

fullwat[®]
professional *solutions*

L1028FUIB • INDUSTRIAL Alkaline battery



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1. Scope

The specification is applicable to Fullwat Industrial Alkaline Battery L1028FUIB.

1.1 Designations

Fullwat	IEC	Other
L1028FUIB	----	L1028, 23A, A23, MN21, MS21, V23GA, LR23A

1.2 Reference Document

IEC 60086-1:2000	---Primary Batteries – General
IEC 60086-2:2001	---Primary Batteries – Specification Sheets
GB/T8897.1—2008	---Primary Batteries – General

2. Chemical System

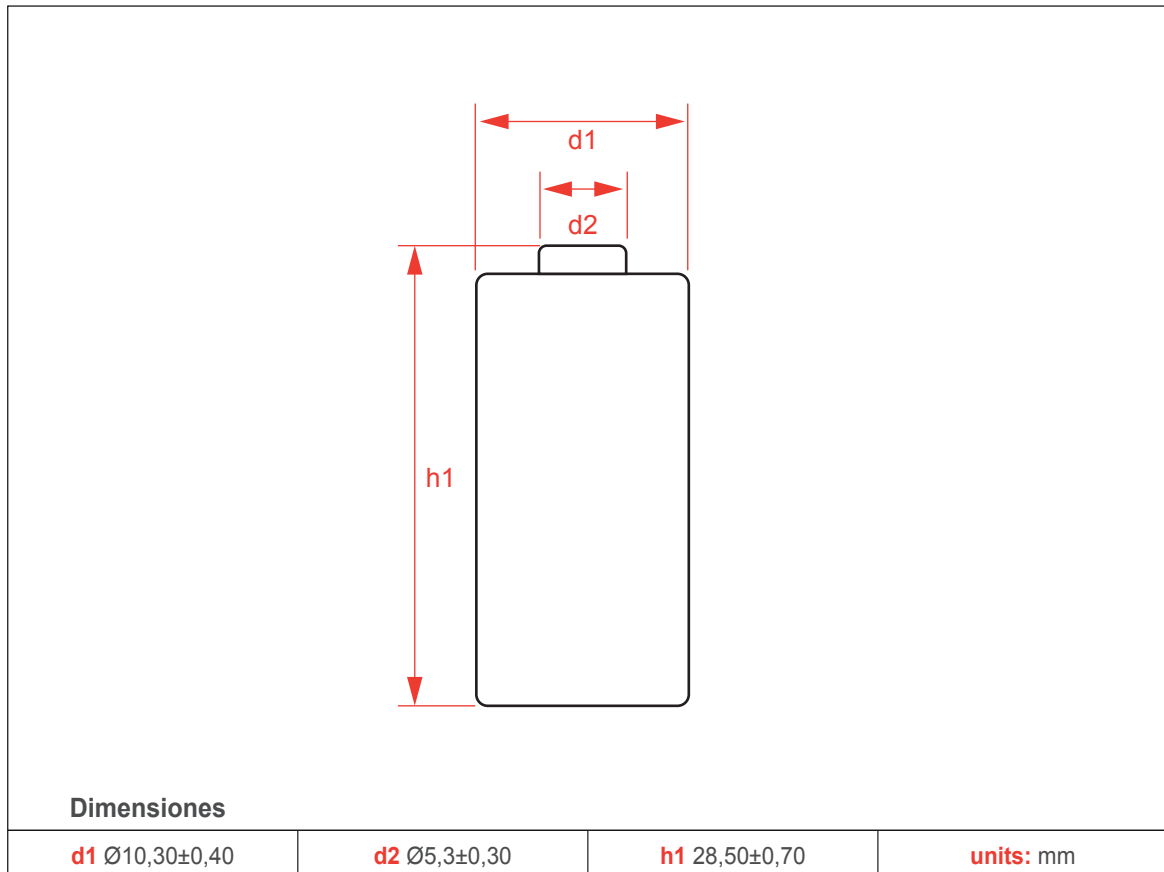
Alkaline-Manganese Dioxide (-) Zn | KOH | MnO₂(+)

3. Nominal Voltage: 12.0 volt

4. Average Weight: 7.85g

5. Nominal Capacity

53mAh (20kΩload resistance, discharge 24hours per day at 20±2°C, E.P.V 8V.)



