



COSI-CM

Combined Metering Unit Up to 800 kV

COSI-CM combines a conventional CCVT and an Optical Current Transformer.

COSI-CM offers all the advantages of a combined unit as well as all the performances of the standalone units. The solution is used in HV and UHV to provide analog or digital outputs.

The COSI Optical Current Sensor brings a new level of accuracy to sensing over the range between 1 A rms and 63 kA rms.

A lightweight dry type insulator and window head design allow mounting of the Optical CT and CVT on a single pedestal saving valuable yard space. The reduced size and weight are attractive benefits over conventional combined units, allowing placement in compact substations or in retrofit applications where space may be limited.

Its broad dynamic range makes this CT particularly suited for independent merchant plants where extreme accuracy at both full power output and station service draw is demanded.

COSI-CT Metering and Protection Accuracy

Metering performances exceeds accuracy class IEC 0.2S and IEEE 0.15S with a dynamic range that extends from 1 A to 4000 A.

Protection performances exceeds IEC Class 5P accuracy ratings and IEEE 10% accuracy ratings.



COSI-CM

= 1 optical CT + CVT on the same pedestal

- The advantages of combined units
- The advantages of separate CT and VT

Key Benefits

- Improved measurement performance
- Compact design
- Substation footprint savings
- Refurbishing works
- Near zero maintenance
- Reliability, availability, safety
- Long life



Optical Current Transformer Design

Wide Dynamic Range

The accuracy specification is maintained over a broad dynamic range - from 0.2 % to 150 % of rated current and up to 171 kA peak protection range.

High Bandwidth

The accurate waveform reproduction up to 6 kHz allows full power quality analysis of harmonics and transients with no sensor imposed limitations.

Dry Type Insulator

The field-proven lightweight composite insulator reduces substation support structure requirements.

Intrinsically Safe, Environmentally Friendly Design

The CT insulator contains no oil, SF₆ or other gas. There is no mechanism for violent failure to endanger personnel or adjacent equipment. With an optical design there are also no open secondary concerns.

Low Maintenance

The COSI-CT has no active components at line potential, eliminating the needs for costly outages to maintain the electronics.

Since there is no insulating oil or paper, there are no complex maintenance procedures.

The polymeric insulating column employs silicone rubber sheds that do not require live line washing.



CAPTION_Black_Inspira_italic_8pts_(Optional)

Capacitor Voltage Transformer Design

Single post design

Uses a single post to take up less space in the substation design that requires meter quality CVT.

CVT Accuracy Classes

Accuracy classes available are 0.2 %, 0.5 %, 1 %.
Nominal voltage classes 69 kV to 765 kV for every application.

CVT High Reliability

The major insulation of the CVT, the capacitor stack, comprises homogeneously assembled capacitor elements, making it extremely surge resistant.

CVT Less Weight, Easier to Ship

CCVTs weigh less than the comparable voltage class VTs and can be shipped with the individual sealed capacitor units disassembled from the base assembly to facilitate shipping and handling. This also means lower freight and material handling cost for the customer.



COSI-CM 345 kV

Insulation Integrity

Over time the CVT is assured by a metallic diaphragm assembly which hermetically seals the oil from the atmosphere.

CVT Insulators

Can be provided with porcelain or polymer insulators.



Rated Power Output

Operating temperatures	
* Outdoor service	-40 to 60 C°
* Indoor service	-5 to 40 C°
Continuous Current	4000 A max
Rated Current	User selectable up to 4000 A
Short-time Thermal current	63 kA rms for 1 sec or 50 kA rms for 3 sec
Short-time Dynamic current	200 kA peak

* Extended temperature ranges also available

VT Specifications for COSI-CM (CVT/COSI-CT)

Accuracy	Classes 0.2, 0.3
Insulator type	Porcelain or composite

COSI-CT specifications

Bandwidth *	10 Hz to 6 kHz
Metering interface	1 A (RF=2) 5 A (RF=1.5) IEC 61850
Protection interface	200 mV (IEC 60044-8) IEC 61850
Accuracy **	Classes 0.1, 0.15, 0.2, 0.3
Insulation type	Solid composite insulator
Weight	<200 lbs for all voltage classes

* Extended bandwidths from DC to 10 kHz available

** Extended range available on all accuracy classes

Technical Data Needed to Quote COSI-CM

COSI-CM quantity: _____

Rated voltage level: _____kV

Rated primary currents: _____A

Short circuit current: _____kA _____s

Rated frequency:	60 Hz	<input type="checkbox"/>	50 Hz	<input type="checkbox"/>		
CT accuracy - metering:	IEEE 0.3	<input type="checkbox"/>	IEEE 0.15	<input type="checkbox"/>	IEEE 0.15 S	<input type="checkbox"/>
	IEC 0.5	<input type="checkbox"/>	IEC 0.2	<input type="checkbox"/>	IEC 0.2 S	<input type="checkbox"/>
Rated output - metering:	1 A	<input type="checkbox"/>	5 A	<input type="checkbox"/>	IEC 61850-9-2LE	<input type="checkbox"/>
CT accuracy - protection:	IEEE10%	<input type="checkbox"/>	IEC 5P10	<input type="checkbox"/>	IEC5 P20	<input type="checkbox"/>
	IEC 5P30	<input type="checkbox"/>				
	with optical CT*					
Rated output - protection:	200 mV rms	<input type="checkbox"/>	IEC 61850-9-2LE	<input type="checkbox"/>		
VT accuracy:	0.2 %	<input type="checkbox"/>	0.5 %	<input type="checkbox"/>	1 %	<input type="checkbox"/>
Rated output - VT:	100 V/√3	<input type="checkbox"/>	110V/√3	<input type="checkbox"/>	115V/√3	<input type="checkbox"/>
	120 V/√3	<input type="checkbox"/>	200V/√3	<input type="checkbox"/>	230V/√3	<input type="checkbox"/>

* air gap cores is not a relevant issue since they have no cores

For more information please contact
GE
Grid Solutions

Worldwide Contact Center

Web: www.GEGridSolutions.com/contact
Phone: +44 (0) 1785 250 070

GEGridSolutions.com

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Imagination at work