

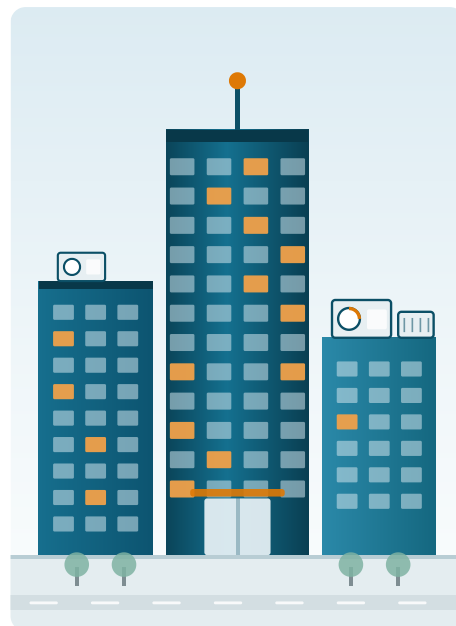
TENANT BILLING SYSTEM

SmartNova 5.2 TBS

SmartNova 5.2 TBS is the EnSmart tenant billing system. It reads tenant meters automatically, applies the site's tariffs and produces the monthly invoices — energy, generator supply, chilled water and water — without anyone re-keying a meter reading.

It is supplied on its own, without the BMS supervisor, for building owners and facility operators whose need is recovery of utility cost from occupants. The system runs on the customer's own server, works with meters from any vendor, and is in service in IT parks, data centres and industrial campuses across India.

Automatic meter reads	EB · DG · BTU · Water	Slab & demand tariffs
PDF & XLS invoices	Web & mobile	On-premises



Web-based No client software to install	4 utilities EB · DG · thermal · water	One pass Invoices for every consumer	Your template Invoice designed to your format	100 % on-site No cloud dependency
---	---	--	---	---

FEATURES & BENEFITS

- Automatic meter reads at period start and close — no manual meter rounds
- EB, DG, thermal (BTU) and water billing in one system
- Unit, fixed, demand, slab and time-of-day tariffs, separately per utility
- Common-area consumption apportioned by area share
- Advance and opening balance carried forward between periods
- Taxes and statutory charges applied on the invoice
- Invoices and statements as PDF and XLS, designed to the customer's own template
- Billing history per consumer with payments received and outstanding balance
- Failed or missing reads flagged before invoices are generated
- A billed period can be reopened and corrected if a reading is revised
- Every invoice line traces back to the logged meter reading
- Runs on the customer's own server; no cloud service, no internet dependency

