

Current/voltage measuring module V2; Set current 3...40 A, Voltage measurement up to 690 V, Overall width 45 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
<b>General technical data</b>	
<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>	Yes
<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 M $\Omega$ ; 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 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 2 kV 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
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### 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 Yes Yes
<b>Product function</b>	
<ul style="list-style-type: none"> <li>Current detection</li> <li>Overload protection</li> </ul>	Yes 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 %, 2.25 A ... 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 +/- 1.5 %, in range 2.25 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	+/- 1.5 %, 2.25 A ... 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
• 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 (0.5...1), 50/60 Hz, 25 °C
• at active power measurement 1	+/- 5%, 2.25 A ... 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
• at 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 (0.5...1), 50/60 Hz, 25 °C
• at energy measurement 1	+/- 5%, 2.25 A ... 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
• at energy measurement 2	+/- 10 %, 80 A ... 320 A, 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), cos phi (0.5...1), 50/60 Hz, 25 °C
• at apparent power measurement 1	+/- 3%, 2.25 A ... 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
• at 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 (0.5...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>	84 mm
<b>Width</b>	45 mm
<b>Depth</b>	64 mm
<b>Required spacing</b>	
• top	30 mm
• bottom	30 mm
• left	0 mm
• right	0 mm
<b>Diameter of feed through opening</b>	7.5 mm
<b>Diameter of feed through opening for current measurement</b>	7.5 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
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### Safety related data

Safety Integrity Level (SIL) acc. to IEC 61508	1
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### 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)
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### Main circuit

Number of poles for main current circuit	3
adjustable pick-up value current of the current-dependent overload release	3 ... 40 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>	400 A; 10 x I <sub>o</sub>

### Certificates/ approvals

<b>General Product Approval</b>	<b>EMC</b>	<b>For use in hazardous locations</b>
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<b>For use in hazardous locations</b>	<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>Marine / Shipping</b>
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



<b>Marine / Shipping</b>	<b>other</b>
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[Confirmation](#)



[PROFINET-Certification](#)

### Further information

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

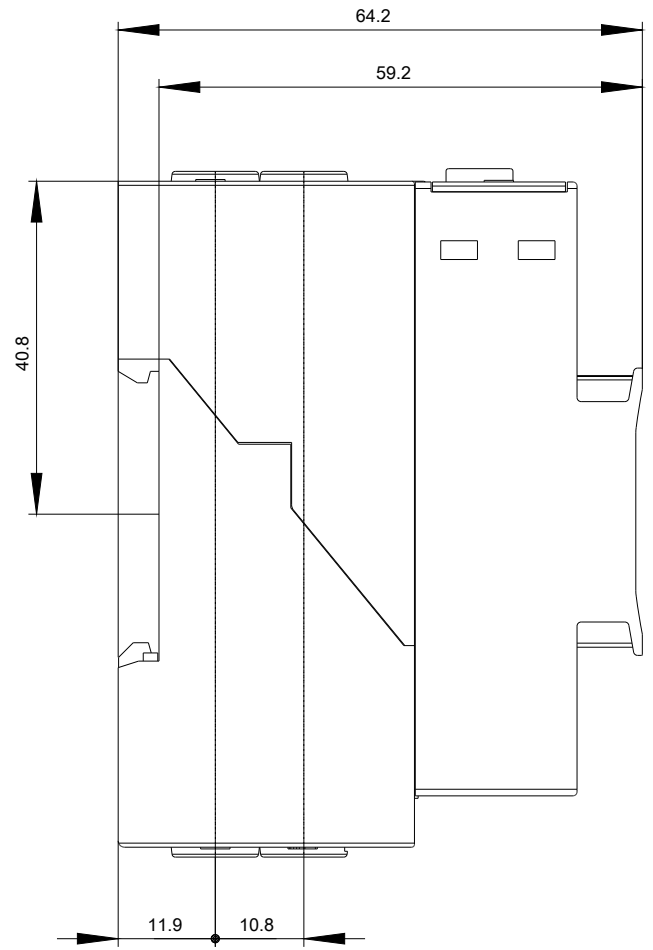
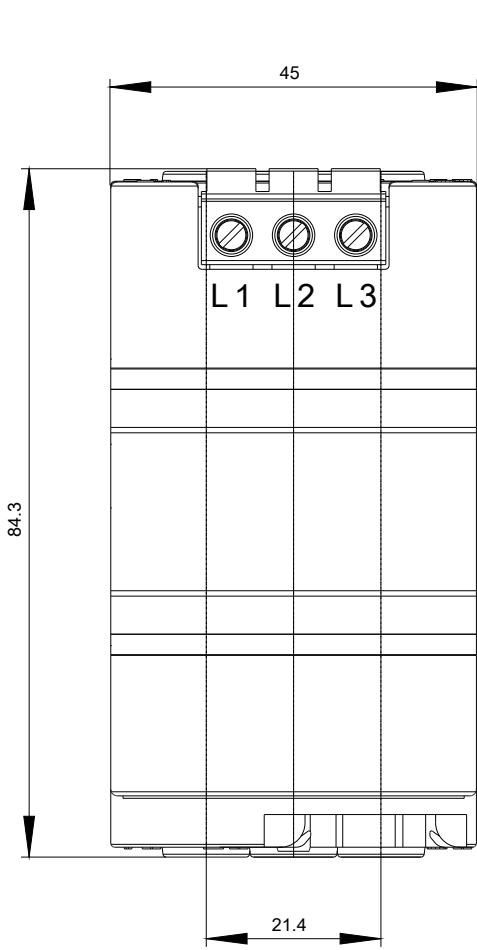
**Industry Mall (Online ordering system)**  
<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3UF7111-1AA01-0>

