



DESCRIPTION OF TOOLMICRO.COM IOT

First of all thanks for using our IOT service for mcu's and plc's

After examining the existing IOTs we realized that in addition to missing utilities are complicated to use and expensive.

Almost all are based on saving data in the cloud but there are features that are missing as well as easier to use.

Toolmicro was born to provide a solution for developers of electronic systems and Plc'S. For professionals but also for amateurs.

Trying to provide useful functions. Functions that we as developers would like to have. These are some but if you want us to include some more tell us what you need and we will value it carefully.

First, the calls to our functions are as short as possible, we know that the bits in the mcu and plc are limited, we must take care of what is done and how.

As we say, the calls are short, a few letters and numbers to access the sub functions. Not by chance, being numbers is easy to mount the calls in arrays and optimize the code.

All functions are operated with simple GET or POST requests. No need for libraries or additional code.

If your design with Ethernet module knows how to do GET or POST and recover the data is already, you do not need anything else. Simple!.

This IOT can be used with web applications and smartphones in a simple way.



As mentioned earlier we have created useful functions, to mention one of the first to believe them.

API: _WEB?

What happens if they try to access a third-party API or load a data from a web X and that web is HTTPS ... with the low-cost microphones Pic Atmel (arduinios) etc., you can not manipulate secure layers since there is no space to include the necessary libraries. More and more websites use https. That happened to us and there is nobody to provide a solution. Believe it or not, there is nothing on the internet.

In fact, the first function that we created and that worked on our server was this one. This function is basically a web page translator, we pass the address to toolmicro and we return the response from the X server to your mcu.

In summary, we make the request to you, for example, to the page `https://webx.com` And the data that you give us is returned. And ready.

We are not going to review all but another very useful one that we have created is _GTM? So we can explain what we referred to earlier with "being numbers is easy to mount the calls in arrays and optimize the code"

In many designs we do not have real time, basically this function can give us: Only the time, date or date and only the server date indicating the GTM band we want.

In a system without real time it is easy to create a "precise" time base but with a cumulative time deviation.

With this api your system can check the real time and correct the deviation of your "real time" in an easy way.

We have not invented anything since we know it, what we have done is to simplify to the maximum what the gtm servers do.

When you try to get the time of a server gtm the first thing you realize is that to know the time you have to write many lines in our small mcu, then if they are free servers the calls that allow you to do are limited.

Finally to get the time or date is very complicated to do it from an mcu.

In addition to some of the time and date there are servers that give you a lot of irrelevant data for our design.

Well, our function basically you spend that you want hour, date or both, the initial gtm and the final gtm. Ready nothing more.

This would be the call: `_GTM?1|1|8|`

With 11 characters we have it. And of course by GET or POST without additional libraries.

When we said that it is easy to optimize the assembled code the calls in array or variables we referred to this:

Let's imagine that the complete call is as in the use example described below:

`toolmicro.ipdynamic.com/USER_MPASS_GTM?1|1|8|`



We can put in a variable the user and the pass:

```
VARUSERYPASS = "toolmicro.ipdinamic.com/USER_MPASS"
```

In another part of the call:

```
VARGTM = "_GTM?"
```

The VARUSERYPASS is reusable and throughout our code inside the mcu.

Imagine that at times the mcu need only the time and in others the time and date

To mount a complete call dynamically, it would be:

```
VARFINAL = VARUSERYPASS & VARGTM & VARHORAOFECHA & "|1|8|"
```

"VARHORAOFECHA" may at times be worth 1,2 or 3.

Depending on the language you use how to write the code change but this is simply to explain it.

Also for example we can create a specific function to call and pass in value "VARHORAOFECHA". This will be reusable. As we say there are many ways to do this, but all simple to implement.

Doubts?

For any questions you can send us an email: supportgen@toolmicro.com

Ideas and suggestions?

Surely we can improve or create any function that is not and you might need. If you have any ideas or suggestions you can send us a think@toolmicro.com



How an account

There are two types of accounts:

Free

Maximum rate of Api every 10 minutes.
 Cadence maximum e-mail sent every 10 minutes.
 Receive external e-mail maximum every 1 minute.
 It is necessary to renew the account every month.
 Retention of data while this account is active.

€ / YEAR	DEVICES	CADENCE
FREE	2	10 MINUTES

Payment Accounts

Maximum speed of Api, depending on the account
 E-mail reception maximum external 30 seconds
 Data Retention 1 year after account deletion end account balance

€ / YEAR	DEVICES	CADENCE
20. €	4	10 MINUTES
26. €	4	5 MINUTES
39. €	4	1 MINUTE
81. €	4	30 SECONDS
38. €	8	10 MINUTES
50. €	8	5 MINUTES
62. €	8	1 MINUTE
130. €	8	30 SECONDS
62. €	10	10 MINUTES
74. €	10	5 MINUTES
86. €	10	1 MINUTE
152. €	10	30 SECONDS

ANNUAL prices- These prices are approximate visit the website to be updated.

Dedicated server

1 Server Average unlimited machines, Cadence * and traffic. own domain, IP fixed. ToolMicro system installed with all API functions. Overseen by us.
 With integrated web page for you to manage machines and data. This server will be exclusively for your use.

Creating new features for you if necessary, this service will be billed separately.

Annual price 3,700. €

Unlimited machines and cadence * shall be limited to the specific server capabilities for memory, disk capacity and processing speed. Ask for complete server features.
 The price may vary if the service provider server changes its rates.

Taxes not included - These prices are approximate visit the website to be updated.



Frequent questions

Q: I can create a front-end graphics, bars, etc., with the information I have from my computers.

A: Currently from our website does not, but you can import the data and use them as you like. Maybe later we implement it, but it's not one of our priorities.

Q: What does "maximum rate of Api"

A: Is the maximum number of requests that can be made from the same machine ID number at a given time, against our server.

