



## Micro Power Manager for rural electrification: Prepaid meter and limiter of both energy and power

Meter and limiter of both energy and power for rural electrification

Prepaid chip card technology for customized electricity consumption and planning

Ensuring micro-grid stability through automatic load management

### Features

The Micro Power Manager (MPM) is a meter and limiter of both electrical power and energy especially applicable in micro-grids for rural electrification. The MPM meters active power and active energy in three individually switchable channels. The channels can be assigned to three single-phase clients (with the MPM 2A and the MPM 10A 1P) or one three-phase client (with the MPM 10A 3P). The outputs are switched by integrated relays.

The connected loads are activated through uploading of electricity credit onto the MPM using prepaid smart card technology. The MPM limits maximum power and amount of energy supplied according to the electricity rates

registered on the smart card of each individual client. In the case of the load exceeding the energy or power limits defined by the electricity rate, the respective client will be automatically disconnected. A digital display enables clients to keep track of their remaining electricity credit and to plan and manage their consumption.

In cases of system overload, an integrated grid frequency based load management automatically disconnects as many clients as required to ensure micro-grid stability, and to prevent system breakdown.

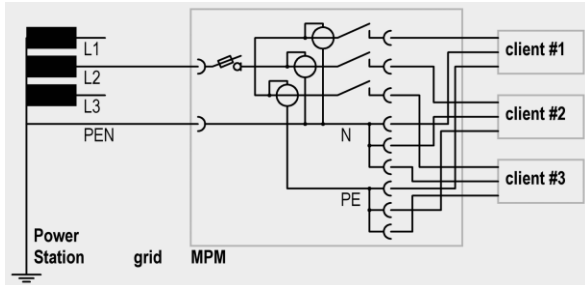
After a black start of the grid, clients are switched on after variable waiting time to ensure a gradual increase of the load.

## Installation

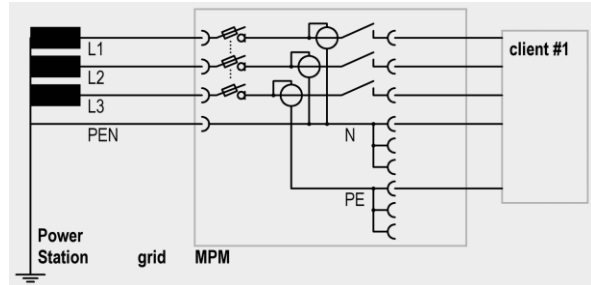
The MPM is designed for outdoor installation, preferably in public places such as power poles, outside walls or specially constructed distribution boxes. The transparent front cover of the MPM

enables clients and system operators to ensure the appropriate connection of cables at any time. To prevent any tampering and to better secure the MPM, its casing can be sealed with lead seal.

## Connection



Single-phase connection of MPM 2A 3x1P and MPM 10A 3x1P with three single-phase electricity clients connected



Three-phase connection of MPM 10A 1x3P with one three-phase electricity client connected

## Technical data

INENSUS item number	MPM 2A 3x1P <sup>1)</sup>	MPM 10A 3x1P	MPM 10A 1x3P
Nominal voltage (IEC 60038)	120/208/230/240 V		
Nominal frequency (measuring range)	50/60 Hz (40...70 Hz)		
Number of phases	1 ~		3 ~
Max. number of users	3		1
Nominal current per user	2 A	10 A	
Nominal power per user (at 230 V)	460 VA	2300 VA	3 x 2300 VA
Recommended external circuit breaker (IEC 60898-1)	B2 A	B6 A	B16 A
Integrated fuses	6.3 A	16 A	3 x 16 A
Error of measurement	< 2%		
Display	1.7" graphic	2 x 16 digits	
Protection class (limited by smart card slot)	IP 53		
Casing	Fibre reinforced polycarbonate		
Max. terminal cross section grid / user	4 mm <sup>2</sup> / 4 mm <sup>2</sup>	16 mm <sup>2</sup> / 4 mm <sup>2</sup>	
Dimensions w ▪ h ▪ d (without cable inlet)	130 ▪ 130 ▪ 75 mm <sup>3</sup>	182 ▪ 180 ▪ 90 mm <sup>3</sup>	
Weight	0.4 kg	1.2 kg	

<sup>1)</sup> model on front picture

- Scope of supply: 4 lead seals + 4 seal wires (2 seals needed, 2 spares, sealing pliers not included), screws and dowels, different mounting options available
- Data logging with up to 2 month of hourly power and status, day, evening & night tariff option, customized software functions available on request
- Specifications may be subject to changes until final confirmation
- Conformity with European standards (2006/95/EC; 2004/108/EC; 2011/65/EC; 2004/22/EC; EN50470-3:2006, class A; EN62053-21:2003, class 2)
- Made in Germany by INENSUS



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