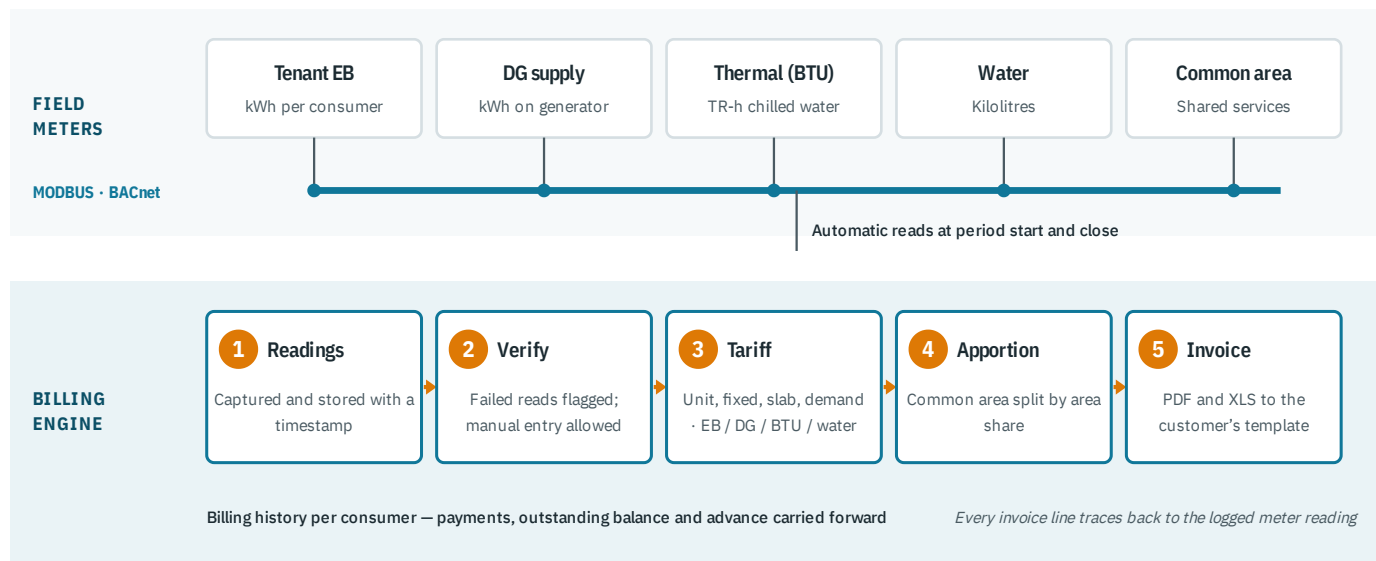
APPLICATIONS

IT parks Tenant energy, chilled water and common-area recovery	Data centres Customer-wise power and cooling billing	Industrial campuses Unit-wise and contractor billing	Residential & mixed use Water and energy billing for occupants
--	--	--	--

Typical sectors: IT parks · Commercial buildings · Data centres · Industrial campuses · Hospitality · Residential

HOW THE SYSTEM WORKS

Readings come off the meters on their own, are checked, priced and turned into invoices in one pass. The only manual steps are the ones that need judgement: verifying a failed read and approving the run.



BILLING WORKFLOW

- 1 Configure consumers, the meters assigned to them and the common areas they share
- 2 Set tariffs — unit rates, fixed and demand charges, and separate rates for EB, DG, thermal and water
- 3 Meter readings are captured automatically at the start and close of each period
- 4 Verify the readings; correct or enter a manual reading where a meter failed
- 5 Generate invoices for every consumer in one pass, with common area apportioned
- 6 Export, print or send the invoices, and carry advances and balances into the next period

WHAT THE SYSTEM NEEDS FROM A METER

REQUIREMENT	DETAIL
Communication	Modbus RTU (RS485), Modbus TCP or BACnet — a pulse output can be used with an EnSmart IO module
Register map	Published register list from the meter maker, for energy, demand and the other values to be read
Addressing	A unique slave ID on each RS485 bus; up to 32 devices per segment without a repeater
Cabling	Shielded twisted pair, daisy-chained, 120 Ω termination at both ends
Accuracy	Meter class and CT ratio as required by the site or the tariff authority

TARIFFS, INVOICES & RECORDS

TARIFFS

- Unit rate plus fixed and demand charges
- Separate EB and DG rates, so generator running is recovered correctly
- Thermal (TR-h) and water (kilolitre) rates
- Slab rates and demand-based time-of-day tariffs
- Common-area consumption apportioned by area share
- Taxes and statutory charges applied on the invoice
- Rates versioned by period, so an old invoice keeps its original rate

INVOICES & STATEMENTS

- Invoice layout designed to the customer's own template
- Invoices and consumption statements as PDF and XLS
- Consumption summary for all consumers in one sheet for finance
- Advance and opening balance carried forward between periods
- Billing history per consumer, with payments received and outstanding balance
- A billed period can be reopened and corrected if a reading is revised
- Every invoice line traces back to the logged meter reading

WHAT IS BILLED

UTILITY	MEASURED AS	TYPICAL TARIFF
Utility power (EB)	kWh per consumer meter	Unit rate, fixed charge, demand charge, slabs
Generator supply (DG)	kWh on generator supply	Separate DG unit rate, usually higher
Chilled water (BTU)	TR-h from the thermal meter	Rate per TR-h
Water	Kilolitres	Rate per kilolitre, slabs where applicable
Common area	Shared services apportioned	Area share of the common meter

REPORTS

REPORT	CONTENTS	USED BY
Tenant invoice	Metered consumption, tariff, charges, taxes and balance	Finance, tenants
Consumption summary	All consumers for the period in one sheet	Finance
Billing history	Invoices, payments and outstanding per consumer	Finance
Meter reading register	Opening and closing reads with timestamps	Audit
Meter health	Failed, missing and stuck reads for correction	Engineering
Consumption trend	Consumer usage across periods for dispute resolution	Facility

METERING, INTEGRATION & DATA

The billing system reads the meters directly, so the invoice and the meter never disagree. Meters from any vendor are supported as long as their register map is published.

