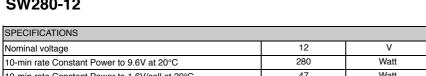
# **SWL-Series - Valve Regulated Lead Acid Battery SW280-12**

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Nominal voltage	10-min rate Constant Power to 9.6V at 20°C 10-min rate Constant Power to 1.6V/cell at 20°C	280	Watt
10-min rate Constant Power to 1.6V/cell at 20°C 7 Ah  DIMENSIONS  Length 55 (±1) mm  Width 65 (±1) mm  Width 65 (±1) mm  Width 65 (±1) mm  Mass (typical) 2.77 kg  TERMINAL TYPE  FASTON (Quickfit / release) 7.18 (±1)	0-min rate Constant Power to 1.6V/cell at 20°C		
10-hr rate Capacity to 10.8V at 20°C   7		47	
DIMENSIONS		.,	Watt
Length   151 (±1)   mm	0-hr rate Capacity to 10.8V at 20°C	7	Ah
Wighth   65 (±1) mm   M/A mm   Height   N/A mm   N/A mm   N/A mm   Mospital   State	DIMENSIONS		
Height	ength	151 (±1)	mm
(height over terminals)	Width	65 (±1)	mm
Mass (typical)   2.7 kg	Height	N/A	mm
TERMINAL TYPE	height over terminals)	97.5 (±2)	mm
FASTON (Quickfit / release) 6.35 mm Torque N/A N/A N/M  OPERATING TEMPERATURE RANGE  Storage (in fully charged condition) -20°C to +60°C  Charge -15°C to +50°C  Discharge -20°C to +60°C  STORAGE  Capacity loss per month at 20°C (approx) 3 %  CASE MATERIAL  Standard Option ABS (UL.94:HB)  Flame retardant option (FR) ABS (UL.94:V0)  CHARGE VOLTAGE  Float charge voltage at 20°C  Cyclic Charge voltage temperature correction factor (for variations from the standard 20°C)  Cyclic (or Boost) charge at 20°C  Cyclic Charge voltage temperature correction factor (for variations from the standard 20°C)  CHARGE CURRENT  Float charge current limit  No limit  A Cyclic (or Boost) charge current limit	Mass (typical)	2.7	kg
N/A   Nm	FERMINAL TYPE		
OPERATING TEMPERATURE RANGE	ASTON (Quickfit / release)	6.35	mm
Charge	Torque	N/A	Nm
Charge	DPERATING TEMPERATURE RANGE		
Charge		-20°C to	0 +60°C
Capacity loss per month at 20°C (approx)   3	<u> </u>		
STORAGE			
Capacity loss per month at 20°C (approx)         3         %           CASE MATERIAL         ABS (UL.94:HB)         ABS (UL.94:HB)           Flame retardant option (FR)         ABS (UL.94:VO)           CHARGE VOLTAGE         13.65 (±1%)         V           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           Cyclic Charge voltage temperature correction factor (for variations from the standard 20°C)         -4         mV/cell/°C           Cyclic Charge voltage temperature correction factor (for variations from the standard 20°C)         -4         mV/cell/°C           CHARGE CURRENT         The control of the standard 20°C)         -4         mV/cell/°C           CHARGE CURRENT         1         1.75         A           MAXIMUM DISCHARGE CURRENT         1         1         3         A           1 minute         50         A         A         A         A           2 cacording to En IEC 60896-21)         N/A         M         M         A	-		7.00 0
CASE MATERIAL   Standard Option   ABS (UL.94:HB)   ABS (UL.94:HB)		3	%
Standard Option   ABS (UL.94:HB)			,-
Flame retardant option (FR)		ABS (UI	94·HB)
CHARGE VOLTAGE	· · · · · · · · · · · · · · · · · · ·	` '	
13.65 (±1%)   V		ADS (01	L94.V0)
Ploat charge voltage at 20°C   2.275 (±1%)   Vicell		13 65 (+1%)	V
(for variations from the standard 20°C)       -3       IIIV/celi/ 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       1.75       A         MAXIMUM DISCHARGE CURRENT       150       A         1 second       150       A         1 minute       50       A         SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE       (according to EN IEC 60896-21)         Internal resistance       N/A       mΩ         Short-Circuit current       N/A       A         IMPEDANCE         Measured at 1 kHz       15       mΩ         PERFORMANCE & CHARACTERISTICS         Refer to the technical manual       SW         DESIGN LIFE         EUROBAT Classification: Standard Commercial       3 to 5       years         Yuasa design life (at 20°C)       up to 5       years	Float charge voltage at 20°C		•
