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## Data sheet 3UF8110-1AA00-0

Siemens EcoTech

current/voltage measuring module current setting 0.3 - 40 A, voltage detection up to 690 V, straight-through transformer




| | |
|---|---|
| **product brand name** | SIMOCODE |
| **product designation** | Current/voltage measuring module |
| **product type designation** | M-CP |
| **General technical data** | |
| **measuring procedure** | RMS value measurement |
| **size of the circuit-breaker** | S00, S0 |
| **product function** | |
| ● current measurement | Yes |
| ● voltage measurement | Yes |
| ● active power measurement | Yes |
| ● energy measurement | Yes |
| ● frequency measurement | Yes |
| ● active power monitoring for pump dry-run according to Ignition protection type Ex b | No |
| **measuring procedure for current measurement** | TRMS |
| **current measuring range extension with external current transformers** | Yes |
| **measuring procedure for voltage measurement** | TRMS |
| **measurable supply voltage between the line conductors at AC maximum rated value** | 690 V |
| **product component** | |
| ● input for thermistor connection | No |
| **insulation voltage** | |
| ● with degree of pollution 3 at AC rated value | 690 V |
| ● for wires of main circuit according to IEC 60947-1 rated value | 6 kV |
| **surge voltage resistance rated value** | 6 000 V |
| **shock resistance according to IEC 60068-2-27** | 15 g / 11 ms |
| **vibration resistance** | 1 … 6 Hz / 15 mm; 6 … 500 Hz / 2 g |
| **reference code according to IEC 81346-2** | F |
| **Substance Prohibitance (day/month/year)** | 01/01/2024 |
| **SVHC substance name** | Lead CAS-No. 7439-92-1<br>Lead monoxide (lead oxide) CAS-No. 1317-36-8 |
| **Net Weight** | 199.58 g |
| **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 |


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| **conducted interference** | |
| ● due to burst according to IEC 61000-4-4 | 2 kV |
| ● 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 |
| **field-based interference according to IEC 61000-4-3** | 10 V/m |
| **Inputs/ Outputs** | |
| **number of outputs as contact-affected switching element** | 0 |
| **Protective and monitoring functions** | |
| **product function** | |
| ● power factor monitoring | Yes |
| ● ground-fault monitoring | Yes |
| ● voltage detection | Yes |
| **trip class** | CLASS 5E, 7E, 10E, 15E, 20E, 25E, 30E, 35E and 40E adjustable |
| **product function** | |
| ● current detection | Yes |
| ● overload protection | Yes |
| **Precision** | |
| **measuring precision** | |
| ● of frequency measurement | +/- 1.5 %, 0.25 ... 80 A, 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), cos phi (0.5...1), 50/60 Hz, 25 °C |
| ● for current measurement 1 | +/- 1.5%, in range 0.25 A ... 80 A, in range 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), 50/60 Hz, 25 °C |
| ● for current measurement 2 | +/- 3%, in range 80 A ... 320 A, in range 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), 50/60 Hz, 25 °C |
| ● for voltage measurement 1 | +/- 1.5 %, in range 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), 50/60 Hz, 25 °C |
| ● at cos phi-measurement 1 | +/- 3%, 0.4 A ... 80 A, 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), cos-phi (0.4...1), 50/60 Hz, 25 °C |
| ● at cos phi-measurement 2 | +/- 5%, 80 A ... 320 A, 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), cos-phi (0.4...1), 50/60 Hz, 25 °C |
| ● for active power measurement 1 | +/- 5%, 0.25 A ... 80 A, 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), cos-phi (0.4...1), 50/60 Hz, 25 °C |
| ● for active power measurement 2 | +/- 10%, 80 A ... 320 A, 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), cos-phi (0.4...1), 50/60 Hz, 25 °C |
| ● for energy measurement 1 | +/- 5%, 0.25 A ... 80 A, 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), cos-phi (0.4...1), 50/60 Hz, 25 °C |
| ● for energy measurement 2 | +/- 10%, 80 A ... 320 A, 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), cos-phi (0.4...1), 50/60 Hz, 25 °C |
| ● for apparent power measurement 1 | +/- 3%, 0.25 A ... 80 A, 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), cos-phi (0.4...1), 50/60 Hz, 25 °C |
| ● for apparent power measurement 2 | +/- 5%, 80 A ... 320 A, 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), cos-phi (0.4...1), 50/60 Hz, 25 °C |
| **accuracy of ground-fault monitoring** | In the range 30 % .. 120 %/Is: +/- 10 % (Class CI-A), in range 15 % .. 30 % Ie: +/- 25 % (Class CI-B), both values acc. to IEC 60947-1 Annex T |
| **temperature drift per °C** | Reference temperature: 25°C |
| **measured variable frequency** | 45 ... 65 Hz |
| **Installation/ mounting/ dimensions** | |
| **mounting position** | any |
| **fastening method** | screw and snap-on mounting |
| **height** | 55.2 mm |
| **width** | 98.8 mm |
| **depth** | 40.8 mm |
| **required spacing** | |
| ● top | 30 mm |
| ● bottom | 30 mm |
| ● left | 0 mm |
| ● right | 0 mm |
| **diameter of inlet opening** | 7.3 mm |
| **diameter of inlet opening for current measurement** | 7.3 mm |
| **Connections/ Terminals** | |
| **type of electrical connection** | |
| ● for main current circuit | straight-through transformers |


