SIEMENS

Data sheet 3UF7020-1AB01-0

Basic unit SIMOCODE pro S, PROFIBUS DP interface 1.5 Mbit/s, 4I/2O freely parameterizable, Us: 24 V DC, input for thermistor connection Monostable relay outputs, expandable by a multifunctional module

product brand name	SIRIUS
product designation	Motor management system
design of the product	Basic device 0
product type designation	SIMOCODE pro S
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	No
● fail-safe digital I/O module	No
● ground-fault monitoring module	Yes
● control unit with display	No
● control unit	Yes
● analog I/O module	No
consumed active power	2.1 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	
● when mounted on current measuring module according to IEC 60068-2-27	10 g / 11 ms
● **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	
● 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 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7
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	2
number of semiconductor outputs	0
number of outputs as contact-affected switching element	2
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	No
● ground fault detection	Yes
● phase failure detection	Yes
● phase sequence recognition	No
● voltage detection	No
● monitoring of number of start operations	Yes
● overvoltage detection	No

● overcurrent detection 1 phase	Yes
● undervoltage detection	No
● undercurrent detection 1 phase	Yes
● active power monitoring	No
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	No
● Dahlander circuit	No
● Dahlander reversing circuit	No
● pole-changing switch circuit	No
● pole-changing switch reversing circuit	No
● slide control	No
● valve control	No
Communication/ Protocol	
protocol is supported	
● PROFIBUS DP protocol	Yes
● PROFINET IO protocol	No
● PROFIsafe protocol	No
● Modbus RTU	No
● 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	1
● according to Ethernet/IP	0
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	1.5 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	Screw-type terminal (1.5 Mbit)

Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting
height	100 mm
width	22.5 mm
depth	124.5 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 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
● finely stranded with core end processing	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1 mm²)
● for AWG cables solid	1x (20 ... 14), 2x (20 ... 16)
tightening torque with screw-type terminals	0.6 ... 0.8 N·m
tightening torque [lbf·in] with screw-type terminals	5.2 ... 7 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	10 ... 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
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)
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	0.85
● full-scale value	1.2
inrush current peak	
● at 24 V	7.5 A
duration of inrush current peak	
● at 24 V	2.2 ms

