

Current/voltage measuring module V2; Set current 10...115 A, Voltage measurement up to 690 V, Overall width 55 mm, Straight-through transformer, basic unit required pro V PB, pro V MR, pro V PN or pro V EIP



|                            |                                  |
|----------------------------|----------------------------------|
| <b>Product brand name</b>  | SIRIUS                           |
| <b>Product designation</b> | Current/voltage measuring module |

### General technical data

|  |                                |
|--|--------------------------------|
| <b>Product function</b>  |                                |
| • Current measurement  | Yes                            |
| • voltage measurement  | Yes                            |
| • active power measurement   | Yes                            |
| • Power measurement  | Yes                            |
| • frequency measurement  | Yes                            |
| <b>Measuring procedure for current measurement</b>   | TRMS                           |
| <b>Current measuring range extension with external current transformers</b>                | No                             |
| <b>Measuring procedure for voltage measurement</b>   | TRMS                           |
| <b>Measurable supply voltage between the outer conductors at AC maximum rated value</b>    | 690 V                          |
| <b>Outer conductors and neutral conductors internal resistance for voltage measurement</b> | 1 MΩ; RC-based voltage divider |
| <b>Product component</b>   |                                |
| • input for thermistor connection  | No                             |

|   |  |
|---|--|
| <b>Insulation voltage</b>   |  |
| <ul style="list-style-type: none"> <li>with degree of pollution 3 at AC rated value</li> <li>for wires of main circuit acc. to IEC 60947-1 rated value</li> </ul> | 690 V<br>6 kV  |
| <b>Surge voltage resistance rated value</b>   | 6 000 V  |
| <b>Protection class IP</b>  | IP20   |
| <b>Shock resistance</b>   |  |
| <ul style="list-style-type: none"> <li>acc. to IEC 60068-2-27</li> </ul>  | 15g / 11 ms; with basic unit snapped on                        |
| <b>Vibration resistance</b>   | 1-6 Hz / 15 mm; 6-500 Hz / 2 g; with basic unit snapped on: 1g |
| <b>Reference code acc. to DIN EN 81346-2</b>  | F  |
| <b>Certificate of suitability</b>   |  |
| <ul style="list-style-type: none"> <li>according to ATEX directive 2014/34/EU</li> </ul>  | 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

|  |                                     |
|--|-------------------------------------|
| <b>EMC emitted interference</b>  |                                     |
| <ul style="list-style-type: none"> <li>acc. to IEC 60947-1</li> </ul>  | class A                             |
| <b>EMI immunity acc. to IEC 60947-1</b>  | corresponds to degree of severity 3 |
| <b>Conducted interference</b>  |                                     |
| <ul style="list-style-type: none"> <li>due to burst acc. to IEC 61000-4-4</li> <li>due to conductor-earth surge acc. to IEC 61000-4-5</li> <li>due to conductor-conductor surge acc. to IEC 61000-4-5</li> </ul> | 2 kV<br>2 kV<br>1 kV                |
| <b>Field-bound parasitic coupling acc. to IEC 61000-4-3</b>  | 10 V/m                              |

### Inputs/ Outputs

|  |   |
|--|---|
| <b>Number of outputs as contact-affected switching element</b> | 0 |
|--|---|

### Protective and monitoring functions

|   |                   |
|---|-------------------|
| <b>Product function</b>   |                   |
| <ul style="list-style-type: none"> <li>power factor monitoring</li> <li>ground-fault monitoring</li> <li>voltage detection</li> </ul> | Yes<br>Yes<br>Yes |
| <b>Product function</b>   |                   |
| <ul style="list-style-type: none"> <li>Current detection</li> <li>Overload protection</li> </ul>                                      | Yes<br>Yes        |

### Precision

|   |  |
|---|--|
| <b>Measuring precision</b>  |  |
| <ul style="list-style-type: none"> <li>of frequency measurement</li> <li>for current measurement 1</li> </ul> | +/- 1.5 %, 7.5 A ... 230 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<br>+/- 1.5 %, in range 7.25 A ... 230 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 230 A ... 920 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                 | +/- 1.5 %, 7.5 A ... 230 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                           |
| • at cos phi-measurement 2                 | +/- 5 %, 230 A ... 920 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                             |
| • at active power measurement 1            | +/- 5%, 7.5 A ... 230 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                              |
| • at active power measurement 2            | +/- 10 %, 230 A ... 920 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                            |
| • at energy measurement 1                  | +/- 5%, 7.5 A ... 230 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                              |
| • at energy measurement 2                  | +/- 10 %, 230 A ... 920 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                            |
| • at apparent power measurement 1          | +/- 3%, 7.5 A ... 230 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                              |
| • at apparent power measurement 2          | +/- 5 %, 230 A ... 920 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                             |
| <b>Accuracy of ground-fault monitoring</b> | 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 |
| <b>Temperature drift per °C</b>            | 0.01 %/°C; Reference temperature: 25°C   |
| <b>Measured variable frequency</b>         | 45 ... 65 Hz   |

