style="list-style-type: none"> rated value 	110 ... 240 V
operating range factor control supply voltage rated value at DC	
<ul style="list-style-type: none"> initial value 	0.85
<ul style="list-style-type: none"> full-scale value 	1.1
operating range factor control supply voltage rated value at AC at 50 Hz	
<ul style="list-style-type: none"> initial value 	0.85
<ul style="list-style-type: none"> full-scale value 	1.1
operating range factor control supply voltage rated value at AC at 60 Hz	
<ul style="list-style-type: none"> initial value 	0.85
<ul style="list-style-type: none"> full-scale value 	1.1
inrush current peak	
<ul style="list-style-type: none"> at 240 V 	15 A
duration of inrush current peak	
<ul style="list-style-type: none"> at 240 V 	1 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
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[Explosion Protection Certificate](#)



Test Certificates	Marine / Shipping
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping	other
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[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=3UF7012-1AU00-0>

Cax online generator

<http://support.automation.siemens.com/WWW/CAXorder/default.aspx?lang=en&mlfb=3UF7012-1AU00-0>

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

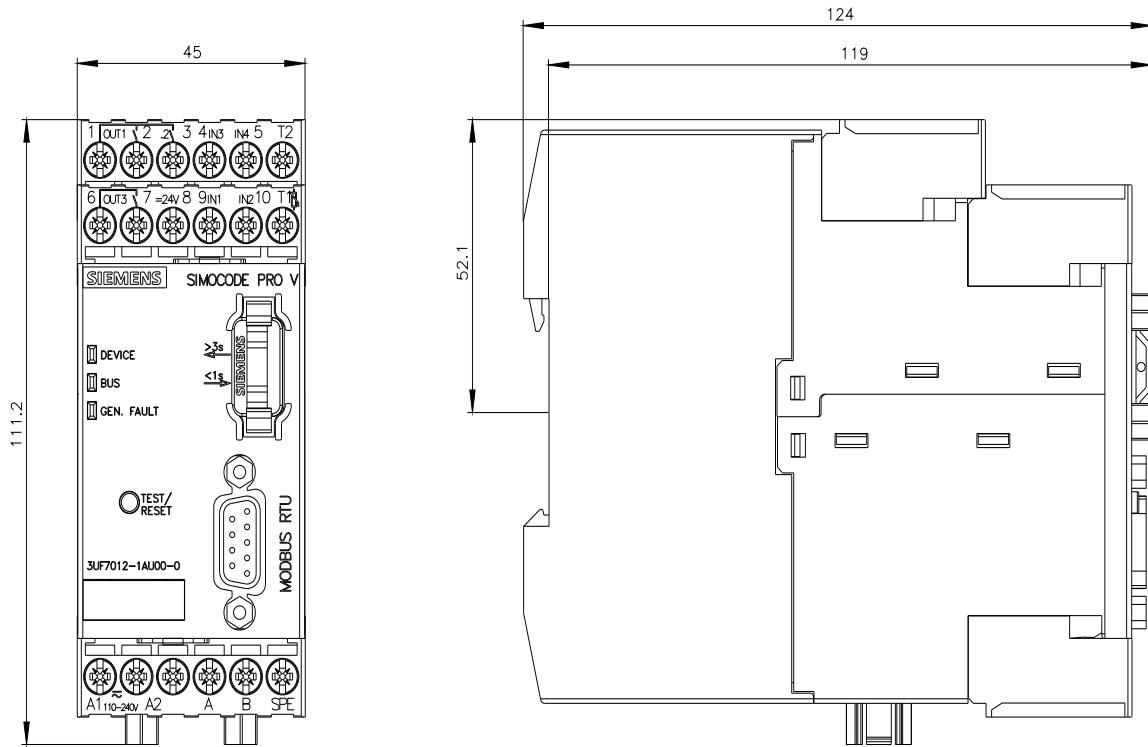
<https://support.industry.siemens.com/cs/ww/en/ps/3UF7012-1AU00-0>

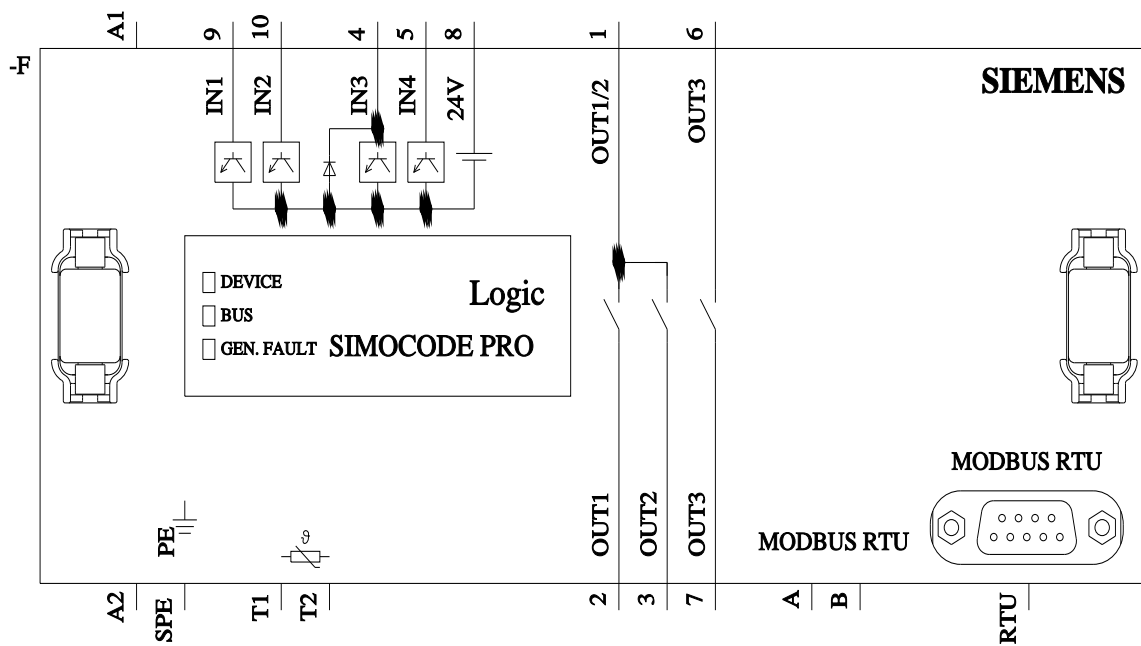
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7012-1AU00-0&lang=en

Test report No. A0258, protective separation

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





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