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 V·A
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	
● acc. 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 (switching cycles) typical	10 000 000
electrical endurance (switching cycles) typical	100 000
buffering time in the event of power failure	0.2 s
reference code acc. 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)	01.05.2012 00:00:00
certificate of suitability	
● according to ATEX directive 2014/34/EU	BVS 06 ATEX F001
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 acc. to IEC 60947-1	class A
EMC immunity acc. to IEC 60947-1	corresponds to degree of severity 3
conducted interference	
● due to burst acc. to IEC 61000-4-4	2 kV (power ports) / 1 kV (signal ports)
● due to conductor-earth surge acc. to IEC 61000-4-5	2 kV
● due to conductor-conductor surge acc. to IEC 61000-4-5	1 kV
● due to high-frequency radiation acc. to IEC 61000-4-6	10 V
field-based interference 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	
● 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	
● acc. to PROFINET	0
● acc. 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	No
● supports PROFIenergy measured values	No
● supports PROFIenergy shutdown	No

10/2/2021

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 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

touch protection against electrical shock	finger-safe

Galvanic isolation

(electrically) protective separation acc. 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

Certificates/ approvals

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

For use in hazardous locations			Declaration of Conformity	Test Certificates	
IECEx	IECEx	ATEX	CE EG-Konf.	[Special Test Certificate](#)	[Type Test Certificates/Test Report](#)

Test Certificates	Marine / Shipping				other
[Special Test Certificate](#)	ABS	LRS	RMRS	DNV·GL	[Confirmation](#)

other	
Profibus	[PROFINET-Certification](#)

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,...)
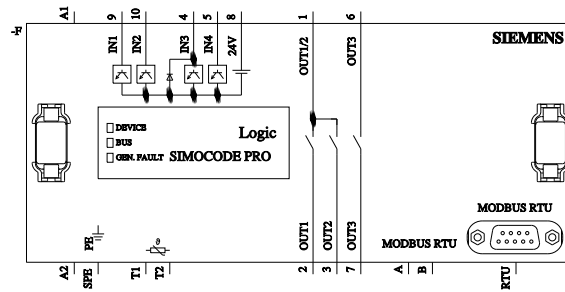https://support.industry.siemens.com/cs/ww/en/ps/3UF7012-1AU00-0
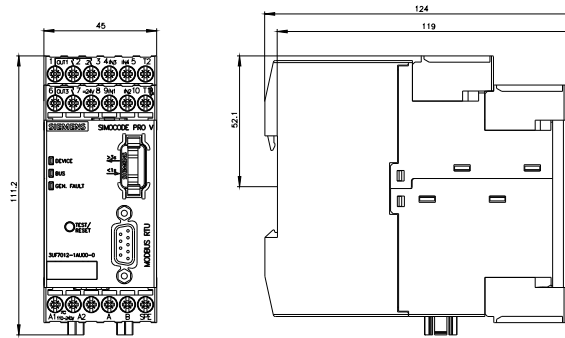
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7012-1AU00-0&lang=en

Test report No. A0258, protective separation
https://support.industry.siemens.com/cs/ww/en/view/109748152

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