

PRODUCT SHEET - POWER SUPPLY FROM MILLETEKNIK

PoE

Figure 1. PoE Switch 4p FLX M



Managed PoE switch with 4 PoE Ports.

Name, article number and e-number

Table 1. Name, article number and email number.

Name	Article number	E-number (SE)
PoE M-Switch 4p FLM	FM01N10224P01004PM	51 728 96

Technical description

Power supply with backup power to power PoE devices such as surveillance cameras and other PoE powered devices. A plate for keystone modules makes the installation of PoE devices easier. An additional load output to power other 24 V applications.

Batteries, for example, drive the access system further when the power grid goes down.

Plate for fastening of keystone modules.

1Gb ports on PoE switch.

Constant output voltage, 24 V (which is boosted to 48 V), regardless of battery or mains operation, which allows the full battery capacity to be used.

For mounting on a wall or in a 19" rack.

Table 2. Quick Facts

Quick Facts	
Supply voltage (V)	[sv] 230 V AC - 240 V AC, 47 Hz- 63 Hz
Voltage out (V)	[sv] 54,6 V DC, (48 V DC) 27,3 V DC, (24 V) Gäller även i batteridrift.
Current output (A), max load current output.	[sv] 5 A på 24 V lastutgång
Batteries ^a	2 x 20 Ah

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

Areas of application

Table 3. [sv] Användningsområden

Areas of application	Yes	No
IP camera, power supply.	✓	
Networked devices that can be powered by PoE.	✓	

Electronics

Table 4. [sv] Elektriska data

[sv] Elektriska data	
[sv] Matningsspänning	[sv] 230 V AC - 240 V AC, 47 Hz- 63 Hz
[sv] Laddström	[sv] Beroende på strömuttag. Max 10 A
[sv] Verkningsgrad ^a	[sv] 90%
[sv] Standbyförbrukning	[sv] 1,27 W
[sv] Spänning ut	[sv] 54,6 V DC, (48 V DC) 27,3 V DC, (24 V) Gäller även i batteridrift.
[sv] Ström (A) ^b	[sv] 5 A på 24 V lastutgång
[sv] Effekt (W)	[sv] 30,8W per port

^aVid nominell last.

^bStrömuttag/last anges som max, normalt strömuttag skall vara 80% av max.

Table 5. Electrical data

Electrical data	
Mains fuse	2.5 A.
Load fuses	Fuse on supply to PoE switch : 10 A. Load output fuse: 10 A.
Battery fuse	30 A.

Table 6. Printed circuit boards and Internal power consumption

Circuit Boards	Internal power consumption (during battery operation)	Other. info
CEO4 48V	32 mA	

Load outputs

Table 7. Load outputs

Load outputs	
Number of load outputs	PoE switch can drive load to PoE devices and motherboards can drive one (1) 24 V load output to power other applications.

Table 8. Total maximum load and recommended load.

Model	Recommended total load (80%) ^a
5A	4 A

^aTypically, 70-80% of the maximum load is recommended in continuous operation, depending on the thermal margins of the product.

Table 9. POE outputs

POE outputs	
Number of PoE ports (RJ-45)	4
[sv] PoE-budget	[sv] 336 W
POE Budget/Max Power Per Port	! 4 30.8 W.
Number of LAN ports	2
Network ports/interfaces, RJ-45	
Managed	

Alarm and protection

Table 10. [sv] Larm

[sv] Larm	[sv] Ja	[sv] Nej
[sv] Bortkopplade batterier, cellfel	[sv] ✓ Bortkopplat batteri vid uppstart, därefter kontroll var 45:e minut.	

Table 11. Alarm and protection

Alarm and protection	Yes	No
Battery charge protection/control- led charging ^a .	✓ Batteries are charged with a maximum of 0.5 A. ^b	
Deep discharge protection, see Battery [2] ^c .	✓	
Overload Protection/Surge Pro- tection	✓	
Over-temperature protection	✓	
Short circuit protection	✓	

^a Controlled charging protects and extends battery life.

^b Factory setting. Adjustable in PowerWatch

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

Communication and Indications

Table 12. Communication and Indications

Communication and Indications	Yes	No	Other. info.
Communication		x	
RJ-45	✓		Refer to manual for alarms that PoE switch can provide.
[sv] Portstyrning via ansluten dator	✓		
Indicators/LEDs	✓		LED displays informa- tion and alarms on cir- cuit boards and on the outside of the housing.

Battery

Table 13. Technical data - Batteries

Battery	
Recommended Batteries ^a .	2 x 20 Ah
Battery type	Maintenance-free AGM (lead-acid) batteries.
Deep discharge protection	

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

Enclosure and Mechanics

Table 14. Enclosure and Mechanics

Enclosure and Mechanics	
Enclosure	
IP class	IP32
Material	Powder coated sheet metal.
Colour	Black
Height units	5
Cable grommets	4 pcs.
Knockout hole	1 pc. on the back.
Lock	✓, 2 pcs. keys included.
Fan in enclosure	✓X

Assembly, installation and eligibility requirements

Table 15. Fitting

Fitting	[sv] Ja	[sv] Nej
19" rack.	✓	
Wall.	✓	

Table 16. Installation

Installation	Yes	No	Other. info
Fixed installation.	✓		

Dimensions, weight and packaging information

Table 17. Dimensions

Dimensions, (WxHxD).	Dimensions with packaging ^a .
224 x 437 x 212 mm	260 x 480 x 250 mm

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

Table 18. Weight

Net weight	Weight with packaging
7.8 kg	8.55kg

Table 19. Packaging

Packaging	
Packaging	Cardboard and impact protection in cardboard.
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 re- sult in damage to product and packag- ing
Transport environment	The product must be protected from condensation and direct precipitation during transportation.
Transport temperature (without battery)	-30 °C to +70 °C
Storage environment	Dry indoor environment, protected from condensation. Relative humidity: max 95%, non-condensing
Storage temperature without batteries	-20 °C to +60 °C

Contact

Table 20. 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. Infor-
mation is updated without prior notice.

