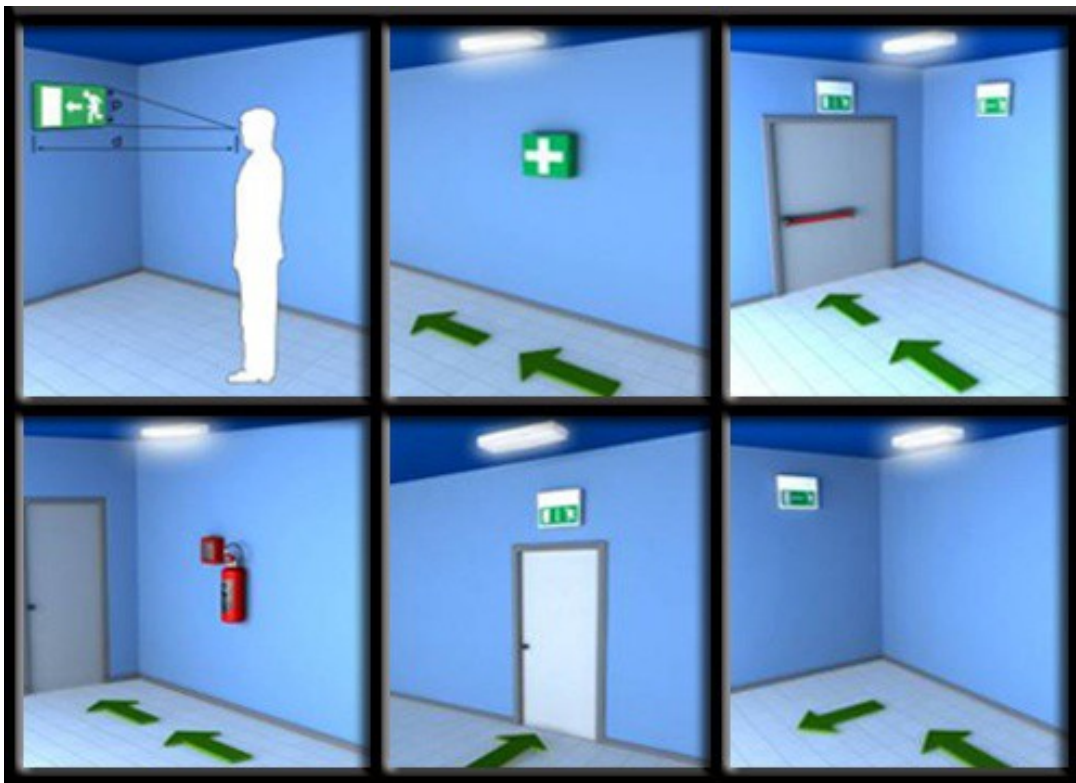


[Our Internet Company Presentation is available at WWW.WALDMAR.RS](http://WWW.WALDMAR.RS)

„WALDMAR “ is manufacturer and exclusive distributor of Industrial Ni-Cd Batteries(stationary and starting types) of „OAO Zavod AIT“, Saratov, Russia for South East Europe. Besides, in the WALDMAR Product Range are battery chargers and dischargers, UPS, inverters, all types of Emergency Lights, Central Power Supplies for Emergency Lights (APA), portable industrial lights and flashlights (rechargeable), standard and Ex, single phase transformers (up to 3000W) and rechargeable battery packs (for drilling machines, instruments, etc). Considering service, WALDMAR deals with the maintenance of all the a.m. Products.

EMERGENCY LIGHTS

WALDMAR represents several latest types of Emergency-Safety Lights with self-contained Ni-Cd and Lead Batteries and centralized (APA), various backup times (emergency modes), illumination power output, and compact design. Plastic housing, water and stress resistant fulfills all requirements and standards for professional use. After several years of design, quality and performance improvement, we have many different models in our product range available.



