



Basic unit SIMOCODE pro V MR, MODBUS RTU interface 57.6 Kbps, RS 485, 4I/3O freely parameterizable, Us: 24 V DC, input for thermistor connection Monostable relay outputs, expandable by extension modules

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| 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 | |
| <ul style="list-style-type: none"> • bus communication • data acquisition function • diagnostics function • password protection • test function • maintenance function | <ul style="list-style-type: none"> Yes Yes Yes Yes Yes Yes |
| product component | |
| <ul style="list-style-type: none"> • input for thermistor connection • digital input • input for analog temperature sensors • input for ground fault detection • relay output | <ul style="list-style-type: none"> Yes Yes No No Yes |
| product extension | |
| <ul style="list-style-type: none"> • temperature monitoring module • current measuring module • current/voltage measuring module • fail-safe digital I/O module • ground-fault monitoring module • control unit with display • control unit • analog I/O module | <ul style="list-style-type: none"> Yes Yes Yes Yes Yes Yes Yes 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 | |
| <ul style="list-style-type: none"> • acc. to IEC 60068-2-27 | 15g / 11 ms |
| <ul style="list-style-type: none"> • 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 | |
| <ul style="list-style-type: none"> • at 24 V • at 120 V • at 230 V | <ul style="list-style-type: none"> 6 A 6 A 3 A |

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| switching capacity current of the NO contacts of the relay outputs at DC-13 | |
| <ul style="list-style-type: none"> • at 24 V • at 60 V • at 125 V | 2 A 0.55 A 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 | 0.05 s |
| reference code acc. to IEC 81346-2 | F |
| continuous current of the NO contacts of the relay outputs | |
| <ul style="list-style-type: none"> • at 50 °C • at 60 °C | 6 A 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 | |
| <ul style="list-style-type: none"> • 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 | |
| <ul style="list-style-type: none"> • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 • due to high-frequency radiation acc. to IEC 61000-4-6 | 2 kV (power ports) / 1 kV (signal ports) 2 kV 1 kV 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 | |
| <ul style="list-style-type: none"> • parameterizable inputs • parameterizable outputs | Yes Yes |
| number of inputs | 4 |
| <ul style="list-style-type: none"> • 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 | |
| <ul style="list-style-type: none"> • with conductor cross-section = 0.5 mm² maximum • with conductor cross-section = 1.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum | 50 m 150 m 250 m |
| Protective and monitoring functions | |
| product function | |
| <ul style="list-style-type: none"> • asymmetry detection • blocking current evaluation • power factor monitoring • ground fault detection • phase failure detection • phase sequence recognition • voltage detection | Yes Yes Yes Yes Yes Yes Yes |

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| • 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 k Ω |
| 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

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| 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

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| • protocol is supported PROFIBUS DP protocol | No |
| • protocol is supported PROFINET IO protocol | No |
| • protocol is supported PROFI-safe 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 |
| transfer rate maximum | 0.057 Mbit/s |

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| identification & maintenance function | |
| <ul style="list-style-type: none"> • I&M0 - device-specific information • I&M1 – higher level designation/location designation • I&M2 - installation date • I&M3 - comment | <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> |
| 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 | |
| <ul style="list-style-type: none"> • top • bottom • left • right | <p>40 mm</p> <p>40 mm</p> <p>0 mm</p> <p>0 mm</p> |
| 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 | <p>1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²)</p> <p>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)</p> <p>1x (20 ... 12), 2x (20 ... 14)</p> <p>1x (20 ... 14), 2x (20 ... 16)</p> |
| 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 | <p>2 000 m</p> <p>3 000 m; max. +50 °C (no protective separation)</p> <p>4 000 m; max. +40 °C (no protective separation)</p> |
| ambient temperature | |
| <ul style="list-style-type: none"> • during operation • during storage • during transport | <p>-25 ... +60 °C</p> <p>-40 ... +80 °C</p> <p>-40 ... +80 °C</p> |
| environmental category | |
| <ul style="list-style-type: none"> • during operation acc. to IEC 60721 • during storage acc. to IEC 60721 • during transport acc. to IEC 60721 | <p>3K6 (no formation of ice, no condensation, relative humidity 10 ... 95%), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6</p> <p>1K6 (no condensation, relative humidity 10 ... 95%), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4</p> <p>2K2, 2C1, 2S1, 2M2</p> |
| 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 _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 | DC |
| control supply voltage at DC | |

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| • 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 |

Certificates/ approvals

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| General Product Approval | EMC | For use in hazardous locations |
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| For use in hazardous locations | Declaration of Conformity | Test Certificates |
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[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

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| Test Certificates | Marine / Shipping | other |
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[Special Test Certificate](#)



[Confirmation](#)

other



[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=3UF7012-1AB00-0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7012-1AB00-0>

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

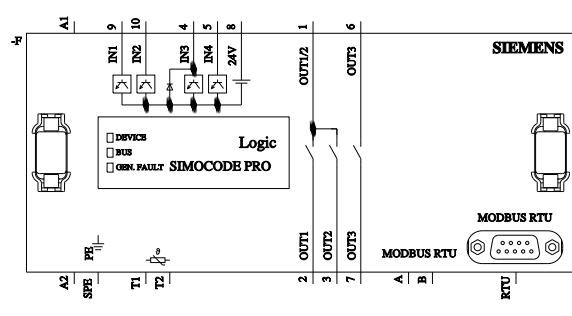
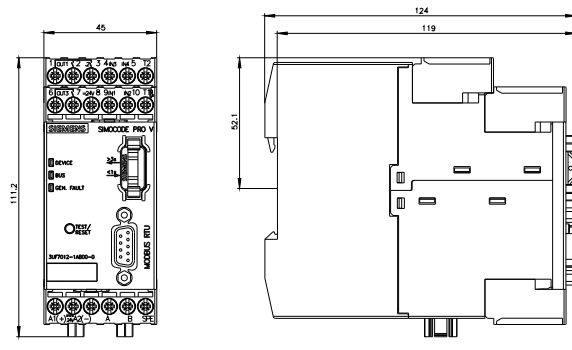
<https://support.industry.siemens.com/cs/ww/en/ps/3UF7012-1AB00-0>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7012-1AB00-0&lang=en

Test report No. A0258, protective separation

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



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