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6. Electrical Characteristics

(Conditions: 1000Ω±0.5% load resistance, measuring time 0.3seconds, 20±2°C, tested within 30 days after delivery).

	Off-load voltage (V)	On-load voltage (V)	Acceptance Standard
New battery	12.3	11.5	MIL-STD105E, Class II, Double Sampling, AQL=0.4
After 12 mon. room temp.	12.1	11.0	

7. Service Output

(Conditions: Test temp. 20±2°C, tested within 30 days after delivery).

	Discharge Conditions			Average Minimum Discharge Time	
	Discharge Load	Daily Discharge time	End Point Voltage (V)	New battery	After 12mth. at room temp.
Standard	20kΩ	24h	8.0	90h	81h

Acceptance Standard:

- (1) 9 pieces of battery will be tested for each discharging standard.
- (2) The result of the average discharging time from each discharging standard shall be equal to or more than the average minimum time requirement.

8. Electrolyte Leakage Proof Characteristics

Item	Condition	Periods	Characteristics	Acceptance Standard
Over-discharge Characteristics	20kΩcontinuous discharge at temp. 20±2°C, Relative Humidity: 65±20%RH	Continuous discharge 48 hours after discharge termination	There shall be no leakage or explosion recognized by human eye	N=9, Ac=0, Re=1

9. Marking

The following markings will be printed, stamped or impressed on the body of the battery:

- (1) Designation: L1028FUIB
- (2) Manufacturer's name or abbreviation: **fullwat**[®]
professional solutions
- (3) Nominal voltage: 12V
- (4) Polarity: "+" or "-"

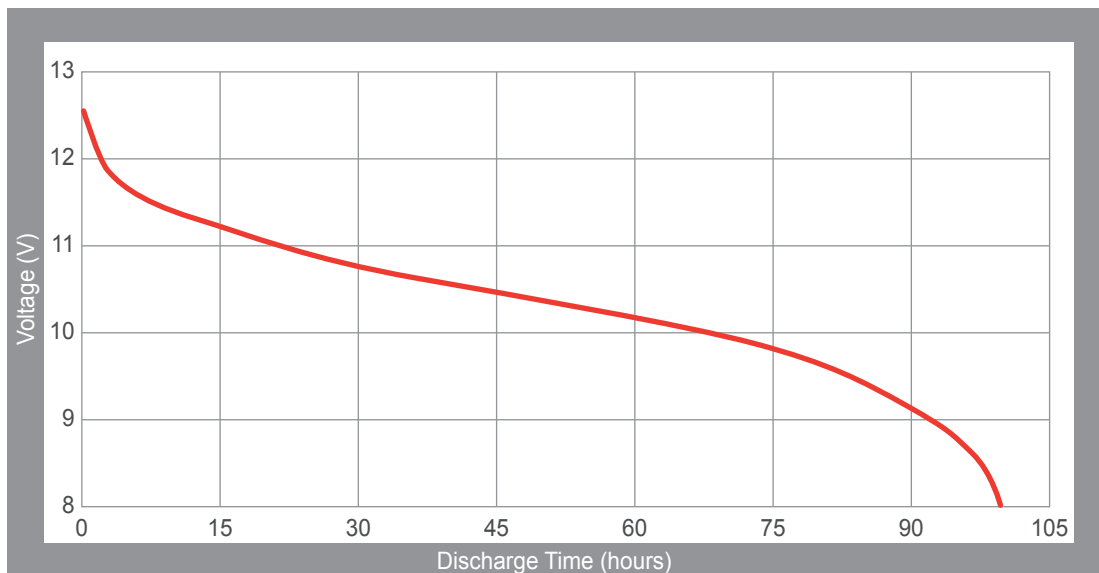
10. Caution for Use

- (1) Since the battery is not manufactured for recharging, there are risks of electrolyte leakage or causing damage to the device if the battery is charged.
- (2) The battery shall be installed with its "+" and "-" in correct position.;
- (3) Short circuiting, heating, throwing into fire and disassembling the battery shall not be done.

11. Discharge Curves

(Condition: Test temperature 20±2°C)

Discharge Method: 20kΩ24hrs/day



12. Battery Dimension and construction

(See the next page)

13. Warranty

The warranty is specified in our warranties section of Terms of Sales. If the product is to be stored for more than three months it is necessary to perform the appropriate maintenance to ensure the good condition of the batteries. Consult our annex to the Terms of Sales on the recommended maintenance.