(for variations from the standard 20°C)       -3       IIIV/celi/ 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       1.75       A         MAXIMUM DISCHARGE CURRENT       150       A         1 second       150       A         1 minute       50       A         SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE       (according to EN IEC 60896-21)         Internal resistance       N/A       mΩ         Short-Circuit current       N/A       A         IMPEDANCE         Measured at 1 kHz       15       mΩ         PERFORMANCE & CHARACTERISTICS         Refer to the technical manual       SW         DESIGN LIFE         EUROBAT Classification: Standard Commercial       3 to 5       years         Yuasa design life (at 20°C)       up to 5       years	Float Charge voltage temperature correction factor		
Cyclic (of Boost) charge at 20°C   2.42 (±3%)   V/cell		-3	mv/ceii/°C
Cyclic Charge voltage temperature correction factor (for variations from the standard 20°C)  CHARGE CURRENT  Float charge current limit  No limit  A  Cyclic (or Boost) charge current limit  1.75  A  MAXIMUM DISCHARGE CURRENT  1 second	Cyclic (or Boost) charge at 20°C		
CHARGE CURRENT         No limit         A           Float charge current limit         No limit         A           Cyclic (or Boost) charge current limit         1.75         A           MAXIMUM DISCHARGE CURRENT         150         A           1 second         150         A           1 minute         50         A           SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE         (according to EN IEC 60896-21)           Internal resistance         N/A         mΩ           Short-Circuit current         N/A         A           IMPEDANCE         Measured at 1 kHz         15         mΩ           PERFORMANCE & CHARACTERISTICS         SW         DESIGN LIFE           EUROBAT Classification: Standard Commercial         3 to 5         years           Yuasa design life (at 20°C)         up to 5         years	, , ,	` '	
Float charge current limit	,		
Cyclic (or Boost) charge current limit         1.75         A           MAXIMUM DISCHARGE CURRENT         150         A           1 second         150         A           1 minute         50         A           SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE         (according to EN IEC 60896-21)           Internal resistance         N/A         mΩ           Short-Circuit current         N/A         A           IMPEDANCE         Measured at 1 kHz         15         mΩ           PERFORMANCE & CHARACTERISTICS         SW         DESIGN LIFE           EUROBAT Classification: Standard Commercial         3 to 5         years           Yuasa design life (at 20°C)         up to 5         years			
MAXIMUM DISCHARGE CURRENT         150         A           1 second         150         A           1 minute         50         A           SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE         (according to EN IEC 60896-21)           Internal resistance         N/A         mΩ           Short-Circuit current         N/A         A           IMPEDANCE         Measured at 1 kHz         15         mΩ           PERFORMANCE & CHARACTERISTICS         SW         DESIGN LIFE           EUROBAT Classification: Standard Commercial         3 to 5         years           Yuasa design life (at 20°C)         up to 5         years	-loat charge current limit	No limit	A
1 second 150 A 1 minute 50 A SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE (according to EN IEC 60896-21) Internal resistance N/A mΩ Short-Circuit current N/A A IMPEDANCE Measured at 1 kHz 15 mΩ PERFORMANCE & CHARACTERISTICS Refer to the technical manual SW DESIGN LIFE EUROBAT Classification: Standard Commercial 3 to 5 years Yuasa design life (at 20°C) up to 5 years	Cyclic (or Boost) charge current limit	1.75	Α
