



current/voltage measuring module for dry-running protection of centrifugal pumps in hazardous areas, current setting 63...630 A, voltage measurement up to 690 V, width 145 mm, bar connection

product brand name	SIRIUS
product designation	Current/voltage measuring module
General technical data	
measuring procedure	RMS value measurement
size of the circuit-breaker	S10, S12
product function	• current measurement • voltage measurement • active power measurement • energy measurement • frequency measurement • active power monitoring for pump dry-run according to Ignition protection type Ex b
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 • for wires of main circuit according to IEC 60947-1 rated value
surge voltage resistance rated value	6 000 V
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
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5
Weight	1.843 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 • due to conductor-earth surge according to IEC 61000-4-5 • due to conductor-conductor surge according to IEC
	2 kV 2 kV 1 kV

61000-4-5	
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
product function	
• current detection	Yes
• overload protection	Yes
Precision	
measuring precision	
• of frequency measurement	+/- 1.5 %, 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
• for current measurement 1	+/- 1.5 %, in range 47 A ... 1260 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	+/- 5%, in range 1260 A ... 5040 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 %, 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
• at cos phi-measurement 2	+/- 5%, 1260 A ... 5040 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%, 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
• at active power measurement 2	+/- 10%, 1260 A ... 5040 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%, 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
• at energy measurement 2	+/- 10%, 1260 A ... 5040 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%, 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
• at apparent power measurement 2	+/- 5 %, 1260 A ... 5040 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 % le: +/- 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	147 mm
width	145 mm
depth	148 mm
required spacing	
• top	30 mm
• bottom	30 mm
• left	0 mm
• right	0 mm
Connections/ Terminals	
type of electrical connection	
• for main current circuit	busbar connection
• for auxiliary and control 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	
• finely stranded with core end processing	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)

• solid • for AWG cables solid • for AWG cables stranded	1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²) 1x (20 ... 12), 2x (20 ... 14) 1x (20 ... 14), 2x (20 ... 16)
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 • solid with core end processing • stranded with core end processing • for AWG cables	50 mm ² ... 240 mm ² 70 mm ² ... 240 mm ² 1/0 kcmil ... 500 kcmil
design of the thread of the connection screw at the measurement inputs for current	M10 x 30
Ambient conditions	
installation altitude at height above sea level • 1 maximum • 2 maximum • 3 maximum	2 000 m 3 000 m; max. +50 °C (no protective separation) 4 000 m; max. +40 °C (no protective separation)
ambient temperature • during operation • during storage • during transport	-25 ... +60 °C -40 ... +80 °C -40 ... +80 °C
environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721	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 %
Short-circuit protection	
product function short circuit protection	No
ATEX	
certificate of suitability • IECEx • according to ATEX directive 2014/34/EU • according to UKCA	Yes; IECEx PTB 18.0004X BVS 06 ATEX F001, PTB 18 ATEX 5003 X ITS21UKEX0464, ITS21UKEX0455X
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	63 ... 630 A
operating voltage • at AC — at 50 Hz rated value — at 60 Hz rated value	110 ... 690 V 110 ... 690 V
operating frequency rated value	50 ... 60 Hz
Control circuit/ Control	
type of voltage	AC
inrush current maximum	6 300 A; 10 x I _o
Approvals Certificates	
General Product Approval	
EMV	



EMV	For use in hazardous locations
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[KC](#)



[Miscellaneous](#)

Test Certificates	Maritime application
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Maritime application	other	Environment	Industrial Communication
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[Confirmation](#)



[Environmental Confirmations](#)



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=3UF7124-1BA01-0>

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7124-1BA01-0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3UF7124-1BA01-0>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7124-1BA01-0&lang=en



