



# LPWAN miniUNI PT100

LPWAN miniUNI PT100 device has been designed for very low temperature measurement in pharmaceutical industry where keeping cures and vaccinas in deep freeze is high demanding. The device was optimized to achieve best precision for temperatures -100 to 0°C and can be easily used for checking storage and transportation temperature for Covid-19 vaccinas.

MiniUNI PT100 is designed for PT100 kind of probe, however can be extended up to 2 probes. The device is battery operated and battery lifetime has been optimized by selection of high quality and ultra-low power components. 5+ year between battery replacement can be expected with 6 messages per day. Enclosure is made of high-quality ABS plastic and has been designed to meet IP65. The device can be delivered in IP68 protection on demand, ask for details before order.

For best accuracy, calibration constants can be inserted to compensate non linearity of PT100 at temperatures below -60°C.

## Usage

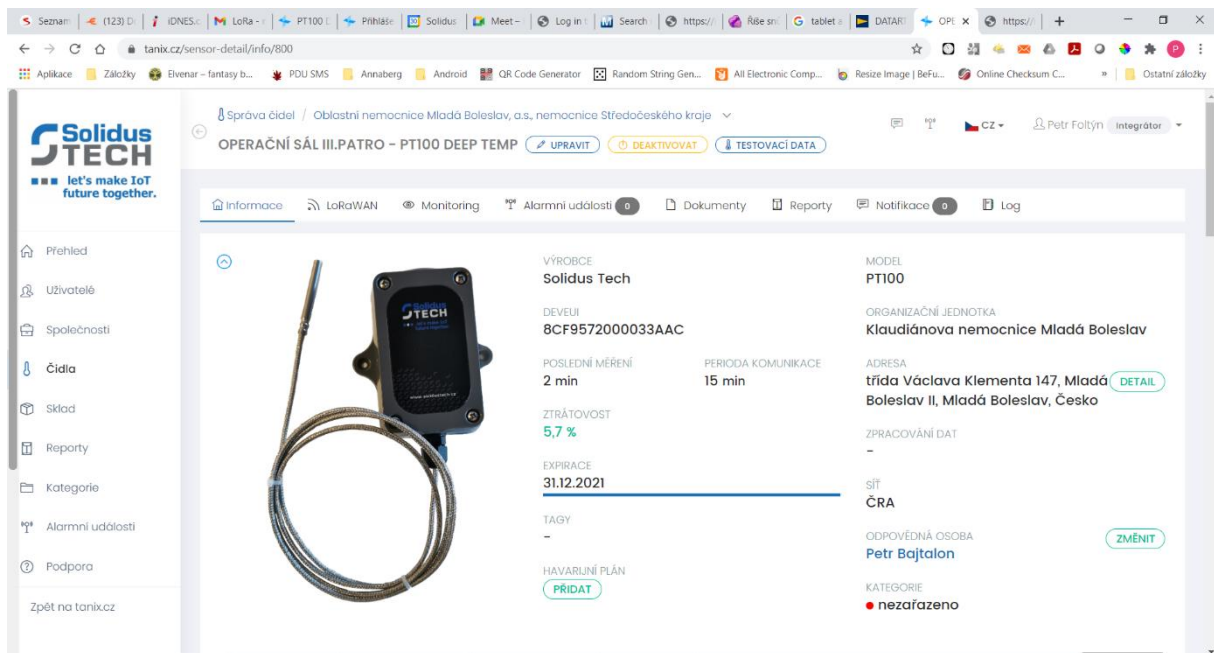
- Pharmaceutic industry cure/vaccinas storage
- Cure/vaccinas transportation temperature report
- Quick periodic check of temperature – warning about colling/freezing device failure or malfunction



LPWAN Pressure IP65 device	Parameter
Protection	IP65, IP68 on demand
Operating temperature	-40 to +80°C
Power supply	3.6V lithium battery 14505(M)/2600mAh, 2 batteries possible
Power consumption	<3,5uA in deep sleep/80mA transmission (Sigfox, LoRa) / 500mA (NBLoT)
Battery lifetime	Aprox. 20 000 transmissions
Supported LPWAN standards	Sigfox, LoRaWAN, NBLoT (one of selected upon order)
Dimensions in mm	107 x 65 x 33 + probe 182 x 30 x 12
Weight	145g
Temperature probe	PT100 A class, shielded cable certified to -100°C, range -100°C to +450°C
Accuracy	temperature +/-0.5°C with calibration constant inserted
Cable length	Upon request, standard. 1.5m
Antenna/typical range	Helical, gain 2.5dBi/45 to 110km depends on LPWAN technology




## Application example

Správa čidel / Oblastní nemocnice Mladá Boleslav, a.s., nemocnice Středočeského kraje  
**OPERAČNÍ SÁL III.PATRO – PT100 DEEP TEMP** UPRAVIT DEAKTIVOVAT TESTOVACÍ DATA

Informace LoRaWAN Monitoring Alarmní události Dokumenty Reporty Notifikace Log



**VÝROBCE**  
 Solidus Tech

**MODEL**  
 PT100

**DEVELUP**  
 8CF9572000033AAC

**ORGANIZAČNÍ JEDNOTKA**  
 Klaudíánova nemocnice Mladá Boleslav

**POSLEDNÍ MĚŘENÍ**  
 2 min

**PERIODA KOMUNIKACE**  
 15 min

**ADRESA**  
 třída Václava Klementa 147, Mladá Boleslav II, Mladá Boleslav, Česko DETAIL

**ZTRÁTOVOST**  
 5,7%

**EXPIRACE**  
 31.12.2021

**ZPRACOVÁNÍ DAT**  
 -

**TAGY**  
 -

**SÍŤ**  
 ČRA

**HAVARUNÍ PLÁN**  
PŘIDAT

**ODPOVĚDNÁ OSOBA**  
 Petr Bajtalan ZMĚNIT

**KATEGORIE**  
 ● nezařazeno



Kalibrační laboratoř č. 2249

Starozuberská 1453, 756 54 Zubří

MEROS, spol. s r.o., tel. +420 774 747 701, e-mail: meros@meros.cz, www.meros.cz



## Certificate of calibration No. 7266F-20

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**Customer:** SOLIDUS TECH s.r.o.  
Na Pořčí 595  
738 01 Frýdek - Místek

**Place of calibration:** permanent facilities of the calibration laboratory

**Measuring instrument:** item: digital thermometer  
manufacturer: SolidusTECH  
type: NBIoT PT100 test  
serial number: N.A.  
inventory number: N.A.  
accessories: probe

**Specification:** not reported

**Method of calibration:** in accordance with internal procedure MKTT ET.2

**Calibration conditions:** temperature 23°C ± 5°C, relative humidity max. 80 %

Standards used:	type	identification no.	valid until	certificate of calibration no.
Platň. odpor. teplom.	Pt 100	ř. 387	5.3.2021	6036-KL-C0057-19
Přesná teploměr	CROPICO 3001	062673	8.9.2022	2975E-20

**Traceability:** All the standards used are traceable to (inter)national standards of measurement.

**Date of delivery:** 11.12.2020

**Date of calibration:** 14.12.2020

**Calibrated by:** Ing. Punčochářová Ivana

Martin Kránek  
vedoucí oddělení

person in charge

**Result of calibration:** Below mentioned measured values refer only to the place and date, where the calibration was done.

**Measured values:**

probe			
Etalon value [°C]	-78,20	-60,14	-50,16
Measured value [°C]	-79,96	-60,39	-50,58
Error of measure [°C]	-1,76	-0,25	-0,42
Uncertainty [°C]	0,18	0,18	0,18