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[SV] COMPLIANCE OCH REGELEFTERLEVNAD

Delivery time, warranty and terms

Table 21. Delivery time, warranty and terms

Delivery time, warranty and terms	
Warranty period ^a	[sv] Produkten har två (2) års garanti mot tillverkningsfel. Utöver den ordinarie garantitiden kan tre (3) års extra garanti köpas till.
Special warranty conditions	Batteries and wear parts are not covered by warranty. 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 22. Operation

Operation	Data	Other. info
Environment	Indoor environmental class 1.	
Operating temperature (recommended)	+15°C to +25°C	For the best battery life. Higher temperatures significantly shorten the life of the batteries.
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 23. Maintenance

Yes	No	Interval	Other. info
✓		Annually	The fan should be cleaned 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 24. Approved according to

Complies with	Directives
PoE	IEEE 802.3af, IEEE 802.3at/30.8 W up to type2, class 4.
Emissions	

Complies with	Directives
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 (EC) 765/2008
EMC	EMC Directive 2014/30EU
Electric (LVD)	Low Voltage Directive: 2014/35/EU

Environmental data

Table 25. Environmental data

Environmental data	J/ N	Information	Other. info.
Building Product Declaration (BPD)	✓	Yes, see iBvd at www.milleteknik.se .	-
REACH Information Obligation (EC) No 1907/2006	✓	Yes, see the DoC at www.milleteknik.se The product complies with REACH Regulation (EC) No 1907/2006.	If empty, the product is not covered.
SVHC substances, CAS/EC	✓	Yes, lead, 7439-92-1/231-100-4	For text, see iBvd at www.milleteknik.se . If blank, substance is missing.
Subject to the RoHS Directive, (EU) 2015/863	✓	Yes, see the DoC at www.milleteknik.se	
WEEE 2012/19/EU	✓	The product contains electrical components or wiring and is covered by the WEEE Directive (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	x		
SCIP No 2008/98/EC	✓	Yes, registered under the EU Waste Directive where applicable, (2008/98/EC).	If empty, no SCIP number is needed.
Conflict minerals (EU) 2017/821	x/ x/ x/ ✓	No=Gold, Tungsten, Tantalum, Cobalt. Yes=Tin	Tin in solders in printed circuit boards purchased through a Swedish supplier.

Environmental data	J/ N	Information	Other info.
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.		
Machine Directive 2006/42/EC	The product is part of electrical systems, is subject to the relevant electrical and safety directives 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 and constructed for a long service life, which reduces the environmental impact. The life of the product (except wearing parts) depends on, among other things, environmental factors, mainly ambient temperature, unforeseen load on components such as lightning strikes, external impact, handling errors, etc. Products are recycled, simply because they are modular, by being left at the nearest recycling station or sent back to the manufacturer. ^b Contact your distributor for more information.			

^aStandby consumption and power.

^bCosts incurred in connection with recycling are not reimbursed.



Manufacturer and country of origin

Table 26. Manufacturer and country of origin

Manufacturer and origin	
Manufacturer ^a	Milleteknik AB
Customs State. Nos.	85043180
Country of origin	Sweden

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

[SV] BILAGA

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/Reservdrifftider/

[sv] Behörighetskrav, installation

[sv] Krav på behörighet varierar mellan länder. Tabellen sammanfattar nationella krav för fast installation respektive anslutning av utrustning med stickkontakt.

Table 27. Eligibility requirements by country. Applies only to the installation of this product in a fixed network connection

Permission Requirements for Installation	Fixed installation (230 V)	Plug	Other. info
Sweden	✓	x	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	✓	x	Plug may be connected without authorization. (Tukes, SFS 6000)
Denmark	✓	x	Plug may be connected without authorization. (Safety Board)
Germany	✓	x	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")

Miscellaneous

The difference between PoE, PoE+ and PoE++.

Table 28. Max power PoE.

-	PoE	Poe+	PoE++
Compatible ^a	-	PoE	PoE, PoE+

-	PoE	Poe+	PoE++
Official name	IEEE 802.3af	IEEE 802.3at	IEEE 802.3bt
Maximum power	13 W	25 W	71 W

^aThe power supply follows "up", but not "down". A PoE can never power a PoE+/PoE++ device that requires more than 13 W.

[sv] Referenstabell: miljöklasser enligt EN 50130-5 (som hänvisas till i EN 50131-6)

Table 29. 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 office/residence).	+5°C to +40°C
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

[sv] Referenstabell: tillverkares angivna livslängd och rekommenderat batteribyte

Table 30. 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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