SIEMENS

Data sheet 3UF7012-1AU00-0

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
● **vibration resistance**	1-6 Hz / 15 mm; 6-500 Hz / 2 g
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
● at 125 V	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	
● at 50 °C	6 A
● at 60 °C	5 A
type of input characteristic	Type 1 in accordance with EN 61131-2
Substance Prohibitance (Date)	05/01/2012
certificate of suitability	
● according to ATEX directive 2014/34/EU	BVS 06 ATEX F001
● acc. to Equipment and Protective System Intended for Use in Potentially Explosive Atmospheres Regulations 2016 (S.I. 2016 No.1107)	ITS21UKEX0464, ITS21UKEX0455X
● according to UKCA	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	
● due to burst according to IEC 61000-4-4	2 kV (power ports) / 1 kV (signal ports)
● due to conductor-earth surge according to IEC 61000-4-5	2 kV
● due to conductor-conductor surge according to IEC 61000-4-5	1 kV
● due to high-frequency radiation according to IEC 61000-4-6	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	
● parameterizable inputs	Yes
● parameterizable outputs	Yes
number of inputs	4
● for thermistor connection	1
number of digital inputs with a common reference potential	4
digital input version 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	
● with conductor cross-section = 0.5 mm² maximum	50 m
● with conductor cross-section = 1.5 mm² maximum	150 m
● with conductor cross-section = 2.5 mm² maximum	250 m
Protective and monitoring functions	
product function	
● asymmetry detection	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
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
● protocol is supported PROFINET IO protocol	No
● protocol is supported PROFIsafe protocol	No
● protocol is supported Modbus RTU	Yes
● 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
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 PROFINET system redundancy (S2)	No
● supports PROFIenergy measured values	No
● supports PROFIenergy shutdown	No
transfer rate maximum	0.057 Mbit/s
identification & maintenance function	

● I&M0 - device-specific information	Yes
● I&M1 – higher level designation/location designation	Yes
● I&M2 - installation date	Yes
● I&M3 - comment	Yes
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	
● top	40 mm
● bottom	40 mm
● left	0 mm
● right	0 mm
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	Yes
type of connectable conductor cross-sections	
● solid	1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²)
● finely stranded with core end processing	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
● at AWG cables solid	1x (20 ... 12), 2x (20 ... 14)
● at AWG cables 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
type of connectable conductor cross-sections for PROFIBUS wire	2x 0.34 mm², AWG 22
Ambient conditions	
installation altitude at height above sea level	
● 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)
ambient temperature	
● during operation	-25 ... +60 °C
● during storage	-40 ... +80 °C
● during transport	-40 ... +80 °C
environmental category	
● during operation according 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 according 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 according 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	
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	
● at 50 Hz rated value	110 ... 240 V
● at 60 Hz rated value	110 ... 240 V
control supply voltage frequency	
● 1 rated value	50 Hz

● **2 rated value**	60 Hz
relative symmetrical tolerance of the control supply voltage frequency	5 %
control supply voltage at DC	
● rated value	110 ... 240 V
operating range factor control supply voltage rated value at DC	
● initial value	0.85
● full-scale value	1.1
operating range factor control supply voltage rated value at AC at 50 Hz	
● initial value	0.85
● full-scale value	1.1
operating range factor control supply voltage rated value at AC at 60 Hz	
● initial value	0.85
● full-scale value	1.1
inrush current peak	
● at 240 V	15 A
duration of inrush current peak	
● at 240 V	1 ms

Certificates/ approvals

General Product Approval				EMC	For use in hazardous locations
CSA	Confirmation	UL	EAC	RCM	ATEX

For use in hazardous locations			Declaration of Conformity		Test Certificates
IECEx	IECEx	ATEX	EG-Konf.	UKCA	Special Test Certificate

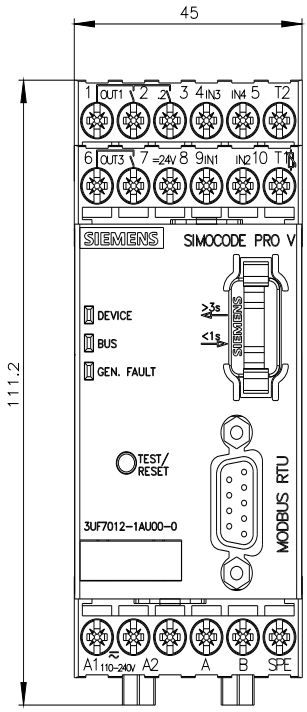
Test Certificates		Marine / Shipping			
Type Test Certificates/Test Report	Special Test Certificate	ABS	LRS	RMRS	DNV·GL

