



# Data Sheet

2016 v1.0

## SMARTRAIL X45DB-MID DIN Rail kWh Power Meter

- MID B&D Approved
- Class B (kWh) EC Directive 2004/22/EC
- Certificate Number 0120/SGS0221
- 1000IMP/kWh Pulsed Output
- 1 Module Dinrail Mounted (35mm)
- Digital Backlit Display



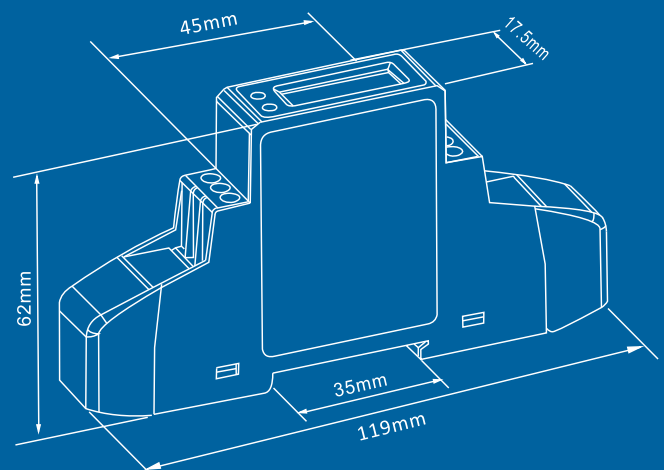
## SMARTRAIL X45DB-MID Single Phase kWh Meter

The SMARTRAIL X45 family of meters have been produced to offer a low-cost solution to metering low Amp circuits. The SMARTRAIL X45 range work directly connected to a maximum load 45A AC circuit.

All versions of the SMARTRAIL X45 meter come with a pulsed output for remote monitoring. This works in conjunction with our SMARTRAIL SDL Data Logger and Remote Monitoring software. For more information on this, please request our SMARTRAIL SDL Datasheet.

All SMARTRAIL X45 meters are housed in a 1U Dinrail mounted housing. They also come complete with sealable terminal covers to stop any tampering with the connections.

## Dimensions



## Safety Instructions

The following safety instructions apply to all versions of the SMARTRAIL X45 range of power meters:

### Information for your own safety

This manual does not contain all of the safety measures for operation of the equipment (module, device) because special operating conditions, and local code requirements or regulations may necessitate further measures. However, it does contain information which must be read for your personal safety and to avoid material damages. This information is highlighted by a warning triangle and is represented as follows, depending on the degree of potential danger.

### Qualified personnel

Operation of the equipment described in this manual may only be performed by qualified personnel. Qualified personnel means a person who has been authorised to commission, start up, ground and label devices, systems and circuits according to Safety and Regulatory standards.

### Use for the intended purpose

The equipment must only be used for the application specified in the datasheet and the user manual.

### Proper handling

The prerequisites for reliable operation of the product are proper transport, storage, installation and assembly, as well as proper operation and maintenance. When operating electrical equipment, certain parts of the equipment automatically carry dangerous voltages. Improper handling can therefore result in serious injuries or material damage. Use only insulating tools. Do not connect while circuit is live (hot). Place the meter only in dry surroundings. Do not mount the meter in an explosive area or expose the meter to dust, mildew and insects. Make sure the used wires are suitable for the maximum current of this meter. Make sure the AC wires are connected correctly before activating the current/voltage to the meter. Do not connect the meter to a 3 phase - 400VAC - network. Do not touch the meter connecting clamps directly with your bare hands, with metal, blank wire or other material as you may get an electrical shock. Make sure the protection cover is placed after installation. Installation, maintenance and reparation should only be done by qualified personnel. Never break the seals and open the front cover as this might influence the functionality of the meter, and will avoid any warranty. Do not drop, or allow physical impact to the meter as there are high precision components inside that may break.

# SMARTRAIL X45DB Digital Kilowatt Hour Meter - Single Phase

## Measured Parameters

The SMARTRAIL X45DB monitors and displays Imported Active Energy (kWh) of a single phase two wire (1p2w) system.

## Technical Data

Certification	MID B&D Approved
Operating Humidity	≤ 75%
Storage Humidity	≤ 95%
Operating Temperature	-20°C - +50°C
Storage Temperature	-30°C - +70°C
International Standard	IEC 62053-21
Accuracy Class	1
Mounting	DIN rail (DIN 43880)
Sealing	IP51 Indoor
Nominal Voltage Input	(Ph+N) 230V AC
Max Continuous Voltage	120% of nominal
AC Voltage Withstand	4KV for 1 minute
Impulse Voltage Withstand	6KV-1.2μS
Reference Input current	0.25A
Base Input Current (I <sub>b</sub> )	5A
Maximum Input Current (I <sub>max</sub> )	45A AC
Max Continuous Current	120% of nominal
Operational Current Range	0.4% I <sub>b</sub> -I <sub>max</sub>
Over current withstand	20I <sub>max</sub> for 0.01s
Frequency	50Hz (±10%)
Power Consumption	≤ 2W/10VA/phase
Pulsed Output	1000IMP/kWh

## Wiring Diagram

