SIEMENS

Data sheet 3UF7012-1AB00-0

basic device SIMOCODE pro V MR, MODBUS RTU interface 57.6 Kbps, RS-485, 4 I/3 O freely configurable, Us: 24 V DC, input for thermistor connection monostable relay outputs, expandable by expansion modules

product brand name	SIMOCODE
product designation	Motor management system
design of the product	basic unit 2
General technical data	
product function	
● current measurement	No
● voltage measurement	No
● active power measurement	Yes
● energy measurement	No
● frequency measurement	No
● bus communication	Yes
● data acquisition function	Yes
● diagnostics function	Yes
● password protection	Yes
● test function	Yes
● maintenance function	Yes
● MRRT redundancy procedure	No
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
● decoupling module	Yes
● analog I/O module	Yes
● digital I/O module with monostable outputs	Yes
● digital I/O module with bistable outputs	Yes
● control unit with display	Yes
● control unit	Yes
consumed active power	2.6 W
insulation voltage with degree of pollution 3 at AC rated value	300 V
surge voltage resistance rated value	4 000 V
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	0.05 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
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1
Net Weight	0.36 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
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
number of relay outputs	3
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
● ground-fault monitoring	No
● 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
● PROFIsafe 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
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	
● 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 electrical connection	
● for auxiliary and control circuit	screw-type terminals
type of connectable conductor cross-sections	
● solid	1x (0.5 ... 4.0mm²), 2x (0.5 ... 2.5 mm²)
● finely stranded with core end processing	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
● for AWG cables solid	1x (20 ... 12), 2x (20 ... 14)
● for 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 maximum	2 000 m
● note	Restrictions apply to higher installation altitudes, see: https://support.industry.siemens.com/cs/document/109995153
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)
Electrical Safety	
touch protection against electrical shock	finger-safe
ATEX	

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)
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)
design of the electrical isolation	Protective separation in accordance with IEC 60947-1 for all circuits
● note	Test report No. A0258 must be observed (https://support.industry.siemens.com/cs/document/109748152)
Control circuit/ Control	
product function soft starter control	Yes
type of voltage of the control supply voltage	DC
control supply voltage at DC rated value	24 V
control supply voltage 1 at DC rated value	24 V
operating range factor control supply voltage rated value at DC	
● initial value	0.8
● full-scale value	1.2
inrush current peak	
● at 24 V	11 A
duration of inrush current peak	
● at 24 V	1.1 ms

Approvals Certificates

Environment		General Product Approval			
EPD	Environmental Confirmations	CCC	EG-Konf.	UKCA	UL

General Product Approval	EMV	For use in hazardous locations			
EAC	RCM	KC	ATEX	IECEx	ATEX

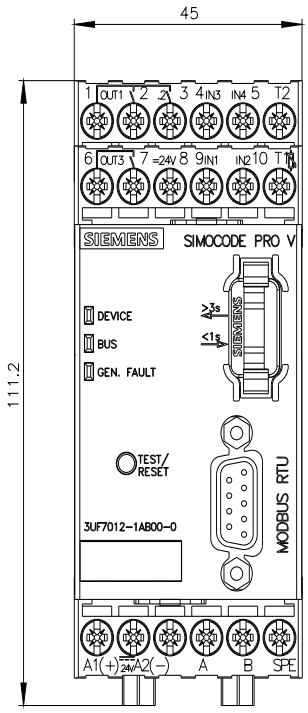
For use in hazardous locations		Test Certificates			Maritime application
IECEx	Miscellaneous	Special Test Certificate	Type Test Certificates/Test Report	Special Test Certificate	ABS

