

⇒ Highlights

- Standalone through-hole precision electronically compensated transformer with single wire capability
- Excellent accuracy and dynamics
- Remote control via serial communication
- Monitoring of individual contact resistance and power loss
- Protection against open circuit and overload
- Programmable load by-pass
- Automatic unused position by-pass
- Easy prepaid and smart meters testing
- Easy implementation to existing systems
- Simple user test of functionality and accuracy
- Accuracy maintained for any up or down current transformation

⇒ Description

The **Precision Electronically Compensated Current Transformer CMR-I™** is a small-sized electronically compensated current transformer unit for isolated precision current transmission. The through-hole concept and single wire capability enable any user defined current ratio. The unit is dedicated for testing of electricity meters with closed current-potential circuits and for universal step-up/down current transformation applications with excellent accuracy and dynamics.

The CMR-I 2x30 is equipped with Load Monitoring, Protection Circuits and Load Bypass via serial remote control.

The CMR-I™ can be implemented into any existing test system with negligible additional power losses. Current ratio can be set by number of primary and secondary wires passing the hole. The internal electronics of the device assures the specified accuracy for any up/down ratio.

Patents: US7304467, EP1532461 - 2005-05-25, SK286853

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CMR-I 2330



CMR-I units on Test Bench

⇒ Available Models

Model	Class	Phases	Model	Class	Phases	Model	Class	Phases
CMR-I 2130A	0.05	1	CMR-I 2130E	0.02	1	CMR-I 2130S	0.01	1
CMR-I 2230A	0.05	2	CMR-I 2230E	0.02	2	CMR-I 2230S	0.01	2
CMR-I 2330A	0.05	3	CMR-I 2330E	0.02	3	CMR-I 2330S	0.01	3

⇒ Technical Specification

	CMR-I 2130	CMR-I 2230	CMR-I 2330
Output / Input Ratio	Defined by input and output turns (1:1 for single wire circuit)		
Dynamics	> 200 000 (240 A : 1 mA for single wire)		
Max. Ampere-turns	240 At	2 x 240 At	3 x 240 At
Max. Output Power	120 VA @ 240 At	2 x 120 VA @ 240 At	3 x 120 VA @ 240 At
Max. Output Voltage	0.5 V * N _s		
Operating Frequency	45 ... 65 Hz		
Max. Load Resistance	0.05 Ω * N _s ²		
Primary Current Range	1 mA / N _p ... 240 A / N _p		
Max. Amplitude Error / Max. Phase Error (1 mA ... 240 A)	0.05% / 0.03° (CMR-I 2x30A) 0.02% / 0.01° (CMR-I 2x30E) 0.01% / 0.005° (CMR-I 2x30S)		
Hole Diameter	26 mm		
Protection	Overload, Open Circuit		
Communication Interface	RS-422		
Size (W x D x H)	160 x 125 x 90 mm	160 x 125 x 170 mm	160 x 125 x 250 mm
Weight (approx.)	5 kg	7 kg	9 kg

N_s ... number of secondary turns, N_p ... number of primary turns

	PSCI 1220A
Power Supply for	up to 20 pcs. of CMR-I units
Input Voltage Range	85 ... 264 VAC / 50 ... 60 Hz
Dimensions (W x D x H)	100 x 220 x 118 mm
Weight (approx.)	2 kg

⇒ Options / Accessories

Code	Description
CCC 1001	RS-232 / RS-422 Communication Converter <i>(requires 1 free RS-232 port in PC)</i>
CCC 3002	USB / RS-422 Communication Converter <i>(requires 1 free USB port in PC)</i>
CCC 2010	RS-422 internal PCI Communication Controller <i>(requires 1 free PCI slot in PC)</i>
CCC 4010	RS-422 internal PCIe Communication Controller <i>(requires 1 free PCIe slot in PC)</i>



Power Supply PSCI 1220A connected to CMR-I units