Data Sheet

NPL-Series - Valve Regulated Lead Acid Battery NPL24-12I (FR)

Nominal voltage	SPECIFICATIONS			
10-hr rate Capacity to 10.8V at 20°C 21.12 Ah	Nominal voltage	12	V	
DIMENSIONS Length	20-hr rate Capacity to 10.5V at 20°C	24	Ah	
Length	10-hr rate Capacity to 10.8V at 20°C	21.12	Ah	
Width 175 (±0.5) mm Height 125 (±0.5) mm Height 125 (±0.5) mm Height 125 (±0.5) mm Mass (typical) 9.0 kg 7 kg 12 kg	DIMENSIONS			
Width 175 (±0.5) mm Height 125 (±0.5) mm Height 125 (±0.5) mm Height 125 (±0.5) mm Mass (typical) 9.0 kg 7 kg 12 kg	Lenath	166 (±0.5)	mm	
Height		` '		
Mass (typical) 9.0 kg TERMINAL TYPE	Height	, ,	mm	
TERMINAL TYPE	(height over terminals)	N/A	mm	
Female threaded terminal	Mass (typical)	9.0	kg	
Torque	TERMINAL TYPE			
OPERATING TEMPERATURE RANGE	Female threaded terminal	M5	mm	
Storage (in fully charged condition)	Torque	2.5	Nm	
Charge	OPERATING TEMPERATURE RANGE			
Charge	Storage (in fully charged condition)	-20°C to +60°C		
Discharge -20°C to +60°C	, , , , , , , , , , , , , , , , , , ,			
STORAGE				
CASE MATERIAL Standard Option ABS (UL.94:HB) Flame retardant option (FR) ABS (UL.94:V0) CHARGE VOLTAGE Float charge voltage at 20°C 13.65 (±1%) V //cell Float Charge voltage temperature correction factor (for variations from the standard 20°C) -3 mV/cell/°C Cyclic (or Boost) charge at 20°C 14.5 (±3%) V //cell Cyclic Charge voltage temperature correction factor (for variations from the standard 20°C) -4 mV/cell/°C CHARGE CURRENT Float charge current limit No limit A MAXIMUM DISCHARGE CURRENT 1 second 22.19 A MAXIMUM DISCHARGE CURRENT 1 second 22.19 A Internal resistance 22.19 M Internal resistance 22.19 mΩ Short-Circuit current 656 A Internal resistance 22.19	Š			
Standard Option	Capacity loss per month at 20°C (approx)	3	%	
Flame retardant option (FR)	CASE MATERIAL			
Flame retardant option (FR)	Standard Option	ABS (UI	ABS (UL.94:HB)	
CHARGE VOLTAGE Float charge voltage at 20°C 13.65 (±1%) V Float Charge voltage temperature correction factor (for variations from the standard 20°C) -3 mV/cell/°C Cyclic (or Boost) charge at 20°C 14.5 (±3%) V Cyclic Charge voltage temperature correction factor (for variations from the standard 20°C) -4 mV/cell/°C CHARGE CURRENT No limit A Float charge current limit No limit A Cyclic (or Boost) charge current limit 6.00 A MAXIMUM DISCHARGE CURRENT 22.19 A 1 minute 656 A SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE (according to EN IEC 60896-21) mΩ Short-Circuit current 656 A MPEDANCE Measured at 1 kHz 9.5 mΩ PERFORMANCE & CHARACTERISTICS Refer to the technical manual NPL DESIGN LIFE EUROBAT Classification: High performance 10 to 12 years Yuasa design life @ 20°C up to 10 years	•			
Float charge voltage at 20°C 13.65 (±1%) V 2.275 (±1%) V/cell Float Charge voltage temperature correction factor (for variations from the standard 20°C) -3 mV/cell/°C Cyclic (or Boost) charge at 20°C 14.5 (±3%) V 2.42 (±3%) V/cell Cyclic Charge voltage temperature correction factor (for variations from the standard 20°C) -4 mV/cell/°C CHARGE CURRENT Float charge current limit No limit A Cyclic (or Boost) charge current limit 6.00 A MAXIMUM DISCHARGE CURRENT 1 second 22.19 A 1 minute 656 A SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE (according to EN IEC 60896-21) Internal resistance 22.19 mΩ Short-Circuit current 656 A IMPEDANCE Measured at 1 kHz 9.5 mΩ PERFORMANCE & CHARACTERISTICS Refer to the technical manual NPL DESIGN LIFE EUROBAT Classification: High performance 10 to 12 years Yuasa design life @ 20°C up to 10 years V/cell V/cell V/cell V/cell A MV/cell/°C 14.5 (±3%) V 2.42 (±3%) V/cell A mV/cell/°C 14.5 (±3%) V 2.42 (±3%) V/cell A mV/cell/°C nV/cell/°C mV/cell/°C mV/cell/°C mV/			,	
Ploat charge Voltage at 20 C 2.275 (±1%) V/cell		13.65 (±1%)	V	
