XJ Metering Co., Ltd

ENVIRONMENTAL PRODUCT DECLARATION

EMC300 MV metering system

XJ Smart Grid Industrial Park,
Xuchang City,

Henan Province, China

in compliance with ISO 14025 and EN15804

Program Operator	EPD China
Publisher	EPDItaly

Declaration Number	*EPD-CN-00006*
Registration Number	MR-EPDITALY0092

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From

XJ Metering Co., Ltd

Declared product:

Programme operator:	EPD China
Registration number:	EPD-CN-00006
Issued date:	2024-07-08
Valid until:	2029-07-07

GENERAL INFORMATION

EPD Owner

Name of the company	XJ Metering Co., Ltd
Registered office	XJ Smart Grid Industrial Park, Xuchang City, Henan Province, China
Contacts for information on the EPD	MS. Xiaozun Wang, xjybgjb@163.com

PROGRAM OPERATOR	
EPD China	Address: 3rd floor, Lane 320, Tianping Road, Xuhui District, Shanghai Website: www.epdchina.cn Email: info@epdchina.cn secretary@epdchina.cn

INFORMATION ON THE EPD	
Product name	EMC300 MV metering system
Site(s)	XJ Smart Grid Industrial Park, Xuchang City, Henan Province, China
Short description and technical information of the product (s)	EMC300 MV metering system includes the BRV300+meter, meter cabinet, power supply and connection cable. BRV300+ is a smart three phase four wires electronic CT and CT-VT meter.
Declared product & functional unit	1 set
Reference service life	20 years
Field of application of the product (s)	Monitoring the consumption of electricity starting from the primary measurement of electrical power
Product (s) reference standards (if any)	IEC 62052-11, IEC 62053-22, IEC 62053-23, EN 50470-1, EN 50470-3
CPC Code (number)	4621 electricity distributor or control apparatus
EPD Type	Product specific EPD
EPD Scope	Cradle to grave

VERIFICATION INFORMATION	
PCR	EPD Italy 007: Core PCR for electronic and electrical products and systems;

EPD China Regulation	EPD China Programme General Programme Instructions v1.0
Project Report LCA	This EPD study is based on the LCA study described in the LCA report
Independent Verification Statement	Independent verification of the declaration and data carried out according to ISO 14025: 2010. Internal ☑ External Third party verification carried out by: <Lisa Liang, SGS > SGS is an approved certification body accountable for third-part verification. Approved by: EPD China
Comparability Statement	Environmental statements published within the same product category, but from different programs, may not be comparable.
Liability Statement	The EPD Owner releases EPD China from any non- compliance with environmental legislation. The holder of the declaration will be responsible for the information and supporting evidence. EPD China disclaims any responsibility for the information, data and results provided by the EPD Owner for life cycle assessment.

OTHER INFORMATION	
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Technical support	JieTan New Energy Technology (Chongqing) Co., Ltd info_jt@aliyun.com
LCA software	SimaPro 9.5.0.0
LCA database	Ecoinvent v3.9.1

1. Product Definition and Information

1.1 Description of Company/Organization

Established in 1999, XJ Metering Co., Ltd, one of core subsidiaries of XJ Electric CO., LTD, is specializing in Standard Formulation, Intelligent Metering, Data Acquisition and Communication, Test and Inspection and Energy Management System. The core businesses of XJ are smart power distribution, UHV power transmission, smart power utilization, smart grid, new energy, electric vehicle charging and swapping, and advanced energy storage. Equipped with advanced logistics and warehousing systems, the whole process of intelligent testing system and manufacturing information management system, XJ Metering can provide comprehensive and reliable solutions for the whole chain and life cycle of the metering system.

Figure 1 XJ Metering Co., Ltd

1.2 Product description

1.2.1 Product identification

Electricity metering system is an electronic device which monitors the consumption of electricity starting from the primary measurement of electrical power. EMC300 MV metering system includes the BRV300+ meter, meter cabinet, power supply and connection cable. BRV300+ is a smart three phase four wires electronic CT and CT-VT meter.

1.2.2 Product specification

The smart three phase meter has the following function according to XJ Metering:

- Energy measurement and registers
- TOU
- Instantaneous measurement and registers

- Demand register
- RTC
- Energy Storage Device
- Monthly energy profile and daily energy profile
- Load profile
- Error registers
- Event log
- Meter program configuration
- Firmware upgrading

1.2.3 Product-Specific EPD

This EPD is a product-specific EPD. The declaration is for EMC300 MV metering system assembled by XJ Metering.

