



PowerSafe[®] ELM

Railroad Signal Batteries

Battery Range Summary

The PowerSafe[®] Extreme Low Maintenance (ELM) railroad signal batteries provide the power needed for reliable signal control at highway crossings and other critical railway signal locations. The technology behind the PowerSafe ELM battery is backed by more than 50 years of development.

The PowerSafe ELM employs a carefully engineered combination of plate surface area, plate thickness and electrolyte volume for optimum discharge performance. Positive active materials are locked inside the EnerSys[®] exclusive square tubular design to provide outstanding cycling capability, long life and high energy density. The unique design offers greater surface area for holding active material and exposing it to electrolyte. The negative plates feature extremely low self-discharge rates and promote low float current.

These design features along with an electrolyte reserve provides proven longevity that can exceed conventional maintenance-free Valve Regulated Lead Acid (VRLA) batteries when used in similar railway signal applications.

Features and Benefits

- Capacity range 80 – 710Ah
- Outstanding cycling capability
- Reduced maintenance with long watering intervals
- Lifting handles for ease of use
- Rugged high-impact polypropylene construction
- 20 year life expectancy in float service at 77°F (25°C)



Construction

- Square tubular positive plate
- Flat negative plate with pasted calcium grids
- Separator – high porosity microporous polyethylene sleeve
- High-impact polypropylene jar and cover
- Electrolyte – dilute sulfuric acid with specific gravity of 1.210
- Integral electrolyte level indicator
- Flame arrestors – included for increased operational safety

Installation and Operation

- Efficient and compact footprint
- Vertical installation design with lifting handles
- Extremely low discharge rates and low float current
- 20 year life expectancy in float service at 77°F (25°C)
- Post and connectors provide for easier maintenance, cell monitoring and measurements
- Operating temperature: 62°F (16°C) to 77°F (25°C)
Recommended temperature: 68°F (20°C) to 86°F (30°C)

Standards

- The management systems governing the manufacture of this product are ISO 9001:2008 and ISO 14001:2004 certified

General Specifications

Cell Type	Nominal Ah Capacity*	Nominal Dimensions						Weight - Volumes					
		Length mm		Width mm		Height mm		Weight		Electrolyte only 1.210 S.G.			
		in	mm	in	mm	in	mm	lbs	kg	lbs	kg	gal	liters
ELM-80	80	6.6	168	5.4	138	13.56	344	20	9.1	2.6	1.2	0.26	1.0
ELM-120	120	6.6	168	5.4	138	13.56	344	25	11.4	2.9	1.3	0.29	1.1
ELM-160	160	6.6	168	5.4	138	18.85	479	35	15.9	9.3	4.2	0.92	3.5
ELM-200	200	6.6	168	5.4	138	18.85	479	40	18.2	9.7	4.4	0.96	3.6
ELM-240	240	6.6	168	5.4	138	18.85	479	45	20.5	9.2	4.2	0.91	3.4
ELM-340	340	6.7	170	8.4	214	18.85	479	65	29.5	14.9	6.8	1.47	5.6
ELM-425	425	6.7	170	8.4	214	18.85	479	80	36.4	16.4	7.5	1.62	6.1
ELM-500	500	7.0	178	8.7	220	19.16	487	95	43.2	18.2	8.3	1.80	6.8
ELM-710	710	7.0	178	12.5	318	19.16	487	125	56.8	24.9	11.3	2.46	9.3

*Nominal Ah capacity is based on a 8 hour rate to 1.75 volts per cell @ 77°F (25°C)

