



ATIM Cloud Wireless Digital temperature sensor with contact probe TM1D User Guide



Concerned models : ACW/LW8-TM1D ACW/SF8-TM1D







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Document version history

Version	Date	Description	Author
0.1	12/11/2015	Created document	YL
0.2	25/11/2015	Created overview	YL
0.3	18/05/2016	Added network	YL
0.4	02/06/2016	Corrections	YL
0.5	10/06/2016	Corrections	YL
0.6	12/12/2017	Added downlink and energy saver mode	СВ
0.7	23/01/2018	Update visuals for labels / Sigfox / ACW config	YM
1.0	26/03/2018	Error codes addition + startup sequences	СВ
		precision + decoding examples of received frames	
1.1	24/10/2019	Upgrade from TM2D to TM2D-HP (batteries	ER
		modification + PCB unit visual + USB port)	
1.2	09/01/2020	Corrections	MD

Disclaimer

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Trademarks and copyright

ATIM radiocommunications[®], ACW ATIM Cloud Wireless[®] and ARM Advanced Radio Modem[®] are registered trademarks of ATIM SARL in France. The other trademarks mentioned in this document are the property of their respective owners.

Declaration of compliance

All ACW Atim Cloud Wireless[®] products comply with the regulatory requirements of the R&TTE Directive (1999/5/EC), article 3:



1 SAFETY (Article 3.1a of the 1999/5/EC Directive) NF EN60950-1 Ed. 2006/A1:2010/A11:2009/A12:2011 (health) EN62479: 2010 (power <20mW) or EN62311:2008 (power > 20mW)

2 Electromagnetic compatibility (Article 3.1b of the 1999/5/EC Directive) EN 301489-3 v1.4.1, EN 301489-1 V1.9.2

3 Efficient use of the radio frequency spectrum (Art.3.2 of the 1999/5/EC Directive) ETSI EN300 220-2 v2.4.1 and EN300 220-1 v2.4.1

Environmental recommendations

a. Explosive atmosphere

Except for the ACW-ATEX line specifically intended for this purpose, do not use ACW radio modems in the presence of flammable gases or fumes. Using the equipment in such an environment constitutes a safety hazard.

b. Environment

Respect the temperature ranges for storage and operation of all products. Failing to respect these guidelines could disrupt device operation or damage the equipment. ACW products in IP65 water- and dust-resistant housings may be placed outdoors but must not be submerged under any circumstances.

Follow the instructions and warnings provided below to ensure your own safety and that of the environment and to protect your device from any potential damage.



General hazard – Failure to follow the instructions presents a risk of equipment damage.



Electrical hazard – Failure to follow the instructions presents a risk of electrocution and physical injury.



Direct-current symbol



WARNING: do not install this equipment near any source of heat or any source of humidity.



WARNING: for your safety, it is essential that this equipment be switched off and disconnected from mains power before carrying out any technical operation on it.



WARNING: the safe operation of this product is ensured only when it is operated in accordance with its intended use. Maintenance may only be performed by qualified personnel.



Waste disposal by users in private households within the European Union. This symbol appears on a product or its packaging to indicate that the product may not be discarded with another household waste. Rather, it is your responsibility to dispose of this product by bringing it to a designated collection point for the recycling of electrical and electronic devices. Collection and recycling waste separately at the time you dispose of it helps to conserve natural resources and ensure a recycling process that respects human health and the environment. For more information on the recycling center closest to your home, contact your closest local government office, your local waste management service or the business from which you purchased the product.

c. Radio

Modems in the ACW line are radio-communication modems that use the ISM (industrial, scientific and medical) bands, which may be used freely (at no cost and with no authorisation required) for industrial, scientific and medical applications.