Suppose you use the free package.

Api maximum bit rate every 10 minutes

Your machine records a data ID 1:

`toolmicro.ipdynamic.com/USER_MPASS_DATA?1|122|5|HOLA|` ←-Hour Shipping: 12:00:00

If you want to record other data or do other Api consultation with that machine, you need to do starting at 12:10:59. Requests coming from that id before 12:10:59 response will timecode error.

Q: The administrator has functions that are specific to it, how often can be invoked

A: It is the same rate than machines.

Suppose you use the free package.

Api maximum bit rate every 10 minutes

And the administrator uses the Api your machine records a data ID 1:

`toolmicro.ipdynamic.com/USER_MPASS_IMPORTDAT?` ←-Hour Shipping: 12: 00: 00

If you want to make another query Api, you will have to do starting at 12:10:59. Requests that come before 12:10:59 ignored.

Q: Which means "maximum rate of e-mail"

A: Is the maximum number of requests that can be sent from one machine ID number at a given time, against our server to send an e-mail. It is the same as Api cadence but with e-mail.

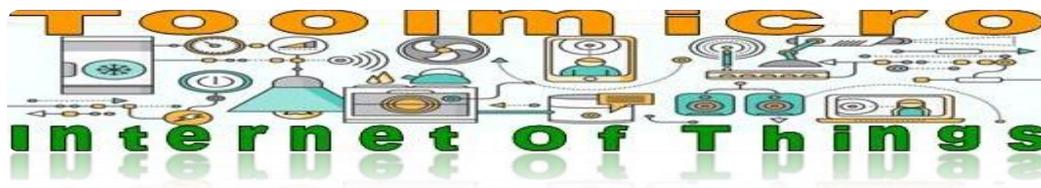
Suppose you use the free package.

Cadence sending e-mail every 10 minutes maximum

Your machine with ID 1 sends an e-mail:

`...m / USER_MPASS_MAIL 1|? Micuenta@mail.com|destino@mail.com|subject|text mail|Shipping time: 12: 00:00`

If you want to send another e-mail with that machine you will have to do starting at 12:10:59 Requests coming from that id before 12:10:59 response error will Timecode



Q: Because the maximum rate is 30 seconds?

A: There are service providers that offer cadences of 1 second to millisecond. Of course with other prices. Our service is designed to solve normal processes such as saving temperatures, states etc. Which they are the most common, with a competitive price. We have found that cadences 10, 5, 1 minute 30 seconds is more than sufficient for this purpose.

Consider this example, if a computer controls the temperature of a freezer each:

10 minutes: 144 readings / day

5 minutes: 288 readings / day

1 minute: 1,440 readings / day

30 seconds: 2,880 readings / day

Even the cadence of 10 minutes (144 / day), does not believe that this amount is sufficient to have an acceptable average temperature of that team?

When calculated how many submissions are required in an application must be taken into account being controlled, temperatures, control states / off etc.

For example in an application as mentioned above, send every minute the temperature is too as a normal process in no significant changes.

It is also important to design the system well to send data for changes. We want to send the same temperature X times if no changes?

If you're going to monitor processes are critical (medical devices, delicate or processes) perhaps you should ask yourself another option. Even real-time operations, but toolmicro it is not designed for this.

Q: What if there are machines in a facility and share public ip?

A: Each time you make a request to our server to the Api you must pass the number of machine that requests this way even more machines share an IP nothing happens.

Q: What if you have two or more machines and mistakenly awarded an ID of repeated machine?

A: Careful with this, because if two machines with the same ID make a request at the same time the first received will be processed but the second as time has passed cadence is ignored.

Q: Then I can assign more machines with the same ID?

A: Can do it. But when the machine x make an inquiry can not do anything until you pass the allotted cadence.

Q: What happens if requests are made and the user name or password gets bad?

A: For security, if more than 4 consecutive ip applicant is blocked for 48 hours.

Q: And resell services toolmicro you can?

A: No it can not be done. If this is done we verify that the service will be suspended.

Q: If I buy a dedicated server I can resell services toolmicro?

A: No it can not be done. If this is done we verify that the service will be suspended.

Q: Which means "Receiving e-mail at least every 1 minute"

A: Our server updates the external e-mail every minute.

Q: In the free account it is "necessary to renew account every month"

R: Our system sends an e-mail to your mail account to renew the free account.

If the account is not verified within 48 hours, the account is canceled and you can not recover your data.



Q: As I manage my machine accesses the system?

R: Your account works with a user name and a primary key.

From there you can access all system administration functions.

A machine accessed with your username and password that is not the primary key.

There is a feature called "_PASS" This function is used to change passwords for each machine ID and password management. You can see how to use it later. By default all machines have a key automatically generated strong guy. We recommend not to change them, but you can do. Supports letters and numbers must have a length of 10 digits.

The machines can access this Api "_MPASS" to change your password even keys other machines. To change a key need to know the key into force.

The new keys will be 10 alphanumeric digits. uppercase and lowercase letters are recognized. No points are allowed such signs, commas, etc.

Q: I can put the same key to multiple machines?

A: You can put the key you want, but we do not recommend is the same for all machines. We recommend you leave there because they are strong type

Q: I can change user name or the primary key of my account?

A: You can change the password but not the username. That name is assigned by the system and can not be changed. The key length is 10 alphanumeric digits. uppercase and lowercase letters are recognized.

Q: It is safe toolmicro?

A:In toolmicro we care about safety. We try to the maximum that the system is safe, but as in all facets of life: running, driving, travel ... 100% security is not possible. We have two types of servers, data from your account, payment gateway etc. are on a server that works with standard browsers and https encryption and API for machines working in others. All servers are redundant and have backups in real time. In addition to availability 99.9% and with lower deployment of 60 seconds.

Q: I can use Https in toolmicro?

