

Current/voltage measuring module for dry-running protection of centrifugal pumps in hazardous areas; set current 20 ... 200 A, voltage measurement up to 690 V, width 120 mm, straight-through transformer



product brand name	SIRIUS
product designation	Current/voltage measuring module
<b>General technical data</b>	
product function	
• current measurement	Yes
• voltage measurement	Yes
• active power measurement	Yes
• power measurement	Yes
• frequency measurement	Yes
• active power monitoring for pump dry-run according to Ignition protection type Ex b	Yes
measuring procedure for current measurement	TRMS
current measuring range extension with external current transformers	No
measuring procedure for voltage measurement	TRMS
measurable supply voltage between the line conductors at AC maximum rated value	690 V
line conductors and neutral conductors internal resistance for voltage measurement	RC-based voltage divider
product component	
• input for thermistor connection	No
consumed active power	0.5 W
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
protection class IP	IP20
shock resistance according to IEC 60068-2-27	15g / 11 ms; with basic unit snapped on
vibration resistance	1-6 Hz / 15 mm; 6-500 Hz / 2 g; with basic unit snapped on: 1g
Substance Prohibitance (Date)	05/28/2009
certificate of suitability	
• IECEx	Yes; IECEx PTB 18.0004X
• according to ATEX directive 2014/34/EU	BVS 06 ATEX F001, PTB 18 ATEX 5003 X
• according to UKCA	ITS21UKEX0464, ITS21UKEX0455X
explosion device group and category according to ATEX directive 2014/34/EU	II (2) G, II (2 ) D, I (M2) / I (1G/M2), II (1/2) G, II (1G/2D)
<b>Electromagnetic compatibility</b>	
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

<ul style="list-style-type: none"> <li>• due to conductor-earth surge according to IEC 61000-4-5</li> <li>• due to conductor-conductor surge according to IEC 61000-4-5</li> </ul>	2 kV 1 kV
<b>field-based interference according to IEC 61000-4-3</b>	10 V/m
<b>Inputs/ Outputs</b>	
<b>number of outputs as contact-affected switching element</b>	0
<b>Protective and monitoring functions</b>	
<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>trip class</b>	CLASS 5E
<b>product function</b>	
<ul style="list-style-type: none"> <li>• current detection</li> <li>• overload protection</li> </ul>	Yes Yes
<b>Precision</b>	
<b>measuring precision</b>	
<ul style="list-style-type: none"> <li>• of frequency measurement</li> <li>• for current measurement 1</li> <li>• for current measurement 2</li> <li>• for voltage measurement 1</li> <li>• at cos phi-measurement 1</li> <li>• at cos phi-measurement 2</li> <li>• at active power measurement 1</li> <li>• at active power measurement 2</li> <li>• at energy measurement 1</li> <li>• at energy measurement 2</li> <li>• at apparent power measurement 1</li> <li>• at apparent power measurement 2</li> </ul>	+/- 1.5 %, 15 A ... 400 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 400 A ... 1600 A, in range 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), 50/60 Hz, 25 °C +/- 5%, in range 400 A ... 1600 A, in range 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), 50/60 Hz, 25 °C +/- 1.5 %, in range 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), 50/60 Hz, 25 °C +/- 1.5 %, 15 A ... 400 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 +/- 5%, 400 A ... 1600 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 +/- 5%, 15 A ... 400 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 +/- 10%, 400 A ... 1600 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 +/- 5 %, 47 ... 1260 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 +/- 10%, 400 A ... 1600 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 +/- 3%, 15 A ... 400 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 +/- 5 %, 400 A ... 1600 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
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	any
<b>fastening method</b>	screw and snap-on mounting
<b>height</b>	95 mm
<b>width</b>	120 mm
<b>depth</b>	145 mm
<b>required spacing</b>	
<ul style="list-style-type: none"> <li>• top</li> <li>• bottom</li> <li>• left</li> <li>• right</li> </ul>	30 mm 30 mm 0 mm 0 mm
<b>diameter of inlet opening</b>	25 mm
<b>diameter of inlet opening for current measurement</b>	25 mm
<b>Connections/ Terminals</b>	
<b>type of electrical connection at the measurement inputs for voltage</b>	screw-type terminals
<b>type of connectable conductor cross-sections at the measurement inputs for voltage</b>	
<ul style="list-style-type: none"> <li>• finely stranded with core end processing</li> <li>• solid</li> </ul>	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²) 1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)