While allocating energy and material usage within the production site, allocation was carried out based on the average annual mass.

1.3 Application

The products covered in this declaration are an integral part of the smart grid infrastructure, whether in a power substation or residential setting, enabling the real-time measurements needed to monitor equipment health, grid congestion and stability, and system control.

1.4 Declaration of Methodological Framework

In this project, a full LCA approach was considered with some simplification on data modelling using generic data for most background systems. The EPD analysis uses a cradle-to-grave system boundary. No known flows are deliberately excluded from this EPD.

To calculate the LCA results for the product maintenance stage, a 20-year reference service life (RSL) was assumed for the declared products.

Additional details on assumptions, cut-offs and allocation procedures can be found in section 2.3, 2.4, and 2.8, respectively.

1.5 Technical Requirements

The EMC300 MV metering system ensures reliable, precise and easily accessible results. Active pulse and reactive pulse enable both the measurement of the electrical energy and the display of the kWh consumed. See Table 1 for further technical specifications.

Table 1 EMC300 MV specifications

Accuracy	Active	Class 0.5s
	Reactive	Class 1.0
Voltage	Rated voltage	3*(57.7/100-240/415) V
	Operation voltage range	80% to 125% Un
Current	Rated current	1(10) A
	Starting current	0.01*1 In
Nominal frequency	50Hz	
Performance class according to reference standard	Standard meters: class 0.5s Reference standards: IEC 62052-11, IEC 62053-22, IEC 62053-23, EN 50470-1, EN 50470-3	

1.6 Placing on the Market / Application Rules

According to XJ Metering, the EMC300 MV metering system products are consumed in Italy.

1.7 Material Composition

The main raw materials of the EMC300 MV metering system include PCB board, electronic components, PC shell, solder wire, packaging and etc. The type and ratio of raw materials per EMC300 MV metering system are listed in tables below.

Table 2 Raw materials of EMC300 MV metering system

Component	Material cluster	Quantity
BRV 300+ meter	Metals	3.63%
	Plastics	8.82%
	Electronics	6.62%
Cabinet	Metals	9.57%
	Plastics	66.53%
Power supply	Metals	86.72%
	Plastics	13.28%
Connection cables	Metals	30.05%
	Plastics	69.95%
Packaging	Wood	2.22%
	Plastics	0.97%
	Paper	1.64%

1.8 Product assembly

The EMC300 MV metering system product under study is assembled following the production processes as shown in figure 2 below. For simplification purpose, only main stages of product assembly are presented, raw material, auxiliary processes considered in the LCA but not shown in the flow chart below include:

- Raw and auxiliary material production and transportation
- Recycling of waste materials;
- Waste water and off gas treatment;
- Water recycling and reuse system;
- Supply of natural gas/water/electricity
- Supply of natural gas/water/electricity

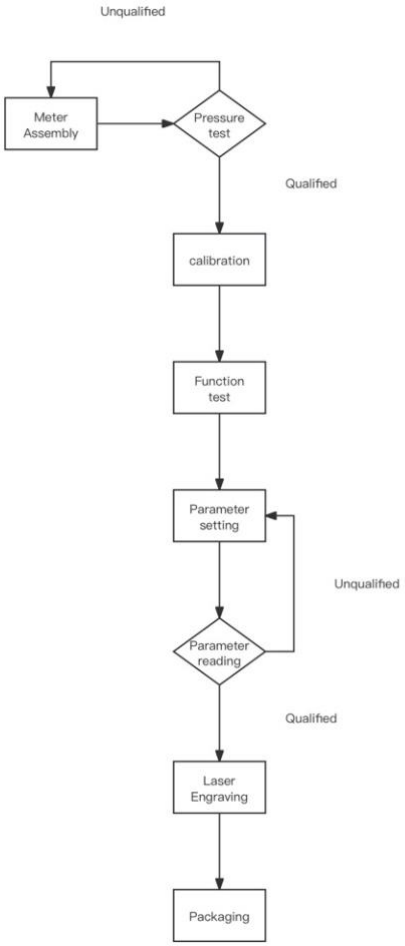

Figure 2 Production Process Flowchart of EMC300 MV metering system

1.9 Packaging

The EMC300 MV metering system has two packaging layers, the inner carton packaging and the outer pallet packaging. Thin film, carton, and wood pallet are used for the packaging.

1.10 Transportation

According to XJ Metering, EMC300 MV metering system are installed in Italy. Road and oceanic transportation distance for product delivery is estimated with reference from marketing department.

