

ARTS

ENERGY

ARTS Energy's Smart ENDURANCE L2 range series are perfectly suited to professional applications requiring a battery with an exceptional robustness (electrical performances, but also the external battery casing). Smart Endurance L2 range is designed to operate in very demanding environment (from -40°C to +70°C).

Smart ENDURANCE L2 integrates smart electronics, all in a plug-n-play battery design.

Smart ENDURANCE L2 electronics integrate a built-in BMS (Battery Management System), managing charge, discharge, SOC (State Of Charge), SOH (State Of Health) based on proprietary algorithms.

In cycling application, or back up applications, Smart ENDURANCE L2 will offer 5 to 10 years life in an environment from -40°C to +70°C. It delivers for example, 5000 cycles at 50% DOD.

To meet customers' requirements, ARTS Energy provides custom-designed and standardised battery packs. For your battery design and system needs, please contact ARTS Energy's engineers.

APPLICATIONS

- Back-up systems
- Peak shaving applications (money saving)
- Professional electronics, medical
- Solar

MAIN BENEFITS

- Very high cycle life
- Exceptional temperature range
- Superior robustness
- Plug-n-play solution (BMS)
- Communication interface (RS232)

TECHNOLOGY

- Foam positive electrode
- Plastic bonded metal-hydride negative electrode



ELECTRICAL CHARACTERISTICS

Battery type	Voltage	IEC Cell Capacity *
Smart ENDURANCE L2 12V - 6 Ah	12V	6 Ah
Smart ENDURANCE L2 12V - 10 Ah	12V	10 Ah
Smart ENDURANCE L2 12V - 20 Ah	12V	20 Ah
Smart ENDURANCE L2 24V - 6 Ah	24V	6 Ah
Smart ENDURANCE L2 24V - 10 Ah	24V	10 Ah
Smart ENDURANCE L2 24V - 20 Ah	24V	20 Ah
Smart ENDURANCE L2 36V - 10 Ah	36V	10 Ah
Smart ENDURANCE L2 36V - 20 Ah	36V	20 Ah
Smart ENDURANCE L2 45,6V - 10 Ah	45,6V	10 Ah
Smart ENDURANCE L2 45,6V - 20 Ah	45,6V	20 Ah

* depending on battery configuration & conditions of use, capacity may be reduced

RANGE OF TEMPERATURE

	Temp. (°C)
Operating temperature range for charge and discharge	-40 to +70
Maximum temperature (reversible): thermostat	+75 +/- 5
Maximum temperature (non-reversible): thermofuse	+93 +/- 5

CHARGE CONDITIONS

	Temp. (°C)	Maximum Current
Delivered to the battery	-40 to +70	7A
Accepted by the battery (regulation)	-40 to +70	4A
Maximum charging voltage: 57V		

DISCHARGE CONDITIONS

	Temp. (°C)	Current
	+20 to +85	10A max
	0 to +85	C/2 max
	-20 to +85	C/5 max
	-40 to +85	C/20 max

CYCLING CONDITIONS

	Cycling	Life duration
Back up applications	1 discharge/day max	5 to 10 years
Cycling applications	1 discharge/day max	5 to 10 years

NI-MH

Smart ENDURANCE L2

High Robustness Series

Smart ENDURANCE L2

High Robustness Series

STORAGE

Recommended: + 5°C to + 25°C

Relative humidity: 65 ± 5 %



COMPONENTS

VHT F or VHT D cells

Connector HIROSE 547-0085-8-MDF6-8DP
3,5DSA

Thermofuse (non reversible) +93°C +0°C/-5°C

Plastic ABS/PC V0

The operation of the battery must strictly be in accordance with ARTS Energy technical recommendations, to obtain the performances stated by ARTS Energy.

Data is given for single cells. Please consult ARTS Energy for utilisation of cells outside specification.

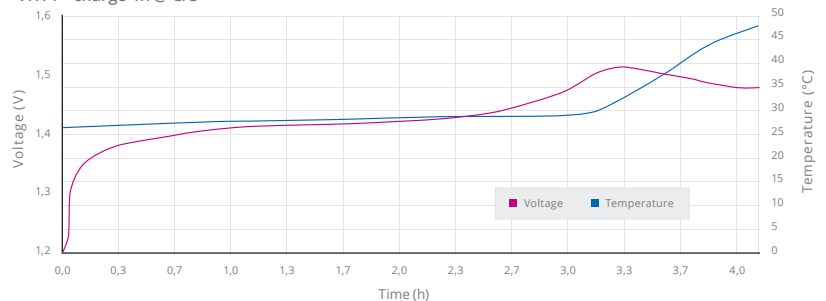
Data in this document is subject to change without notice and become contractual only after written confirmation by ARTS Energy.

MECHANICAL CHARACTERISTICS

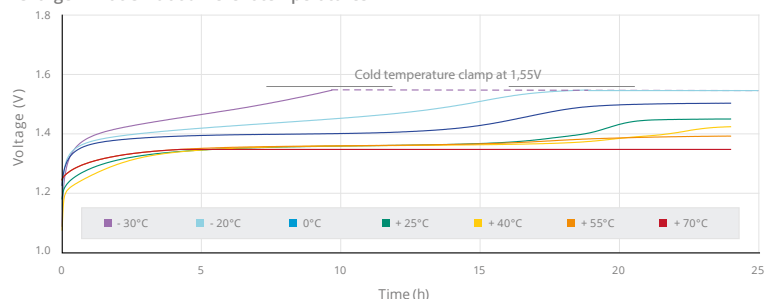
Battery type	Thickness (mm)	Width (mm)	Height (mm)	Weight (Kg)
Smart ENDURANCE L2 12V – 6 Ah	73,5	178	98	1,9
Smart ENDURANCE L2 12V – 10 Ah	73,5	178	129	2,8
Smart ENDURANCE L2 12V – 20 Ah	73,5	178	219	5,1
Smart ENDURANCE L2 24V – 6 Ah	73,5	178	158	3,3
Smart ENDURANCE L2 24V – 10 Ah	73,5	178	219	5,1
Smart ENDURANCE L2 24V – 20 Ah	73,5	178	395	9,8
Smart ENDURANCE L2 36V – 10 Ah	73,5	178	309	7,4
Smart ENDURANCE L2 36V – 20 Ah	73,5	178	575	14,4
Smart ENDURANCE L2 45,6V – 10 Ah	73,5	178	395	9,4
Smart ENDURANCE L2 45,6V – 20 Ah	73,5	178	755	18,7

For graphs shown, C is the IEC₅ capacity.

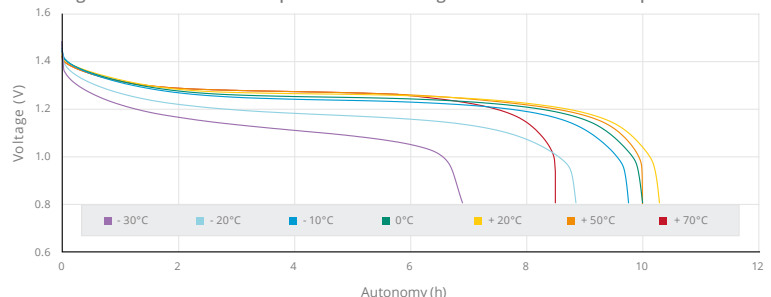
VHT F - charge 4h @ C/3



Charge 24h at C/20 at different temperatures



Discharge at C/10 at different temperatures after charge at C/10 at different temperatures



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