INTERFACES		
INTERFACE	ROLE	NOTES
Modbus RTU (RS485)	Tenant energy, BTU and water meters	Via EnSmart controllers and EN-MRTU gateways
Modbus TCP	Meters and systems on Ethernet	Client
BACnet/IP	Meters published by a third-party BMS	ISO 16484-5 / ASHRAE 135
REST API	Consumption and invoice data for other applications	Token-based access
MySQL database	Direct access to readings for customer reporting	MySQL is the standard platform; other databases by custom development
SMTP / SMS	Invoice and alert notification by email as standard	SMS by custom development; gateway and SIM are the customer's scope
CSV import / export	Consumer lists, meter schedules and readings	Speeds up commissioning

METERING

- Tenant, block and common-area meters on the same system
- Analogue points logged at a 15-minute interval by default; digital points on change of value
- Automatic reads at period start and close
- Failed or missing reads flagged before billing
- Manual reading entry where a meter is out of service, recorded with the user

RECORDS & DATA

- Every configuration change and manual entry recorded with user and timestamp
- Audit trail exportable for review; records cannot be edited from the interface
- All data held in the customer's MySQL database on their own server
- Archiving to storage the customer controls, performed as a planned task
- Server hardening, OS patching and antivirus remain under customer IT control

SPECIFICATIONS & SYSTEM REQUIREMENTS

PLATFORM		BILLING		INVOICES	
Release	SmartNova 5.2 TBS	Utilities	EB, DG, thermal (BTU), water	Layout	Customer's own template
Architecture	Server with browser clients	Tariffs	Unit, fixed, demand, slab, time-of-day	Formats	PDF and XLS
Deployment	On-premises only	Apportionment	Common area by area share	Taxes	Statutory charges on the invoice
Database	MySQL	Balances	Advance and outstanding carried forward	Traceability	Each line traced to the meter reading
Language	English	Corrections	Billed period can be reopened	History	Per consumer, with payments
METERING		USERS & SECURITY		CAPACITY	
Protocols	Modbus RTU / TCP, BACnet/IP	Accounts	Named users, role-based	Consumers / nodes	Licensed in bands from 100 nodes
Reads	Automatic at period start and close	Directory	Active Directory / LDAP	Browser users	Not licence-limited on the LAN
Interval	15 minutes by default	Audit	Changes logged with user and time	Sites	Site licence per building
Validation	Failed and missing reads flagged	Network	LAN / VPN; no internet required	Retention	Sized with the server disk
Manual entry	Allowed, recorded with the user	Data	Stays on the customer's server	Remote access	Secure EnSmart tunnel
SITE SERVER (MINIMUM)		CLIENT & NETWORK			
Processor	Intel Core i7 or better	Client software	None — standard web browser		
Memory	16 GB RAM	Browser	Chrome, Edge or Firefox		
Storage	500 GB — size up with meter count and retention	Mobile	Android and iOS browsers, responsive layout		
Operating system	Windows 10 or later	Network	100 / 1000 Mbps LAN to the server		
Platform	Apache, PHP and MySQL (WAMP stack)	Remote access	Customer VPN, or the secure EnSmart tunnel		
Deployment	On-premises only — customer's own server	Internet	Not required for any function		

ORDERING & DELIVERY

ORDERING INFORMATION		
ITEM	DESCRIPTION	PART NUMBER
Billing licence	SmartNova 5.2 Tenant Billing System, licensed by node band	SN-TBS-100 / -200 ...
Energy management	Metering dashboards, consumption, intensity and carbon reporting	SN-EMS-100 / -200 ...
Additional site	Site licence for a further building reporting to the central dashboard	On request
Invoice customisation	Invoice and statement layout built to the customer's format	On request
Support & updates	Annual support, updates and remote assistance	On request

The number in the part number is the licensed size in nodes — one node is three trended datapoints plus the meter's other monitoring points. SmartNova 5.2 TBS is part of the SmartNova platform and can be extended later with energy management (SN-EMS) or BMS supervision (SN-BMS) on the same server.

FROM ENQUIRY TO HANDOVER

- 1 Site survey — consumer list, meters and existing cabling reviewed
- 2 Design — tariffs, apportionment rules and invoice format agreed
- 3 Meter integration and network cabling, with the site in operation
- 4 Commissioning — reads verified meter by meter against the display
- 5 Parallel run of one billing cycle against the existing method
- 6 Training, handover, then annual support and updates

Technical support	Installation & setup	Meter integration	User training	Report customisation	Annual maintenance
-------------------	----------------------	-------------------	---------------	----------------------	--------------------