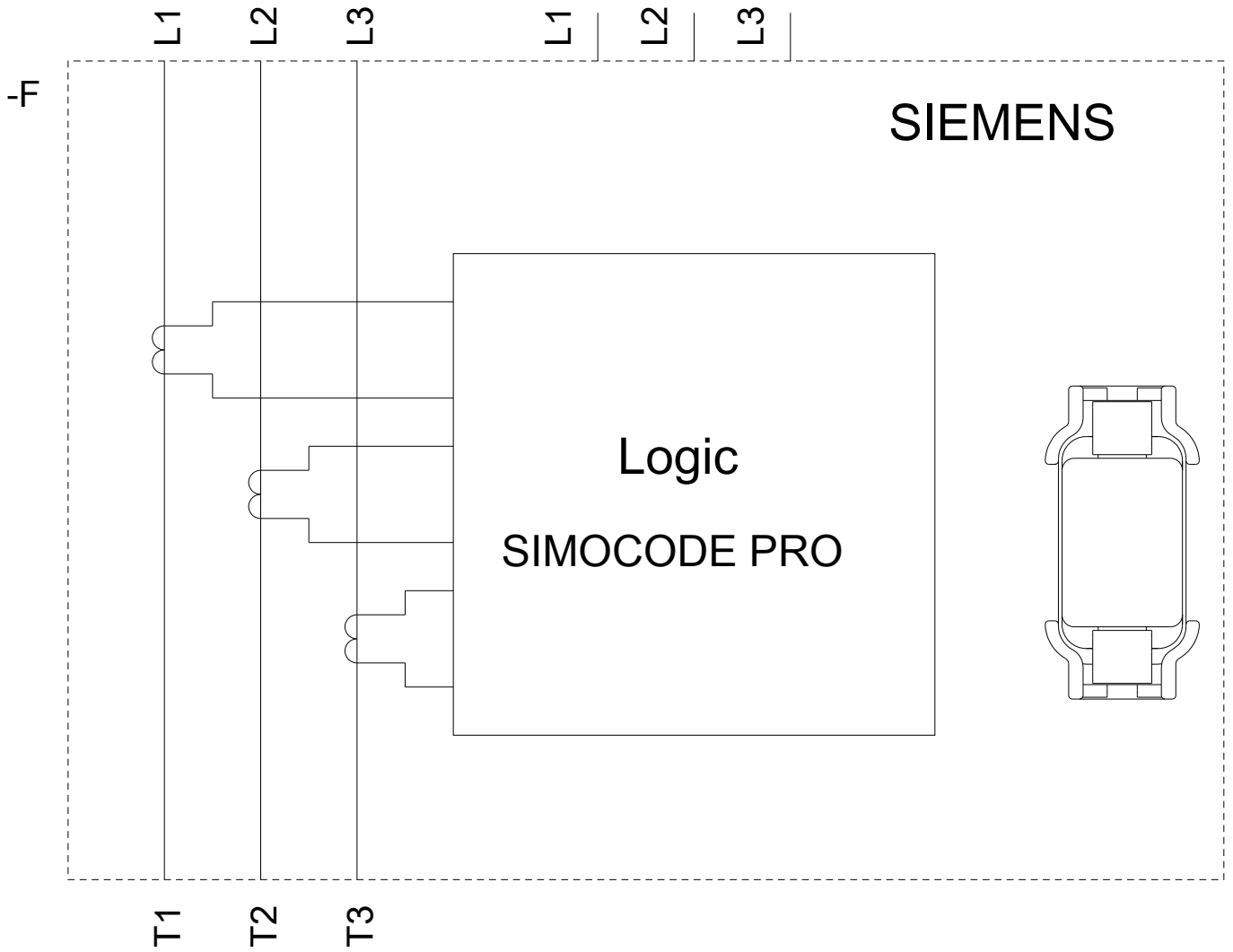
**Cax online generator**  
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7111-1AA01-0>

**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**  
<https://support.industry.siemens.com/cs/ww/en/ps/3UF7111-1AA01-0>

**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**  
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UF7111-1AA01-0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7111-1AA01-0&lang=en)

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





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