Some applications of emergency lights in real conditions are shown on the picture above. Emergency lights are installed in corridor and room spaces (escape routes) where safety lights are necessary. Operating in stand by mode, they are switched on automatically if the mains power fails. They are for easy mounting (wall/ceiling), maintenance free, with charging indicator on the housing.

ME 108



Mode: stand by battery (self contained)

Supply: 230Vac

Lamp: 1 x 8 W fluo

Protection: IP40

Size: 390 x 78 x 78 mm

Weight: 1145 gr

Battery: NiCd 3.6 V, 700 mAh, 1 h backup time
NiCd 3.6 V, 2000 mAh, 3 h backup time
NiCd 3.6 V, 4000 mAh, 6 h backup time

ME 108/12-24



Mode: Central Battery Supply (APA)

Supply: 12 Vdc or 24 Vdc

Lamp: 1 x 8 W fluo

Protection: IP40

Size: 390 x 78 x 78 mm

Weight: 1045 gr

ME 208



Mode: stand by battery (self contained)

Supply: 230Vac

Lamp: 2 x 8 W fluo

Protection: IP40

Size: 390 x 78 x 78 mm

Weight: 1250 gr

Battery: NiCd 6 V, 800 mAh, 1 h backup time
NiCd 6 V, 2000 mAh, 2 h backup time
NiCd 6 V, 2800 mAh, 3 h backup time

ME 208/12-24



Mode: Central Battery Supply (APA)

Supply: 12 Vdc or 24 Vdc

Lamp: 2 x 8 W fluo

Protection: IP40

Size: 390 x 78 x 78 mm

Weight: 1150 gr

ME 106



Mode: stand by battery (self contained)

Supply: 230Vac

Lamp: 1 x 6 W fluo

Protection: IP40

Size: 260 x 110 x 80 mm

Weight: 850 gr

Battery: NiCd 3.6 V, 2000 mAh, 3 h backup time

ME 206



Mode: stand by battery (self contained)

Supply: 230Vac

Lamp: 2 x 6 W fluo

Protection: IP40

Size: 260 x 110 x 80 mm

Weight: 860 gr

Battery: NiCd 6 V, 800 mAh, 1 h backup time

ME 502 AD



Mode: continuous (self contained)

Supply: 230Vac

Lamp: 1 x 8 W fluo

Protection: IP65

Size: 360 x 115 x 85 mm

Weight: 1420 gr

Battery: NiCd 2.4 V, 4000 mAh, 3 h backup time

ME 502 DC



Mode: stand by battery (self contained)

Supply: 230Vac

Lamp: 1 x 8 W fluo

Protection: IP65

Size: 360 x 115 x 85 mm

Weight: 1700 gr

Battery: NiCd 2.4 V, 4000 mAh, 3 h backup time

RILUX 1NC RILUX 3NC



Mode: stand by battery (self contained)

Supply: 230Vac

Lamp: 1 x 8 W fluo

Protection: IP42

Size: 331 x 100 x 46 mm

Weight: 550/760 gr

Battery: NiCd 2.4 V, 1500 mAh, 1 h backup time
NiCd 2.4 V, 2500 mAh, 3 h backup time

ME 296 LED



Mode: continuous/stand by battery (self contained)

Supply: 230Vac

Light: LED/10 pcs

Protection: IP20

Size: 375 x 205 x 45 mm

Weight: 860 gr

Battery: NiCd 3.6 V, 500 mAh, 3 h backup time

ME 297 LED



Mode: continuous/stand by battery (self contained)

Supply: 230Vac

Light: LED/5 pcs

Protection: IP20

Size: 350 x 223 x 28 mm

Weight: 650 gr

Battery: NiCd 3.6 V, 500 mAh, 3 h backup time

PORTABLE LIGHTS AND FLASHLIGHTS

Industrial Flashlights ML 838LED, Ex Portable Flashlights: MICA IL-800 (Zone 0), SHL 200-Ex (Zone 1), SLAM low voltage portable lighting systems, etc.