Technical specifications

Dimensions	160 x 53 x 53 mm				
Antenna	Integrated (¼ wave)				
Temperature probe	Digital – Cable length: 2 m				
- .	-20°C to +55°C (operation)				
Temperature	-40°C to +70°C (storage)				
Mounts to Wall, tube or pole, DIN rail					
Housing	IP65				
Power supply	2x AA lithium batteries				
Weight	100 g				
Frequency	865 – 870 MHz				
Power	25 mW (14 dBm)				
T	Sigfox: 100 bps				
Transfer rate	LoRaWAN: 300 bit/s to 10 kbit/s				
Current draw	Sigfox*: LoRaWAN:				
Tx mode	60 mA 50 mA				
Standby mode	7 μΑ	7 μΑ			
Rx mode 35 mA 18 mA					

* Note that the ACW-TM1D modem is certified class U0 by Sigfox.

	Range	-55°C +125°C
	Resolution	0.5°C (9 bits)
Temperature	Precision from -10°C to +85°C	+/- 0.5°C
	Precision from -55°C to -10°C Precision from +85°C to +125°C	+/- 2°C

Housing

a. Space requirements



Maximum cable diameter through cable gland: 7 mm

b. Opening the ACW housing



The housing must be opened to access both the terminal block and the mini-USB port used to configure the module.

To do this, insert a screwdriver into the slot and tilt it downward to lift the inside tab (see photo). Then pull on the back panel to separate the two parts of the housing.

c. Mounting to a support

ACW modems can be mounted on a flat wall, a tube or pole or a DIN rail, depending on the type of installation you require.

These three types of support frames attach to the rear of the housing. Mounting on a flat wall (provided):

Mounting on flat wall (provided):

Installation on a tube:

Mounting on a DIN rail:







d. Identification

The Sigfox or LoRaWAN product identifier is visible on the exterior label on the back of the device, on the electronic card inside and in the status bar in the ACW configuration tool.

For LoRaWAN modems, the communication keys are automatically provided by the network (pairing via 'Over The Air Activation', or OTAA).



Each product in ATIM's ACW range has a QR Code label visible either on the side or on the front of the product. This QR code can be easily read with any 2D barcode reader application on a smartphone.



QR Code label of an ACW-TM1D:

Reading this code indicates the following information:

ATIM | ACW / XXX-TM1D | X.X | 190114 | 1 | 3.0 | 5.11 | XXXXXXXXXXXXXXXXXX

Meaning:

ATIM	ACW/XXX -TM1D	X.X	190114	1	3.0	5.11	****
Manufacturer name	Product reference	Version of the revision	Manufacturing date	Manufacturing site	Hardware version	Application firmware version	Sigfox ID or LoRaWAN DevEUI

e. Placement and installation

Install the modem at least 2 m above the ground and not right against the wall — ideally at least 20 cm away. The cables must be no longer than 10 m and must be shielded.

For optimal results, we recommend that you place it high up and at least 1 metre away from all metallic objects if possible (see diagrams below). Note that the antenna is integrated into the housing.





The ACW-TM1D measures temperature at time 't' and sends the data by radio on the associated Sigfox or LoRaWAN network, depending on which model you use.

Two modes of operation are available: Periodic or Energy Saver.

a. Periodic mode (shown as 'Periodical' in the configuration tool)

To ensure the most complete telemetry possible, temperature readings are sent on a regular and periodic basis. This makes it possible to obtain a very precise monitoring curve. In this mode, each reading is sent out by the ACW-TM1D. In other words, the sampling period is equal to the statement period (= interval at which readings are sent out). This sampling and statement period is user-configurable, with a minimum value of 10 minutes.



Example of operation in Periodic mode:

On the other hand, because this mode involves regular (and potentially very frequent) radio transmissions, this mode of operation may consume large amounts of energy, leading to reduced battery life.

b. Energy Saver mode

This mode of operation aims to minimise energy consumption and maximise battery life. This mode can be configured to send out frames only under certain conditions:

- If temperature readings are stable: a frame is sent out only after a specified period of time has elapsed (timeout).
- If the temperature variation (in °C) between two consecutive readings is larger than the maximum value specified by the user.
- If an alert threshold is crossed: a frame is sent out when the temperature



Example of operation in Energy Saver mode:

Phases of operation:

- from 0 to 3 sec: general initialisation + USB initialisation.
- from 3 to 4 sec: radio initialisation.
- from 1 min to 5 min: send out a test frame once per minute.
- at 6 min: send out a keep-alive frame (battery information).
- at 7 min: send out a temperature frame.

