

PRODUCT SHEET

ECO power supply with battery backup

Figure 1. ECO 24V 1A Mini



ECO 24V 1A Mini is delivered with 230 V mains cable installed.

Product Identification

Table 1. Product designation, article number and e-number.

Product designation	Article number	E-number (SE)
ECO 12V 2A Mini 1.2Ah 230V	MI01C10512P020B01	52 137 96

Technical description

ECO 12V 2A Mini is a compact and reliable battery backup for 12V applications where easy installation and safe backup power are required. The unit is designed for control and operation of smaller loads and comes with a 1.2 Ah battery mounted in the housing. The battery backup has built-in charging, load output, potential-free alarm output and clear indication for normal operation, mains interruption/low battery voltage and triggered load protection. The power cut/low battery voltage function can be selected via jumper. The ECO 12V 2A Mini is mounted in a powder-coated metal cabinet and connects to 230 V AC via the supplied cable with

Table 2. Quick Facts

Quick Facts	
Supply voltage (V)	230V AC, +/- 10%, 47Hz-63Hz
Voltage out (V)	13.6 V DC, (12 V DC)
Current output (A), max load current output.	2 A
Batteries ^a	1 x 1.2Ah

^aRecommended. If batteries are included, it is indicated, otherwise batteries are ordered separately

Areas of application

Table 3. Areas of application

Areas of application	Yes	No
Access system (door reader, magnetic lock, electric terminal plate, etc)	✓	
Burglar alarm	✓	

Electrical data

Table 4. Electrical data

Electrical data	
Supply voltage	230V AC, +/- 10%, 47Hz-63Hz
Charge current	Depending on the power outlet. Max 2 A
Efficiency ^a	86%
Standby consumption	1.26 W

Electrical data

Voltage out	13.6 V DC, (12 V DC)
Current (A) ^b	2 A

^aAt rated load.

^bPower outlet/load is specified as max, normal current output should be 80% of max.

Table 5. Fuses

Fuses	
Mains fuse	2.5 A
Load fuses	2 A

Load outputs

Table 6. Load outputs

Load outputs	
Number of load outputs	! 1

Alarm and protection

Table 7. Number of relay on which alarm can be given

Number of Relays	Alarm on switching relay? ^a
1	✓ ^b

^aRelay, alternating potential-free contacts.

^bRelay, alternating potential-free contacts.

Table 8. Alarm and protection

Alarm and protection	Yes	No
Cold Start	✓	
Deep discharge protection, see Battery [1] ^a	✓	
Overload Protection/Surge Protection	✓	
Over-temperature protection	✓	
Short circuit protection	✓	

^aWhen the deep discharge protection is activated, the device turns off and the LED goes out.

Communication and Indications

Table 9. Communication and Indications

Communication and Indications	Yes	No	Other. info.
Communication		X	
Indicators/LEDs			

Battery

Table 10. Technical data - Batteries

Battery	
Ref. Batteries ^a	1 x 1.2Ah
Battery type	Maintenance-free AGM (lead-acid) batteries
Deep discharge protection	Activates when the system voltage drops below about 10 V DC.
Other sizes of batteries that can be used	1 x 2.3 Ah.

^aIf batteries are included, it is indicated, otherwise batteries are ordered separately.

Enclosure and Mechanics

Table 11. Enclosure and Mechanics

Enclosure and Mechanics	
Type	Universal enclosure for wall
IP class	IP20
Colour	White
Knockout hole	1 pc. on the back

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Enclosure and Mechanics	
Lock	✓ 2 keys included
Fan in enclosure	X

Assembly, installation and eligibility requirements

Table 12. Fitting

Fitting	Yes	No
Wall.	✓	

Table 13. Installation

Installation	Yes	No
Fixed installation		X

Dimensions, weight and packaging information

Table 14. Dimensions

Dimensions, (WxHxD).	Dimensions with packaging ^a .
202 x 148 x 62mm	100 x 210 x 155 mm

^aDimensions (WxHxD) of product and packaging may differ, this is because the product may be oriented differently in the package.