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Cyclic (or Boost) charge at 20 C 2.42 (±3%) V/cell Cyclic Charge voltage temperature correction factor (for variations from the standard 20°C) -4 mV/cell/°C CHARGE CURRENT Total charge current limit No limit A Cyclic (or Boost) charge current limit 6.00 A MAXIMUM DISCHARGE CURRENT 22.19 A 1 second 22.19 A 1 minute 656 A SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE (according to EN IEC 60896-21) Internal resistance 22.19 mΩ Short-Circuit current 656 A Measured at 1 kHz 9.5 mΩ PERFORMANCE & CHARACTERISTICS Refer to the technical manual NPL DESIGN LIFE EUROBAT Classification: High performance 10 to 12 years Yuasa design life @ 20°C up to 10 years		-3	mV/cell/°C	
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Float charge current limit		-4	mV/cell/°C	
Cyclic (or Boost) charge current limit 6.00 A MAXIMUM DISCHARGE CURRENT 22.19 A 1 second 22.19 A 1 minute 656 A SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE (according to EN IEC 60896-21) Internal resistance 22.19 mΩ Short-Circuit current 656 A IMPEDANCE Measured at 1 kHz 9.5 mΩ PERFORMANCE & CHARACTERISTICS Refer to the technical manual NPL DESIGN LIFE EUROBAT Classification: High performance 10 to 12 years Yuasa design life @ 20°C up to 10 years	CHARGE CURRENT			
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Internal resistance 22.19 mΩ	SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE			
Short-Circuit current 656 A IMPEDANCE Measured at 1 kHz 9.5 mΩ PERFORMANCE & CHARACTERISTICS Refer to the technical manual NPL DESIGN LIFE EUROBAT Classification: High performance 10 to 12 years Yuasa design life @ 20°C up to 10 years	(according to EN IEC 60896-21)			
IMPEDANCE Measured at 1 kHz 9.5 mΩ PERFORMANCE & CHARACTERISTICS Refer to the technical manual NPL DESIGN LIFE EUROBAT Classification: High performance 10 to 12 years Yuasa design life @ 20°C up to 10 years	Internal resistance	22.19	mΩ	
Measured at 1 kHz 9.5 mΩ PERFORMANCE & CHARACTERISTICS Refer to the technical manual NPL DESIGN LIFE EUROBAT Classification: High performance 10 to 12 years Yuasa design life @ 20°C up to 10 years	Short-Circuit current	656	Α	
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Refer to the technical manual NPL DESIGN LIFE EUROBAT Classification: High performance 10 to 12 years Yuasa design life @ 20°C up to 10 years		9.5	mΩ	
Refer to the technical manual NPL DESIGN LIFE EUROBAT Classification: High performance 10 to 12 years Yuasa design life @ 20°C up to 10 years	PERFORMANCE & CHARACTERISTICS			
DESIGN LIFE EUROBAT Classification: High performance 10 to 12 years Yuasa design life @ 20°C up to 10 years	Refer to the technical manual	NPL		
EUROBAT Classification: High performance 10 to 12 years Yuasa design life @ 20°C up to 10 years				
Yuasa design life @ 20°C up to 10 years		10 to 12	vears	
	• 1			
		αρ το το	years	



Can be installed and operated in any orientation except permanently inverted

Handles

Batteries must not be suspended by their handles (where fitted)

Vent valves

Each cell is fitted with a low pressure release valve to allow gasses to escape and then reseal.

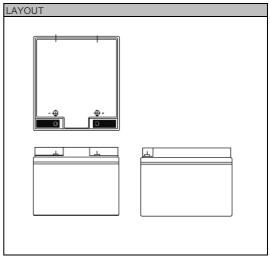
Gas Release

VRLA Batteries release hydrogen gas which can form explosive mixtures in air. Do not place inside a sealed container

Recycling

YUASA's VRLA batteries must be recycled at the end of life in accordance with local and national laws and regulations





3RD PARTY CERTIFICATIONS

ISO 9001 - Quality Management Systems
ISO 14001 - Environmental Management Systems
EN 18001 - OHSAS Management Systems
UNDERWRITERS LABORATORIES Inc.



STANDARDS

IEC61056 IEC60896-21/22







ALL DATA IS SUBJECT TO CHANGE WITHOUT NOTICE Issue No.: V.2 / Issue Date: March 2011



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