



Asset Solar (VAT-100) Datasheet

Introducing the new Asset Solar, a solar powered asset tracker designed for reliability and durability. The Asset Solar enables you to track your assets cost-efficiently around the clock and around the globe.

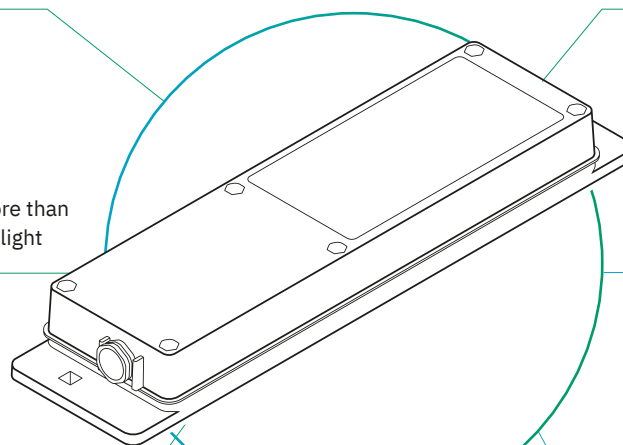


Features

Maintenance free, with a predicted lifetime of 8 years minimum

Self-powered by solar panel. More than 700 tracking events without sunlight

Reliability under harsh conditions has been proven by standardized lifetime tests



Uses LPWA technology (NB-IoT & LTE-M) for a wide coverage and deep indoor penetration

For a seamless connectivity the tracker is bundled with a service from Vodafone, one of the world leaders for Managed IoT Connectivity Services*

Integrated accelerometer triggers the tracker when asset is moved. Tracking profiles can be configured over the air

Lightweight M2M protocol standard for reduced data consumption



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Mechanical Specification

Dimensions (L×W×H)	(281 × 71 × 32) mm
Weight	393 g
Housing	PC / ABS (UL 94 Flame Rating V-0)
Mounting Options	2 × Carriage Bolts M6 2 × Blind Rivet 6 mm
Device Lifetime Estimate	8 years minimum*

*depending on environmental conditions and battery usage

Communication

Cellular Technology	NB-IoT & LTE-M combined radio solution, auto detection and switching between networks
Cellular Bands	LTE B1/B2/B3/B4/B5/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B66: 23 dBm output power
Hardware Platform	Nordic nRF9160
Antenna	Internal antenna
Max. Power Dissipation	1.65 W
SIM-Card	Vodafone Global IoT MFF2 SIM
NFC	Integrated NFC-Tag as interface for device ID

Operation Conditions

Operating Temperature	-20 °C to 65 °C
Storage Temperature	-20 °C to 35 °C
Humidity	up to 95 %
Ingress Protection	IP 67 according to ISO 20653

Sensors

Positioning	Assisted GPS for a significantly reduced time-to-first-fix (TTFF)
Temperature (Accuracy)	< 0 °C: ±1,5 °C > 0 °C: ±1 °C
Accelerometer	3-axis digital accelerometer with motion detection for ±2 g/±4 g/±8 g/±16 g

Device Power Supply

Energy Harvesting Source	Solar Panel (optimized performance for indirect / diffused light conditions)
Battery Chemistry	NiMH
Normal Battery Voltage	3.6 V
Battery Capacity	1100 mAh
Tracking Events	More than 700 tracking events without sunlight

Device Management

Remote Configuration	Yes
FOTA	Yes

Certification & Test Standards

Environment	
Restriction of Hazardous Substances	2011/65/EU RoHS + 2015/863
ingress protection	ISO 20653
salt spray	DIN EN 60068-2-11
humidity	DIN EN 60068-2-38
mechanical shock	DIN EN 60068-2-27
wideband noise vibration	DIN EN 60068-2-64
temp.change -20 °C to 70 °C	DIN EN 60068-2-14
Product Safety	
electrical safety	EN 62368-1:2014
electromagnetic exposure	EN 62311:2008
battery safety	IEC 62133-1
flammability of housing material	IEC 60695
Radio Equipment and EMC	
	RED 2014 /53/EU
	EN 301 489-1/-19/-52
	EN 301 908-1/-13
	EN 303 413
	EN 55032
Cellular	GCF certification

Technical Specifications Asset Solar (VAT-100). All information is provided without warranty, errors and omissions reserved. Version 2.0, published: 01.04.2023