1.11 Product Installation

For installation, only a few tools such as gloves, scissors, and screw driver are necessary. As such tools are reusable, the production and disposal stage of any tools was omitted from the LCA study. It was estimated based on previous experience that 0.003 kWh electricity will be consumed for the installation of one metering system.

1.12 Use and Maintenance

After installation, very little effort is required in order to use and maintain the EMC300 MV metering system. Energy consumption during the use stage was calculated to be 48 Wh per day per metering system. For metering system upgrade, 0.5 Wh electricity was estimated to be consumed each year for one EMC300 MV metering system. Not repair, replacement or refurbishment was assumed necessary during the 20 years' service life.

1.13 Reference Service Life and Estimated Building Service Life

The reference service life for the EMC300 MV metering system is 20 years.

1.14 Reuse, Recycling, Energy Recovery and Disposal

According to XJ Metering, the products are consumed in Italy. The disposal of the used EMC300 MV metering system products will adopt a country and region average disposal mode following literature review and Ecoinvent. End-of-life disposal treatment process from Ecoinvent will be used in this LCA study. For the waste scenario, 100km of road transportation from operation site to waste treatment site was assumed. Deinstallation of EMC300 MV metering system was assuming using 2Wh per and dismantling of EMC300 MV metering system product during the disposal stage was considered using generic data from Ecoinvent for electronic product dismantling.

2. Life Cycle Assessment Background Information

2.1 Functional Unit

In this study the functional unit is an EMC300 MV metering system which monitors the consumption of electricity starting from the primary measurement of electrical power, during a service life of 20 years. the environmental impact from this study is calculated and reported per functional unit.

Table 3 Parameters per functional unit

Parameters	Description	Value	Unit
Functional unit	An EMC300 MV metering system which monitors the consumption of electricity starting from the primary measurement of electrical power, during a service life.	1	Set
RSL	Reference service life for energy-producing unit	20	year
Location	Manufacturing	Xuchang, Henan, China	/

2.2 System Boundary

This study of EMC300 MV metering system includes life cycle information from cradle-to-grave (see Figure 5 for reference). According to the PCR, the life cycle stage must refer to segmentation in the following three modules:

- A1-A3: Product stage (raw material acquisition, transport to manufacturing site and manufacturing)
- A4-A5: Construction process stage (transportation of the product from the manufacturing site to the building site and installation of the product)
- B1-B7: Use stage (maintenance and operational energy use)
- C1-C4: End-of-life stage (deconstruction, transport of waste, waste processing and disposal)
- D: Reuse, recovery and/or recycling potentials

Figure 3 below illustrates the system boundaries for the EMC300 MV metering system, including manufacturing stage, distribution stage, installation stage, use & maintenance stage and end-of-life stage.

	Product stage				Construction process stage				Use stage				End of life stage				Benefits and loads beyond the system boundaries
	Raw material supply	Transport	Production	Transport from the gate to the site	Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/Demolition	Transport	Waste processing	Disposal	reuse – recycling – recovery potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Module declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Data quality indicator	%				97												

Table 4 System boundary of EMC300 MV metering system

2.3 Estimates and Assumptions

The key assumptions of this LCA study are as follows:

- Transportation of raw material of EMC300 MV metering system and other equipment or auxiliary materials for the installation of the EMC300 MV metering system uses assumed distance (e.g.1000km for China, 250km for Henan Province and etc) and transportation vehicles (Euro 4 truck) for simplification purpose. A sensitivity analysis was conducted;
- The input and output data during the installation of EMC300 MV metering system was based on experience, which represents the average installation according to XJ Metering. It is assumed that the installation of EMC300 MV metering system will use the same amount of structural, electronic and mechanical equipment.
- The input and output data during the operation and maintenance of EMC300 MV metering system are based on scenario. It is assumed the annual operation and maintenance (OM) use the same amount of energy and material during the 20 years RSL of EMC300 MV

metering system; A sensitivity analysis is included;

- During the end of life stage, the transportation of the waste EMC300 MV metering system from the operation site to treatment facilities such as dismantling site and disposal facilities such as recycling, landfill or incineration centre is assumed to be 100km for simplification;
- Waste to energy was not considered in this modelling.

Additional assumptions regarding the meter operation includes:

- Lifetime: the lifetime differs between different components: BRV300+ meter, meter cabinet, power supply, and connection cables, for simplification, 20 years are assumed for all components.
- Energy consumption data: Depends on operation scenario, the energy consumption data differs, in analysis of the average of installed systems, the actual energy consumption uses a calculated average figure.

