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Solar Power
Fridge-tag® 3

If a Fridge-tag 3 is powered by solar power, the following has to be considered:

The source of the power is rather irrelevant (whether mains or solar) if the following is provided to the Fridge-tag 3 (FT3):

- The FT3 has one USB cable for electrical power. This is through which the battery can be charged.

- The FT3 is designed to be powered by main power. If powered by solar, then the requirements of the specifications of USB charging need to be adhered to. More specifically:

  - Voltage via USB Type A socket: 5V (in line with USB 2.0 specification).

  - Minimum current delivery capability: 100mA (lower current prevents the battery from being charged at all).

  - Maximum current drawn by FT3: 500mA nominal.

- It charges in approx. 4 hours to full battery capacity, with a charging current of max. 500 mA

- A full charge will be typically sufficient to operate the battery for at least 72h (technical specification).

- After the battery has been charged fully, the device will continue to consume power from the solar source, yet at a significantly reduced consumption rate.

- The warranty is based on the device being main powered; excessively relying on the battery and charge cycles might impact the warranty (General Conditions of Purchase, warranty time 2 years).

- The FT3 reports the charging history and provides a summary of the charging statistics. Users of the FT3 are recommended to consult these statistics daily and follow up when needed. *Only on the SmartView version*.

WHO product prequalification
E006/041

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DESCRIPTION	Electronic temp. logger with USB and real-time alert
MANUFACTURER'S REF	Fridge-tag 3
TYPICAL APPLICATION AREA	Storage ambient conditions Storage cooling conditions (fridges, freezers, etc.)
EXTERNAL DIMENSIONS (L X W X H)	136 x 98 x 21 mm, Display 95 x 27 mm
WEIGHT	170 g
STORAGE CONDITION (INACTIVE)	0 °C to +30 °C / +32 °F to +86 °F

	EXTERNAL SENSOR	INTERNAL SENSOR
OPERATING TEMPERATURE*	-40 °C to +60 °C / -40 °F to +140 °F	-20 °C to +55 °C /-4 °F to +131 °F
DISPLAY VISIBLE	-	-10 °C to +55 °C / +14 °F to +131 °F
ALARM TEMPERATURE RANGE	-35 °C to +55 °C, in 0.1 °C increments / -31 °F to +131 °F	-15 °C to +50 °C, in 0.1 °C increments / +5 °F to +122 °F
ACCURACY OF TEMPERATURE MEASUREMENT	+/- 0.8 °C from-40 °C to-30 °C +/-1.44. °F from-40 °F to-22 °F +/- 0.5 °C from-30 °C to +40 °C +/-0.9 °F from-22 °F to +104 °F +/- 0.8 °C from +40 °C to +60 °C +/-1.44 °F from +104 °F to +140 °F	+/- 0.8 °C from-25 °C to-10 °C +/-1.44. °F from-13 °F to +14 °F +/- 0.5 °C from-10 °C to +40 °C +/-0.9 °F from +14 °F to +104 °F +/- 0.8 °C from +40 °C to +55 °C +/-1.44 °F from +104 °F to +131 °F
ALARM AND WARNING LIMITS	2 individually programmable alarm and warning limits (1 upper and 1 lower alarm/warning limit)	
ALARM TRIGGER TIME	1 minute to 23 h 59 min	
ALARM INDICATION	SMS, audible (buzzer) and server	
LOGGING INTERVAL	15 min (standard)	
MEASUREMENT ACCURACY OF THE TIME	Daily time updates (depending on network operator)- if not supported +/- 30 minutes / year	
CALIBRATION	Calibration traceable to ILAC recognised international standard (e.g. SAS, NIST) upon request	
MEMORY SPACE	30 day overview on display; PDF report length factory settable: 28, 56 day overview	
BATTERY	Rechargeable Polymer Li-ion battery- complies with IATA DGR Packaging Instruction UN3481 PI 967 Section II	
PROTECTION CLASS	IP50 (external sensor connected)	
2D CODE ON LABEL	2D data matrix	
OPERATING LIFETIME	n/a (USB powered device)	
BATTERY LIFETIME	Rechargeable battery / at least 3 years useful life / min. 72 hours power back up. The battery status indicator on the display provides information on the remaining battery charge.	
WARRANTY	2 years from date of delivery (see general Berlinger Terms & Conditions)	
MANIPULATION	Fridge-tag 3 cannot be manipulated or reset without destroying it	
FORMAT OF THE ORIGINAL DOCUMENT	PDF / ASCII (it can also be imported by many ERP or data management systems)	
SOFTWARE FOR VERIFYING PDF AND ASCII FILE	berlinger verifier www.berlinger.com/verifier JAVA™ / The software verifies the digital signature of the ASCII and PDF files. FDA regulation 21 CFR Part 11 compliant. Software is compliant with GAMP 5 requirements.	
STANDARDS	ROHS compliant, Regulation (EC) No 1907/2006 REACH, CE (DoC), verification report, EN 60068-2-31, ANSI/UL 94, IEC 60695, EN 61000-4-2, EN 61000-6-2/-3, EN 301 489-1 V2.2.0 and EN 301-489-52, EN 62311, RED or R&TTE, IEC 63133-2, PQS, EN 60529 (IP50)	

* for temperatures below 0 °C (+32 °F) and above 40 °C (+104 °F) we recommend to use an external sensor. The battery can't be charged below 0 °C (+32 °F).

Subject to change. Please note that all information in this document is correct at the time of publication. Due to our policy of continuous product development, we reserve the right to change this information without prior notice.

For more information download the whole user manual www.berlinger.com/user-manuals

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