



GERMANY TECHNOLOGY  
**12 OPzS 1200**  
(2V-1370AH @ C10)

# HIGH PERFORMANCE



## Specifications:

Very high operational reliability under rough operating conditions.

Low maintenance due to reduced antimony in the alloy and high electrolyte reserve.

20 years at 20°C (80% remaining capacity from C10).

Also designed for cyclic applications.

Also available in dry charged condition with separate electrolyte.

Low gassing due to PbSb1.6SnSe alloy (EN 50272-2).

Conforms to DIN 40 736 and DIN 40 737 T3.

Electrolyte: diluted sulphuric acid dN = 1.25 kg/l.

Optimized plate design produces increased capacities compared to DIN.

Completely recyclable.

## Applications

Telecommunications

Emergency lighting

Microwave radio systems

Power generation plants

Photovoltaics

## Innovative Features

- ◆ Tubular positive plates: Robust tubular plates consisting of a lead antimony alloy, optimized for high corrosion resistances.
- ◆ Pasted negative plates: Grid plate construction consisting of low antimony with long-life expander material.
- ◆ Separators: Microporous and robust, for electrical separation of the positive and negative plates and optimized for low internal resistance.
- ◆ Container: High impact, transparent SAN (Styrol-Acryl-Nitril).
- ◆ Safety Vents: Cells incorporate flame retardant ceramic plugs that filter out any drops of electrolyte from the escaping gases preventing any errant spark or flame from entering the battery.
- ◆ Poles: Screw connection for easy and safe assembly and maintenance-free connection with excellent conductivity.
- ◆ Post seals: Extremely high integrity post seal design to prevent electrolyte leakage and terminal corrosion.
- ◆ Connectors: Flexible, fully insulated cable connectors screwed to the terminal with an insulated screw having a probe hole on the top for electrical measurement.

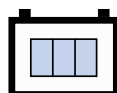
**PROVEN HIGH RELIABILITY ENERGY  
STORAGE FOR CRITICAL APPLICATION**

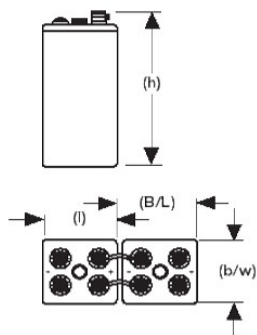
## Standard and Compliance

DIN 40736 part 1

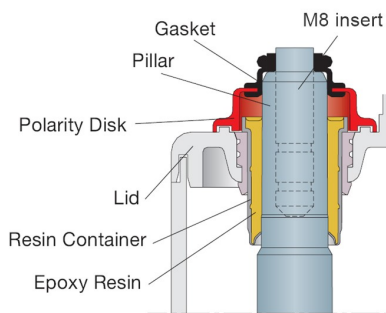
DIN 40737 part 2

IEC 896 part 1

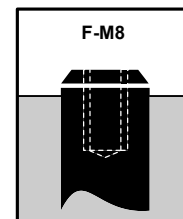




Dimension figure



High Reliability Post Seal



16 Nm

Container: SAN (acrylonitrile polystyrene),  
UL 94 V-0 standard

## Tubular OPzS Range Electrical Specifications & Dimensions

| Part number | DIN Type     | Nom. Voltage (V) | C8 AH to 1.75VPC | C10 AH to 1.80VPC | C100 AH to 1.80VPC | Outline Dimensions (mm) |             |            |                        | Weight With acid (kg) | Acid Weight (kg) | Pole Pairs | Internal Resist. acc. to IEC 896-2 mOhms | Short Circuit Current | Terminal |
|-------------|--------------|------------------|------------------|-------------------|--------------------|-------------------------|-------------|------------|------------------------|-----------------------|------------------|------------|------------------------------------------|-----------------------|----------|
|             |              |                  |                  |                   |                    | Length (l)              | Width (b/w) | Height (h) | Installed Length (B/L) |                       |                  |            |                                          |                       |          |
| 2TS121200   | 12 OPzS 1200 | 2                | 1336             | 1370              | 1804               | 215                     | 277         | 695        | 225                    | 92.0                  | 24.0             | 2          | 0.34                                     | 8900                  | F-M8     |