Mode of operation (periodic or energy saver) specified by user

• Keep-alive frame sent once per day or once every 4 days.

ACW configuration tool

a. What version of the ACW configuration tool should you use?

For a TM1D with application software version:	Use ACW configuration tool version:
Sigfox: v5.1 or earlier LoRaWAN: v5.3 or earlier	V3.7.15
Sigfox: v7.0 or earlier LoRaWAN: v7.0 or earlier	V4.1.3

Download and install the configuration tool 'setupACW.exe' at:



Atim Cloud Wireless Configurator				- 🗆	×
File Edit Tools Help					
otim cloud wireless" PRODUCT EINE	1		ACW-TH indoor outdoor Temperature and humidity		^
Connect your device @	No ATIM devices around?		Technologies : Sigfox (Uplink only)	r	
Ф ок 🔏	Select a device in the right list to start offline mode	Stree	Version : 5.0.0	-	
• •	•	a the sa	Reference : ACW/SF8-TH indoor outdo	or Open	
Bluetooth detected A	TIM devices				
Connect			ACW-TMxD		
			Digital temperature		
			Technologies : Sigfox (Uplink only)	-	
			Version : 7.0.0	-	
		2	Reference : ACW/SF8-TMxD	Open	
		Ð			
			ACW-TMxP		
			Temperature Monitoring		
			Technologies : LoraWan	r	
			Version : 1.0.0	-	
🗘 Refresh Bluetoo	th scan	6	Reference · ACW/I WR-TMyP	Onen	•

Then open the plastic case of your ACW-TM1D module and connect it to your computer with a mini-USB cable. The product restarts when you connect the USB cable to communicate with the ACW Configurator on your PC. By unplugging the USB cable, the product enters its normal operating phase and completes its previously started startup phase.

b. Configuring the LoRaWAN network pairing mode

Applies only to ACW-LW8/TM1D version.

On LoRaWAN networks, there are two pairing methods by which a module can connect to the network.

OTAA (Over The Air Activation):

In this mode, the communication keys are assigned and transmitted over the network every time the module starts up or requests a connection. This is the mode that is configured by default.

ABP (Activation By Personalization):

In this mode, the communication keys used are the ones loaded on the module at the factory. Every time the module starts up, these same keys are used.

When you connect the ACW-LW8/TM1D via USB, the ACW configuration tool automatically detects the module's factory settings and displays them in the following window:

The default factory setting uses the OTAA mode.

ACW Configurator		_		×	
File Tools Help					
Atim Cloud Wireless ACW/LW8-TMxD			АТІМ		
Periodical	Temperature configur	ation			
Sampling and statement period	Low threshold	20.0℃		-	
	High threshold	40.0°C		-	
	Offset	0.0°C		-	
	Delta in comfort zone	+/- 2.0°C		A T	
	Keep alive and downli	nk request			
Energy saver	Once every day			•	
	LoRaWan Pairing met	hod			Select LoRaWAN
	O ABP	OTAA			method
	í.	\mathcal{C} Restore \mathcal{C} Reload	B A	pply	
ACW-TMxD:7.0.0 ARM-N8LW:2.3.3 DevEUI:70B3D59BA00007	78E				

c. Configuring the Energy Saver mode



d. Configuring periodic mode

	ACW Configurator			_	\Box ×	
	File Tools Help					
	Atim Cloud Wireless					
	ACW/LW8-TMxD				ATIM	
Select mode of	Periodical	-Temperature conf	iguration			
operation	Periodical	Low threshold	20.090		_	
	Sampling and statement period	Low direstoid	20.0 °C			Lower threshold
	2 🗘 H 0 🗘 Min	High threshold	40.0%			Upper threshold
		Offset	0.0°C		\	
I emperature sampling		Delta in comfort zone +/- 2.0°C				
+ statement period					Offset (applied to	
	Factoria	Once every day			•	each reading and to
						the displayed value)
		LoRaWan Pairing i	method	_		
		○ ABP	0			
			C Restore	\mathcal{C} Reload		
	ACW-TMxD:7.0.0 ARM-N8LW:2.3.3 DevEUI:70B3D59BA0000	78E				2 C
	L					