A:No. The service is designed for the vast majority of machines that can not handle https layers. If you purchase a dedicated server Toolmicro, yes we can implement.

Q: Toolmicro uses TOKEN?

A: Yes, we use TOKEN. Our system is very versatile. If the network is where their teams are trusted you can use the traditional user name and password. If another type of network can generate token and work with them. See information on how to use them. We use tokens do not expire and can regenerate them when needed. TOKEN length is 40 alphanumeric characters. Non-encrypted communication which is used by low cost mcu is capable of being captured and spied upon. If your applications are critical consider using https encryption systems although most low cost MCUs do not support this type of communication.



Q: Does the function of regenerating TOKEN have cadence?

A: No, you can make a token update request and then use any API.

Q: Why do you access toolmicro by sub-domain like api1.toolmicro.com?

A: Basically to address the traffic and separate customers. For example, free clients go to free1.toolmicro.com ... As we grow, we increase servers and redirect clients to provide better service. When you sign up we assign you a route and it will not change.

Q: Do I need more equipment or special cadences can they adapt to my needs?

A: Of course, yes. Get in touch with us and tell us what you need. We can adapt to your project, even as in other clients create exclusive servers for you or implement special functions that are not done. Surely we reached an agreement.

Q: I think my account is being used by others without permission?

A: Do not worry, please contact us by e-mail at nolegaluse@toolmicro.com. We will review your account traffic and see what happens.

Q: What do you mean by "machines"?

A: We refer to any device that may use our services. For example Microprocessed circuits, Arduinos, PLC, Smartphones with app's, PC's, Web servers, etc. At the end of this document you have a list of some.

Q: Can I send data with GET AND POST?

A: You can send them with any get or post method. But remember that neither get nor post are safe and can be captured and analyzed. This means that if it is integrated into a website, the user and the password can be visible to malicious users.

Q: Regarding the privacy of my data?

A: No personal data is stored on the Toolmicro API servers. Your account information is on Toolmicro.com. The treatment of your data is common to any web service and complying with the data protection law



IOT LIST API TOOLMICRO.COM

API: _WEB? Receive simple data from third-party api's

API: _GTM? 1 Day and Time

API: _GTM? 2 Day only

API: _GTM? 3 Hour Only

API: _MAC? 1 Generates 2 hexadecimal digits MAC type

API: _MAC? 2 Generates 4 hexadecimal digits MAC type

API: _MAC? 3 Generates 6 hexadecimal digits MAC type

API: _MAC? 4 Generates 8 hexadecimal digits MAC type

API: _RND? 1 Generates 1 decimal digits between 1 and 9

API: _RND? 2 Generates 2 decimal digits between 10 and 99

API: _RND? 3 Generates 3 decimal digits between 100 and 999

API: _RND? 4 Generates 4 decimal digits between 1000 and 9999

API: _RND? 5 Generates 5 decimal digits between 10000 and 99999

API: _RND? 6 Generates 6 decimal digits between 100000 and 999999

API: _RND? 7 Generates 7 decimal digits between 1000000 and 9999999

API: _RND? 8 Generates 8 decimal digits between 10000000 and 99999999

API: _RND? 9 Generates 9 decimal digits between 100000000 and 999999999

API: _RND? 10 Generates 10 decimal digits between 1000000000 and 9999999999

API: _MAIL? 1 Send an email to an email address

API: _MAIL? 2 Read an email from an email address

API: _WDT? Reset to monitor that the mcu are operational.

API: _DATA? 1 Read data in the cloud

API: _DATA? 2 Save data in the cloud

API: _DATA? 3 Search data in the cloud

API: _DATA? 4 Read data receiving the date and time of its recording

API: _DATA? 5 Save up to 40 data in the cloud, in the same request

API: _DATA? 6 Read up to 40 data from the cloud in the same request

API: _MPASS? Change keys, only of machines

API: _MTOKEN? Generates new token for a machine



APIS THAT CAN BE USED BY SENDING AN E-MAIL TO THE IOT SERVER

API: _DATA?2 Keep data in the cloud

API: _DATA?5 Save up to 40 cloud data in a single request

API: _WDT? Reset to monitor that the mcu are operational.

API: _MGET? Generates a GET against a web from a mail.

FUNCTIONS OF USE FOR ADMINISTRATOR NOT FOR MACHINES

API: _WDTC? Config _WDT? API

API: _IMPORTDAT? Import saved data in the cloud

API: _STATUS? Check the status of your account

API: _CNFMAIL? API configures mail: _STATUS

API: _PASS? Changes and key machines query and change the primary key

API: _IMPORTDATMAQ? Imports comments keys and their machines

API: _SETGTM? Set your time zone on the server

API: _ATOKEN? It generates new token for the Administrator account

FORM OF IMPORTING DATA BY E-MAIL

API_IMPORTDAT? Import all data by E-MAIL

API_IMPORTSELECT? Import data FILTERED BY E-MAIL



DEFINITION AND LIMITATION OF GENERAL PARAMETERS

Parameter: USER_

Throughout the document refers to the user name of your account. This name can not be changed.

Parameter: PASS_

Throughout the document refers to the password of your account or primary key. This key can be changed with the API: `_PASS`. Do not confuse this key with assigned to their teams.

Parameter: MPASS_

Throughout this document refers to the individual password of each "M" Aquina. These keys can be changed with the API: `_MPASS` and the API: `_PASS`. Do not confuse these key with the primary key.

Clarifying PASS_ And MPASS_:

The functions that have been assigned the use of MPASS_ type keys are functions that can be called by the machines with the user name and their own key.

They should not be called by the administrator with their username and their primary key.

But if the API has a PASS_ defined without the "M", it should only be called by the administrator with the username and its primary key. These functions are configuration or data export.