<ul style="list-style-type: none"> <li>• for AWG cables solid</li> <li>• for AWG cables stranded</li> </ul>	1x (20 ... 12), 2x (20 ... 14) 1x (20 ... 14), 2x (20 ... 16)
<b>tightening torque at the measurement inputs for voltage</b>	0.8 ... 1.2 N·m
<b>tightening torque [lbf·in] at the measurement inputs for voltage</b>	7 ... 10.3 lbf·in
<b>Ambient conditions</b>	
<b>installation altitude at height above sea level</b> <ul style="list-style-type: none"> <li>• 1 maximum</li> <li>• 2 maximum</li> <li>• 3 maximum</li> </ul>	2 000 m 3 000 m; max. +50 °C (no protective separation) 4 000 m; max. +40 °C (no protective separation)
<b>ambient temperature</b> <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> <li>• during transport</li> </ul>	-25 ... +60 °C -40 ... +80 °C -40 ... +80 °C
<b>environmental category</b> <ul style="list-style-type: none"> <li>• during operation according to IEC 60721</li> <li>• during storage according to IEC 60721</li> <li>• during transport according 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 1K6 (no condensation, relative humidity 10 ... 95%), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4 2K2, 2C1, 2S1, 2M2
relative humidity during operation	10 ... 95 %
<b>Short-circuit protection</b>	
<b>product function short circuit protection</b>	No
<b>Galvanic isolation</b>	
<b>(electrically) protective separation according to IEC 60947-1</b>	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)
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	3
<b>adjustable current response value current of the current-dependent overload release</b>	20 ... 200 A
<b>operating voltage</b> <ul style="list-style-type: none"> <li>• at AC <ul style="list-style-type: none"> <li>— at 50 Hz rated value</li> <li>— at 60 Hz rated value</li> </ul> </li> </ul>	110 ... 690 V 110 ... 690 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<b>Control circuit/ Control</b>	
<b>type of voltage</b>	AC
<b>inrush current maximum</b>	2 000 A; 10 x I <sub>o</sub>
<b>Certificates/ approvals</b>	
<b>General Product Approval</b>	EMC



[Confirmation](#)



<b>For use in hazardous locations</b>					<b>Declaration of Conformity</b>
				<a href="#">Explosion Protection Certificate</a>	
<b>Declaration of Conformity</b>			<b>Test Certificates</b>		<b>Marine / Shipping</b>



[Type Test Certificates/Test Report](#)

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#### Further information

Siemens has decided to exit the Russian market (see here).

<https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business>

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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=3UF7123-1AA01-0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7123-1AA01-0>

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

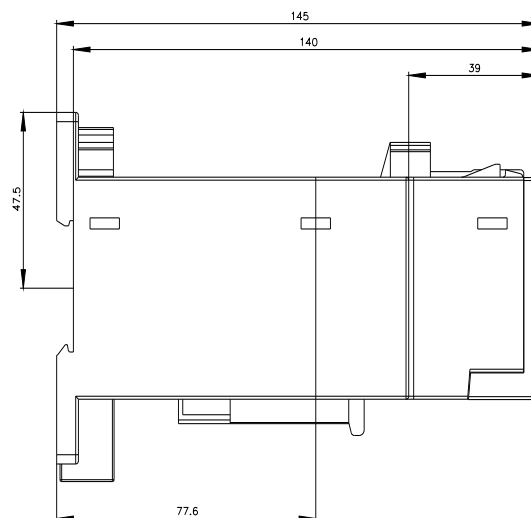
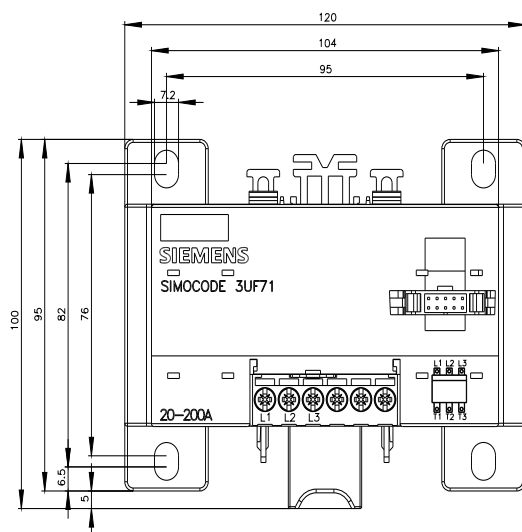
<https://support.industry.siemens.com/cs/ww/en/ps/3UF7123-1AA01-0>