Assumptions about generic data for this study

- Transport model is based on the average regional data
- Energy model are based on average national data, and in case possible, provincial or regional data is used to the best potential
- Raw material uses generic data from database with adaptation of supplier data to the best possible potential

2.4 Cut-off Criteria

The following procedure was followed for the exclusion of inputs and outputs:

- All inputs and outputs to a (unit) process will be included in the calculation for which data is available. Data gaps may be filled by conservative assumptions with average or generic data. Any assumptions for such choices will be documented;
- In case of insufficient input data or data gaps for a unit process, according to the PCR requirement, the cut-off criteria chosen is 2% of the total mass and energy of that unit process. (respectively, of the meter's unit weight and the energy needed to produce and assemble it)
- The total neglected input flows of the cradle to grave stage, e.g. per module shall be a maximum of 5% of energy usage and mass, in this study, the neglected flow is demonstrated in table below.

Table 5 Cut off flows

Flow name	Process stage	Reason cut off	Total cut off mass % estimated
Packaging material for raw material	A1	Used repeatedly by the suppliers or recycled	<0.1%

		(cut off from system boundary)	
Raw materials: trace elements	A1	All materials from the BOM is included in the model	0%
Transportation and storage within the plant	A3	Energy<0.1%	<0.1%
Inspection travel during maintenance of metering system	B2	Not routine operation	<0.1%
Total			<1%

It is estimated that the largest omitted mass flow in the product life cycle is associated with production, but it does not exceed 1% of total mass flow in the worst-case scenario. It is estimated that environmental relevance over impact categories during whole product life cycle does not exceed 2% in the worst-case scenario, which is in compliant with the PCR requirement.

Cut-off criteria were applied to capital equipment production and maintenance. It was assumed that the impacts associated with these aspects were sufficiently small enough to fall below cut-off when it is scaled down to the declared unit.

Material and energy flows known to have the potential to cause significant emissions into air and water or soil related to the environmental indicators of this study will be included in the assessment. According to review of the Material Safety Data Sheet (MSDS) and relevant physical, chemical and other information of the flows listed in table above, no significant negative emission to the environment from above listed flows is identified.

2.5 Data Quality

The data quality requirements for this study were as follows:

- Data shall be recent. Datasets used for calculations should be based on 1-year averaged data, they should have been updated within the past 10 years for generic data and within the past 5 years for producer specific data;
- The time period over which inputs to and outputs from the system shall be accounted for is 100 years from the year for which the data set is deemed representative. A longer time period should be used if relevant;
- The technological coverage shall reflect the physical reality for the reference product or product family;
- Geographic coverage shall reflect operational reality of the different life cycle stages;
- Data sets shall be aligned with the system boundaries defined.

2.6 Period under Review

The study used primary data collected from January 2022 to December 2022.

2.7 Allocation

Allocation refers to partitioning of input or output flows of a process or a product system between the product systems under study and one or more other product systems.

Multi-input processes

For data sets in this study, the allocation of the inputs from coupled processes is carried out via the mass. The consumption of raw materials is allocated by mass ratio. The transportation of raw materials is allocated by mass. For EMC300 MV metering system production, the total consumption of energy and water during product assembly is equally allocated by dividing the total input (besides raw material, which is decided using BOM of each model) by the volume of production of EMC300 MV metering system.

Multi-output processes

In this study, there is no other by products other than EMC300 MV metering system, within this study, the output such as the environmental emissions of wastewater pollutants, off gas pollutants and etc are allocated similarly as multi-input process.

Allocation for recovery processes

During the end of life stage of EMC300 MV metering system, the extra benefit of recycling the waste modules as well as other equipment is cut off from the boundary, following the PCR's recommendation on end of life scenario. Along with the benefit, the load from waste treatment for recycling purpose such as de-pollution and crushing and etc, is also allocated to the next life cycle of substituted products, but not the primary producers of meter, hence no burden or benefit will be allocated to the primary producer of the meter or electricity energy operator (cut off approach).

2.8 Comparability (Optional)

No comparisons or benchmarking are included in this EPD. LCA results across EPDs can be calculated with different background databases, modelling assumptions, geographic scope and time periods, all of which are valid and acceptable according to the Product Category Rules (PCR) and ISO standards. The user of the EPD should take care when comparing EPDs from different companies. Assumptions, data sources, and assessment tools may all impact the uncertainty of the final results and make comparisons misleading.