The functions that are only for administration will be marked with:

USE ONLY FOR ADMINISTRATOR NOT FOR MACHINES

Parameter: iDMACHINE|

Throughout this document refers to the machine number. An integer that identifies each machine account making the request. You can go from 1 to the maximum you are contracted.

For example in the demo account go from 1 to 2.

In the examples of this document will always be 99| to distinguish and not confuse it with other parameters.

DO NOT USE THE BAR VERTICAL CHARACTER, ASCII COD: 124 "|"

This character is used to separate data within the API functions and return data with this character as start of message. Do not store data including this character, or use in their texts. API functions detecting it and thrown error messages. We chose this character because normally not used. When you export data are separated by this character and not with commas.

Server Response

The answers to your queries starting with "|" and ending with "#" for example|OK#



LOCK IP's

Our server ip blocked for 48 hours for one of these reasons:

Having incorrect any of these parameters:

USER_

PASS_

MPASS_

If you make four requests with the user name or incorrect keys blocked his ip our server for 48 hours as a security measure.

This does not affect requests with user and password correct but that this poorly written or contains incorrect parameters.

It also blocked if it requests outside the parameters of the system. For example if you make a get against the server:

```
/login.cgi?cli=aa wget http:// ...
```

```
/user/register/HTTP/1 ... ..
```

Or anything else that comes to mind

If you make four such requests would block our server ip for 48 hours as a security measure.

This does not affect a petition with user and password correct but that this poorly written or contains incorrect parameters.

ATTENTION ON THE CODING OF CHARACTERS

APIs are designed for use plain text generating requests with standard UTF-8

A rule to avoid problems using standard ASCII characters and avoid using accents, special characters, the "ñ" etc.

To test from a browser you can install in Chrome extension "SureUtils REST API Client" is free. This is a suggestion but there are more, use the one you like.

TO TAKE INTO ACCOUNT IN YOUR DESIGN

Keep in mind that the speed of response of our server is very high, but since you send a request until you receive the answer there are many factors that can make it take more or less. Control the time-out parameters of your hardware to adjust it to the reality of the scenario where the application is running. It is also advisable to control the parameters returned by our server, for example messages such as |OK# will indicate that the operation is performed, or messages such as |ERR1# will indicate that there has been a problem. In the chapter "Requests, Error Codes and Answers" are described.

You should also control the non-response by the server in case of maintenance or update. Although the system is hosted on servers with 99.9% availability and with a deployment of less than 60 seconds, some update may be applied and it may not be operational for a few minutes. The maintenance tasks are performed in slots of minimized traffic.



- **API: _WEB?**

DESCRIPTION:

This API is designed for simple data APIs third party either http or https. No returns complex structures and web page graphics, for example if we make a request of this type:
toolmicro.ipdinamic.com/USER_MPASS_WEB?Idmaquina|(INI)https://www.google.es(END)
What we get is an incomplete web, as we say is not designed for this use.
This Api is very useful in micros that has no ability to request Https requests.

HOW TO USE:

_WEB? ----- API call DELIVERY
iDMACHINE| ----- Machine ID
(INI) ----- START Weft SHIPPING
(END) ----- END OF SHIPPING SENDING

toolmicro.ipdinamic.com/USER_MPASS_WEB?Idmaquina|(INI)https://www.google.com(END)
What is sent is what has between (INI) (END) API removes (INI) and (END) and sent what this written literally in this case. https://www.google .com

toolmicro.ipdinamic.com/USER_MPASS_WEB?Idmaquina|(INI)<https://www.google.com> (END)
What is sent is what has between (INI) (END) API removes (INI) and (END) and sent what this written literally in this case.: <https://www.google.com>
It is different from the previous example is because there is a space at the beginning and end.
What this between INI and END is not modified and sent as sets.

EXAMPLE OF USE:

toolmicro.ipdinamic.com/USER_MPASS_WEB?99|(INI)https://web.com/Api/1?id=1&Api=EXAMPLE(END)
toolmicro.ipdinamic.com/USER_MPASS_WEB?99|(INI)http://web1.com/api/2?id=1&Api=EXAMPLE (END)

RETURN:

THE ANSWER GIVEN BY THE REQUESTED PAGE



- **API: _GTM?**

DESCRIPTION:

This API is designed to answer three possible options

_GTM Idmaquina|1? = Date and Time

_GTM Idmaquina|2? = Only Day

_GTM Idmaquina|3? = Only Time

We can use any combination to calculate a schedule, the most common is from zone 1 ((UTC) Coordinated Universal Time) and search the list the desired destination area.

This API takes into account changes in summer and winter schedule of the different areas and gives the result properly automatically.

Toolmicro server works in Zone 1 (UTC) Coordinated Universal Time.

If you want to know the local time in our schedule we must always use from zone 1 toward you want.

For example if you put `_GTM?iDMACHINE|n0|1|1|` This would give us time server.

This Api is very useful for micros in which RTC is not available. Also request real time on a web service with UTC usually require many lines of code. Api does this with minimal use of bits. All work is supported by the server.

HOW TO USE:

`toolmicro.ipdinamic.com/USER_MPASS_GTM?iDMACHINE|n0|n1|n2|`

n0 = number integer option

n1 = integer time zone number (of the zone ...)

n2 = integer number of time zone that you want to obtain (to the area ...)

`toolmicro.ipdinamic.com/USER_MPASS_GTM?99|1|1|8|`

EXAMPLE OF USE:

➤ **To find the date and time in Madrid:**

`toolmicro.ipdinamic.com/USER_MPASS_GTM?99|1|1|8|`

The header would be: `_GTM?iDMACHINE|1 1` Indicates the Api we requested Date and Time

The first part: `|1|` It tells the API to start from zone 1
(In the list below is a list of time zones) 1 (UTC) Coordinated Universal Time

The second part `8|` request indicates that the time zone 8
8 (UTC + 01: 00) Brussels, Copenhagen, Madrid, Paris

RETURN:

As a result we in this example: `|01/01/18 18:50#`



➤ **To find one day in Madrid:**

Toolmicro toolmicro.ipdinamic.com/USER_MPASS_GTM?99|2|1|8|

The header would be: _GTM?iDMACHINE|2 Indicates the Api we request Day?

