SIEMENS

## Data sheet 3UF7330-1AU00-0

fail-safe digital module DM-F PROFIsafe, for fail-safe shutdown via bus/PROFIsafe, Us: 110...240 V AC/DC, 2 relay enabling circuits, 2 relay outputs, 3 inputs, maximum achievable SIL IEC 61508: 3, maximum achievable PL ISO 13849-1: E

| | |
|---|---|
| **product brand name** | SIMOCODE |
| **product designation** | Fail-safe digital module |
| **design of the product** | for fail-safe shutdown |
| **product type designation** | DM-FP |
| **General technical data** | |
| **product function** | |
| ● EMERGENCY OFF function | No |
| ● automatic start | No |
| ● light barrier monitoring | No |
| ● light array monitoring | No |
| ● protective door monitoring | No |
| ● magnetically operated switch monitoring NC-NO | No |
| ● magnetically operated switch monitoring NC-NC | No |
| ● pressure-sensitive mat monitoring | No |
| ● monitored start-up | No |
| **product component** | |
| ● input for thermistor connection | No |
| ● digital input | Yes |
| ● input for analog temperature sensors | No |
| ● input for ground fault detection | No |
| ● relay output | Yes |
| **apparent power consumption** | 11 VA |
| **consumed active power** | 5.5 W |
| insulation voltage with degree of pollution 3 at AC rated value | 300 V |
| **surge voltage resistance rated value** | 4 000 V |
| **shock resistance according to IEC 60068-2-27** | 15 g / 11 ms |
| **vibration resistance according to IEC 60068-2-6** | 1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2 g |
| **operating frequency maximum** | 360 1/y |
| **switching capacity current of the NO contacts of the relay outputs at AC-15** | |
| ● at 24 V | 3 A |
| ● at 120 V | 3 A |
| ● at 240 V | 1.5 A |
| **switching capacity current of the NO contacts of the relay outputs at DC-13** | |
| ● at 24 V | 4 A |
| ● at 60 V | 0.55 A |
| ● at 125 V | 0.22 A |
| ● at 250 V | 0.11 A |
| **switching capacity current of relay enabling circuits at AC-** | |

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| **15** | |
| ● at 24 V | 3 A |
| ● at 120 V | 3 A |
| ● at 240 V | 1.5 A |
| **switching capacity current of relay enabling circuits at DC-13** | |
| ● at 24 V | 4 A |
| ● at 60 V | 0.55 A |
| ● at 125 V | 0.22 A |
| ● at 250 V | 0.11 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** | 200 ms |
| **recovery time** | |
| ● after power failure typical | 1 s |
| **backslide delay time in the event of power failure** | |
| ● typical | 220 ms |
| ● maximum | 320 ms |
| **reference code according to IEC 81346-2** | F |
| **reference code according to IEC 81346-2:2019** | F |
| **type of input characteristic** | Type 2 in accordance with EN 61131-2 |
| **Substance Prohibitance (day/month/year)** | 05/01/2012 |
| **SVHC substance name** | Lead CAS-No. 7439-92-1<br>Lead monoxide (lead oxide) CAS-No. 1317-36-8<br>2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol CAS-No. 79-94-7<br>2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5<br>Melamine CAS-No. 108-78-1<br>6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol CAS-No. 119-47-1 |
| **Net Weight** | 0.355 kg |
| **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 network connection / 1 kV control connection |
| ● 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 |
| **design of input** | |
| ● feedback input | Yes |
| **number of digital inputs** | 3 |
| ● with a common reference potential | 4 |
| **digital input version** | |
| ● type 1 acc. to IEC 61131 | No |
| ● type 2 acc. to IEC 61131 | Yes |
| **number of analog inputs** | 0 |
| **number of outputs** | 2 |
| **number of semiconductor outputs** | 0 |
| **number of outputs as contact-affected switching element** | |
| ● | 2 |

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| ● as NO contact safety-related instantaneous contact | 2 |
| **number of analog outputs** | 0 |
| **switching behavior** | monostable |
| **property of contacts of the relay outputs** | Fail-safe NO contacts |
| **wire length for digital signals maximum** | 300 m |
| **Product Function** | |
| **suitability for use** | |
| ● position switch monitoring | No |
| ● EMERGENCY-OFF circuit monitoring | No |
| ● valve monitoring | No |
| ● opto-electronic protection device monitoring | No |
| ● tactile sensor monitoring | No |
| ● magnetically operated switch monitoring | No |
| ● proximity switch monitoring | No |
| ● safety switch | No |
| ● safety-related circuits | No |
| **Communication/ Protocol** | |
| protocol is supported PROFIsafe protocol | Yes |
| **Installation/ mounting/ dimensions** | |
| **mounting position** | any |
| **fastening method** | screw and snap-on mounting |
| **height** | 106 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 electrical connection for auxiliary and control circuit | screw-type terminals |
| **type of connectable conductor cross-sections** | |
| ● solid | 1x (0.5 ... 4.0mm²), 2x (0.5 ... 2.5 mm²) |
| ● finely stranded with core end processing | 1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²) |
| ● for AWG cables solid | 1x (20 ... 12), 2x (20 ... 14) |
| ● for 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 |
| **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 | 5 ... 95 % |
| **contact rating of auxiliary contacts according to UL** | B300 / R300 |
| **Short-circuit protection** | |
| design of the fuse link for short-circuit protection of relay enabling circuits required | gL/gG: 4 A |