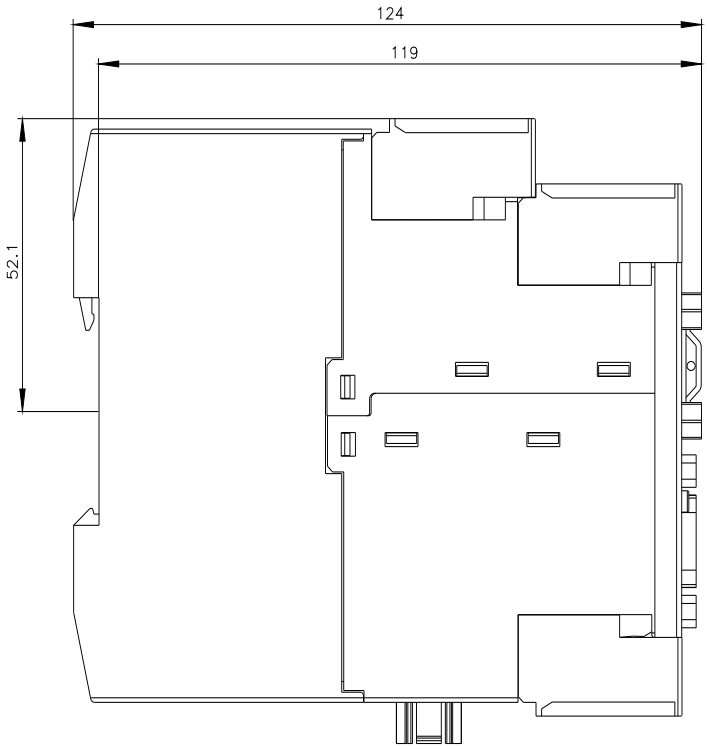
Maritime application			other		Industrial Communication
DNV	LRS	RMRS	产品合格 QC PASS	Confirmation	Profibus

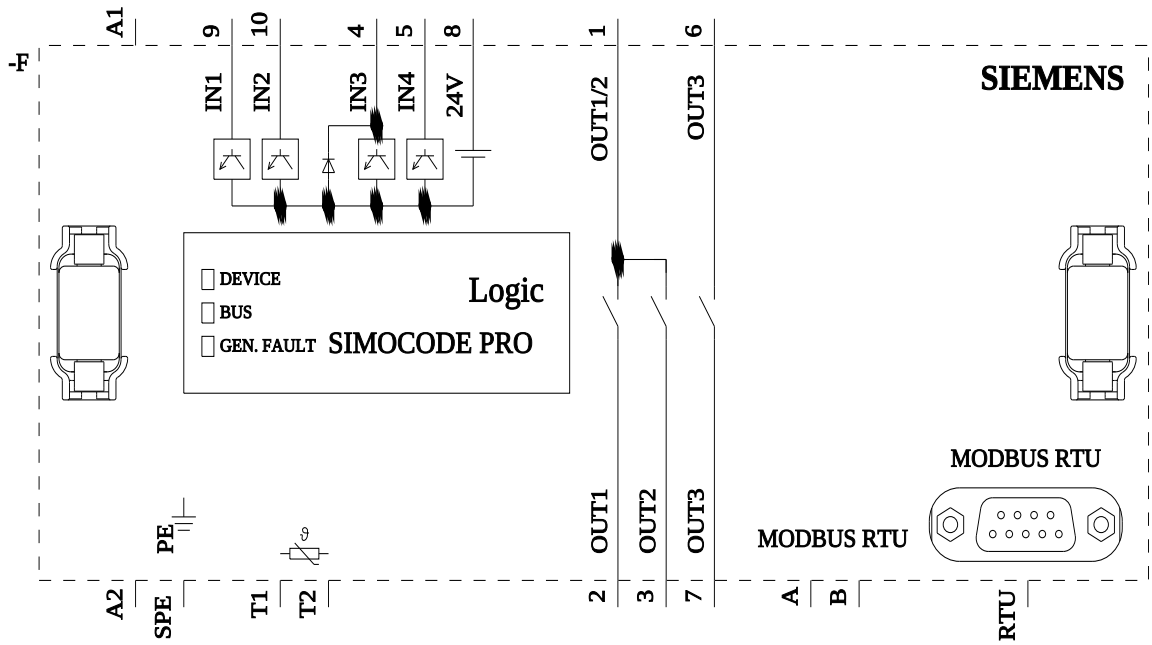
Further information

Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875

Information for data generation and storage
https://support.industry.siemens.com/cs/ww/en/view/109995012
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=3UF7012-1AB00-0
Cax online generator
https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7012-1AB00-0
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3UF7012-1AB00-0
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7012-1AB00-0&lang=en







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