3. Life Cycle Assessment Scenarios

Table 6 Transportation of EMC300 MV metering system

From	To	Distance (km)	Transport mode
Xuchang, China	Qingdao, China	750	Lorry
Qingdao, China	Genova, Italy	19007	Ocean ship

Table 7 Components for installation (per FU)

Input/output component	Unit	Value
Electricity	Wh	3

Table 8 Components for use & Maintenance (per FU)

Input/output component	Unit	Value
Power consumed by the meter (P_{use})	W	2
Electricity (for meter upgrade)	Wh/year	0.5

Table 9 Disposal in Italy

Product component	National/Region	EU(Italy)
EMC300 MV metering system	Distance	50km
	De-installation	3Wh
BRV300+ meter/ power supply/ connection cable	Recycling rate	84.4%
	Landfill rate	11.5%
	Incineration rate	4.1%
Meter cabinet	Plastics	Incineration 100%
	Metals	Recycling 100%

Table 10 Information describing the biogenic carbon content

Biogenic carbon content	Value	Unit
Biogenic carbon content in product	0	kg C
Biogenic carbon content in accompanying packaging	0.1762	kg C
NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2.		

4. Life Cycle Assessment Results

The entire life cycle stages of the product (cradle-to-grave) are considered in the LCA study, which include all stages from extraction of raw materials, manufacturing, transportation and installation, maintenance and end- of-life. Table 10 below shows the various stages that are included in this LCA study. The terms of defining life cycle stages from the core PCR, EN15804 and EN15804 are adopted and shown respectively.

Table 11 Life cycle stages in this LCA study

Included modules in the life cycle assessment	Product Stage	X	A1 Raw material supply
		X	A2 Transport to the manufacturer
		X	A3 Manufacturing
	Construction process stage	X	A4 Transport to the site
		X	A5 Assembly/Install
	Use stage	X	B1 Use
		X	B2 Maintenance
		X	B3 Repair
		X	B4 Replacement
		X	B5 Refurbishment
		X	B6 Operational energy use
		X	B7 Operational water use
	End of Life Stage	X	C1 Deconstruction
		X	C2 Transport to waste processing
		X	C3 Waste processing for reuse, recovery and/or recycling
		X	C4 Disposal;
	Benefits and loads beyond the product system boundary	X	D Reuse, recovery and/or recycling potentials,
Note: X=Declared Module, MND=Module not Declared in this LCA study			

4.1 Life Cycle Impact Assessment Results

This LCA follows the requirements of EPD Italy PCR 007 for electronic and electrical products and systems – meters and uses the recommended impact analysis method for the calculation. Environmental impact indicators follow the characterization factors as stated in EN 15804:2012+A2:2019.

Table 12 Environmental impacts of EMC300 MV metering system

Environmental Impacts	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-f	kg CO2 eq.	7.61E+01	3.37E-03	9.79E-03	0	4.11E-03	0	0	0	1.44E+02	0	1.23E-03	9.45E-02	0	5.65E+00	-1.08E-01
GWP-b	kg CO2 eq.	-1.64E+00	1.00E-07	6.46E-01	0	3.78E-03	0	0	0	1.32E+02	0	1.13E-03	9.44E-02	0	4.20E-01	-1.07E-01
GWP-l	kg CO2 eq.	8.68E-01	2.25E-06	4.30E-06	0	3.32E-04	0	0	0	1.16E+01	0	9.95E-05	3.30E-05	0	5.23E+00	-1.57E-04
GWP-t	kg CO2 eq.	7.53E+01	3.38E-03	6.56E-01	0	8.36E-07	0	0	0	2.93E-02	0	2.51E-07	4.93E-05	0	1.50E-04	-3.19E-04
ODP	Kg CFC11 eq.	2.74E-06	5.21E-11	1.85E-10	0	8.99E-11	0	0	0	3.15E-06	0	2.70E-11	1.50E-09	0	2.57E-09	-1.80E-09