| Installation/ mounting/ dimensions                              |                            |
|---|----------------------------|
| <b>Mounting position</b>  | any                        |
| <b>Mounting type</b>  | screw and snap-on mounting |
| <b>Height</b>   | 94 mm                      |
| <b>Width</b>  | 55 mm                      |
| <b>Depth</b>  | 91 mm                      |
| <b>Required spacing</b>   |                            |
| • top   | 30 mm                      |
| • bottom  | 30 mm                      |
| • left  | 0 mm                       |
| • right   | 0 mm                       |
| <b>Diameter of feed through opening</b>                         | 14 mm                      |
| <b>Diameter of feed through opening for current measurement</b> | 14 mm                      |

| Connections/ Terminals                      |                               |
|---|-------------------------------|
| <b>Type of electrical connection</b>        |                               |
| • for main current circuit                  | straight-through transformers |
| • for auxiliary and control current circuit | screw-type terminals          |

|  |  |
|--|--|
| 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         |  |
| <ul style="list-style-type: none"> <li>finely stranded with core end processing</li> </ul> | 1x (0.25 ... 2.5 mm <sup>2</sup> ), 2x (0.25 ... 1.0 mm <sup>2</sup> ) |
| <ul style="list-style-type: none"> <li>solid</li> </ul>                                    | 1x (0.25 ... 2.5 mm <sup>2</sup> ), 2x (0.25 ... 1.0 mm <sup>2</sup> ) |
| <ul style="list-style-type: none"> <li>at AWG conductors solid</li> </ul>                  | 1x (24 ... 14), 2x (24 ... 18)   |
| <ul style="list-style-type: none"> <li>at AWG conductors stranded</li> </ul>               | 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                                      |   |
| <ul style="list-style-type: none"> <li>1 maximum</li> </ul>                          | 2 000 m   |
| <ul style="list-style-type: none"> <li>2 maximum</li> </ul>                          | 3 000 m; max. +50 °C (no protective separation)   |
| <ul style="list-style-type: none"> <li>3 maximum</li> </ul>                          | 4 000 m; max. +40 °C (no protective separation)   |
| Ambient temperature  |   |
| <ul style="list-style-type: none"> <li>during operation</li> </ul>                   | -25 ... +60 °C  |
| Environmental category   |   |
| <ul style="list-style-type: none"> <li>during operation acc. to IEC 60721</li> </ul> | 3K6 (no formation of ice, no condensation, relative humidity 10 ... 95%), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6 |
| <ul style="list-style-type: none"> <li>during storage acc. to IEC 60721</li> </ul>   | 1K6 (no condensation, relative humidity 10 ... 95%), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4                      |
| <ul style="list-style-type: none"> <li>during transport acc. to IEC 60721</li> </ul> | 2K2, 2C1, 2S1, 2M2  |
| Relative humidity  |   |
| <ul style="list-style-type: none"> <li>during operation</li> </ul>                   | 10 ... 95 %   |

### Short-circuit protection

|   |    |
|---|----|
| Product function Short circuit protection | No |
|---|----|

### Safety related data

|  |   |
|--|---|
| Safety Integrity Level (SIL) acc. to IEC 61508 | 1 |
|--|---|

### 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) |
|--|--|

### Main circuit

|  |              |
|--|--------------|
| Number of poles for main current circuit                                   | 3            |
| adjustable pick-up value current of the current-dependent overload release | 10 ... 115 A |
| Operating voltage  |              |
| <ul style="list-style-type: none"> <li>at AC</li> </ul>                    |              |

|  |               |
|--|---------------|
| — at 50 Hz rated value                 | 110 ... 690 V |
| — at 60 Hz rated value                 | 110 ... 690 V |
| <b>Operating frequency rated value</b> | 50 ... 60 Hz  |

| Control circuit/ Control      |                              |
|-------------------------------|------------------------------|
| <b>Type of voltage</b>        | AC                           |
| <b>Inrush current maximum</b> | 1 150 A; 10 x I <sub>o</sub> |