Table 15. Weight

Net weight	Weight with packaging
1.7kg	2.0 kg

Table 16. Packaging

Packaging	
Packaging	
Quantity in pack	1 pc.
Packaging Type (GS1 T0137)	BX box.
Conditions EUR pallet	EUR pallets may not be stacked during transport or storage. Stacking may result in damage to product and packaging
Transport environment	The product must be protected from condensation and direct precipitation during transportation.
Transport temperature (with battery)	-20 °C to +50 °C
Storage environment	Dry indoor environment, protected from condensation. Relative humidity: max 95%, non-condensing
Storage temperature with batteries	0 °C to +40 °C

Fits

Optional card cannot be attached to the product

Contact

Table 17. Contact

Department	
Switchboard	031-340 02 30
Support and technical issues	support@milleteknik.se
Sales	sales@milleteknik.se
WWW	www.milleteknik.se
Address	Ögärdesvägen 8B, 433 30 Partille

About this information

All information is published subject to possible errors. Information is updated without prior notice.

COMPLIANCE AND REGULATORY COMPLIANCE

Delivery time, warranty and terms

Table 18. Delivery time, warranty and terms

Delivery time, warranty and terms	
Warranty period ^a .	The product has a two (2) year warranty against manufacturing defects.
Special warranty conditions	See also general terms and conditions.
General Terms and Conditions	ALEM09 with exceptions, see: www.milleteknik.se/conditions/
Support	Telephone support and email support during the warranty period are free of charge. For spare parts that are not covered by warranty, there is a charge
Delivery and stock	
Delivery time ^b .	Or as per agreement. Delivery from factory, transportation time is added.

^aIf the device is purchased through a wholesaler or other supplier, other warranty conditions may apply

^bIn the case of larger orders, delivery time increases, acc. to agreement.

Operation and maintenance

Table 19. Operation

Operation	Data	Other. info
Environment		
Operating temperature (recommended)	+15°C to +25°C	
Operating temperature (permissible) ^a .	+5°C to +40°C	Class 1 according to EN 50131-6/ EN 60839-11
Load, power supply	80%	Average load shall not exceed 80% of the rated capacity of the power supply.
Ventilation, free distance around the enclosure.	100 mm	Ventilation openings must not be blocked or covered.

^aSpecifies the permissible ambient temperature range in which the product can operate without damage. See also table on battery life.

Table 20. Maintenance

Yes	No	Interval	Other. info
✓		Annually	Battery terminal voltage must be measured. Ensure that the average load does not exceed 80% of the rated capacity of the power supply.

Certifications and approvals

Table 21. Approved according to

Complies with	Directives
Emissions	
Immunity	EN61000-6-2:2005, EN61000-4-2, -3, 4, -5, -6, -11 SS-EN 50130-4:2011 Edition 2, EN50131-6
C.E.	CE marking according to Regulation (EC) No 765/2008
RoHS	RoHS Directive 2011/65/EU, including amendment (EU) 2015/863
EMC	EMC Directive 2014/30/EU
Electric (LVD)	Low Voltage Directive 2014/35/EU

Environmental data

Table 22. Environmental data

Environmental data	J/N	Informație	Other. info.
Building Product Declaration (BPD)	✓	Yes, see iBvd at www.milleteknik.se .	-
REACH Information Obligation (EC) No 1907/2006	✓		If empty, the product is not covered.
SVHC substances, CAS/EC	✓		For text, see iBvd at www.milleteknik.se . If blank, substance is missing.
Subject to the RoHS Directive, (EU) 2015/863)	✓		
WEEE 2012/19/EU	✓		If empty, the product is not covered. End-of-life products must be returned to a recycling centre
Battery Regulation (EU) 2023/1542			
SCIP No 2008/98/EC	✓		If empty, no SCIP number is needed.
Conflict minerals (EU) 2017/821	X/X/X/X/✓	No=Gold, Tungsten, Tantalum, Cobalt. Yes=Tin	Tin in solders in printed circuit boards purchased through a Swedish supplier.
Contains nanomaterials: EC 1272/2008	X	The product does not contain nanomaterials.	
Ecodesign 2009/125/EC		Milleteknik's products are intended for professional use and are therefore not directly covered by the Ecodesign Regulation (EU 2019/1782). As some components may be covered, we nevertheless disclose relevant information ^a , where applicable, to provide our customers with confidence in their choice.	

