SIEMENS

Show actual product details

Data sheet 3UF7020-1AB01-0

BASIC UNIT SIMOCODE PRO S; PROFIBUS DP INTERFACE 1.5 MBIT/S; 4I/2O FREELY PARAMETERIZABLE; US: DC 24V; INPUT F. THERMISTOR CONNECTION; MONOSTABLE RELAY OUTPUTS EXPANDABLE BY ONE EXPANSION MODULE

product brandname	SIRIUS
Product designation	SIMOCODE pro S Motor Management System
Design of the product	Basic device 0

General technical data	
Product function	
• data acquisition function	Yes
• Diagnostics function	Yes
• Password protection	Yes
• Test function	Yes
• maintenance function	Yes
Product component	
• 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
• failsafe digital I/O module	No
• Ground fault monitoring module	Yes
• decoupling module	No
• digital I/O module	Yes
• Control unit with display	No
• Control unit	Yes
• analog I/O module	No
Power loss [W] total typical	5 W
Insulation voltage	
• with degree of pollution 3 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 behavior	monostable
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
Mechanical service life (switching cycles)	
• typical	10 000 000
Electrical endurance (switching cycles)	
• typical	100 000
Equipment marking	
• acc. to DIN EN 81346-2	F
Continuous current of the NO contacts of the relay outputs	
• at 50 °C	6 A
• at 60 °C	5 A

Electromagnetic compatibility

EMC emitted interference	
• acc. to IEC 60947-1	class A
EMI 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-bound parasitic coupling 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	2
Number of outputs as contact-affected switching element	2
Number of semiconductor outputs	0
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

Interfaces

Number of interfaces	
• acc. to PROFINET	0
• acc. to PROFIBUS	1

Protective and monitoring functions

Product function	
• Phase unbalance	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 measurement	No
• active power monitoring	No

Motor protection functions

Product function	
• Current detection	Yes
• Overload protection	Yes
• Evaluation of thermistor motor protection	Yes
Response value of thermoresistor	3 800 ... 3 400 Ω
Release value of thermoresistor	1 500 ... 1 650 Ω
Explosion device group and category acc. to ATEX product directive 94/9/EC	Ex II (2) GD / Ex I (M2)

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

Product function Bus communication	Yes
Protocol is supported	
• PROFIBUS DP protocol	Yes
• PROFINET IO protocol	No

• PROFIsafe protocol	No
• Modbus RTU	No
• LLDP	No
• Address Resolution Protocol (ARP)	No
• SNMP	No
• HTTPS	No
• OPC UA Server	No
• NTP	No
• Media Redundancy Protocol (MRP)	No
Product function	
• web server	No
• shared device	No
• at the Ethernet interface Autonegotiation	No
• at the Ethernet interface Autosensing	No
• MRRT redundancy procedure	No
• is supported PROFINET system redundancy	No
• supports PROFIenergy measured values	No
• supports PROFIenergy shutdown	No
Type of electrical connection of the communication interface	Terminal

Installation/ mounting/ dimensions

Mounting position	any
Mounting type	screw and snap-on mounting
Height	100 mm
Width	22.5 mm
Depth	124.5 mm

Connections/Terminals

Product function	
• removable terminal for auxiliary and control circuit	Yes
Type of electrical connection	
• for auxiliary and control current circuit	screw-type terminals
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)
• at AWG conductors 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

Ambient conditions

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), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
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)

Safety related data

Protection against electrical shock	finger-safe

Galvanic isolation

Design of the electrical isolation	Protective separation in accordance with IEC 60947-1 for all circuits
• Note	Test report no. 2668 is to be observed

Control circuit/ Control

Type of voltage of the control supply voltage	DC
Control supply voltage 1	
• at DC rated value	24 V

Certificates/approvals

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

Declaration of Conformity	Test Certificates		Shipping Approval		
EG-Konf.	spezielle Prüfbescheinigungen	Typprüfbescheinigung/Werkszeugnis	ABS	DNV	GL

