



SPEM60 SERIES



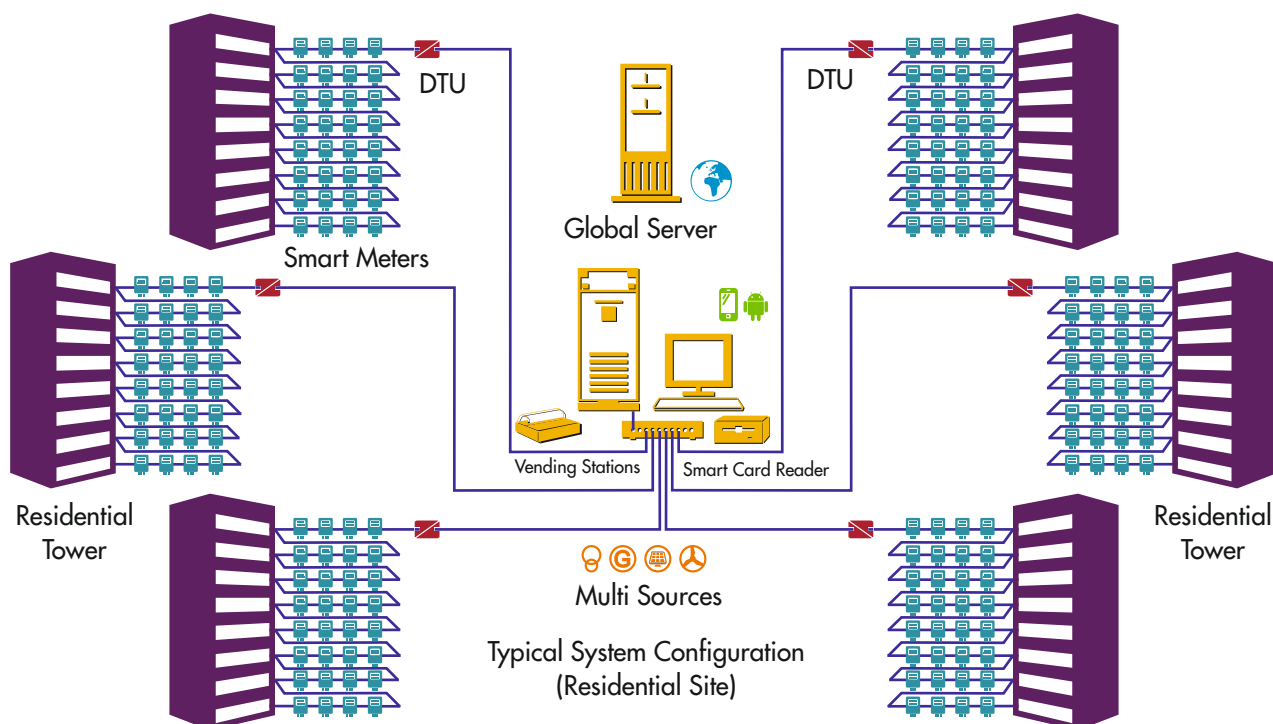


Kruti Group, A customer centric, innovative & value-driven organization, offers a wide range of electrical & automation solutions. We aim to create value by not only offering reliable & robust electrical system but also integrating them with state of art automation & IT technologies.

At Kruti, we provide solutions which are intuitive to optimize the utilization of energy & are capable to generate customized reports for the management information. As an innovative resource in the field of electrical engineering, designing, manufacturing, installation & testing followed by prompt services, we continuously work towards the development of innovative products & solutions to provide ease of maintenance & operations to our customers.

Half a decade ago, when we commissioned our first "Prepaid Metering System", we observed that only prepaid systems is unable to cater the needs of modern India.

Kruti, feels proud to introduce FIRST TIME IN INDIA, the SMART PREPAID electric metering solution. The advance product & the solution caters the consolidated needs and has been developed with the vast experience possess by our team. The MCU based product is developed in coordination with Texas Instruments, USA.



What's Unique

- ❖ Four Sources (EB, DG, Solar & Wind) & four quadrant operation.
- ❖ Real time report analysis for a site.
- ❖ Smart Cards based system (with keypad & direct transfer feature also available)
- ❖ Web based Consumer portal.
- ❖ Mobile integration (Android & SMS)
- ❖ In Home Display (IHD)





Features

- ❖ Rating available: Single Phase Two Wire 10-60A, Three Phase Four Wire 10-60A. & Three Phase for wire 20-80A
- ❖ Smart card / key pad / direct transfer of credit.
- ❖ Multi Source (maximum 4) fully programmable, four quadrant operation.
- ❖ Electricity Board, Diesel Generator, Solar Energy & Wind Power ready.
- ❖ Load can be disconnected in case the credit becomes Zero or the demand exceeds the defined load limit.
 - Latch relays are provided in single phase meter for re-connection / disconnection of load.
 - Three latch relays are provided in three phase meter for re-connection / disconnection of load.
- ❖ User friendly In Home Display (IHD) unit (wireless option available).
- ❖ Real time monitoring & reporting of energy units received / generated & energy units distributed (No more dark surprises).
- ❖ Partial load selection on various sources in three phase meter.
- ❖ Happy hours & Happy days fully programmable.
- ❖ Alarm in case of low credit / overload.
- ❖ LED for source detection, warning, alarm.
- ❖ Communication Protocol - Modbus RTU for BMS (Standard)
 - Zigbee (optional), RF sub giga (optional)
 - Industrial Ethernet (optional)
- ❖ Anti Temper Features
 - Best in class features with zero possibility for theft
 - Immunity to HF/HV - 35kV discharge
 - Immunity to external magnetic fields
 - cover open protection and logging
 - Other temper protection as per the Indian Standards