The first part: |1| It tells the API to start from zone 1
(In the list below is a list of time zones) 1 (UTC) Coordinated Universal Time

The second part 8| request indicates that the time zone 8
8 (UTC + 01: 00) Brussels, Copenhagen, Madrid, Paris

RETURN:

As a result we in this example: |01/01/18 #

➤ **To find just the time in Madrid:**

toolmicro.ipdinamic.com/USER_MPASS_GTM?99|3|1|8|

The header would be: _GTM?iDMACHINE|3 Indicates the time we requested Api

The first part: |1| It tells the API to start from zone 1
(In the list below is a list of time zones) 1 (UTC) Coordinated Universal Time

The second part 8| request indicates that the time zone 8
8 (UTC + 01: 00) Brussels, Copenhagen, Madrid, Paris

RETURN:

As a result we in this example: |18:50#

Example misuse:

toolmicro.ipdinamic.com/USER_MPASS_GTM?99|3|1|300|

RETURN:

|ERROR#



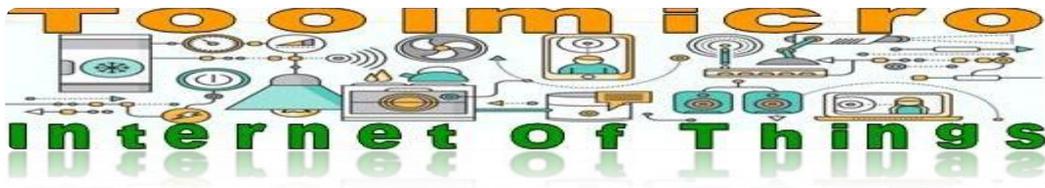
DESCRIPCION DE ID EN ZONAS HORARIAS

TABLA1

ID	UTC	Descripción
1	(UTC)	Coordinated Universal Time
2	(UTC+00:00)	Dublin, Edinburgh, Lisbon, London
3	(UTC+00:00)	Monrovia, Reykjavik
4	(UTC+00:00)	Casablanca
5	(UTC+01:00)	Belgrade, Bratislava, Budapest, Ljubljana, Prague
6	(UTC+01:00)	Sarajevo, Skopje, Warsaw, Zagreb
7	(UTC+01:00)	Windhoek
8	(UTC+01:00)	Brussels, Copenhagen, Madrid, Paris
9	(UTC+01:00)	West Central Africa
10	(UTC+01:00)	Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna
11	(UTC+02:00)	Chisinau
12	(UTC+02:00)	Cairo
13	(UTC+02:00)	Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius
14	(UTC+02:00)	Athens, Bucharest
15	(UTC+02:00)	Jerusalem
16	(UTC+02:00)	Amman
17	(UTC+02:00)	Kaliningrad
18	(UTC+02:00)	Tripoli
19	(UTC+02:00)	Beirut
20	(UTC+02:00)	Harare, Pretoria
21	(UTC+02:00)	Khartoum
22	(UTC+02:00)	Damascus
23	(UTC+02:00)	Gaza, Hebron
24	(UTC+03:00)	Kuwait, Riyadh
25	(UTC+03:00)	Baghdad
26	(UTC+03:00)	Minsk
27	(UTC+03:00)	Nairobi
28	(UTC+03:00)	Moscow, St. Petersburg, Volgograd
29	(UTC+03:00)	Istanbul
30	(UTC+03:30)	Tehran
31	(UTC+04:00)	Abu Dhabi, Muscat
32	(UTC+04:00)	Astrakhan, Ulyanovsk
33	(UTC+04:00)	Baku
34	(UTC+04:00)	Yerevan
35	(UTC+04:00)	Tbilisi
36	(UTC+04:00)	Port Louis
37	(UTC+04:00)	Izhevsk, Samara
38	(UTC+04:00)	Saratov
39	(UTC+04:30)	Kabul
40	(UTC+05:00)	Ekaterinburg
41	(UTC+05:00)	Islamabad, Karachi
42	(UTC+05:00)	Ashgabat, Tashkent
43	(UTC+05:30)	Chennai, Kolkata, Mumbai, New Delhi
44	(UTC+05:30)	Sri Jayawardenepura
45	(UTC+05:45)	Kathmandu
46	(UTC+06:00)	Dhaka
47	(UTC+06:00)	Astana
48	(UTC+06:00)	Omsk
49	(UTC+06:30)	Yangon (Rangoon)
50	(UTC+07:00)	Barnaul, Gorno-Altaysk
51	(UTC+07:00)	Novosibirsk
52	(UTC+07:00)	Krasnoyarsk
53	(UTC+07:00)	Bangkok, Hanoi, Jakarta
54	(UTC+07:00)	Tomsk
55	(UTC+07:00)	Hovd
56	(UTC+08:00)	Beijing, Chongqing, Hong Kong, Urumqi
57	(UTC+08:00)	Irkutsk
58	(UTC+08:00)	Kuala Lumpur, Singapore
59	(UTC+08:00)	Taipei
60	(UTC+08:00)	Ulaanbaatar
61	(UTC+08:00)	Perth
62	(UTC+08:30)	Pyongyang
63	(UTC+08:45)	Eucla
64	(UTC+09:00)	Seoul
65	(UTC+09:00)	Osaka, Sapporo, Tokyo
66	(UTC+09:00)	Chita
67	(UTC+09:00)	Yakutsk
68	(UTC+09:30)	Darwin
69	(UTC+09:30)	Adelaide
70	(UTC+10:00)	Canberra, Melbourne, Sydney