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| **type of electrical connection at the measurement inputs for voltage** | screw-type terminals |
| **type of connectable conductor cross-sections at the measurement inputs for voltage** | |
| ● finely stranded with core end processing | 1x (0.25 ... 2.5 mm²), 2x (0.25 ... 1.0 mm²) |
| ● solid | 1x (0.25 ... 2.5 mm²), 2x (0.25 ... 1.0 mm²) |
| ● for AWG cables solid | 1x (24 ... 14), 2x (24 ... 18) |
| ● for AWG cables stranded | 1x (20 ... 14), 2x (20 ... 16) |
| **tightening torque at the measurement inputs for voltage** | 0.5 ... 0.6 N·m |
| **tightening torque [lbf·in] at the measurement inputs for voltage** | 4.4 ... 5.3 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 ... +70 °C |
| ● during storage | -40 ... +80 °C |
| ● during transport | -40 ... +80 °C |
| **environmental category** | |
| ● during operation according to IEC 60721 | 3K24 (condensation occasionally, no precipitation, no water, no ice formation, relative humidity 10 ... 95%), 3C3 (no salt mist), 3B2, 3S5 (sand must not enter the device), 3M6 |
| ● during storage according to IEC 60721 | 1K22 (condensation occasionally, no precipitation, no water, no ice formation, relative humidity 10 ... 95%), 1C2 (no salt mist), 1B2, 1S10 (sand must not enter the device), 1M4 |
| ● during transport according to IEC 60721 | 2K12 (no condensation, no thermal shock), 2C1 (no salt mist), 2B2, 2S1, 2M2 |
| relative humidity during operation | 5 ... 95 % |
| **Short-circuit protection** | |
| **product function short circuit protection** | No |
| IEC 61508 | |
| Safety Integrity Level (SIL) according to IEC 61508 | 1 |
| **ATEX** | |
| **certificate of suitability** | |
| ● IECEx | Yes; IECEx BVS 25.0051 X |
| ● according to ATEX directive 2014/34/EU | BVS 25 ATEX F001 X |
| explosion device group and category according to ATEX directive 2014/34/EU | II (2) G, II (2 ) D, I (M2) / I (M2), II (1/2) G, II (1G/2D) |
| **Galvanic isolation** | |
| **(electrically) protective separation according to IEC 60947-1** | all circuits with protective separation (double clearances and creepage distances) |
| **Main circuit** | |
| **number of poles for main current circuit** | 3 |
| **adjustable current response value current of the current-dependent overload release** | 4 ... 40 A |
| **operating voltage** | |
| ● at AC | |
| — at 50 Hz rated value | 110 ... 690 V |
| — at 60 Hz rated value | 110 ... 690 V |
| **operating frequency rated value** | 50 ... 60 Hz |
| **Control circuit/ Control** | |
| **type of voltage** | AC |
| **inrush current maximum** | 400 A; 10 x Io |
| **Approvals Certificates** | |

| Environment | General Product Approval |
|---|---|

Environmental Confirmations

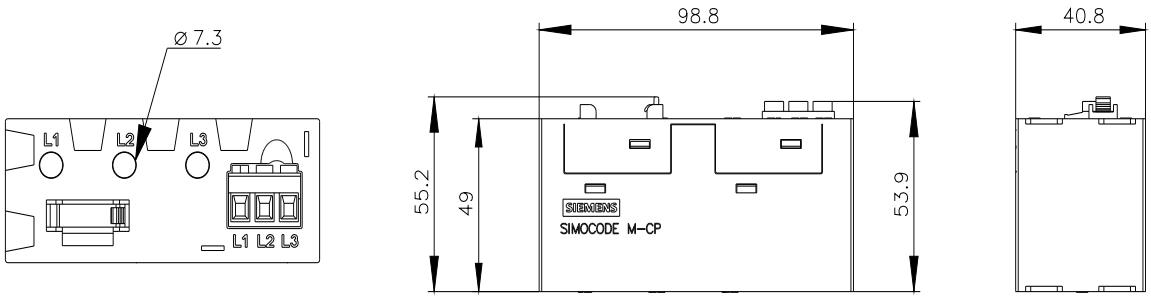

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| General Product Approval | EMV | For use in hazardous locations |
|---|---|---|
| EG-Konf. | RCM | ATEX, IECEx |

| Test Certificates | | Maritime application | other | | Industrial Communication |
|---|---|---|---|---|---|
| Type Test Certificates/Test Report | Special Test Certificate | DNV | Confirmation | 产品合格 QC PASS | Profibus |