1 minute 50 A SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE (according to EN IEC 60896-21) Internal resistance N/A mΩ Short-Circuit current N/A A IMPEDANCE Measured at 1 kHz 15 mΩ PERFORMANCE & CHARACTERISTICS Refer to the technical manual SW DESIGN LIFE EUROBAT Classification: Standard Commercial 3 to 5 years Yuasa design life (at 20°C) up to 5 years	MAXIMUM DISCHARGE CURRENT		
SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE     (according to EN IEC 60896-21)     Internal resistance	second	150	Α
(according to EN IEC 60896-21)           Internal resistance         N/A         mΩ           Short-Circuit current         N/A         A           IMPEDANCE         Measured at 1 kHz         15         mΩ           PERFORMANCE & CHARACTERISTICS         SW         DESIGN LIFE           EUROBAT Classification: Standard Commercial         3 to 5         years           Yuasa design life (at 20°C)         up to 5         years	minute	50	Α
Internal resistance	SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE		
Short-Circuit current         N/A         A           IMPEDANCE         IMPEDANCE           Measured at 1 kHz         15         mΩ           PERFORMANCE & CHARACTERISTICS         SW           Refer to the technical manual         SW           DESIGN LIFE         EUROBAT Classification: Standard Commercial         3 to 5         years           Yuasa design life (at 20°C)         up to 5         years	according to EN IEC 60896-21)		
IMPEDANCE         15         mΩ           Measured at 1 kHz         15         mΩ           PERFORMANCE & CHARACTERISTICS         SW           Refer to the technical manual         SW           DESIGN LIFE         EUROBAT Classification: Standard Commercial         3 to 5         years           Yuasa design life (at 20°C)         up to 5         years	nternal resistance	N/A	mΩ
Measured at 1 kHz         15         mΩ           PERFORMANCE & CHARACTERISTICS         SW           Refer to the technical manual         SW           DESIGN LIFE           EUROBAT Classification: Standard Commercial         3 to 5         years           Yuasa design life (at 20°C)         up to 5         years	Short-Circuit current	N/A	Α
PERFORMANCE & CHARACTERISTICS  Refer to the technical manual  DESIGN LIFE  EUROBAT Classification: Standard Commercial  3 to 5  years  Yuasa design life (at 20°C)  up to 5  years	MPEDANCE	1	
PERFORMANCE & CHARACTERISTICS  Refer to the technical manual  DESIGN LIFE  EUROBAT Classification: Standard Commercial  3 to 5  years  Yuasa design life (at 20°C)  up to 5  years	Measured at 1 kHz	15	mΩ
DESIGN LIFE  EUROBAT Classification: Standard Commercial 3 to 5 years  Yuasa design life (at 20°C) up to 5 years		-	
DESIGN LIFE  EUROBAT Classification: Standard Commercial 3 to 5 years  Yuasa design life (at 20°C) up to 5 years		SW	
EUROBAT Classification: Standard Commercial 3 to 5 years  Yuasa design life (at 20°C) up to 5 years			
Yuasa design life (at 20°C) up to 5 years		3 to 5	VAare
1 1	FURORAT Classification: Standard Commercial		
SHORT-CIRCUIT CURRENT & INTERNAL RESISTANCE     (according to EN IEC 60896-21)     Internal resistance	Float charge voltage at 20°C  Float Charge voltage temperature correction factor for variations from the standard 20°C)  Cyclic (or Boost) charge at 20°C  Cyclic Charge voltage temperature correction factor for variations from the standard 20°C)  CHARGE CURRENT  Float charge current limit  Cyclic (or Boost) charge current limit  MAXIMUM DISCHARGE CURRENT  I second	2.275 (±1%)  -3  14.5 (±3%)  2.42 (±3%)  -4  No limit  1.75	V/cell/°C  V V/cell  mV/cell/°C  A A

LAYOUT	
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## 3RD PARTY CERTIFICATIONS

ISO 9001 - Quality Management Systems
ISO 14001 - Environmental Management Systems
EN 18001 - OHSAS Management Systems
TL4423-6 by DeTeImmobilien
UNDERWRITERS LABORATORIES Inc.



### STANDARDS

IEC61056



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







ALL DATA IS SUBJECT TO CHANGE WITHOUT NOTICE Issue No.: V.3 / Issue Date: March2011



**SWL**