### Certificates/ approvals

|                                 |            |                                       |
|---------------------------------|------------|---------------------------------------|
| <b>General Product Approval</b> | <b>EMC</b> | <b>For use in hazardous locations</b> |
|---------------------------------|------------|---------------------------------------|



|                                       |                                  |                          |                          |
|---------------------------------------|----------------------------------|--------------------------|--------------------------|
| <b>For use in hazardous locations</b> | <b>Declaration of Conformity</b> | <b>Test Certificates</b> | <b>Marine / Shipping</b> |
|---------------------------------------|----------------------------------|--------------------------|--------------------------|



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



|                          |              |
|--------------------------|--------------|
| <b>Marine / Shipping</b> | <b>other</b> |
|--------------------------|--------------|



[Confirmation](#)



[PROFINET-Certification](#)

### Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**  
[www.siemens.com/ic10](http://www.siemens.com/ic10)

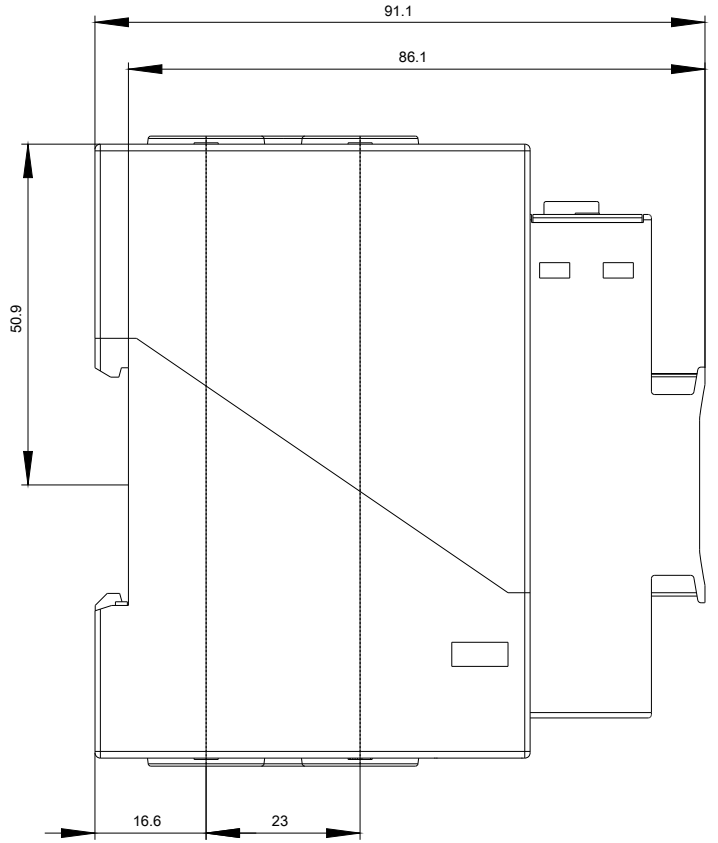
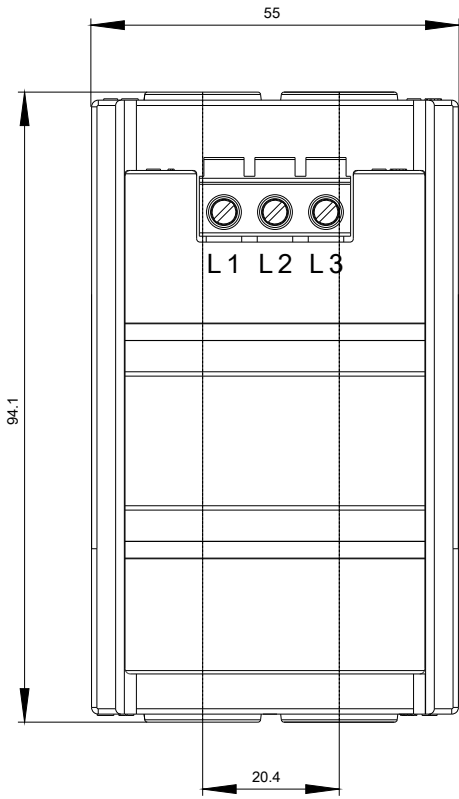
**Industry Mall (Online ordering system)**  
<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3UF7112-1AA01-0>