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| **Safety related data** | |
| **safe state** | Safety outputs switched off |
| **stop category according to IEC 60204-1** | 0 |
| **failure rate [FIT] at rate of recognizable hazardous failures (λdd)** | 909 FIT |
| **failure rate [FIT] at rate of non-recognizable hazardous failures (λdu)** | 7 FIT |
| **average diagnostic coverage level (DCavg)** | 99 % |
| ISO 13849 | |
| performance level (PL) according to EN ISO 13849-1 | e |
| IEC 61508 | |
| **Safety Integrity Level (SIL)** | |
| ● according to IEC 61508 | SIL 3 |
| **safety device type according to IEC 61508-2** | Type B |
| **PFDavg with low demand rate** | |
| ● according to IEC 61508 | 2E-5 |
| **Safe failure fraction (SFF)** | 99 % |
| **hardware fault tolerance** | |
| ● according to IEC 61508 | 1 |
| T1 value for proof test interval or service life according to IEC 61508 | 20 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 |
| explosion device group and category according to ATEX directive 2014/34/EU | II (2) G, II (2 ) D, I (M2) |
| **Response times/ Monitoring times** | |
| **PROFIsafe monitoring time F-WD-Time** | 250 ms |
| **response time** | |
| ● in case of failure OFDT | 200 ms |
| ● in faultless state WCDT | 150 ms |
| **Galvanic isolation** | |
| **(electrically) protective separation according to IEC 60947-1** | All circuits in SIMOCODE pro are with protective separation, i.e. they are designed with doubled creepage paths and clearances. NOTICE: The information in the "Protective Separation" test report, No. 2668, must be observed. |
| **design of the electrical isolation** | Protective separation in accordance with IEC 60947-1 for all circuits, up to installation altitude of 2000 m |
| **Control circuit/ Control** | |
| **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** | 50 ... 60 Hz |
| **control supply voltage frequency** | |
| **● 1 rated value** | 50 Hz |
| **● 2 rated value** | 60 Hz |
| **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 |
| **inrush current peak** | |

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| • at 240 V | 24 A |
| **duration of inrush current peak** | |
| • at 240 V | 0.5 ms |

## Approvals Certificates

| Environment | General Product Approval | | | | |
|---|---|---|---|---|---|
| Environmental Confirmations |  |  |  |  |  |

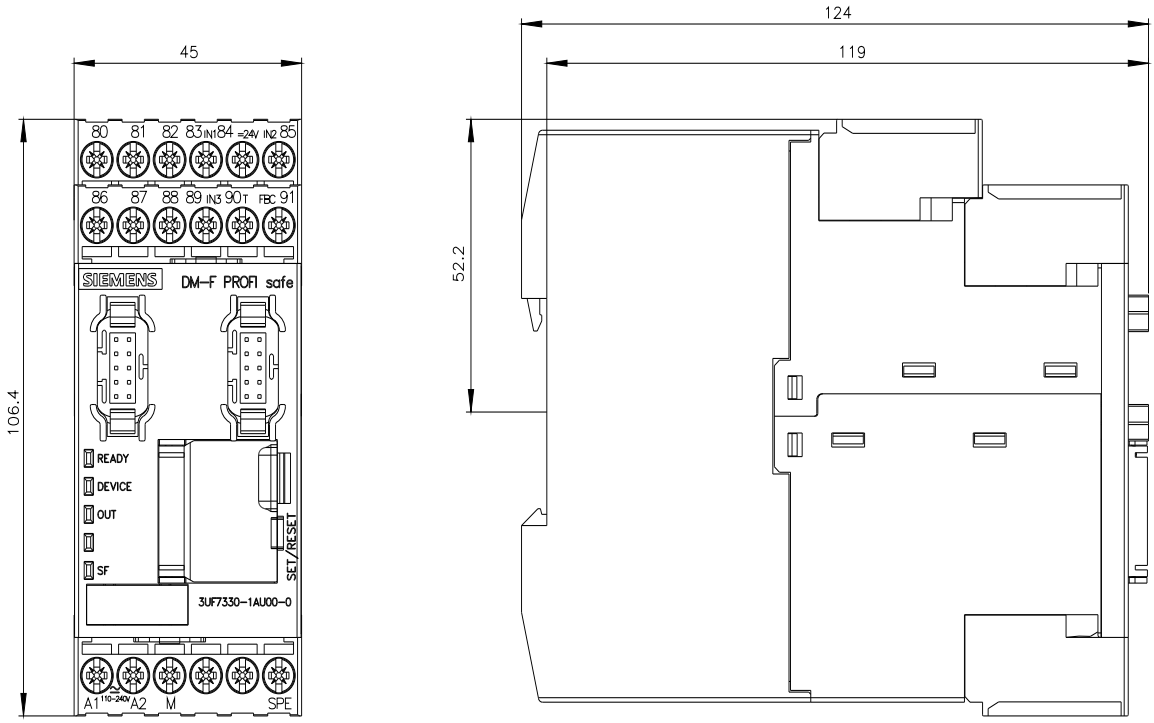
| General Product Approval | | | EMV | | For use in hazardous locations |
|---|---|---|---|---|---|
| TUEV |  |  |  |  |  |

