

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



product brand name	SIRIUS
product designation	Current/voltage measuring module
General technical data	
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	IP00
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)
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 • at active power measurement 1 • at active power measurement 2 • at energy measurement 1 • at energy measurement 2 • at apparent power measurement 1 • at apparent power measurement 2 	+/- 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 +/- 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 +/- 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 +/- 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 %, 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 +/- 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 +/- 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%, 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 +/- 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%, 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 +/- 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 +/- 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 % 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	147 mm
width	145 mm
depth	148 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 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 	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²) 1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²) 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 <ul style="list-style-type: none"> • solid with core end processing • stranded with core end processing • for AWG cables 	50 mm² ... 240 mm² 70 mm² ... 240 mm² 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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • during operation • during storage • during transport 	-25 ... +60 °C -40 ... +80 °C -40 ... +80 °C
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 	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
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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)
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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 <ul style="list-style-type: none"> • at AC <ul style="list-style-type: none"> — 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 ₀

Certificates/ approvals

General Product Approval	EMC
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[Confirmation](#)



For use in hazardous locations	Declaration of Con- formity
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[Explosion Protection
Certificate](#)



Declaration of Con- formity	Test Certificates	Marine / Shipping
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[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[Special Test Certificate](#)



Marine / Shipping

other



[Confirmation](#)



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=3UF7124-1BA01-0>

Cax online generator

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

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

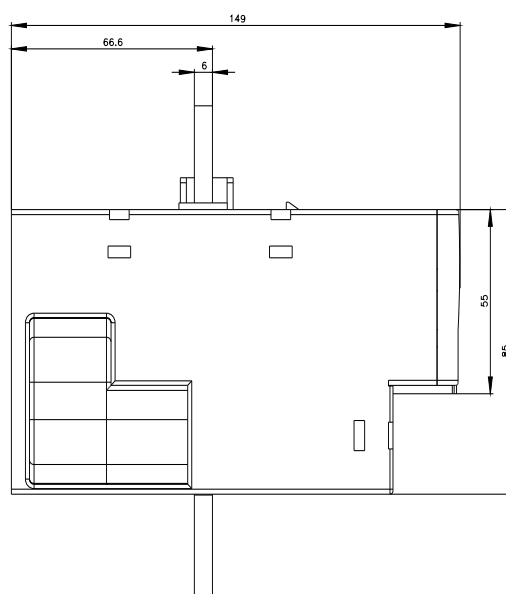
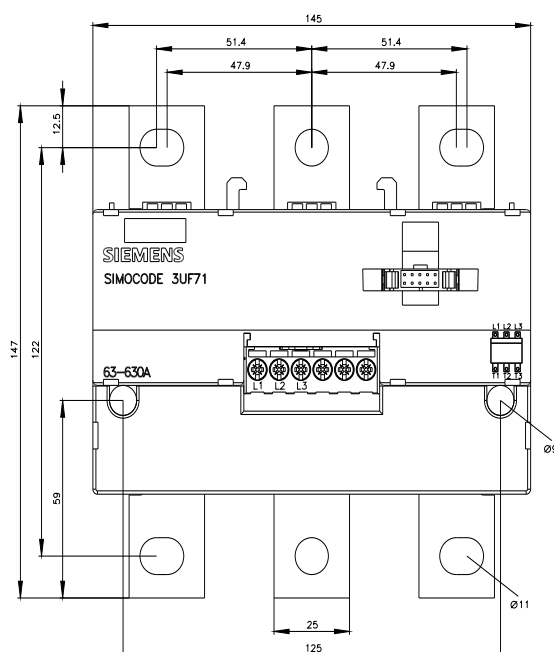
<https://support.industry.siemens.com/cs/ww/en/ps/3UF7124-1BA01-0>

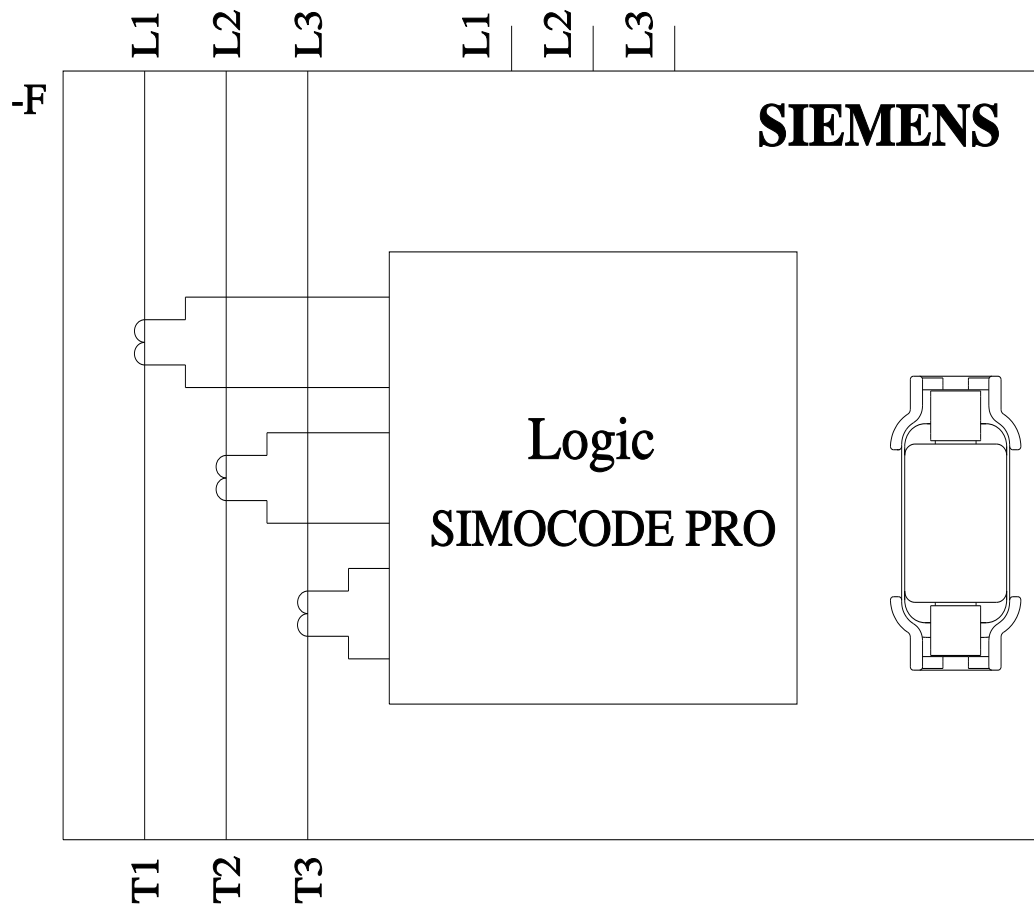
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

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

Test report No. A0258, protective separation

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





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