

current/voltage measuring module current setting 0.3 - 40 A, voltage detection up to 690 V, straight-through transformer



product brand name	SIRIUS
product designation	Current/voltage measuring module
product type designation	SIMOCODE M-CP
General technical data	
measuring procedure	RMS value measurement
size of the circuit-breaker	S00, S0
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	Yes
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
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
vibration resistance	1-6 Hz / 15 mm; 6-500 Hz / 2 g
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	0.194 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 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 %, 0.25 ... 80 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 0.25 A ... 80 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	+/- 3%, in range 80 A ... 320 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%, 0.4 A ... 80 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%, 80 A ... 320 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%, 0.25 A ... 80 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%, 80 A ... 320 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%, 0.25 A ... 80 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%, 80 A ... 320 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%, 0.25 A ... 80 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%, 80 A ... 320 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
fastening method	screw and snap-on mounting
height	55.2 mm
width	98.8 mm
depth	40.8 mm
required spacing	
• top	30 mm
• bottom	30 mm
• left	0 mm
• right	0 mm
diameter of inlet opening	7.3 mm
diameter of inlet opening for current measurement	7.3 mm
Connections/ Terminals	
type of electrical connection	
• for main current circuit	straight-through transformers
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 (0.25 ... 2.5 mm²), 2x (0.25 ... 1.0 mm²)	
solid	1x (0.25 ... 2.5 mm²), 2x (0.25 ... 1.0 mm²)	
for AWG cables solid	1x (24 ... 14), 2x (24 ... 18)	
for AWG cables stranded	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	
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 ... +70 °C	
during storage	-40 ... +80 °C	
during transport	-40 ... +80 °C	
environmental category		
during operation 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	
during storage according to IEC 60721	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	
during transport according to IEC 60721	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	0.3 ... 40 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	400 A; 10 x I _o	
Approvals Certificates		
General Product Approval	EMV	other
 EG-Konf.  UL  KC Confirmation 		
Environment		Industrial Communication



[Environmental Con-
firmations](#)



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=3UF8110-1AA00-0>

Cax online generator

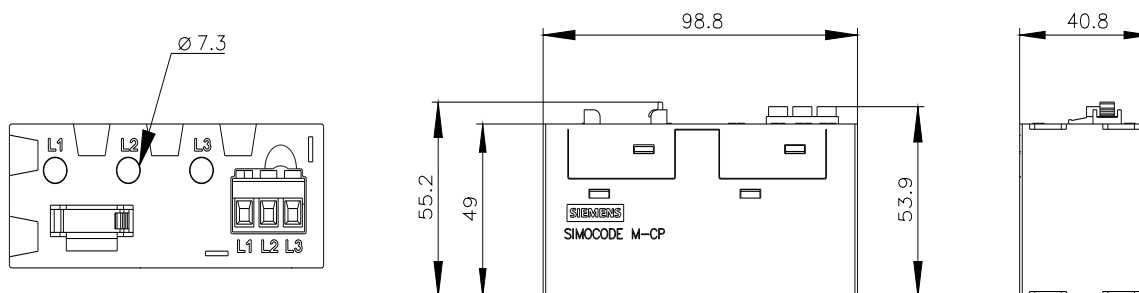
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF8110-1AA00-0>

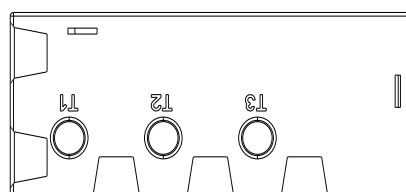
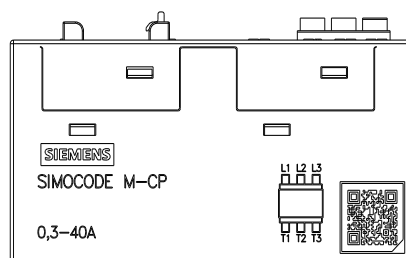
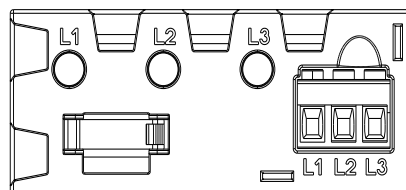
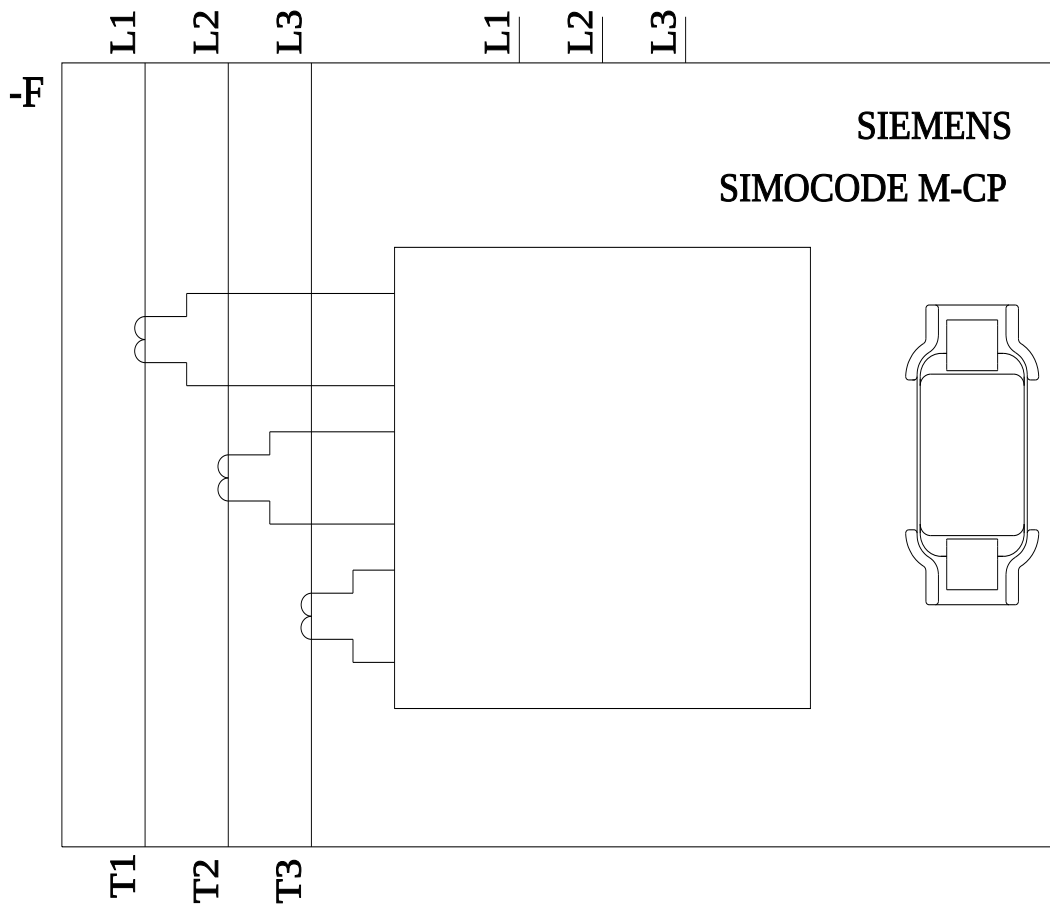
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3UF8110-1AA00-0>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF8110-1AA00-0&lang=en





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