Once the configuration is complete, do not leave the module connected via USB. This mode of operation is very energy intensive. When you remove the USB connection without removing the battery, the module re-initializes itself and automatically returns to normal operation.

e. Factory settings

When it leaves the factory, the TM1D is configured as follows:

- Periodic mode selected by default

Parameters shared by Periodic and Energy Saver modes:

- LoRaWAN pairing: OTAA
- Keep-alive frame sent 1x / day
- Temperature offset: 0°C
- Lower threshold: 20°C
- Upper threshold: 40°C
- Parameter for periodic mode:

- Sampling and statement period: 2 hours

- Parameters for Energy Saver mode:
 - Delta: +/- 2°C

- Sampling period in comfort zone: 2 hours (alert frame sent out if delta value is exceeded or if upper or lower threshold is crossed)

- Statement period when temperature is stable within comfort zone: 8 hours
- Sampling and statement period outside comfort zone: 2 hours

Uplink frame formats

a. Sigfox and LoRaWAN

The data are different depending on the type of frame sent out. The frames specific to the ACW-TM1D use the following format:

Description	Frame format					
	oct 0 (dec)	oct 0 (hex)	oct1	oct2	oct3	oct4
Keep-alive frame	1	1 0x01 Supply IDLE voltage			Supply Tx voltag	e
Test frame	5	0x05	Test counter			
Period temperature reading frame	27	0x1B	Digital tempera 1	ture 1w - sensor		
Lower threshold was crossed	42	0x2A	Digital tempera 1	ture 1w - sensor		
Upper threshold was crossed	44	0x2C	Digital tempera 1	ture 1w - sensor		

The temperature is calculated with the following formula: Digital temperature 1w * 0.0625

BEWARE: A temperature value equals to « 0x8000 » indicates a measuring error. This is often due to a loose cable.

b. Example

Example of frame received: (hex) 2C0348 'Frame type' = (hex) 2C = 44 => 'Higher threshold was crossed' 'Digital temperature 1w - sensor 1' = (hex) 0348 = 840 => 'Actual temperature' = 840*0.0625 = 52.5°C

Example of frame received: (hex) 2AFDD0

'Frame type' = (hex)2A = 42 => 'Lower threshold was crossed'

'Digital temperature 1w - sensor 1' = (hex)FDD0 = -560 => 'Actual temperature' = -560*0.0625 = -35°C

c. Startup sequence

At startup, the TM1D transmits 5 frames spaced one minute apart, with a test counter 0x0501, 0x0502, up to 0x0505.

6th frame transmitted is a keep alive frame.

The 7th frame is an application frame containing a temperature and the header 0x1B. This contains the temperature, but no information on its relative position toward thresholds.

Then the application frames will have the headers 0x1B, 0x2A or 0x2C.

Downlink

This feature is available on ACW-TM1D mod	lels that meet the following conditions:
---	--

	Application software:	Radio firmware:
Sigfox version	V7.10	v5931
	or higher	or higher
LoRaWAN version	V7.10	v2.3.3
	or higher	or higher

The USB configuration of these products requires an ACW configuration tool of version **4.4.0** or higher. The document ATIM_ACW-DLConfig_UG_EN explains how the downlink works: <u>https://www.atim.com/en/downloading/</u>

The parameters specific to ACW-TM1D models are:

a. Keep-alive frame frequer	су
Parameter code (Byte 1)	Parameter value (Byte 2)
0x03,	0x00 = Deactivated,
	0x04 = every 10 min,
	0x05 = every hour,
	0x0A = every 2 hours,
	0x0B = every 4 hours,
	0x0C = every 8 hours,
	0x06 = every day,
	0x0D = every 2 days,
	0x0E = every 3 days,
	0x0F = every 4 days,
	0x07 = every week (7 days),
	0x08 = every month (30 days).