AP	mol H+ eq	1.19E+00	6.41E-05	4.20E-05	0	1.63E-05	0	0	0	5.70E-01	0	4.88E-06	4.15E-04	0	1.20E-03	-7.49E-04
EP-fw	kg PO43-eq.	8.59E-02	1.81E-07	3.47E-06	0	8.18E-07	0	0	0	2.87E-02	0	2.45E-07	7.68E-06	0	1.13E-04	-1.06E-05
EP-m	kg N eq	1.17E-01	1.67E-05	1.05E-05	0	2.49E-06	0	0	0	8.73E-02	0	7.48E-07	1.52E-04	0	1.22E-02	-2.66E-04
EP-t	mol N eq	1.28E+00	1.84E-04	1.13E-04	0	2.85E-05	0	0	0	9.99E-01	0	8.55E-06	1.63E-03	0	3.45E-03	-2.85E-03
POFP	kg NMVOC-eq.	4.84E-01	5.16E-05	4.77E-05	0	1.19E-05	0	0	0	4.17E-01	0	3.57E-06	5.59E-04	0	2.56E-03	-8.96E-04
ADPE	kg Sb eq.	1.43E-02	6.50E-09	7.45E-08	0	4.36E-08	0	0	0	1.53E-03	0	1.31E-08	3.04E-07	0	4.35E-07	-3.05E-07
ADPF	MJ	1.14E+03	4.41E-02	1.17E-01	0	5.90E-02	0	0	0	2.07E+03	0	1.77E-02	1.34E+00	0	2.38E+00	-1.49E+00
WDP	m3 H2O eq.	3.53E+01	1.43E-04	2.02E-03	0	2.42E-03	0	0	0	8.48E+01	0	7.26E-04	5.90E-03			-8.21E-03

4.2 Life Cycle Inventory Results

The life cycle inventory analysis results of the energy demand, and waste as well as water consumption is depicted in tables below.

Table 13 Life cycle inventory results of EMC300 MV metering system

Environmental Impacts	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PENRE	MJ	3.47E+01	9.95E+02	1.44E+02	0	5.90E-02	0	0	0	2.07E+03	0	1.77E-02	1.34E+00	0	2.38E+00	-1.32E+00
PERE	MJ	1.05E+02	1.01E+02	2.38E+01	0	1.96E-02	0	0	0	6.87E+02	0	5.88E-03	1.71E-02	0	1.12E-01	1.26E+00
PENRM	MJ	9.03E+01	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	-1.70E-01
PERM	MJ	1.29E+00	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	-1.29E+00
PENRT	MJ	1.25E+02	9.95E+02	1.44E+02	0	5.90E-02	0	0	0	2.07E+03	0	1.77E-02	1.34E+00	0	2.38E+00	-1.49E+00
PERT	MJ	1.06E+02	1.01E+02	2.38E+01	0	1.96E-02	0	0	0	6.87E+02	0	5.88E-03	1.71E-02	0	1.12E-01	-2.90E-02
FW	m3	9.53E-01	8.73E-01	7.99E-02	0	6.59E-05	0	0	0	2.31E+00	0	1.98E-05	1.91E-04	0	2.23E-03	-3.50E-04
SM	kg	0.00E+00	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0

NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0	0	0	0
HWD	kg	4.50E-03	3.98E-03	5.23E-04	0	2.59E-07	0	0	0	9.06E-03	0	7.76E-08	8.64E-06	0	1.48E-05	-9.17E-06
NHWD	kg	1.12E+01	1.04E+01	8.15E-01	0	2.83E-04	0	0	0	9.93E+00	0	8.50E-05	6.49E-02	0	6.87E+00	-8.07E-02
RWD	kg	1.44E-03	1.27E-03	1.74E-04	0	1.27E-07	0	0	0	4.44E-03	0	3.80E-08	2.70E-07	0	2.13E-06	-4.49E-07
MER	kg	0.00E+00	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0	0	0	6.93E+00	0
MRF	kg	3.00E-01	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0	0	0	2.85E+00	0
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0
ETE	MJ	0.00E+00	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0
EEE	MJ	0.00E+00	6.97E+02	1.40E+02	0	0	0	0	0	0	0	0	0	0	0	0

5. Additional Environmental Information

During installation and use, the meter does not emit pollutants or substances which are dangerous for the environment and for health.

6. References

EN 15804:2012+A2:2019/AC:2021 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.
PCR EPDItaly007, Product category rules for electronic and electrical products and systems
WEEE report, NO. CANEC1608131202, date: May 19, 2016
ISO 14040 (2019): Environmental Management - Life Cycle Assessment - Principles and Framework
ISO 14044 (2019): Environmental Management - Life Cycle Assessment - Requirements and Guidelines
ISO 14001(2015): Environmental management systems - Requirements with guidance for use.
ISO 9001(2015): Quality management systems – Requirements.
ISO 45001(2018): Occupational health and safety management systems – Requirements.