71	(UTC+10:00)	Brisbane
72	(UTC+10:00)	Hobart
73	(UTC+10:00)	Vladivostok
74	(UTC+10:00)	Guam, Port Moresby
75	(UTC+10:30)	Lord Howe Island
76	(UTC+11:00)	Bougainville Island
77	(UTC+11:00)	Solomon Is., New Caledonia
78	(UTC+11:00)	Magadan
79	(UTC+11:00)	Norfolk Island
80	(UTC+11:00)	Chokurdakh
81	(UTC+11:00)	Sakhalin
82	(UTC+12:00)	Fiji
83	(UTC+12:00)	Petropavlovsk-Kamchatsky - Old
84	(UTC+12:00)	Auckland, Wellington
85	(UTC+12:00)	Anadyr, Petropavlovsk-Kamchatsky
86	(UTC+12:00)	Coordinated Universal Time+12
87	(UTC+12:45)	Chatham Islands
88	(UTC+13:00)	Samoa
89	(UTC+13:00)	Nuku'alofa
90	(UTC+13:00)	Coordinated Universal Time+13
91	(UTC+14:00)	Kiritimati Island
92	(UTC-01:00)	Azores
93	(UTC-01:00)	Cabo Verde Is.
94	(UTC-02:00)	Mid-Atlantic - Old
95	(UTC-02:00)	Coordinated Universal Time-02
96	(UTC-03:00)	City of Buenos Aires
97	(UTC-03:00)	Salvador
98	(UTC-03:00)	Brasilia
99	(UTC-03:00)	Greenland
100	(UTC-03:00)	Punta Arenas
101	(UTC-03:00)	Montevideo
102	(UTC-03:00)	Cayenne, Fortaleza
103	(UTC-03:00)	Saint Pierre and Miquelon
104	(UTC-03:00)	Araguaina
105	(UTC-03:30)	Newfoundland
106	(UTC-04:00)	Atlantic Time (Canada)
107	(UTC-04:00)	Cuiaba
108	(UTC-04:00)	Santiago
109	(UTC-04:00)	Asuncion
110	(UTC-04:00)	Georgetown, La Paz, Manaus, San Juan
111	(UTC-04:00)	Turks and Caicos
112	(UTC-04:00)	Caracas
113	(UTC-05:00)	Havana
114	(UTC-05:00)	Eastern Time (US & Canada)
115	(UTC-05:00)	Chetumal
116	(UTC-05:00)	Haiti
117	(UTC-05:00)	Bogota, Lima, Quito, Rio Branco
118	(UTC-05:00)	Indiana (East)
119	(UTC-06:00)	Saskatchewan
120	(UTC-06:00)	Central America
121	(UTC-06:00)	Central Time (US & Canada)
122	(UTC-06:00)	Guadalajara, Mexico City, Monterrey
123	(UTC-06:00)	Easter Island
124	(UTC-07:00)	Mountain Time (US & Canada)
125	(UTC-07:00)	Chihuahua, La Paz, Mazatlan
126	(UTC-07:00)	Arizona
127	(UTC-08:00)	Pacific Time (US & Canada)
128	(UTC-08:00)	Baja California
129	(UTC-08:00)	Coordinated Universal Time-08
130	(UTC-09:00)	Alaska
131	(UTC-09:00)	Coordinated Universal Time-09
132	(UTC-09:30)	Marquesas Islands
133	(UTC-10:00)	Aleutian Islands
134	(UTC-10:00)	Hawaii
135	(UTC-11:00)	Coordinated Universal Time-11
136	(UTC-12:00)	International Date Line West



- **API: _MAC?**

DESCRIPTION:

This API is designed to respond with 6 possible options:

- _MAC?iDMACHINE|1|--- Generates 2 dígits hexadecimals for example |32#
- _MAC?iDMACHINE|2|--- Generates 4 dígits hexadecimals for example |D0:E0#
- _MAC?iDMACHINE|3|--- Generates 6 dígits hexadecimals for example |D0:E0:1E#
- _MAC?iDMACHINE|4|--- Generates 8 dígits hexadecimals for example |D0:E0:1E:11#
- _MAC?iDMACHINE|5|--- Generates 10 dígits hexadecimals for example |D0:E0:1E:11:24#
- _MAC?iDMACHINE|6|--- Generates 12 dígits hexadecimals for example |D0:E0:1E:11:24:36#

This Api is very useful for micros in which you do not have a single Mac and prerecorded or need to generate a Mac with security that is unique. Each time the Mac is requested will be different.

HOW TO USE:

toolmicro.ipdinamic.com/USER_MPASS_MAC?iDMACHINE|n1|

n1 = integer from 1 to 6

EXAMPLE OF USE:

toolmicro.ipdinamic.com/USER_MPASS_MAC?99|5|

RETURN:

|D0:E0:1E:11:24#

Example misuse:

toolmicro.ipdinamic.com/USER_MPASS_MAC?99|500|

RETURN:

|ERROR #



- **API: _RND?**

DESCRIPTION:

This API is designed to generate random numbers from 1 digit to 10 digits.
The value 0 will not ever.
the number of digits required is always generated

_RND? iDMACHINE|1| --- Generates one decimal digit between 1 and 9, for example |9#
_RND? iDMACHINE|2| --- Generates 2 decimal digits between 10 and 99 for example |74#
_RND? iDMACHINE|3| --- reproduces 3 decimal digits between 100 and 999 such |795#
..
..
_RND?iDMACHINE|10| --- Generates 10 decimal digits between 1000000000 and 9999999999
for example |7458642187#

This Api is very useful for micros in which you do not need unique numbers and micros do not have the ability to ensure that they will always be different. Whenever requested RND will be a different number.