b. Mode of operation

Parameter code (Byte 1)	Parameter value (Byte 2)
0x0A	0x00 = Periodic,
	0x01 = Energy Saver.

c. Lower threshold

Parameter code (Byte 1)	Parameter value (Byte 2)	Parameter value (Byte 3)
0x0B	0xYY	0xZZ
For a threshold in °C with a precision in sixteenths of a degree °C, 0xYY and 0xZZ are calculated as follows:		
$threshold \times 10000$		
0xZZYY =		

The threshold must fall between -55.0°C and +125.0°C.

d. Upper threshold

Parameter code (Byte 1)	Parameter value (Byte 2)	Parameter value (Byte 3)	
0x0C	0xYY	0xZZ	
For a threshold in °C with a precision in sixteenths of a degree °C, 0xYY and 0xZZ are calculated as follows:			
threshold × 10000			
0xZZYY =			

The threshold must fall between -55.0°C and +125.0°C.

|--|

Parameter code (Byte 1)	Parameter value (Byte 2)	Parameter value (Byte 3)
0x0D	0xYY	0xZZ

The sampling period will be every 0xZZYY minutes. The minimum value is 10 minutes (0x0A00).

The maximum is 23 hr 59 min (0x9F50)

Example:

If 0xZZYY = 0x8200, the product will take a sample every 2 hours and 10 minutes.

f. Temperature offset

Parameter code (Byte 1)	Parameter value (Byte 2)
0x0E	OxYY (signed integer)

For an offset in °C with a precision in tenths of a degree °C, 0xYY is calculated as follows:

$$0xYY = offset \times 10$$

The offset must fall between -10.0°C and +10.0°C.

g. Pairing with LoRaWAN network

Parameter code (Byte 1)	Parameter value (Byte 2)
0x0F	0x00 = ABP
	0x01 = OTAA

ABP: Activation By Personalization

OTAA: Over The Air Activation

h. Delta for comfort zone

Parameter code (Byte 1)	Parameter value (Byte 2)
0x10	0xYY

For a delta in °C with a precision in tenths of a degree °C, 0xYY is calculated as follows:

 $0xYY = delta \times 10$

Delta must fall between +0.3°C and +10.0°C.

i. Statement period when outside the comfort zone

Parameter code (Byte 1)	Parameter value (Byte 2)	Parameter value (Byte 3)
0x11	0xYY	0xZZ
0/11	0/11	UNZZ

The statement period will be every 0xZZYY minutes.

The minimum value is 10 minutes (0x0A00).

The maximum is 23 hr 59 min (0x9F50)

Note that this period must be a multiple of the sampling period.

Example: If 0xZZYY = 0x8200, the product will send out a frame every 2 hours and 10 minutes, if it is in energy saver mode and it is outside the comfort zone.

j. Codes reserved for future developments

Parameter code (Byte 1)	Parameter value (Byte 2)	
0x12 0x08		
IMPORTANT: DO NOT CHANGE THESE VALUES		

Connecting the modem



Number	Signals to be wired	Description
1	GND S1	Earth for probe 1
2	Power S1	Power for probe 1
3	Data S1	Data for probe 1
4	nc	nc
5	nc	nc
6	nc	nc
7	nc	nc
8	nc	nc

The ACW-TM1D modem is equipped with an external digital temperature probe.

Accessing data on the web (Sigfox and LoRa solutions)

a. Viewing probes on the ACW platform

Connect to the Web platform at <u>http://acw.atim.com</u> to access all your devices and view your data. Your login credentials will be emailed to you when we send out your order.



The 'My Groups' page shows location data for all your devices after installation.

