

current/voltage measuring module current setting 63 - 630 A, voltage detection up to 690 V, straight-through transformer, optional rail mounting set



product brand name	SIRIUS
product designation	Current/voltage measuring module
product type designation	SIMOCODE M-CP
General technical data	
measuring procedure	RMS value measurement
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	No
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
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	15g / 11 ms
vibration resistance	1-6 Hz / 15 mm; 6-500 Hz / 2 g; with rail mounting kit 6 g / 11 ms
reference code according to IEC 81346-2	F
Substance Prohibitance (Date)	01/01/2024
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8
Weight	0.883 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
• 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, 7, 10E, 15, 20E, 25, 30E, 35, and 40E adjustable
product function	
• current detection	Yes
• overload protection	Yes
Precision	
measuring precision	
• of frequency measurement	+/- 1.5 %, 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
• 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	+/- 3%, 47 A ... 1260 A, 0.85 x 110 V ... 1.1 x 690 V (line-to-line voltages), cos-phi (0.4...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 (0.4...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 (0.4...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 (0.4...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 (0.4...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 (0.4...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 (0.4...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 (0.4...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	Reference temperature: 25°C
measured variable frequency	45 ... 65 Hz
Installation/ mounting/ dimensions	
mounting position	any
height	104.1 mm
width	145 mm
depth	101.8 mm
required spacing	
• top	30 mm
• bottom	30 mm
• left	0 mm
• right	0 mm
diameter of inlet opening	26 mm
diameter of inlet opening for current measurement	26 mm
Connections/ Terminals	
width of connection bar	25 mm
thickness of connection bar	6 mm
diameter of holes	26 mm
number of holes	3
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 - solid - for AWG cables solid - for AWG cables stranded	1x (0.25 ... 2.5 mm²), 2x (0.25 ... 1.0 mm²) 1x (0.25 ... 2.5 mm²), 2x (0.25 ... 1.0 mm²) 1x (24 ... 14), 2x (24 ... 18) 1x (20 ... 14), 2x (20 ... 16)	
tightening torque at the measurement inputs for voltage	0.5 ... 0.6 N·m	
tightening torque [lbf·in] at the measurement inputs for voltage	4.4 ... 5.3 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 mm² ... 185 mm² 25 mm² ... 185 mm² 4/0 kcmil ... 350 kcmil	
design of the thread of the connection screw at the measurement inputs for current	M8 x 25 / 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	3K24 (condensation occasionally, no precipitation, no water, no ice formation, relative humidity 10 ... 95%), 3C3 (no salt mist), 3B2, 3S5 (sand must not enter the device), 3M6 1K22 (condensation occasionally, no precipitation, no water, no ice formation, relative humidity 10 ... 95%), 1C2 (no salt mist), 1B2, 1S10 (sand must not enter the device), 1M4 2K12 (no condensation, no thermal shock), 2C1 (no salt mist), 2B2, 2S1, 2M2	
relative humidity during operation	5 ... 95 %	
Short-circuit protection		
product function short circuit protection	No	
ATEX		
certificate of suitability IECEX	Yes	
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 clearances and creepage distances)	
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	other



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Environmental Con-
firmations



Profibus

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=3UF8112-1AA00-0>

Cax online generator

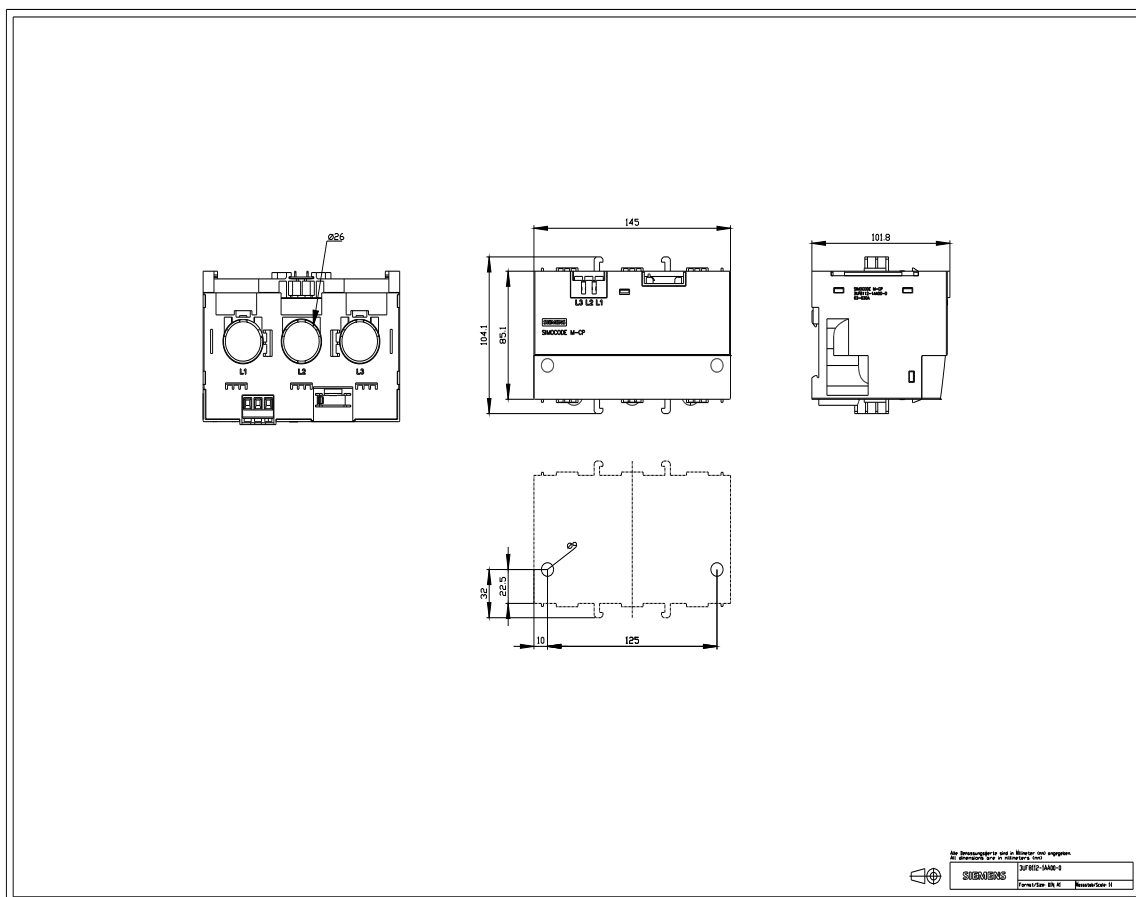
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF8112-1AA00-0>