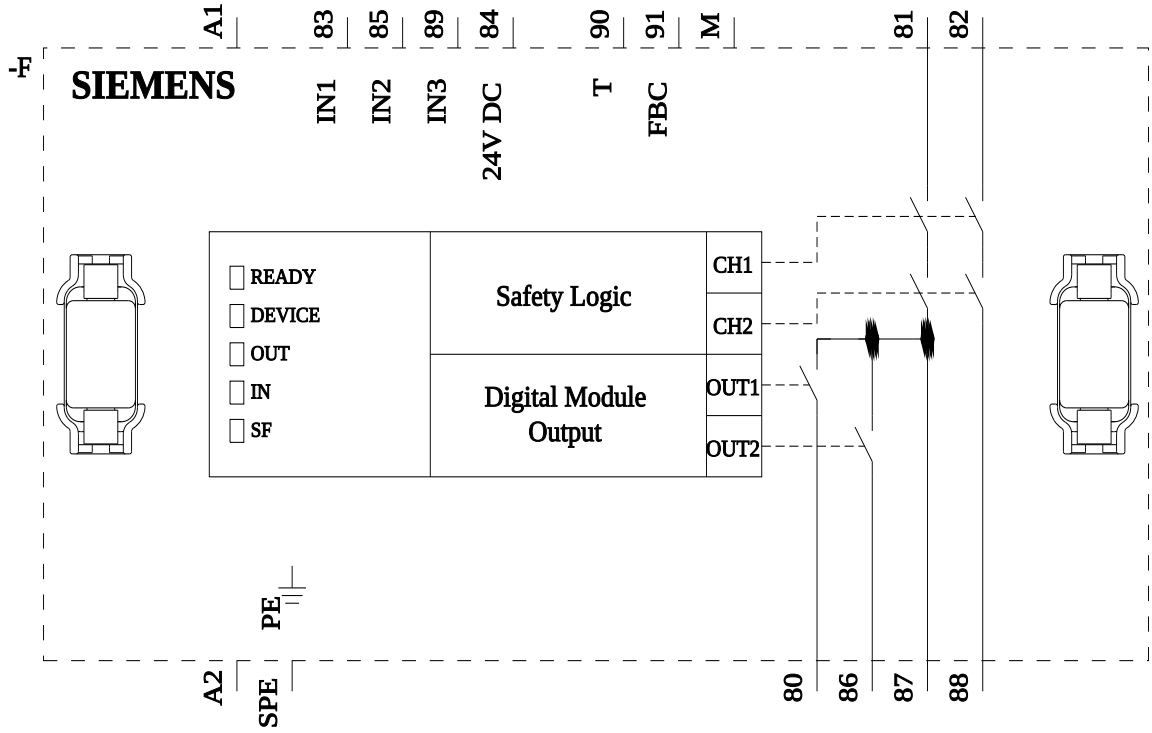
| For use in hazardous locations | Functional Saftey | Test Certificates | Maritime application | |
|---|---|---|---|---|
|  | Miscellaneous | Type Examination Certificate | Type Test Certificates/Test Report |  |  |

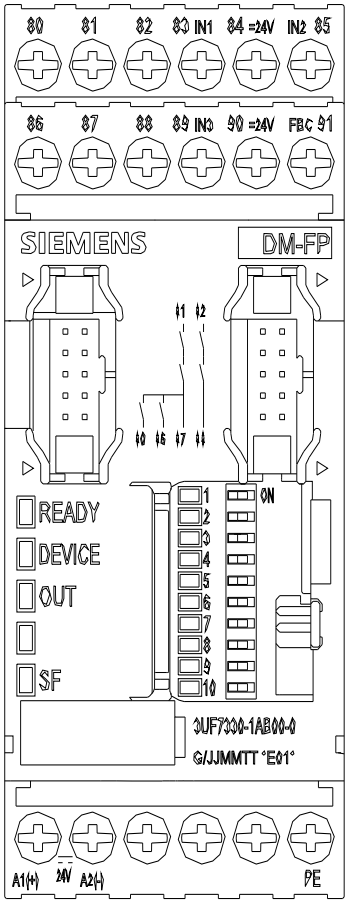
| Maritime application | other | | | Industrial Communication | |
|---|---|---|---|---|---|
|  |  | Confirmation | Confirmation |  | PROFIsafe |

## Further information

**Information on the packaging**
https://support.industry.siemens.com/cs/ww/en/view/109813875
**Information for data generation and storage**
https://support.industry.siemens.com/cs/ww/en/view/109995012
**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=3UF7330-1AU00-0
**Cax online generator**
https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7330-1AU00-0
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
https://support.industry.siemens.com/cs/ww/en/ps/3UF7330-1AU00-0
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7330-1AU00-0&lang=en



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