Approvals Certificates

General Product Approval

Confirmation

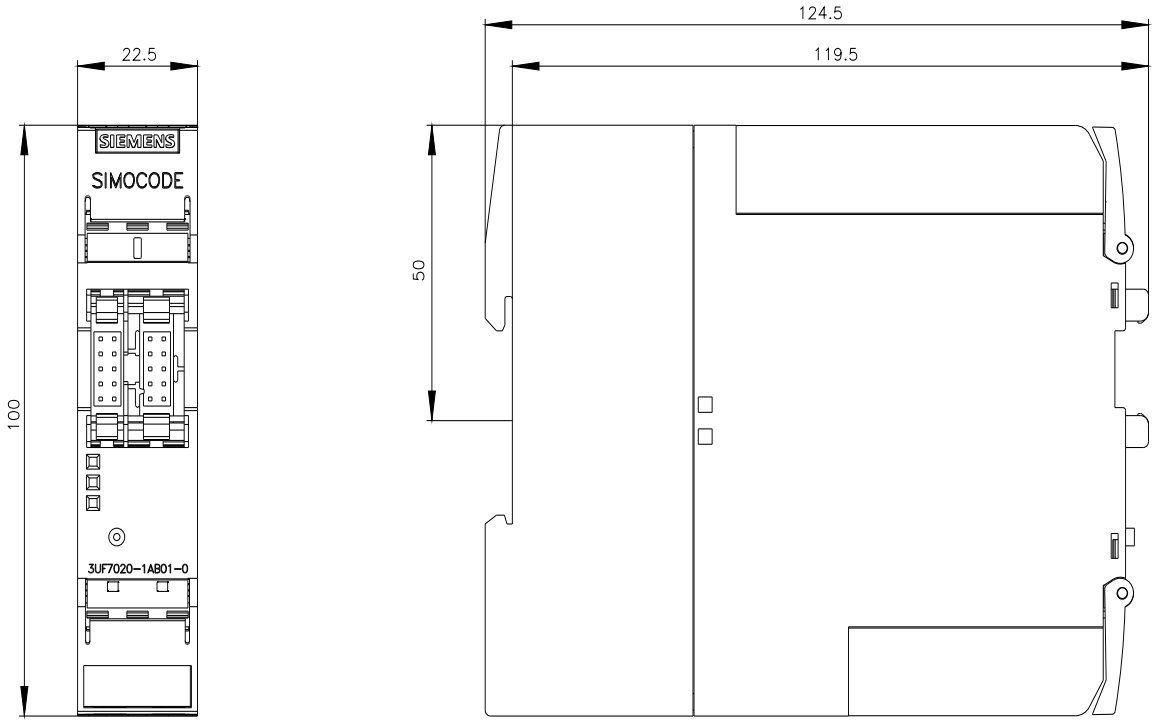

EMV		For use in hazardous locations			
	KC				other ex-certificates

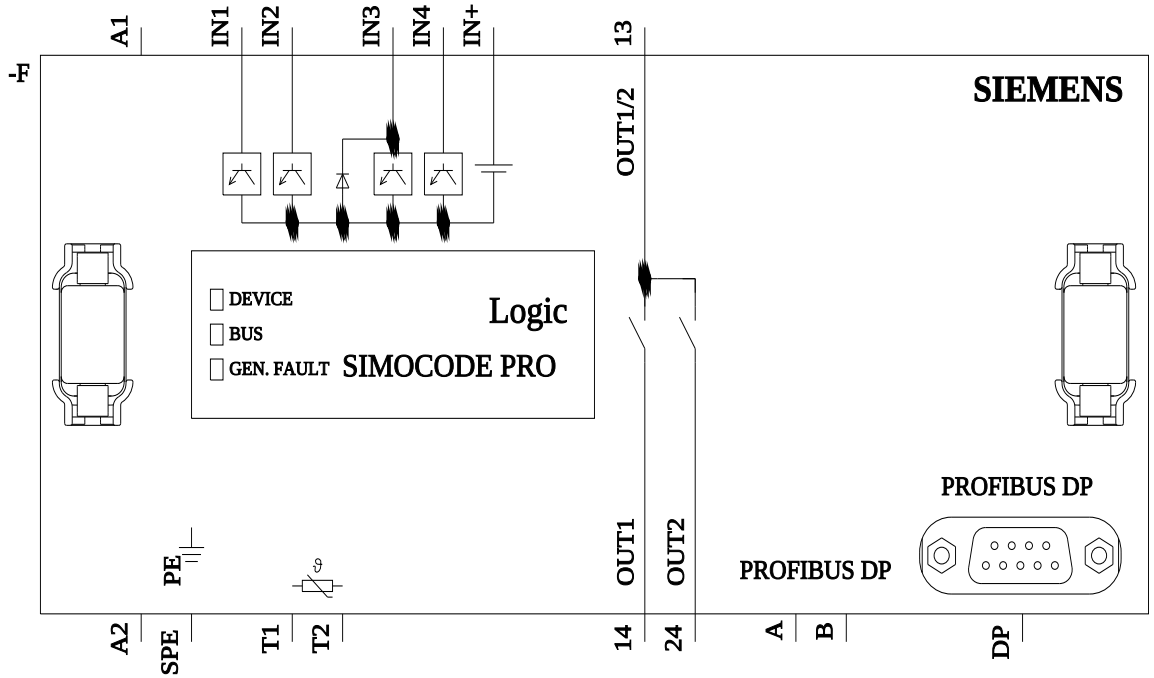
Test Certificates			Marine / Shipping		
Special Test Certific-ate	Type Test Certific-ates/Test Report	Special Test Certific-ate			

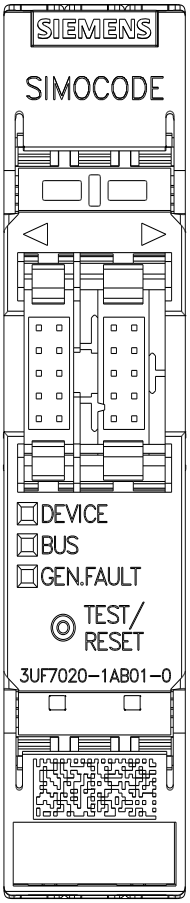
Marine / Shipping	other	Environment	Industrial Communication
	Confirmation	Environmental Con-firmations	

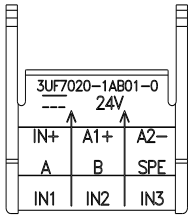
Further information

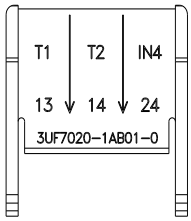
Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
Information- and Downloadcenter (Catalogs, Brochures,…)
https://www.siemens.com/ic10
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3UF7020-1AB01-0
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7020-1AB01-0
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3UF7020-1AB01-0
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7020-1AB01-0&lang=en
Test report No. A0258, protective separation
https://support.industry.siemens.com/cs/ww/en/view/109748152











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