System Components

- ❖ The system offered may be comprises of the following (as per use and needs)
 - Smart electric meter
 - In Home Display (IHD) unit (Wireless optional)
 - Data transfer unit (DTU)
 - Smart Card read write (SCRW)
 - Smart cards (customized printing for the property)
 - Data Switches (CAT 6)
 - DATA communication and cables as required.
 - Smart Gridsoft Manager.
- ❖ Infrastructure required by Utilities /Maintenance agencies -
 - Central server with high speed internet connection
 - UPS and printers
 - Server software and anti virus software
 - Payment gateway (for online transactions, if any)
 - Vending stations (in case of large installation)

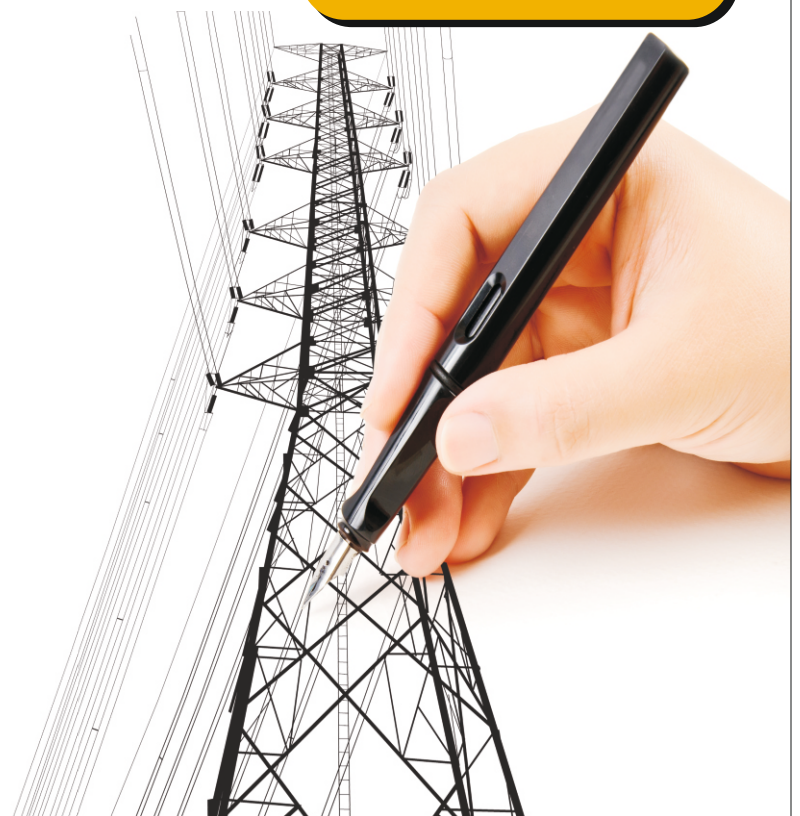
ADVANTAGES

Consumer

Support in energy conservation.
Pay as you use.
No queue.
No surprising bills.
No dispute.

Utilities/Distribution Agency

Up Front payments.
Lower over heads.
Zero temper & fraud.
Real time monitoring & reporting.
Special message broadcast.
Load / demand control.
Automatic meter reading.
Line loss identification.
Solar energy utilisation.



Technical details		
Function		Prepaid / Post paid
Electrical Parameters	Connection type	Direct connection (Whole current)
	Wiring configuration	Single Phase (1P, 2W) & Three phase (3P & 4W; 3P & 3W)
	Input voltage	240V (PtoN); 415V (PtoP); -30% to +20% AC
	Frequency	50 Hz $\pm 5\%$ / 60 Hz $\pm 5\%$
	Auxiliary Supply	80 to 325V AC
	Source Input	4 source; 80 to 325V AC; (for EB, DG, Solar & Wind)
	Current rating	10 - 60A / 20 - 80A (Three Phase only)
	Accuracy	CL: 1
	Operation	Full four quadrant
Communication	Network	Optically isolated RS 485 (Modbus RTU); Industrial Ethernet; Zigbee; RF Sub Giga Hz
	IHD	Optically isolated RS 485 (Modbus RTU); RF Sub Giga Hz
Ambient Temperature	Working	-25°C to 50°C
	Storage	-25°C to 70°C
Compliance	IEC	IEC62052-11, IEC62053-21, IEC62053-21, IEC62055-51
	IS	IS 13977
	Others	EMI & EMC, RoHS, CE
Measurement	Electrical	Active, Reactive, Apparent Energy, Voltage, Current, PF, Revenue
	Time	On time, Off time, Current time & date (RTC calibration)
Display & Dimensions	Annunciation LED	Alarm/Trip, Source 1, Source 2, Source 3, Impulse
	Display Size meter	75 X 24 mm; White Backlit
	Display Size IHD	75 X 24 mm; White Backlit
	Meter	265 (H) X 170 (W) X 77 (D) mm
	IHD	
Recharge		Smart IC card, IHD keypad or direct (options)
Settings	Maximum Demand Cut	Fully programmable on each source type
	Tariff	Fully programmable on each source type
	Happy Hours per day	Fully programmable
	Happy days per year	Fully programmable (Maximum 31)
	Load management	Full / Partial load; configurable with each source type

Catalogue Number			
Three phase smart meter	SEM60TP01CL1S00*	Data Transmission Unit	DTUM1E1/DTUM4E1
Single Phase Smart meter	SEM60SP01CL1S00*	Smart Card Read write	SCRW01
In Home Display	IHDTPS00*	Ethernet Switches	ES04/ES08/ES16/ES32

* For wireless option use S01 instead of S00

Note : Due to continuous development specifications and features are subjected to change without any prior notice.



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