Environ- mental data	J/N	Informație	Other. info.
Machine Di- rective 2006/42/EC		The product is part of electrical systems, is subject to the relevant electrical and safety di- rectives and is not a machine according to the Machinery Directive (2006/42/EC). Will be replaced by Machinery Regulation (EU) 2023/1230, which will apply in 2027.	
The product is designed for a long service life, which reduces the environmental impact. End-of-life products are handed over to the nearest recycling centre.			

^aStandby consumption and power.



Manufacturer and country of origin

Table 23. Manufacturer and country of origin

Manufacturer ^a .	
Customs State. Nos.	85044095 ^b .
Country of origin	

^aManufacturer is the trademark indicated on the product, regardless of what is stated in this product sheet.

^bVerify with the Customs Ombud/Customs Service for export/import; alternative classifica-
tion 85044055 may become applicable if the product is assessed as a battery charger.

APPENDIX

Backup operating time on batteries

The reserve operating time in battery operation depends on how large a load is connected to the power supply. If the load varies, as with frequent opening of door locks, the time that batteries can continue to power the security system decreases. To get an estimate of reserve operating times see: www.milleteknik.se/Manualer/FaQ/Reservdrifttider/

Eligibility requirements, installation

Eligibility requirements vary between countries. The table summarizes national requirements for fixed installation and connection of equipment with a plug socket, respectively.

Options on the secondary side of the product, such as 12 V, 24 V or 48 V DC, are connected according to the respective instructions. Work on the network connection of the product shall be carried out in accordance with national eligibility requirements

Table 24. Eligibility requirements by country. Applies only to the installation of this product in a fixed network connection

Permis- sion Re- quire- ments for In- stalla- tion	Fixed instal- lation (230 V)	Plug	Other. info
Sweden	✓	✗	Fixed installation may be performed by technicians but shall be under the responsibility of a qualified installer. (Electrical Safety Act, SS 436 40 00) Plug may be connected without authorization.
Norway	✓	✓	Requirements for qualified electricians also for equipment with a plug socket in fixed installations. (NEK 400, DSB)
Finland	✓	✗	Plug may be connected without authorization. (Tukes, SFS 6000)
Denmark	✓	✗	Plug may be connected without authorization. (Safety Board)
Germany	✓	✗	All fixed installations require a qualified electrician according to VDE 0100. Plug sockets may be connected without authorization, but only by person with basic electrical knowledge ("Elektrotechnisch unterwiesene Person")

Reference table: environmental classes according to EN 50130-5 (referred to in EN 50131-6)

Table 25. Reference table: environmental classes according to EN 50130-5 (referred to in EN 50131-6)

Class	Type	Temperature range
Environmental Class 1	Heated indoors (type of-fice/residence).	+5°C to +40°C

Class	Type	Temperature range
Environmental Class 2	Generally indoors (type warehouses/stairwells, not temperature controlled).	-10°C to +40°C
Environmental class 3	Protected outdoors.	-25°C to +50°C
Environmental class 4	Generally outdoors.	-25°C to +60°C

Reference table: manufacturer's stated service life and recommended battery replacement

Table 26. Reference table: manufacturer's stated service life and recommended battery replacement

Battery Type (Design Life) ^a	Battery replacement time in normal operation, +20°C.	Replacement during hot operation, +30°C	Replacement during hot operation, +40°C
3 - 5 years	2 - 3 years	1 - 1.5 years	0.5 - 0.75 years
6 - 9 years	5 - 6 years	2.5 - 3 years	1.2 - 1.5 years
10 - 12 years	6 - 7 years	3 - 3.5 years	1.5 - 1.75 years
15 + years	10 - 12 years	5 - 6 years	2.5 - 3 years

^aValid in case of completely unused battery stored under optimal conditions.

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