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								Yan Manissadjian \vee 💵 FR
Атім								1 2
GESTION	Appareils Callbacks							
🏦 Entités								<i>6</i>
Groupes	Q Rechercher						Map Satellite	
Appareils		Televis					Saint-Priest	Aix-les-Bains Parc n régic du mi
😀 Utilisateurs		rechnology	ID.	Name	Piddet	Alerts	Bourgoin	Les Avenières Le Bourget-du-Lac des Ba Jallieu La Motte-Servolex
SUPPORT	VOIR	sigtox	2D45DA	2D45DA	j TM1D		Xaz Vienne	Channely
② Aide	VOIR	sigfox	2D5121	2D5121	∬ DI4		enne	
{} Documentation API	VOIR	M sigfox	2D66AD	2D66AD	TH1		Roussillon Salaise-sur-Sanne	Voiron Moirans
	VOIR	Y sigfox	C01AA	C01AA	SENSE		Peaugres Hauterives	
		M sigfox	C0608	C0608	I SENSE		inet-le-Froid	Grenoble
		M sigfox	C0611	C0611	I SENSE		100 Demos or Lehr	
		M sigfox	C062E	C062E	I SENSE		Google	
	VOIR	M sigfox	2D69DC	ТН	TH1			Map data (2016 Google Lerms of Use Heport a map error
					Rows per page: 10 💌 1-8 o	of B < >		

You will find all your temperature readings, as well as battery voltages on standby and when transmitting (if you requested that these information channels be displayed):

$\leftarrow \rightarrow $ C \textcircled{a}	① ▲ https://acw.atim.com/devices/sigfox/2D45DA/data	(80%) ···· 💟 🏠 🔍 Rechercher	lii\ ⊡ ≡
			👥 Yan Manissadjian \vee 🛛 💷 FR
GESTION	2D45DA 2D45DA ¥sigfox		Report de temperature
Groupes	Données Messages bruts Downlink Alertes		
Appareils	Mes widgets		=
Utilisateurs SUPPORT	III Mes canaux		≡
Aide Cocumentation AP1	Digital Temperature 1 19°C © 15:57:22 23/01/2018 Idle Supply Voltage 3395mV © 22:57:33 22/01/2018	Tx Supply Voltage 3395mV © 22:57:33 22/01/2018	

b. Registering the modem on the Sigfox network

If you have signed up with ATIM for a subscription to the Sigfox network, we will take care of registering your modem/probe/sensor on the Sigfox network. However, if you have set up your subscription through Sigfox, you will need to register your device yourself through the Sigfox online portal.

Here is a fast procedure to register your product on the Sigfox network.

For more details, contact Sigfox customer support directly.

Step 1: Open a Web browser and go to https://backend.sigfox.com. Enter the login name and password you selected when you created your Sigfox customer account:

(←) → C'	① ▲ https://backend.sigfox.com/auth/login	🛛 ★	Q Rechercher	III\ 🗊 🗏	
Y sigfox					Lost password
		Email address			
		•••••			
		Remember me for one week			
		Sign in			
		Conversion to Classov			
		Copyright © Sigrox			

Step 2: Click 'Device' at the top left:

$\overleftarrow{\leftarrow}$ > C $\overleftarrow{\mathbf{a}}$	⑦ ▲ https://backend.sigfox.com/welcome/news	••• 🛡 🟠 🔍 Rechercher	III\ ⊡ ≡
Y sigfox	DEVICE DEVICE TYPE USER GROUP BIL	LING	▲ & Ø 🗭 Ê
NEWS			
NETWORK EVENTS			
SERVICE MAP		Welcome to	\prec
	S	igfox portal	
		— —	
	Release 7.0	/	15
	SIGFOX Cloud 7.0 release implements internal system improvement to enhance the This release also contains the following:	user experience and satisfaction.	JANUARY
	COLLECTIVE IMPROVEMENT		2018
	Modifications		
	Email notification NULL value for the end of v1 BSS order has been corrected. Color overlay on OOB messages has been changed.		
	DEVICE, MESSAGES AND CALLBACKS		
	Behaviour of NEW/NEW SERIES and EDIT/EDIT SERIES is modified		
	New/New series: The feature can be used to register new devices only or to transfer devices fror	m a Customer group (SO-1) to another. If devices	
	Copyright © Sigfox -	7.0.1-b08ae97-20180115.180658 - 270 - Terms and conditions / Cookie policy.	~

