SIEMENS

Data sheet 3UF7114-1BA01-0



Current/voltage measuring module V2; Set current 63...630 A, Voltage measurement up to 690 V, Overall width 145 mm, Busbar connection basic unit required pro V PB, pro V MR, pro V PN or pro V EIP

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
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	1 M Ω ; 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
reference code according to IEC 81346-2	F
Substance Prohibitance (Date)	05/28/2009
certificate of suitability	
according to ATEX directive 2014/34/EU	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	
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
 due to conductor-earth surge according to IEC 61000-4-5 	2 kV

 due to conductor-conductor surge according to IEC 61000-4-5 	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	
 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 (0.51), 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 $^{\circ}\mathrm{C}$
 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 $^{\circ}\text{C}$
 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 (0.51), 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 (0.51), 50/60 Hz, 25 °C
 at active power measurement 1 	+/- 5 %, 47 1260 A, 0.85 x 110 V 1.1 x 690 V (line-to-line voltages), cos phi (0.51), 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 (0.51), 50/60 Hz, 25 °C
at energy measurement 1	+/- 5 %, 47 1260 A, 0.85 x 110 V 1.1 x 690 V (line-to-line voltages), cos phi (0.51), 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 (0.51), 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 (0.51), 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 (0.51), 50/60 Hz, 25 °C
accuracy of ground-fault monitoring	In the range 30 % 120 %/ls: +/- 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 measured variable frequency	0.01 %/°C; Reference temperature: 25°C 45 65 Hz
Installation/ mounting/ dimensions	TO VO 112
mounting position	any
fastening method	any direct mounting / stand-alone installation
height	147 mm
width	145 mm
depth	149 mm
required spacing	
• top	30 mm
• bottom	30 mm
• left	0 mm
• right	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	
 finely stranded with core end processing 	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
• solid	1x (0.5 4 mm²), 2x (0.5 2.5 mm²)

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at AWG cables solid	1x (20 12), 2x (20 14)
at AWG cables stranded	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 	50 mm² 240 mm²
 stranded with core end processing 	70 mm² 240 mm²
 at AWG cables 	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	2 000 m
• 2 maximum	3 000 m; max. +50 °C (no protective separation)
• 3 maximum	4 000 m; max. +40 °C (no protective separation)
ambient temperature	
during operation	-25 +60 °C
 during storage 	-40 +80 °C
during transport	-40 +80 °C
environmental category	
 during operation 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
 during storage according to IEC 60721 	1K6 (no condensation, relative humidity 10 95%), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4
during transport according to IEC 60721	2K2, 2C1, 2S1, 2M2
relative humidity during operation	10 95 %
Short-circuit protection	
product function short circuit protection	No
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	110 690 V
— at 60 Hz rated value	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 lo
Certificates/ approvals	
General Product Approval	EMC



Confirmation















Special Test Certificate

Type Test Certificates/Test Report

Special Test Certificate

Marine / Shipping

other









Confirmation



Profibus

other

PROFINET-Certification

Further information

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=3UF7114-1BA01-0

Cax online generator

 $\underline{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3UF7114-1BA01-0}$

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

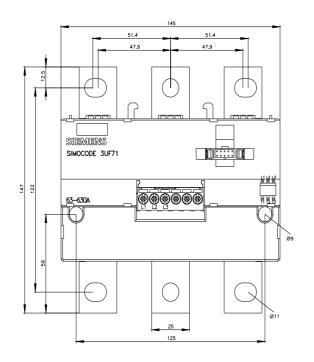
https://support.industry.siemens.com/cs/ww/en/ps/3UF7114-1BA01-0

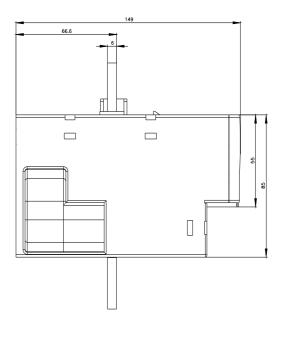
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

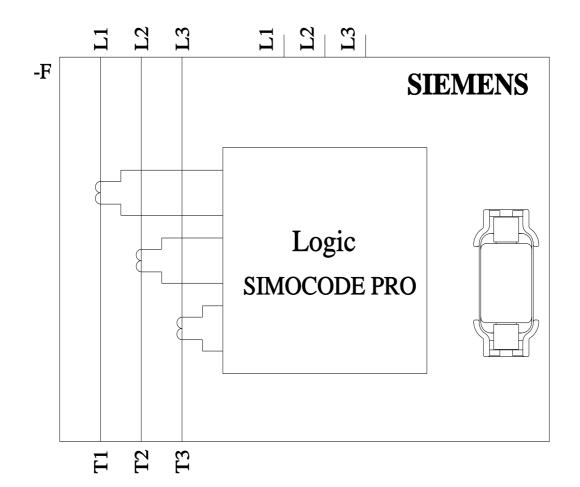
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7114-1BA01-0&lang=en

Test report No. A0258, protective separation

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







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