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# SMART DISTRIBUTION BOX

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## SMART ENERGY PLATFORM

The Smart Distribution Box (SDB) is a distribution box specially developed for monitoring and managing complex energy distribution. The technology enables detailed monitoring of the energy flow from source to end user and ensures a more powerful and more reliable energy network.

The SDB is connected to an online cloud platform for visualising the energy flows and managing the network. This way, the administrator can manage the entire network from one central point, receiving pro-active alerts in case of abnormal values or in the event of impending energy network outage.

The values measured are logged systematically and can be consulted both in real time and after the event. This allows both the administrator and the manager to carry out a thorough analysis of energy consumption during the event, and to increase the efficiency of processes immediately. Upon evaluation of the event, results can be automatically reported as well as invoiced to end users. This means projects can be finalised faster, with increased economical efficiency for the administrator.

#### SMART ENERGY DISTRIBUTION WITH THE SMART DISTRIBUTION BOX

Digitising a traditional distribution box creates numerous new applications and possibilities for smart energy management. This unique distribution box can be utilised for various sectors that rely on temporary energy supply:

- Trade fairs
- Events
- Construction sites and yards
- Industrial sites
- Public energy supply



## SMART DISTRIBUTION BOX ADVANTAGES AND OPTIONS

### CENTRALISATION

One central point for monitoring the electric network and processes.

### SECURE CLOUD PLATFORM

Accessible for the administrator as well as the end user, with clearly defined rights and functionalities.

### INTEGRATED SYSTEM

End users can use an online application to request the desired capacity for their stand in advance, as well as specify the time slots when energy will be required.

### AUTOMATIC SWITCH

The SDB can be switched on or off at set times using the calendar, or remotely using the cloud application.

### ADJUSTABLE ENERGY RATES

The supervisor can set an energy rate for the requested capacity, or impose a 2nd rate in case the user does not stay within the requested capacity.

### INTELLIGENT PROCEDURES

Comprehensive overview

The initial commissioning and connecting the end user to SDB with correct payment details is quickly and easily done and requires no administrator intervention.

### REAL-TIME ANALYSIS AND VISUALISATION

The produced data can be consulted in real time and is automatically analysed and visualised.

### ALARMS

Alarms for the service team are automatically generated in the event of things such as excess consumption or activation of the residual current device.

### AUTOMATED INVOICING WITH REPORTS

The invoicing for the energy consumption can be handled automatically after the event, including full reports on the consumption period, the number of service notifications, the consumption profile, the energy rates that were applicable, activity, etc.

### FULL OVERVIEW

The administrator also always has a full overview of all distribution boxes within the project and all relevant parameters.

### CUSTOMISATION

These smart distribution boxes are available in various sizes from 16A to 63A, but customisation for larger capacities up to 3000A is also possible.

### LEASING

Our smart distribution boxes can be leased as well as purchased.

### EXPANDABILITY

The platform can be expanded for management of water networks, indoor comfort parameters, building management and other technologies.

#### CASING

Material	Black HD-PE (high density polyethylene)
Handling	Countersunken handles
Earthing connection	Yes
Emergency stop	Yes
LED	Yes, indication of voltage presence
Enclosure protection degree	IP44, IEC 60592
Glow wire test	IEC 60695, 650°C and 960°C
Electrical design	According to the IEC 61439-1 and 2 standard
Operating temperature	-20°C ... +65°C
Operational position	Horizontal
Weight SDB - 16A / 32A / 63A	A kg / B kg / C kg
Dimensions - 16A / 32A / 63A	A x B x C mm / A x B x C mm / A x B x C mm

#### INPUT

Plug - SDB 16A	1x CEE 16A 230V 1P+N+E plug, 6h IEC 60309, IP44
Protection	CB C16A 2P 10kA
Plug - SDB 32A	1x CEE 32A 3x400V 3P+N+E plug, 6h IEC 60309, IP44
Protection	CB C32A 4P 10kA
Plug - SDB 63A	1x CEE 63A 3x400V 3P+N+E plug, 6h IEC 60309, IP44
Protection	CB C63A 4P 10kA

#### OUTPUT

		SDB 16A	SDB 32A	SDB 63A
Socket 16A monotype F	16A 230V 1P+N+E socket, CEE7/3, Type F (German, Schuko type), IP54	3	9	12
Protection	Combined CB/RCD C16A 1P+N 30mA 10kA undelayed	3	9	12
Plug type E	16A 230V 1P+N+E socket, CEE7/5, Type E (French/Belgian type), IP54	Optional	Optional	Optional
Protection	Combined CB/RCD C16A 1P+N 30mA 10kA undelayed	3	9	12
Socket 16A 5P	1 x RCCB 40A 3P+N 30mA 10kA undelayed, 1 x CB C32A 4P 10kA		•	
Protection	1 x RCCB 40A 3P+N 30mA 10kA undelayed, 1 x CB C16A 4P 10kA			•
Socket 32A 5P	1 x CEE 16A 3x400V 3P+N+E socket, 6h IEC 60309, IP44		•	
Protection	1 x CEE 32A 3x400V 3P+N+E socket, 6h IEC 60309, IP44			•

#### CLOUD COMMUNICATION CAPABILITIES

		Default	Optional
Ethernet	10/100 Mbit/s, RJ45	•	
WIFI	802.11 b/g/n 2.4GHz (RP-SMA female)	•	
Cellular	2G and 4G		•

#### REMOTE FUNCTIONALITIES

		Default	Optional
Monitoring input (MID)	Currents, Voltage, P, Q, S, Energy, Powerfactor	•	
Monitoring all outputs	Currents, Voltage, P, Q, S, Energy, Powerfactor		•
Remote switching SDB	Yes, on and off	•	
Detection of failure breaker	Yes	•	

#### SOFTWARE

		Default	Optional
Calculus portal compliant	Yes	•	
Type	Cloud computing	•	
Overall management system SDB hosting	Yes	•	
User interface SDB	Yes, mobile application	•	
Remote switching SDB	Button on mobile application	•	
Remote switching SDB	According adjustable agenda on mobile application		•
Adjustable energy tariffs	Yes	•	
Adjustable power limitations	Yes		•
Automated billing applications	Yes		•
Customizable dashboarding functionalities	Yes	•	
Generate adjustable alarms	Yes, mobile application, SMS, E-mail, dashboard	•	
Reporting functionality	Yes	•	
Adjustable floorplans	Yes	•	
Usermanagement system	Yes	•	
Service request functionality	Yes, mobile application		•
Monitoring expansions	Building management system		•
Monitoring expansions	Watermanagement		•
Monitoring expansions	Climate data indoor		•
Monitoring expansions	Climate data outdoor		•