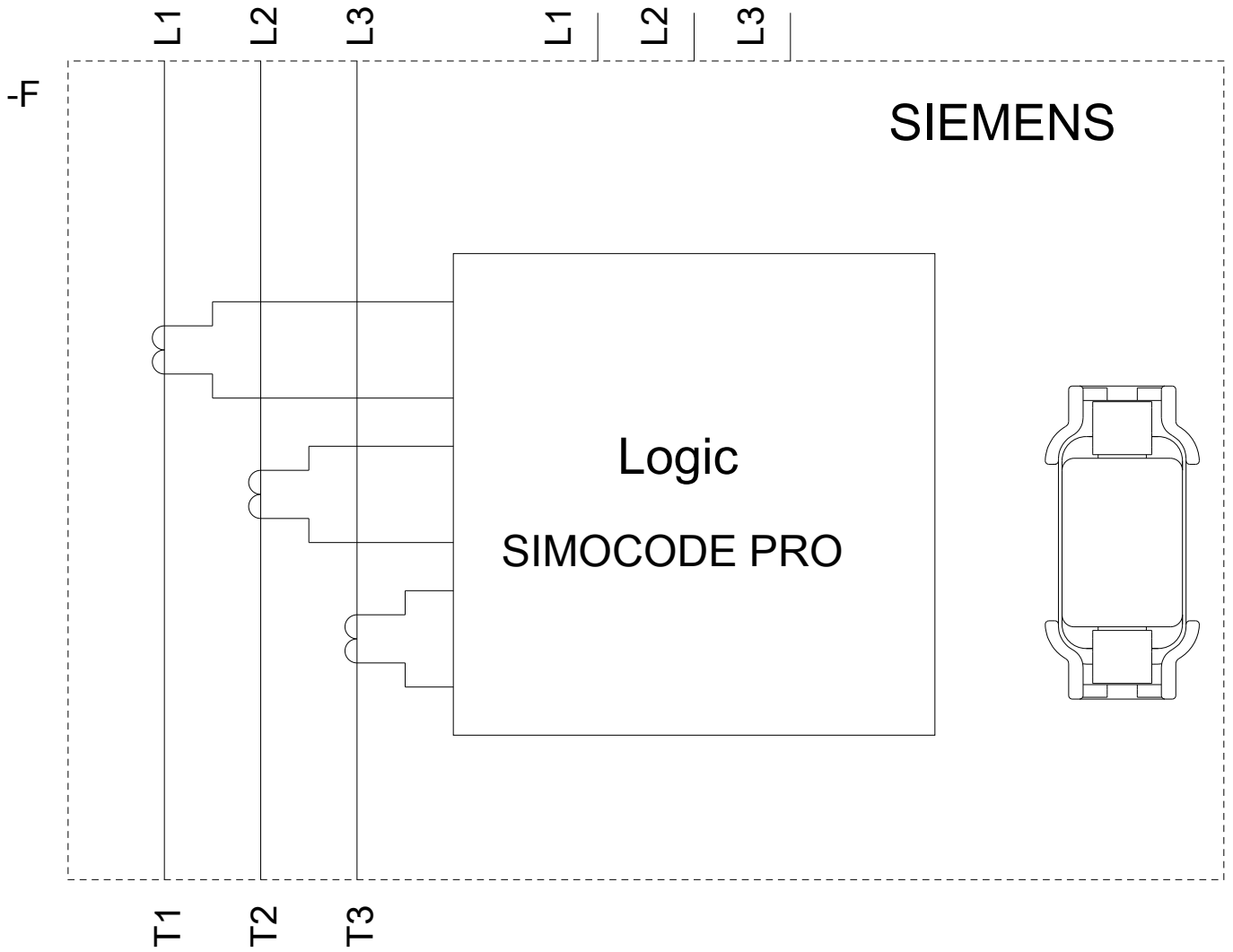
**Cax online generator**  
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7112-1AA01-0>

**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**  
<https://support.industry.siemens.com/cs/ww/en/ps/3UF7112-1AA01-0>

**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**  
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UF7112-1AA01-0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7112-1AA01-0&lang=en)

**Test report No. A0258, protective separation**  
<https://support.industry.siemens.com/cs/ww/en/view/109748152>





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