HOW TO USE:

toolmicro.ipdinamic.com/USER_MPASS_RND?iDMACHINE|n1|
n1 = integer between 1 and 10

EXAMPLE OF USE:

toolmicro.ipdinamic.com/USER_MPASS_RND?99|5|

RETURN:

|75428#

Example misuse:

toolmicro.ipdinamic.com/USER_MPASS_RND?99|100|

RETURN:

|ERROR#



- **? API: _MAIL?iDMACHINE|1**

Sending E-MAIL

DESCRIPTION:

Usually send an e-mail usually consumes many lines of code and is complex.

This API is designed to send a mail to an email address specified in a simple way. Admits subject and message.

This Api is very useful when you need to send email to people or other equipment. Without any additional configuration on the mcu. Simply and with minimal memory consumption and program lines form.

The length FROM and TO has to be 40 characters maximum for each. The length of the subjet and TEXT must be maximum 200 characters each.

Note that we do not verify the data entered, if you mistype the destination mail data will attempt to send mail but if there are errors mail does not reach its recipient. The system does not warn of errors in shipping.

HOW TO USE:

`toolmicro.ipdinamic.com/USER_MPASS_MAIL?iDMACHINE|1|FROM|TO|SUBJET|TEXT|`

EXAMPLE OF USE:

`toolmicro.ipdinamic.com/USER_MPASS_MAIL?99|1|micuenta@mail.com|destino@mail.com|asunto|texto mail|`
`toolmicro.ipdinamic.com/USER_MPASS_MAIL?99|1|micuenta@mail.com|destino@mail.com|asunto|-|`

RETURN:

|OK#

Example misuse:

`toolmicro.ipdinamic.com/USER_MPASS_MAIL?99|1|micutexto mail|`

RETURN:

|ERROR #



• **API: _MAIL?iDMACHINE|2**

READ AN E-MAIL

DESCRIPTION:

Normally receive an e-mail usually consumes many lines of code and is complex.

This API is designed to read a mail from a POP mail account itself, in a simple way.

This Api is very useful when you need to receive emails from people or other equipment. Without any additional configuration on the mcu.

Simply and with minimal memory consumption and program lines form.

Given the limited memory of the mcu this Api returns only the subject of the mail read. The message and attachments are removed.

Note that we do not verify the data entered, if you mistype the configuration data is trying to read the mail but if there are mistakes you can not perform the operation.

HOW TO USE:

toolmicro.ipdinamic.com/USER_MPASS_MAIL?99|2|pop.cuenta.es|user@mimail.com|password|995|1|

_MAIL?99|2| ----- API call DELIVERY(99 is the number of machine in the example)
pop.cuenta.com| ----- name of your server POP3
user@mimail.com| ----- user name your email
password| ----- Pass code your email
995| ----- POP3 PORT OF NORMALLY 995
1| ----- requires SSL? 1 = YES 0=NO

EXAMPLE OF USE:

toolmicro.ipdinamic.com/USER_MPASS_MAIL?99|2|pop.cuenta.es|user@mimail.com|password|995|1|

IF THERE IS ANY MAIL Returns:

|000| THE CONTENT OF THE MATTER IS THIS #

|000| ----- three-digit number followed by a slash. Indicates how many messages remain read on that account.

For example, if you indicate this:

|002|THE CONTENT OF THE MATTER IS THIS #

In addition we would know that the message read 2 left unread messages in the account

IF THERE IS NO MAIL RETURN:

|000|EMPTY#

Example misuse:

toolmicro.ipdinamic.com/USER_MPASS_MAIL?99|2|pop.cuenta.es|usermimail.com|password|995|1|

RETURN:

|ERROR#



- **API: _WDT?**

DESCRIPTION:

This API is designed to reset the timer WDT.

When this request is received the associated wdt unit is cleared. If not received within the set time sending messages is activated.

Without any additional configuration on the mcu.

Simply and with minimal memory consumption and program lines form.

HOW TO USE:

`toolmicro.ipdinamic.com/USER_MPASS_WDT?iDMACHINE|`

WDTC? -----CALL RESET API

iDMACHINE| -----Team number 1 to 10

EXAMPLE OF USE:

`toolmicro.ipdinamic.com/USER_MPASS_WDT?99|`

RETURN:

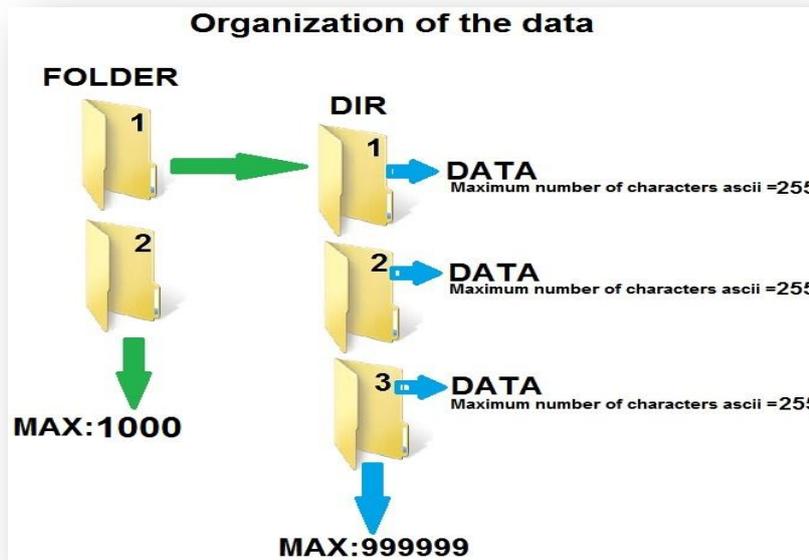
|OK #

Example misuse:

`toolmicro.ipdinamic.com/USER_MPASS_WDT?|SDWEEDAADSAD|`

RETURN:

|ERROR#



In the picture the way they are organized your data and limits in terms of quantity appears. The structure is accessible from any machine. This means that any machine can read and write data to any "folder" and directory whenever you access course with your username and password. This makes it very easy to pass data between machines.

