LEM

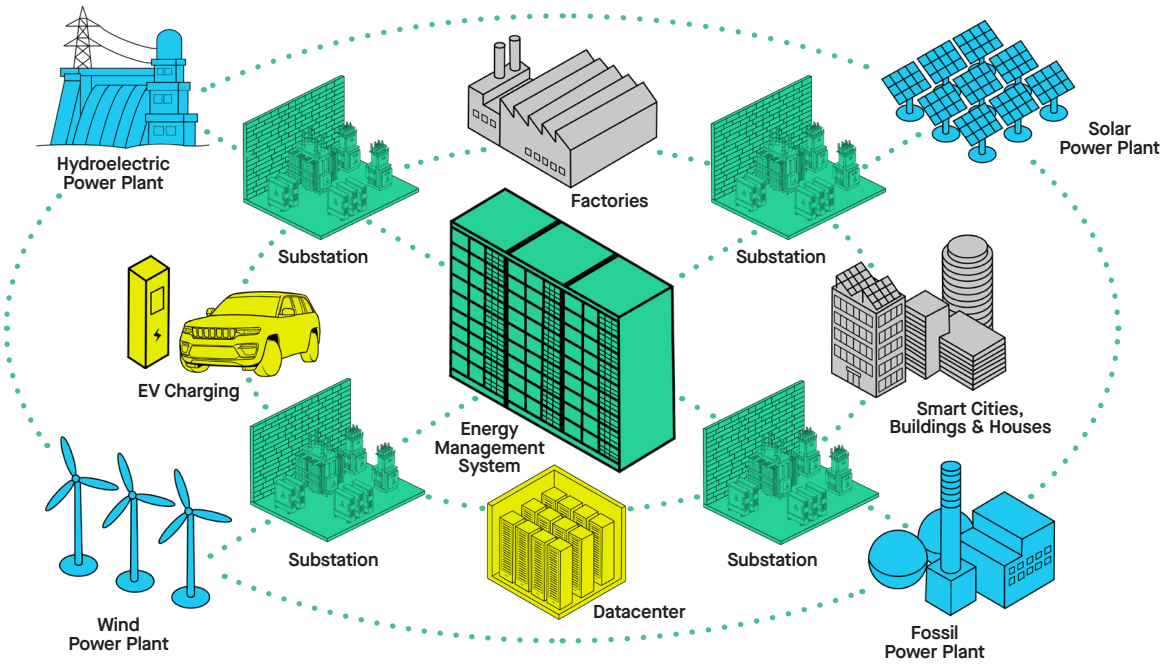
Life Energy Motion

SMART GRID SOLUTIONS

Electrical Measurment Solutions for Smart Grid Applications

Smart Grid Solutions

The electrical grid is transforming to meet new demands—from the rise of electric vehicles to the growth of renewable and distributed energy sources, as well as the increasing electrification of building cooling systems. Data centers and energy storage systems have also become essential parts of today's energy landscape. Managing these increasingly complex and decentralized networks requires smart infrastructure powered by accurate, real-time data. LEM's current sensors provide that insight, enabling precise monitoring and optimization of energy production, distribution, and consumption to enhance reliability, reduce waste, and support a more flexible, resilient grid.



Rogowski Coils:



	ART	ARU	ARH
Description	Standard Rogowski Coil	Outdoor Rogowski Coil	High Temp Rogowski Coil
Sensitivity (50Hz)	22.5 mV/kA	100 mV/kA	22.5 mV/kA
Operating Temp	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C
Precision Class	0.5	0.5	0.5
Protection Degree	IP57	IP68	IP57
Phase Displacement	0.004°	0.007°	0.004°
Ratio Error	0.75	1	0.75
Secondary Cable	Included	Included	Included
Integrator	Available Separately	Available Separately	Available Separately

Rogowski Coil Integators:


	AI-P1A	AI-PMUL
Current Range Max	5000A	5000A
Installation	DIN Rail	DIN Rail
Operating Temp	-25°C to +70°C	-25°C to +70°C
Rogowski Coil Sensitivities	22.5, 70, 80, 85, 100, 120 mV/kA	22.5, 70, 80, 85, 100, 120 mV/kA
Current Measurement Range	100, 200, 300, 400, 500, 600, 800, 1000, 1500, 2000, 4000, 5000	100, 200, 300, 400, 500, 600, 800, 1000, 1500, 2000, 4000, 5000
Output Signal	0-1A	0-20 mA, 4-20 mA, 0-5 V, 0-10 V, 225 mV @Ip, 333 mV @Ip
Accuracy Class	0.5	0.5

Power Monitoring:

Current sensors continuously monitor key electrical parameters to ensure that power delivered by the grid meets required standards. When power quality drops, industrial equipment can suffer damage and overall efficiency declines. By tracking these conditions in real time, current sensors make it possible to detect issues early and take corrective action. LEM's current sensors provide comprehensive power-quality monitoring—capturing electrical characteristics such as harmonics and voltage levels, as well as verifying the continuity of energy supply to identify outages.

Integration of Renewable & Distributed Energy Resources:

Distributed generation—driven largely by solar panels and wind turbines—is now a core part of modern energy systems. These renewable sources are integrated into LV and MV grids with the support of current sensors. LEM's sensors monitor the power output from these installations and keep the supply balanced across all phases, allowing utilities to manage intermittent generation more effectively. The result is improved grid stability and a more efficient, reliable distribution of renewable energy.

Infrastructure for EV & Datacenters:

The energy transition in road transportation hinges on building a robust EV charging ecosystem that meets a wide range of needs—from overnight residential charging to high-power en-route stations, and from everyday passenger vehicles to long-haul electric trucks. Current sensors play a central role in this system. They not only track charging performance and energy transfer in real time, but also enable intelligent energy management at charging sites. When paired with on-site energy storage, these sensors help operators smooth demand spikes, optimize load balancing, and maintain reliable, efficient charging even during periods of heavy use.

Current Transducers & Transformers:



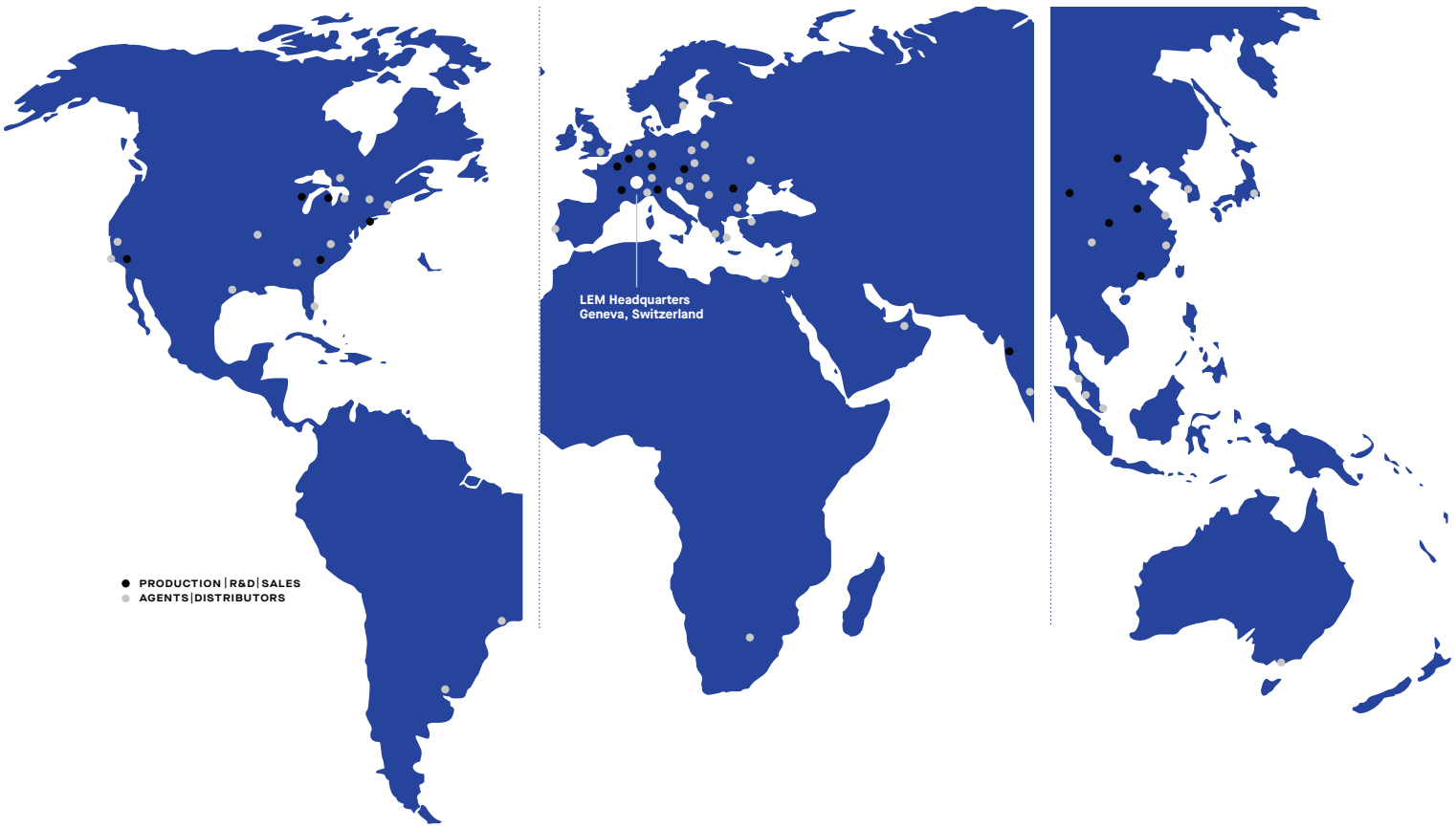

	AP / APR	AK / AKR	AHR	ATO
Description	AC Transducer with Split Core	Compact AC Transducer with Split Core	Spilt Core Transducer for High Current	Split Core Power Current Transformer
Current Range	10, 25, 50, 75, 100, 150, 200, 300, 400 A	Small Size: 2-200 A Big Size: 2000 A	500, 800, 1000, 1500, 2000 A	5-125 A
Output Signal	4-20 mA RMS 0-5 V DC 0-10 V DC	4-20 mA RMS 0-5 V DC 0-10 V DC	4-20 mA RMS 0-5 V DC 0-10 V DC	225 mV 333 mV
Operating Temp	-25°C to +70°C	-25°C to +50°C	-40°C to +70°C	-10°C to +55°C
Supply Voltage	12-24V DC	24V DC	20-50V DC	
Error @Ip (25°C)	<±1%	<±1%	<±1%	Accuracy Class 1
DC Availability		DC Version Available	DC Version Available	

EV Charging & DC Systems:



	DCBM	DCES	DCES RDU
Description	DC Energy Metering	DC Energy Metering / Power Monitoring	DC Energy Metering / Power Monitoring
Rated Current	400 A / 600 A	600 A / 1500 A	600 A / 1500 A
Rated Voltage	1000 V DC	1000 / 1500 V DC	1000 / 1500 V DC
Operating Temp	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Communication	Ethernet + APIs	RS485 + APIs / CAN	RS485 + APIs / CAN
Accuracy Class	Class B / 1% Bi-Directional	Class B / 1% Bi-Directional	Class B / 1% Bi-Directional
Display	Yes	Without Display	Yes
Measurement	Energy, Power, Current, Voltage, Temp	Energy, Power, Current, Voltage, Temp	Energy, Power, Current, Voltage, Temp

Global Support Network



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