

# DATENBLATT

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## CPS-MM-LC

### **HABEN SIE FRAGEN ODER WÜNSCHEN SIE EIN INDIVIDUELLES ANGEBOT?**

Unser Team berät Sie gerne persönlich.

**TELEFON** + 49 (0) 81 41/36 97-0

**TELEFAX** + 49 (0) 81 41/36 97-30

**E-MAIL** [info@plug-in.de](mailto:info@plug-in.de)

**WWW.PLUG-IN.DE**

### **ADRESSE**

Am Sonnenlicht 5

D-82239 Alling bei München



CONPROSYS Series  
Measurement Module  
**CPS-MM-LC**



\* Specifications, color and design of the products are subject to change without notice.

**Features**

**Find isolation deterioration in motor**

This product finds isolation deterioration of the three-phase induction motor by calculating isolation resistance from the measured applied voltage as well as ground fault current to the three-phase induction motor (three-phase motor).

With the Modes-IO™ measurement method, isolation resistance in a live state can be accurately measured, and it is applicable to detect isolation deterioration of the three-phase induction motor. The product can be set either in front of or behind the inverter.



\* The measurement method of TANASHIN DENKI CO.,LTD. is applied for this product.

**No base board required**

As the product requires no base board for installation, it helps add modules easily and smoothly.

Installed modules can be removed from any set positions on DIN rail.

**Compact design**

Compact design, 25.2(W)×94.7(D)×124.8 (H), features flexibility in installation.

**Adaptable to a temperature range between -20 and +60°C**

The product is capable of operating in the temperature between -20 and + 60°C. It can be installed in the various environments.

**Equipped with LED for an operation check**

The product has LED for an operation check, which helps you visually confirm the communication status of each interface.

**Packing List**

- Product [CPS-MM-LC] ...1
- Product Guide ... 1
- Warranty Certificate ...1
- Serial Number Label ...1
- 4-pin Connector ...1
- ZCT Unit...1

This product is a module to monitor leakage current of the equipment in a live state that is driven by three-phase alternating current power. Set this module to operate along with the CONPROSYS series configurable type CPU module controller.

It has a function useful for early deterioration discovery in the three-phase motor or invertors, which are widely used in the FA factories or water treatment facilities, for instance in a pump, and the system can be examined while power is active.

- \* The contents in this document are subject to change without notice.
- \* Visit the CONTEC website to check the latest details in the document.
- \* The information in the data sheets is as of December, 2018.

**Specifications**

Functional Specifications <Product>

Item		CPS-MM-LC
Measurement function		Leakage current measurement, Isolation resistance measurement
Measurement method *1		Modes-IO™
The number of measurement channels		1
Applied motor type		Three-phase induction motor (three-phase motor)
Measurement target circuit	Measurement for the whole equipment	Three-phase Delta (3-wire, three-phase corner-grounded system) Three-phase Wye (3-wire/4-wire, three-phase solidly-grounded neutral system)
	Measurement for the inverter output section	Three-phase output part (motor) of inverter powered by three-phase Delta (3-wire, three-phase corner-grounded system), three-phase Wye (3-wire/4-wire, three-phase solidly-grounded neutral system).
Rated input voltage *2		Phase voltage 10VAC - 600VAC 50Hz/60Hz three-phase
Measurement Leakage current range	All equipment measurement	0.000mA - 999.999mA
	Inverter output part measurement	0.000mA - 99.999mA
Isolation resistance output range		0.000MΩ - 999.999MΩ
Measurement time		30sec.
Leakage current value accuracy *3 (25°C±2°C)	Leakage current value, Io	±(1% of reading + 300 digits)
	Leakage current value by isolation resistance, Ior	±(1% of reading + 10 digits + Io × 0.005)
Isolation resistance value accuracy*3*4 (25°C±2°C)	Combined isolation resistance value, R	±(10% of reading + 100 digits) *when Io=Ior
Isolation specification		Bus Isolation
Voltage resistance *5		2200VAC
Voltage measurement connector		2-piece 7.62mm pitch 4-pin terminal
Applicable wire		AWG24 - 12
LED		Status (Green, Red)
Power voltage		24VDC ±10%
Power consumption		0.1A (Max.)
Physical dimensions (mm)		25.2(W)×94.7(D)×124.8(H) (No projection included)
Weight		200g
Installation method		Quick mounting on the 35mm DIN rail
Installation environment		Applicable pollution degree 2

\*1 The patent theory of TANASHIN DENKI CO.,LTD. is applied.  
 \*2 Use in the circuit not exceed CAT III 300V or CAT II 600 V.  
 \*3 Value is when adjusted with standard jig  
 \*4 Accuracy cannot be guaranteed for Isolation resistance value of 10MΩ or greater.  
 \*5 Between voltage measurement connector and stack bus

**CAUTION**

You can set the modules as you desire to the configurable controller up to 16 modules.  
The total current consumption of the modules should be less than 3.3A.

**Function Specifications < ZCT unit >**

Item	ZCT unit
Structure	Penetrating type
Rated current	100A
Rated voltage	600VAC *6
Penetrating hole diameter	φ25mm
Isolation resistance	2200VAC
Cable length	2.9m
Connector	ZER-11V-S (or equivalent)
Physical dimensions (mm)	37.2(W)×74.5(D)×115.9(H) (No projection included)
Weight	600g
Installation method	With screws

\*6 Use an isolated cable to connect through the ZCT unit.