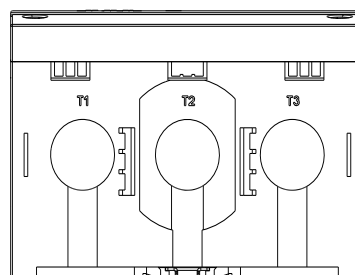
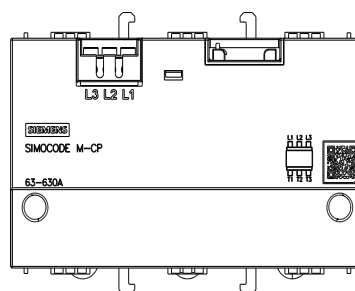
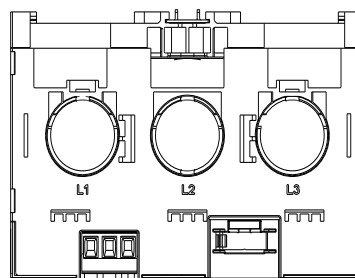
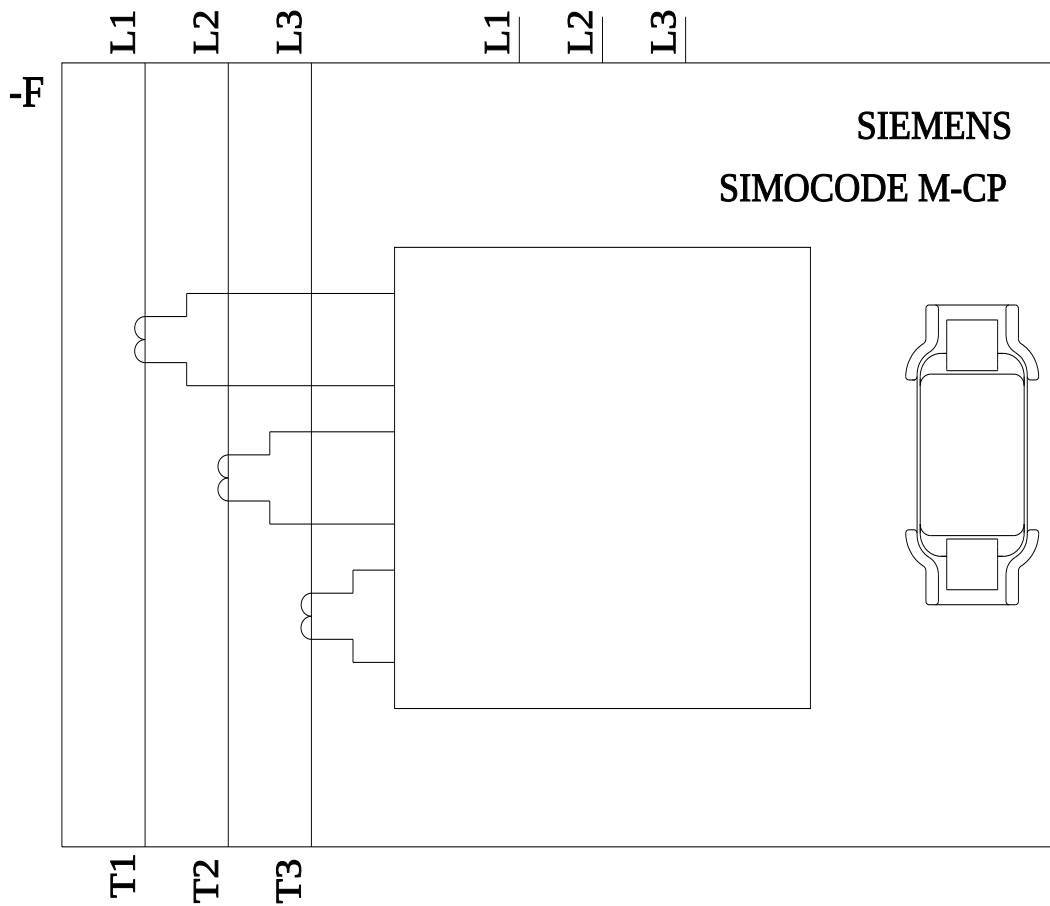
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3UF8112-1AA00-0>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF8112-1AA00-0&lang=en





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