

current/voltage measuring module for dry-running protection of centrifugal pumps in hazardous areas, current setting 20...200 A voltage measurement up to 690 V, width 120 mm, bar connection



product brand name	SIMOCODE
product designation	Current/voltage measuring module
product type designation	IUM
General technical data	
measuring procedure	RMS value measurement
size of the circuit-breaker	S6
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	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
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
shock resistance according to IEC 60068-2-27	15 g / 11 ms; with basic unit snapped on
vibration resistance	1 ... 6 Hz / 15 mm; 6 ... 500 Hz / 2 g; with basic unit snapped on: 1 g
Substance Prohibitance (day/month/year)	05/28/2009
SVHC substance name	Lead monoxide (lead oxide) CAS-No. 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1
Net Weight	1.05 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

<ul style="list-style-type: none"> • due to conductor-earth surge according to IEC 61000-4-5 • due to conductor-conductor surge according to IEC 61000-4-5 	2 kV 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	
<ul style="list-style-type: none"> • power factor monitoring • ground-fault monitoring • voltage detection 	Yes Yes Yes
trip class	CLASS 5E
product function	
<ul style="list-style-type: none"> • current detection • overload protection 	Yes Yes
Precision	
measuring precision	
<ul style="list-style-type: none"> • of frequency measurement • for current measurement 1 • for current measurement 2 • for voltage measurement 1 • at cos phi-measurement 1 • at cos phi-measurement 2 • for active power measurement 1 • for active power measurement 2 • for energy measurement 1 • for energy measurement 2 • for apparent power measurement 1 • for apparent power measurement 2 	+/- 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 A ... 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
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	0.01 %/°C; Reference temperature: 25°C
measured variable frequency	45 ... 65 Hz
Installation/ mounting/ dimensions	
mounting position	any
fastening method	direct mounting / stand-alone installation
height	119 mm
width	120 mm
depth	145 mm
required spacing	
<ul style="list-style-type: none"> • top • bottom • left • right 	30 mm 30 mm 0 mm 0 mm
Connections/ Terminals	
type of electrical connection	
<ul style="list-style-type: none"> • for main current circuit • for auxiliary and control circuit 	busbar connection 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"> finely stranded with core end processing solid for AWG cables solid for AWG cables stranded 	<p>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)</p> <p>1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)</p> <p>1x (20 ... 12), 2x (20 ... 14)</p> <p>1x (20 ... 14), 2x (20 ... 16)</p>
tightening torque at the measurement inputs for voltage	0.8 ... 1.2 N·m
tightening torque [lbf·in] at the measurement inputs for voltage	7 ... 10.3 lbf·in
type of connectable conductor cross-sections at the measurement inputs for current	
<ul style="list-style-type: none"> solid with core end processing stranded with core end processing for AWG cables 	<p>16 mm² ... 95 mm²</p> <p>25 mm² ... 120 mm²</p> <p>4/0 kcmil ... 250 kcmil</p>
design of the thread of the connection screw at the measurement inputs for current	M8 x 25
Ambient conditions	
installation altitude at height above sea level	
<ul style="list-style-type: none"> 1 maximum 2 maximum 3 maximum 	<p>2 000 m</p> <p>3 000 m; max. +50 °C (no protective separation)</p> <p>4 000 m; max. +40 °C (no protective separation)</p>
ambient temperature	
<ul style="list-style-type: none"> during operation during storage during transport 	<p>-25 ... +60 °C</p> <p>-40 ... +80 °C</p> <p>-40 ... +80 °C</p>
environmental category	
<ul style="list-style-type: none"> during operation according to IEC 60721 during storage according to IEC 60721 during transport according to IEC 60721 	<p>3K6 (no formation of ice, no condensation, relative humidity 10 ... 95%), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6</p> <p>1K6 (no condensation, relative humidity 10 ... 95%), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4</p> <p>2K2, 2C1, 2S1, 2M2</p>
relative humidity during operation	10 ... 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	
<ul style="list-style-type: none"> IECEX according to ATEX directive 2014/34/EU according to UKCA 	<p>Yes; IECEX PTB 18.0004X</p> <p>BVS 06 ATEX F001, PTB 18 ATEX 5003 X</p> <p>ITS21UKEX0464, ITS21UKEX0455X</p>
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 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 current response value current of the current-dependent overload release	20 ... 200 A
operating voltage	
<ul style="list-style-type: none"> at AC <ul style="list-style-type: none"> at 50 Hz rated value at 60 Hz rated value 	<p>110 ... 690 V</p> <p>110 ... 690 V</p>
operating frequency rated value	50 ... 60 Hz
Control circuit/ Control	
type of voltage	AC
inrush current maximum	2 000 A; 10 x I _o
Approvals Certificates	
Environment	General Product Approval

[Environmental Con-
firmations](#)



General Product Approval

EMV

For use in hazardous locations



For use in hazardous locations

Test Certificates



[Miscellaneous](#)

[Special Test Certific-
ate](#)

[Type Test Certific-
ates/Test Report](#)

[Special Test Certific-
ate](#)

Maritime application

other



[Confirmation](#)

other

Industrial Communication

[Confirmation](#)



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=3UF7123-1BA01-0>

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7123-1BA01-0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3UF7123-1BA01-0>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7123-1BA01-0&lang=en