Shipping Approval	other	
RMRS	Bestätigungen	Profibus

Further information

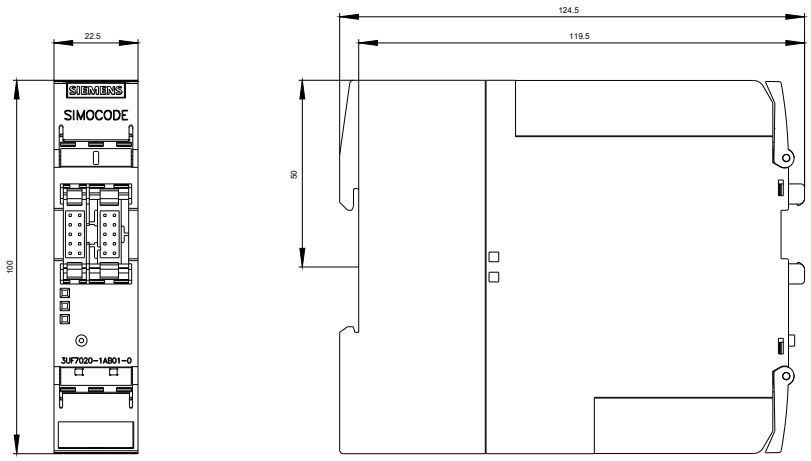
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

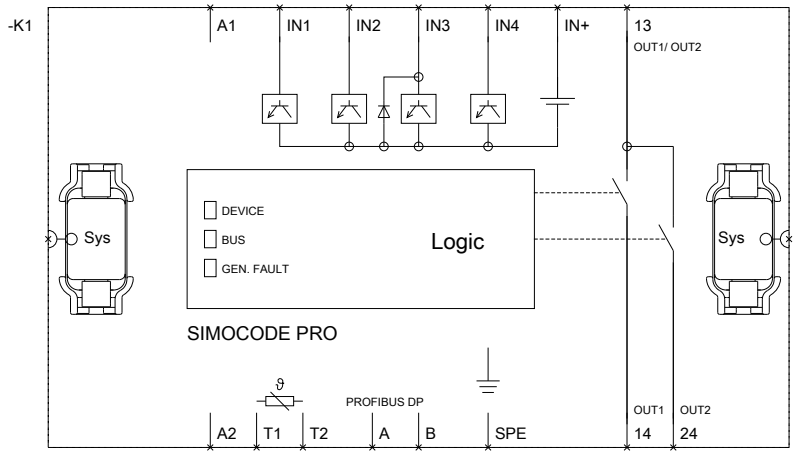
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3UF7020-1AB01-0

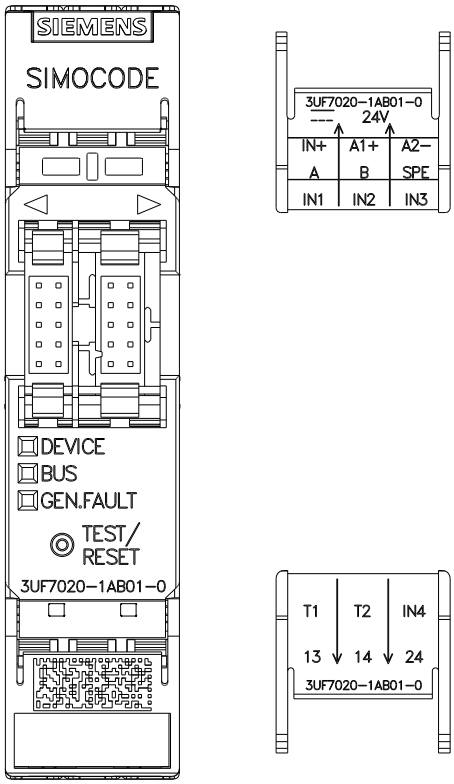
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7020-1AB01-0

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







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