BATTERY CHARGERS AND DISCHARGERS

Battery chargers and dischargers, manufactured in the **WALDMAR** factory, are designed in DSP (digital signal processor) technology, with the current-voltage control. They can be used for all types of batteries, such as Lead Acid(VRLA, OPzS) and NiCd, with capacity over 1000Ah. The battery chargers can be single phase and three phase input, with reverse polarity, short circuit, overload, overcharge and overheat protection. The visual and sound warning and indicating devices are integrated, and keypad with digital display for the setup of parameters too. They have an output MCB protection, temperature compensation with temperature sensors and fans against the power components overheating. The chargers are designed for standard battery voltages: 12, 24, 48, 72, 110 or 220V, and universal, multi range chargers, for all these voltages.



EMERGENCY POWER SUPPLIES

WALDMAR represents the Emergency Power Supply Systems for big power plants.

WALDMAR performs designing and manufacturing of Emergency Power Supply Systems, consisting of rectifier-chargers, adapted to function, position and type of batteries they charge, and a complete wiring and installation system with distribution boards comply the local and international ISO and IEC standards. One of the biggest completed system, we can mention a Redundant Power Supply System, installed on the 5 locations of the Vlasina Power Plant Circulating System. This system comprises of two rectifiers-battery chargers 220V, 63A, and two NiCd batteries 220V, 120Ah, in puffer connection with rectifiers and loads, and eight operation modes.

For the Power Substations and Distribution Plants **WALDMAR** deals with the design of **battery chargers – rectifiers** intended to charge and float batteries and supply DC loads. They are of standard DC voltages 110V or 220V, in the power range: 2 to 50kW. The chargers are made of full or semi controlled thyristor bridges in microprocessor technology. They are suitable for all battery types: storage Ni-Cd, open or sealed VRLA Lead Acid batteries.

Their advantages are good maintenance and extending battery life, according to DIN41773 standard, regarding the IUU charging characteristics.



WALDMAR offers several types of **batteries and rechargeable battery packs**. They are compact, modern and practically designed, for professional use. They are already several years in our product range, constantly developed and improved their performance and quality.

WALDMAR manufactures these products according to the client requirements: a variety of button battery cells and packs for measuring instruments, wireless telephones, drilling machines, etc.

Zavod AIT Ni-Cd cells and batteries

Total reliability

Construction

Alkaline nickel-cadmium cells consists of lamellar positive oxide-nickel and negative cadmium electrodes, divided by plastic separators, which provide stable spark gap and free circulation of electrolyte. Cell electrodes are connected with terminal by bolted or welded connection. The terminals are deduced from the openings in cell cover and fastened by nuts. Terminal packing are fulfilled by packing ring. On cell cover there is a sign of polarity, "+"", the terminals "+" and "-" are marked by colored marking of the rings. On cell cover there is a filling opening (neck) for filling electrolyte, closed by plug with opening cover. Block of electrodes is put into steel or plastic box.

Advantages of Ni-Cd cells

- Range of limiting temperatures of environment: From -40°C till +40°C.
- Conservation of working capacity after a long being at temperature till -60°C.
- Resistance to mechanical loadings, working capacity after deep discharge, short circuits, long storage.
- Possibility of momentary breakdown is excepted.
- Cells correspond to the requirements of International Electric Standard (IEC-623).
- Improved active mass of the cells allows the cells to be charged at voltage not more than 1,5 V per cell by activity in a buffer mode (in parallels with generator or stabilizer) and at the same time in 3-4 times water discharge is reduced, and, therefore periodicity of service (not more than once per 3 months).
- Translucent vessel of the cells allows to conduct visual control of electrolyte level, on the vessel of cell the hazards of minimum and maximum levels of electrolyte are marked.
- Bolt connection of cell electrodes allows to carry out the repair (reassembly)

Long life cycle

AIT Ni-Cd's high quality construction, large electrolyte reserve, low maintenance, long service intervals and advanced plate technology add up to 20 years reliable service at a significantly lower cost than lead acid.

