



Basic unit SIMOCODE pro V PB PROFIBUS DP interface 12 Mbit/s, RS 485, 4I/3O freely parameterizable, Us: 24 V 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 PB
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
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
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
- at 60 V
- at 125 V

mechanical service life (operating cycles) typical

electrical endurance (operating cycles) typical

buffering time in the event of power failure

reference code according to IEC 81346-2

continuous current of the NO contacts of the relay outputs

- at 50 °C
- at 60 °C

type of input characteristic

Substance Prohibitance (Date)

certificate of suitability

- IECEx
- according to ATEX directive 2014/34/EU
- acc. to Equipment and Protective System Intended for Use in Potentially Explosive Atmospheres Regulations 2016 (S.I. 2016 No.1107)
- according to UKCA

explosion device group and category according to ATEX directive 2014/34/EU

2 A
0.55 A
0.25 A
10 000 000
100 000
0.05 s
F

6 A
5 A
Type 1 in accordance with EN 61131-2
05/01/2012

Yes; IECEx PTB 18.0004X
BVS 06 ATEX F001, PTB 18 ATEX 5003 X
ITS21UKEX0464, ITS21UKEX0455X

ITS21UKEX0464, ITS21UKEX0455X
II (2) G, II (2) D, I (M2) / I (1G/M2), II (1/2) G, II (1G/2D)

Electromagnetic compatibility

EMC emitted interference according to IEC 60947-1

EMC immunity according to IEC 60947-1

conducted interference

- due to burst according to IEC 61000-4-4
- due to conductor-earth surge according to IEC 61000-4-5
- due to conductor-conductor surge according to IEC 61000-4-5
- due to high-frequency radiation according to IEC 61000-4-6

field-based interference according to IEC 61000-4-3

electrostatic discharge according to IEC 61000-4-2

conducted HF interference emissions according to CISPR11

field-bound HF interference emission according to CISPR11

class A
corresponds to degree of severity 3

2 kV (power ports) / 1 kV (signal ports)
2 kV

1 kV

10 V

10 V/m
6 kV contact discharge / 8 kV air discharge
corresponds to degree of severity A

corresponds to degree of severity A

Inputs/ Outputs

product function

- parameterizable inputs
- parameterizable outputs

number of inputs

- for thermistor connection

number of digital inputs with a common reference potential

digital input version type 1 acc. to IEC 61131

input voltage at digital input at DC rated value

number of outputs

number of semiconductor outputs

number of outputs as contact-affected switching element

switching behavior

type of relay outputs

wire length for digital signals maximum

wire length for thermistor connection

- with conductor cross-section = 0.5 mm² maximum
- with conductor cross-section = 1.5 mm² maximum
- with conductor cross-section = 2.5 mm² maximum

Yes
Yes
4
1
4
Yes
24 V
3
0
3

monostable
Monostable
300 m

50 m
150 m
250 m

Protective and monitoring functions

product function

- asymmetry detection
- blocking current evaluation
- power factor monitoring
- ground fault detection
- phase failure detection

Yes
Yes
Yes
Yes
Yes

<ul style="list-style-type: none"> • phase sequence recognition • voltage detection • monitoring of number of start operations • overvoltage detection • overcurrent detection 1 phase • undervoltage detection • undercurrent detection 1 phase • active power monitoring 	Yes Yes Yes Yes Yes Yes Yes Yes
product function	
<ul style="list-style-type: none"> • current detection • overload protection • evaluation of thermistor motor protection 	Yes Yes Yes
total cold resistance number of sensors in series maximum	1.5 kΩ
response value of thermoresistor	3 400 ... 3 800 Ω
<ul style="list-style-type: none"> • of the short-circuit control 	9 Ω
release value of thermoresistor	1 500 ... 1 650 Ω
Motor control functions	
product function	
<ul style="list-style-type: none"> • parameterizable overload relay • circuit breaker control • direct start • reverse starting • star-delta circuit • star-delta reversing circuit • Dahlander circuit • Dahlander reversing circuit • pole-changing switch circuit • pole-changing switch reversing circuit • slide control • valve control 	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
Communication/ Protocol	
<ul style="list-style-type: none"> • protocol is supported PROFIBUS DP protocol • protocol is supported PROFINET IO protocol • protocol is supported PROIsafe protocol • protocol is supported Modbus RTU • protocol is supported EtherNet/IP • protocol is supported OPC UA Server • protocol is supported LLDP • protocol is supported Address Resolution Protocol (ARP) • protocol is supported SNMP • protocol is supported HTTPS • protocol is supported NTP • protocol is supported Media Redundancy Protocol (MRP) • product function is supported Device Level Ring (DLR) 	Yes No Yes No No No No No No No No No No
number of interfaces	
<ul style="list-style-type: none"> • according to PROFINET • according to PROFIBUS • according to Ethernet/IP 	0 1 0
product function	
<ul style="list-style-type: none"> • web server • shared device • at the Ethernet interface Autocrossover • at the Ethernet interface Autonegotiation • at the Ethernet interface Autosensing • is supported PROFINET system redundancy (S2) • supports PROFIenergy measured values • supports PROFIenergy shutdown 	No No No No No No No No
transfer rate maximum	12 Mbit/s
identification & maintenance function	
<ul style="list-style-type: none"> • I&M0 - device-specific information 	Yes

<ul style="list-style-type: none"> • I&M1 – higher level designation/location designation • I&M2 - installation date • I&M3 - comment 	Yes
type of electrical connection of the communication interface	9-pin SUB-D socket (12 Mbit) / screw terminal (1.5 Mbit)
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting
height	111 mm
width	45 mm
depth	124 mm
required spacing	
<ul style="list-style-type: none"> • top • bottom • left • right 	40 mm 40 mm 0 mm 0 mm
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	Yes
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • solid • finely stranded with core end processing • at AWG cables solid • at AWG cables stranded 	1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²) 1x (20 ... 12), 2x (20 ... 14) 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 mm ² , AWG 22
Ambient conditions	
installation altitude at height above sea level	
<ul style="list-style-type: none"> • 1 maximum • 2 maximum • 3 maximum 	2 000 m 3 000 m; max. +50 °C (no protective separation) 4 000 m; max. +40 °C (no protective separation)
ambient temperature	
<ul style="list-style-type: none"> • during operation • during storage • during transport 	-25 ... +60 °C -40 ... +80 °C -40 ... +80 °C
environmental category	
<ul style="list-style-type: none"> • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport 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 1K6 (no condensation, relative humidity 10 ... 95%), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4 2K2, 2C1, 2S1, 2M2
relative humidity	
<ul style="list-style-type: none"> • 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 _L < 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	DC
control supply voltage at DC	
<ul style="list-style-type: none"> • rated value 	24 V
control supply voltage 1 at DC rated value	24 V
operating range factor control supply voltage rated value at DC	
<ul style="list-style-type: none"> • initial value 	0.8

- full-scale value
- inrush current peak
- at 24 V
- duration of inrush current peak
- at 24 V

1.2

11 A

1.1 ms

Certificates/ approvals

General Product Approval

EMC

For use in hazardous locations



[Confirmation](#)



For use in hazardous locations

Declaration of Conformity

Test Certificates



EG-Konf.



[Special Test Certificate](#)

Test Certificates

Marine / Shipping

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



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=3UF7010-1AB00-0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7010-1AB00-0>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3UF7010-1AB00-0>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7010-1AB00-0&lang=en

Test report No. A0258, protective separation

<https://support.industry.siemens.com/cs/ww/en/view/109748152>