**Installation Environment Requirements**

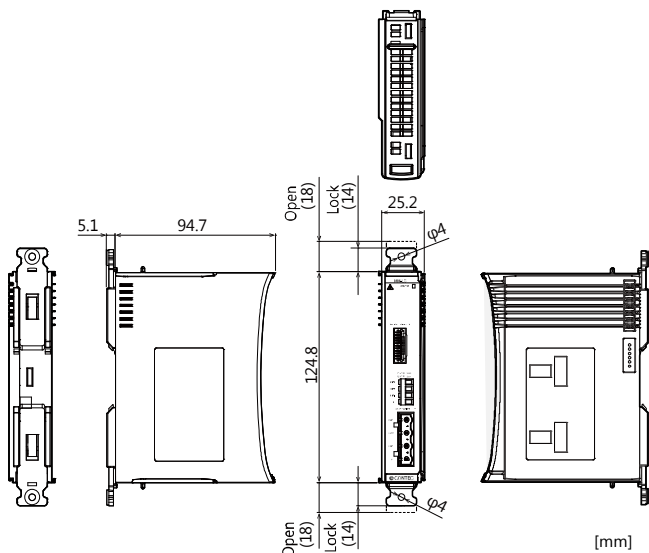
Item	CPS-MM-LC	
Operating ambient temperature	-20 - +60°C	
Operating ambient humidity	10 - 90%RH (No condensation)	
Non-operating ambient temperature	-20 - +60°C	
Non-operating ambient humidity	10 - 90%RH (No condensation)	
Floating dust particles	Not to be excessive	
Corrosive gases	None	
Line-noise resistance	Line noise	Signal Line /±1kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3)
	Static electricity resistance	Touch /±4kV (IEC61000-4-2 Level 2, EN61000-4-2 Level 2) Air /±8kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 3)
Vibration resistance (The product alone) *8	Sweep resistance	10 - 57Hz *7 /semi-amplitude vibration 0.15mm, 57 - 150Hz/2.0G 40minutes each in X, Y, and Z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant)
Shock resistance (The product alone) *7		15G half-sine shock for 11ms in X, Y, and Z directions (JIS C 60068-2-27 -compliant, IEC 60068-2-27 -compliant)
Altitude		2000m or less
Pollution degree		2
Measurement category		CAT III 300V / CAT II 600V

\*7 When you use an optional power product: 10 - 55Hz (See the manual of optional power product for details)

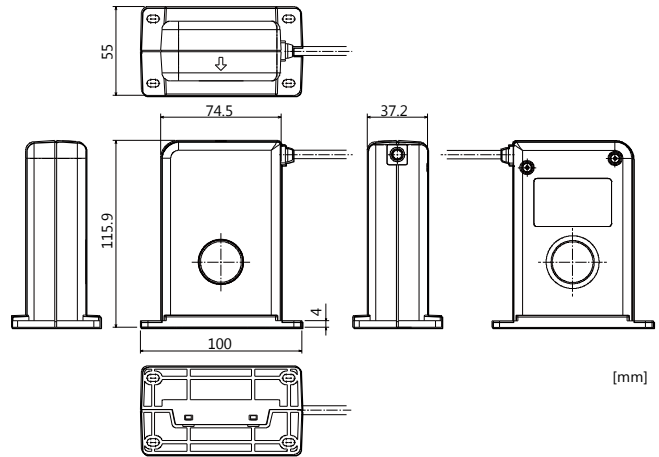
\*8 Do not use the ZCT UNIT in a place subject to vibration or shock. It may lead to malfunction or shorter life of the product.

**Physical Dimensions**

**Product**



**ZCT unit**



**List of Option**

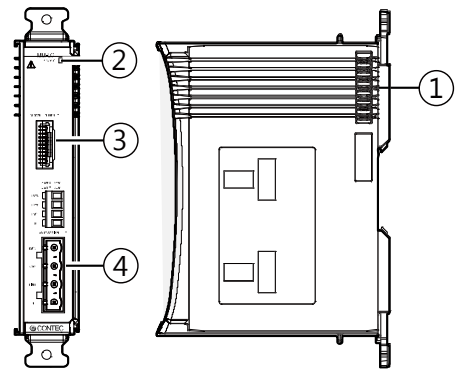
**Configurable Type Controller**

- CPS-MCS341-DS1-111 Configurable Type CPU module
- CPS-MCS341-DS1-131 Configurable Type CPU module + OPC UA server + MTConnect
- CPS-MCS341G-DS1-130 Configurable Type CPU module +3GWAN
- CPS-MCS341Q-DS1-131 Configurable Type CPU module + 920MHz LAN

**DIN rail mounting power supply**

- CPS-PWD-90AW24-01 DIN rail mounting power supply 90[w] (Input: 100 - 240VAC, output: 24VDC 3.8 A)
- CPS-PWD-30AW24-01 DIN rail mounting power supply 30[w] (Input: 100 - 240VAC, output: 24VDC 1.3 A)

**Component Name**



No.	Name	Function
1	Stack Bus	Used for power supply and communication with the configurable type module.
2	LED Indicator	This indicates status of the product.
3	ZCT Connector	Used to connect the ZCT unit. (use ZCT unit included in the package)
4	Voltage Measurement Connector	Used to measure voltage. (use the 4-pin connector included in the package)