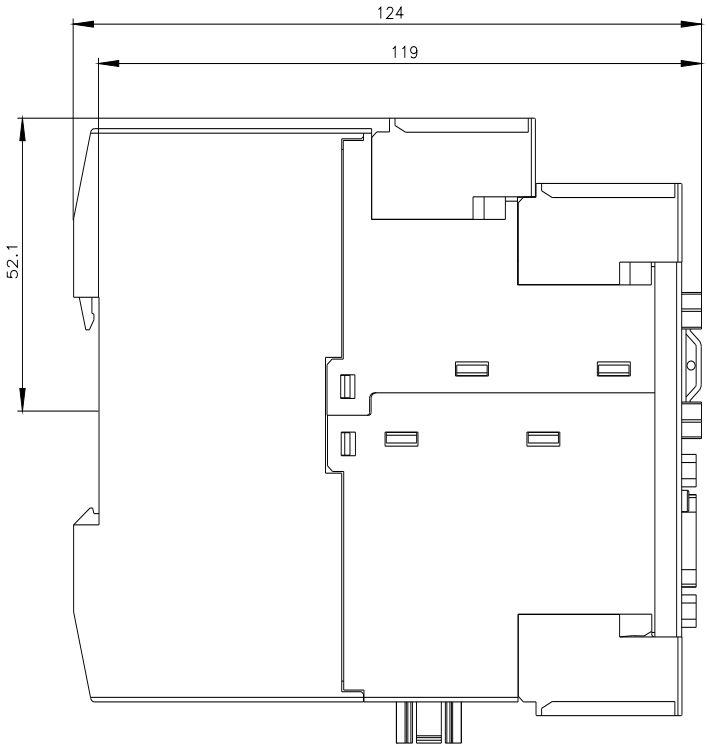
other	
Confirmation	Profibus

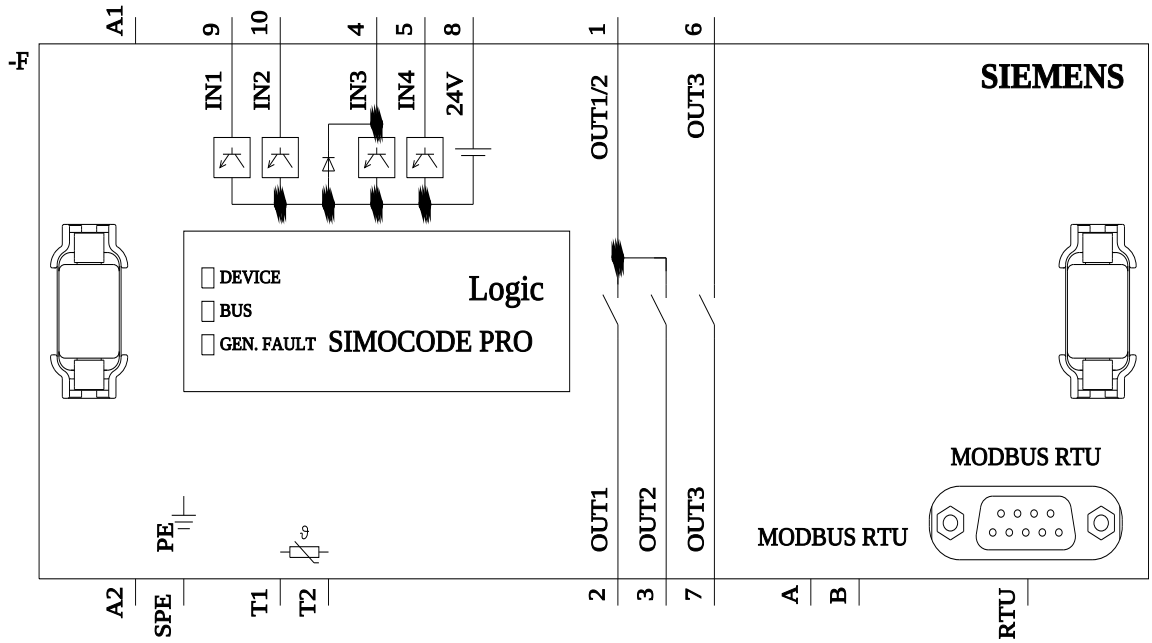
Further information

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/WW/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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