(i) 🔒 https://backend.sigfox.com/device/list 🗉 🚥 👽 🏠 🔍 Rechercher III\ ⊡ ≡ **M** sigfox DEVICE DEVICE TYPE USER GROUP BILLING 🛓 🗛 🐼 💿 🕞 lew series Edit series Transfer series Replace series **Device** - List New Id 50 dB 5 dB Average SNR (all) State All * Last seen from date 🕞 🖹 🛍 🔜 RESET FILTER Count : 16112 / 16112 ¢ page 1 🜔 Id 🚊 Name Average Rssi Average SNR Device type Communication status Last seen 79B7A8 ACW0079B7A8 -98.99 52.07 V2_ACW 2018-01-19 13:43:09 -134.24 16.83 V2_ACW 79B7A6 ACW0079B7A6 2018-01-19 13:54:16 79B7A5 ACW0079B7A5 -120.33 30.68 V2_ACW 2018-01-19 13:50:47 79B7A4 ACW0079B7A4 45.52 V2_ACW 2018-01-19 07:52:08 79B7A2 ACW0079B7A2 2018-01-19 13:23:30 79B79B ACW0079B79B 2018-01-19 13:31:51 79B79A ACW0079B79A 2018-01-19 13:28:20 111-113.61 111 37.37 V2_ACW 79B799 ACW0079B799 2018-01-19 10:56:10 79B798 ACW0079B798 2018-01-15 15:31:10 Copyright © Sigfox - 7.0.1-b08 297-20180115.180658 - 270 - Terms and conditions / Cookie policy.

Step 3: On the screen with your list of devices, click 'New':

Step 4: Enter the required information about the new device that you want to register in your Sigfox account:

\leftrightarrow > C \textcircled{a}	① ▲ https://backend.sigfox.com/device/new?groupId=4dada0233c6be4931f6eb74	f ···· ♥ ☆ Q. Rechercher	
Y sigfox	DEVICE DEVICE TYPE USER GROUP BILLING	▲ ▲ Ø ↔	
	Device - New	Sigfox identifier	
	Device information Identifier (hext) 0000		
	Name PAC	Sigfox PAC code	
	End product certificate	Sigfay cartificate number for your product (provided	
	Where can I find the end product certificate? Type ACW - Demo	by ATIM)	
	Lat (+90° to +90") 0.0 Lng (-180° to +180") 0.0		
	Map Locate on map Ok Cancel	register the device	
	Confirm the information by clicking 'OK'		
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Your product is now being imported to your Sigfox account. The import may take several hours.

c. Registering the modem on the LoRaWAN network

IMPORTANT: By default, ACW/LW8-TM1D uses the OTAA mode (Over-The-Air Activation) for network pairing. You can choose between ABP (Activation By Personalization) and OTAA from a dropdown menu in the configuration tool interface. We recommend that you use the simpler OTAA mode.

When configured in OTAA mode, the device sends out a join request for a LoRa network when it is switched on. The device must first be provisioned on the required network, with one of the national operators (such as Orange or Objenious in France) or on an existing private gateway.

A new join request may be sent by switching the device on again.



Troubleshooting

The modem cannot be configured via USB or the configuration tool page does not refresh

- Check whether the power supply is correctly connected to the modem
- Check whether the blue light is flashing
- Make sure that Windows Update is activated, the PC is connected to the Internet and driver installation has completed. Also make sure that you have an up-to-date version of the configuration tool (File menu -> Update).
- Replace the USB cable
- If you receive an 'Error writing configuration', unplug the USB cable and plug it back in

Radio data not received

- Check whether the power supply is correctly connected to the modem
- Check whether the modem has been registered on the network
- Check whether radio network coverage is available
- Check whether the blue and green lights flash during transmission

Meter index does not increase

- Confirm that the wires to the meter are not inverted and that they are fully inserted into the terminal block
- Confirm that the sensor head uses the right dimensions for your use (litres, m³)
- Confirm that the meter's output does not exceed 5 V if using a push-pull output

Modem LED is not flashing

- Check whether the power supply is correctly connected to the modem
- Configure the modem using the USB configuration tool

Technical support

For any information or technical problems, you can contact our technical support on this page: https://www.atim.com/en/technical-support/