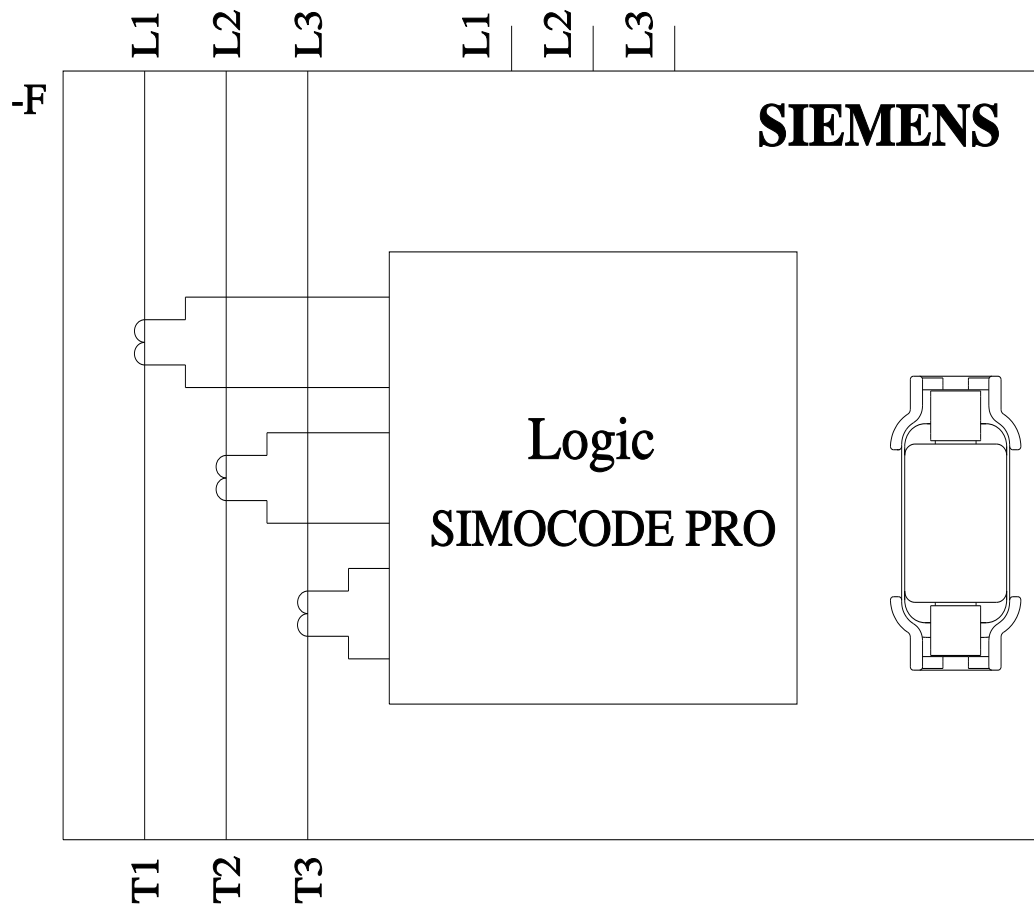
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UF7123-1AA01-0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7123-1AA01-0&lang=en)

Test report No. A0258, protective separation

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





last modified:

7/15/2022 

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