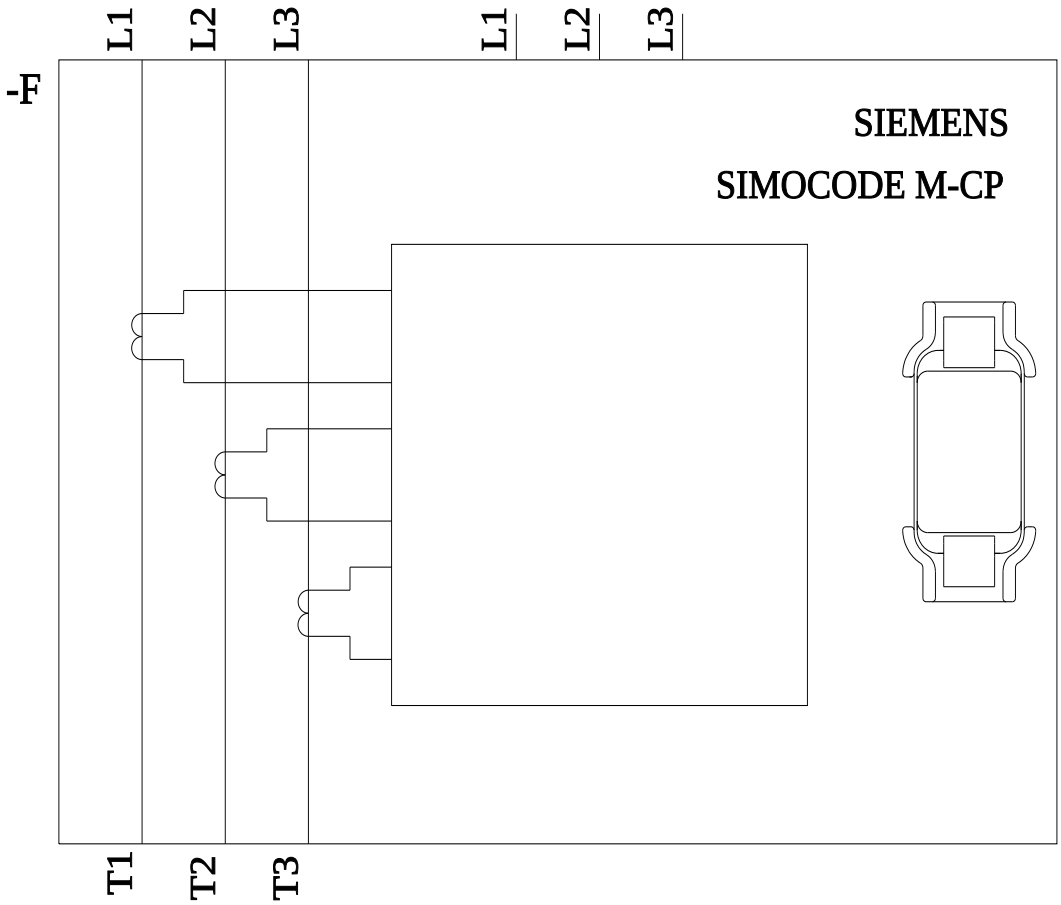
## Further information

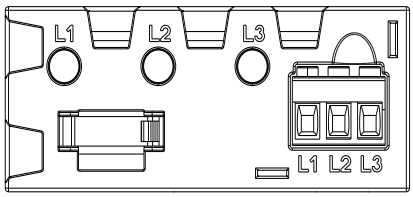
**Information on the packaging**
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**Cax online generator**
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https://support.industry.siemens.com/cs/ww/en/ps/3UF8110-1AA00-0
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF8110-1AA00-0&lang=en

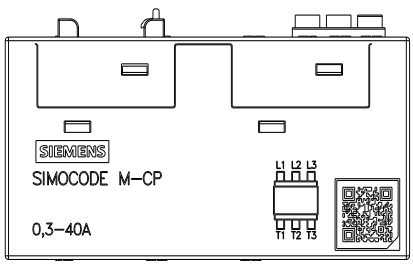


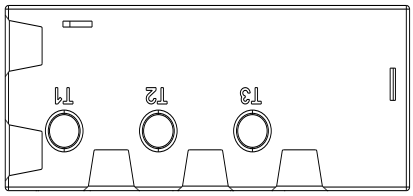


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