Acid density  $d_N = 1.250 \text{ kg/l}$

## Tubular OPzS Range Discharge Data Amperes at 20°C

| End Point Volts/Cell | Discharge Time in Minutes |        |        |        |        | Discharge Time in hours |          |        |        |        |        |        |         |         |
|----------------------|---------------------------|--------|--------|--------|--------|-------------------------|----------|--------|--------|--------|--------|--------|---------|---------|
|                      | 5 min                     | 10 min | 15 min | 20 min | 30 min | 1 hour                  | 1.5 hour | 2 hour | 3 hour | 4 hour | 5 hour | 8 hour | 10 hour | 20 hour |
| 1.90                 | 534                       | 530    | 511    | 492    | 458    | 395                     | 347      | 312    | 251    | 214    | 188    | 140    | 119     | 66.0    |
| 1.87                 | 583                       | 577    | 554    | 534    | 496    | 427                     | 373      | 284    | 267    | 226    | 198    | 147    | 126     | 69.0    |
| 1.85                 | 631                       | 623    | 597    | 575    | 534    | 459                     | 399      | 256    | 282    | 237    | 208    | 153    | 132     | 71.9    |
| 1.83                 | 698                       | 686    | 655    | 629    | 583    | 494                     | 426      | 376    | 295    | 247    | 215    | 157    | 134     | 73.3    |
| 1.80                 | 800                       | 781    | 741    | 710    | 655    | 547                     | 467      | 407    | 315    | 261    | 225    | 162    | 137     | 75.4    |
| 1.75                 | 968                       | 932    | 881    | 838    | 767    | 617                     | 521      | 443    | 336    | 273    | 233    | 167    | 141     | 77.4    |
| 1.70                 | 1135                      | 1080   | 1020   | 964    | 873    | 678                     | 562      | 469    | 349    | 281    | 237    | 170    | 142     | 78.8    |
| 1.65                 | 1295                      | 1220   | 1160   | 1090   | 971    | 733                     | 592      | 490    | 358    | 286    | 240    | 176    | 144     | 79.5    |

## Tubular OPzS Range Discharge Data Watts at 20°C

| End Point Volts/Cell | Discharge Time in Minutes |        |        |        |        | Discharge Time in hours |          |        |        |        |        |        |         |         |
|----------------------|---------------------------|--------|--------|--------|--------|-------------------------|----------|--------|--------|--------|--------|--------|---------|---------|
|                      | 5 min                     | 10 min | 15 min | 20 min | 30 min | 1 hour                  | 1.5 hour | 2 hour | 3 hour | 4 hour | 5 hour | 8 hour | 10 hour | 20 hour |
| 1.90                 | 874                       | 874    | 857    | 827    | 774    | 678                     | 605      | 551    | 458    | 400    | 360    | 270    | 230     | 131     |
| 1.87                 | 1050                      | 1045   | 1010   | 976    | 910    | 790                     | 695      | 627    | 508    | 435    | 386    | 288    | 247     | 138     |
| 1.85                 | 1170                      | 1160   | 1115   | 1075   | 1000   | 866                     | 755      | 677    | 540    | 456    | 404    | 300    | 258     | 142     |
| 1.83                 | 1275                      | 1265   | 1210   | 1165   | 1080   | 925                     | 802      | 712    | 563    | 473    | 415    | 305    | 261     | 145     |
| 1.80                 | 1440                      | 1415   | 1350   | 1295   | 1200   | 1015                    | 874      | 765    | 597    | 497    | 432    | 314    | 266     | 148     |
| 1.75                 | 1695                      | 1650   | 1565   | 1495   | 1380   | 1130                    | 964      | 826    | 633    | 516    | 446    | 323    | 274     | 152     |
| 1.70                 | 1940                      | 1860   | 1770   | 1685   | 1540   | 1225                    | 1030     | 869    | 656    | 530    | 451    | 327    | 276     | 154     |
| 1.65                 | 2150                      | 2050   | 1965   | 1860   | 1680   | 1305                    | 1075     | 904    | 669    | 538    | 455    | 334    | 278     | 155     |

## Long Duration Discharge Capacity (Ah) at 20°C

| Part No.  | DIN Type     | End Point Volts/Cell | C <sub>24</sub> | C <sub>48</sub> | C <sub>72</sub> | C <sub>96</sub> | C <sub>100</sub> | C <sub>120</sub> | C <sub>240</sub> |
|-----------|--------------|----------------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| 2TS121200 | 12 OPzS 1200 | 1.85                 | 1504            | 1656            | 1777            | 1782            | 1786             | 1792             | 1813             |
|           |              | 1.80                 | 1519            | 1673            | 1795            | 1800            | 1804             | 1810             | 1831             |

Actual battery performance data may be +/-5% of figures shown above.