Wide application range

KPH Range

- combustion engine starting and diesel-electric units
- powering diesel and electric locomotive on-board applications
- supplying the electrical system on trams, for lighting, electromagnetic brakes and door opening duties
- electrical systems where short, extremely high current consumption is necessary

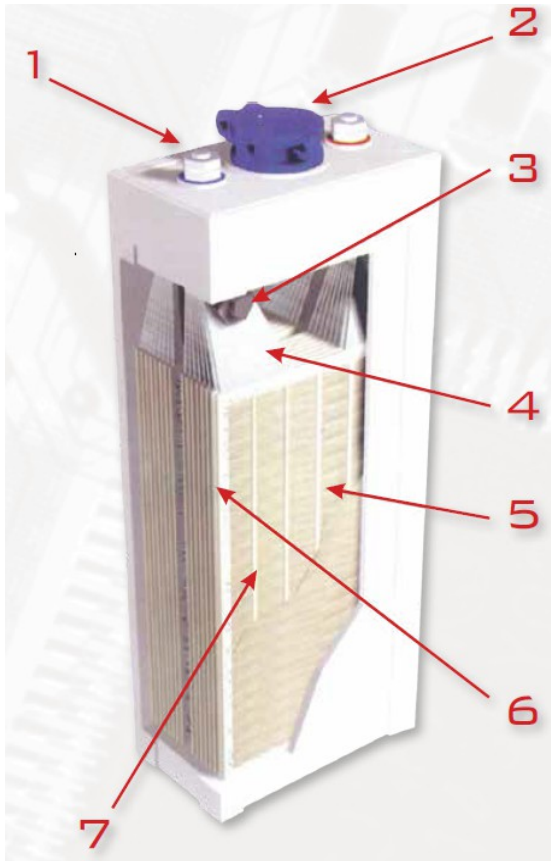
KPM Range

- platform cars
- brake systems
- lighting of railway carriages and locomotives - other power backup applications

KPL Range

- signalling equipment
- stationary and portable lighting equipment - telecommunications
- emergency lighting for buildings

Construction features



1. Terminal.

For taking off a current, is a terminal for connecting cells

2. Plug.

Provides comfort filling of electrolyte and free outlet of gases upon charging.

3. Welded or bolted connection for KL and KM types and bolted connection for KH type.

Connects electrodes and provides current transfer from the electrodes to terminal.

4. Contact banks.

Welded to electrode and provide taking off a current from the electrodes.

5. Electrode.

Consists of horizontally located lamellas, contains active material, pun into steel perforated band.

6. Rib.

Provides rigidity of electrode and current transfer to contact bank.

7. Frame separator.

Divides positive and negative electrodes, provides free circulation of electrolyte between the electrodes.



REFERENCES – WALDMAR's greatest clients:

- Elektroprivreda Srbije (EPS), Beograd (Serbian Electricity Company-EPS, Belgrade)
- Energoprojekt-visokogradnja, Beograd (Buildings Civil Engineering Company, Belgrade)
- Naftna industrija Srbije, Novi Sad (Serbian Oil Industry, Novi Sad)
- Železnice Srbije, Beograd (Serbian Railways, Belgrade)
- Beogradske elektrane, Beograd (Belgrade Power Plants, Belgrade)
- Rudarski basen Kolubara, Lazarevac (Mine basin Kolubara, Lazarevac)
- Rudarski basen Bor, Bor (Mine basin Bor, Bor)
- Gradsko stambeno, Beograd (Municipal Housing Company, Belgrade)
- JKP Beogradski vodovod i kanalizacija, Beograd (Water Supply and Sewage Utility)
- Klinički centar Srbije, Beograd (Serbian Clinical Center, Belgrade)
- Vojnomedicinska akademija, Beograd (Military Hospital, Belgrade)

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