- **API: _DATA?**

DESCRIPTION:

This API is designed to store, read and search data in the toolmicro server. Any machine can store, read or search any data whether or not his. You can also export data for processing or viewing web servers or APP's. You can store any data type to a maximum length of 255 characters

HOW TO USE:

➤ **READ DATA:**

_DATA?iDMACHINE|1

toolmicro.ipdinamic.com/USER_MPASS_DATA?iDMACHINE|1|CARPETA|DIRECCION|0|
 _DATA?iDMACHINE| -----API call
 1| ----- Reading order
 FOLDER| ----- Folder number SOUGHT FROM 1 TO 1000
 ADDRESS| ----- DIRECTION SOUGHT within that folder, from 1 to 999999
 0| ----- Required to complete the FIXED CALL TO ZERO

EXAMPLE OF USE OF READING: INSIDE THE FOLDER 10, READ THE DATA NUMBER 5:

toolmicro.ipdinamic.com/USER_MPASS_DATA?99|1|10|5|0|

RETURN:

|THE DATA#

IF NO DATA RETURN:

|EMPTY#

* Not confuse vacuum with 0 if zero is sent

Example misuse:

toolmicro.ipdinamic.com/USER_MPASS_DATA?99|1|50000000000|444|

RETURN:

|ERROR#



➤ **SAVE DATA:** DATA?iDMACHINE|2

➤ toolmicro.ipdinamic.com/USER_MPASS_DATA?99|2|NUMERO DE CARPETA|DIRECCION|DATA|
 _DATA?iDMACHINE| -----API call
 2| ----- ORDER OF RECORDING DATA
 FOLDER| ----- Folder number SOUGHT FROM 1 TO 1000
 ADDRESS|----- DIRECTION SOUGHT within that folder, from 1 to 999999
 DATA|----- Data to be saved up to 255 characters

Although you can use the value you want, we recommend that the folder number is the number of machine. So you have organized the data by machines.

EXAMPLE OF USE SAVE "DATA" IN FOLDER 10, ADDRESS 5:

toolmicro.ipdinamic.com/USER_MPASS_DATA?99|2|10|5|DATA|

RETURN:

|OK#

Example misuse:

toolmicro.ipdinamic.com/USER_MPASS_DATA?99|2|10|5000000000|DATA|

RETURN:

|ERROR#

➤ **SEARCH DATA: DATA** DATA?iDMACHINE|3

The difference between reading and look for is that reading gives us the data and look if there is only tells us whether or not this. The condition to be, is that what is sought is identical to Saved.

The search is performed in all the selected folder.

As the data is searching stops and reports the number of subfolder (DIR).

Note that you will not know if more equal data. There may be more if you have recorded more identical data.

This feature is designed to search within subfolders (DIR) if there is data.

It may be useful to search for example a password or a user name.

toolmicro.ipdinamic.com/USER_MPASS_DATA?99|3|NUMBER FOLDER|0|DATA TO LOOK|

_DATA?iDMACHINE| -----API call

3| ----- SEARCH ORDER DATA

Folder number|----- FOLDER NUMBER FROM 1 TO 1000

0| ----- FIXED TO ZERO

DATA TO LOOK| ----- DATA TO SEARCH

EXAMPLE OF USE, BROWSE "HOLA" within the folder 10:

toolmicro.ipdinamic.com/USER_MPASS_DATA?99|3|10|0|HOLA|

IF, RETURN:

NUMBER ADDRESS WHERE IS THE DATA FOR EXAMPLE:

|148#

IF NOT, RETURN:

|False#

Example misuse:

toolmicro.ipdinamic.com/USER_MPASS_DATA?99|3|8|8888988|DATA TO SEARCH|

RETURN:

|ERROR#



➤ **READ DATA RECEIVING THE DATE AND TIME OF YOUR RECORD:** **_DATA?iDMACHINE|4**

Unlike the previous function, this datum also gives us the date and time that was recorded or modified. Keep in mind that the time and date is what the toolmicro server uses, if you have not configured a different one. Date and time the server is toolmicro (UTC) Coordinated Universal Time
The date format and time is short guy with zeros.

```
toolmicro.ipdinamic.com/USER_MPASS_DATA?iDMACHINE|4|FOLDER|ADDRESS|0|
_DATA?iDMACHINE| -----API call
4|----- Reading order
FOLDER| ----- Folder number SOUGHT FROM 1 TO 1000
ADDRESS| ----- DIRECTION SOUGHT within that folder, from 1 to 999999
0| -----Required to complete the FIXED CALL TO ZERO
```

EXAMPLE READING WITHIN THE FOLDER 10, OF THE ADDRESS DATA 5 WITH DATE AND TIME:
toolmicro.ipdinamic.com/USER_MPASS_DATA?99|4|10|5|0|

RETURN:
|THE DATA|01/01/01|07:50#

IF NO DATA RETURN:
|EMPTY#
* Not confuse vacuum with 0 if zero is sent

Example misuse:

```
toolmicro.ipdinamic.com/USER_MPASS_DATA?99|4|50000000000|11|
RETURN:
|ERROR #
```

➤ **Save up to 40 data in the cloud, in the same request:** **_DATA?iDMACHINE|5**

```
toolmicro.ipdinamic.com/USER_MPASS_DATA?99|5|N°FOLDER|DIR|CANT DATA|DATA|.....
_DATA?iDMACHINE| -----API call
5| ----- RECORD ORDER MULTIPLE DATA
No. FORLER| ----- FOLDER NUMBER FROM 1 TO 1000
DIR| ----- START address within that folder, from 1 to 999999
DATA AMOUNT| ----- Data sent 1 to 40
DATA| ----- Data to be saved up to 255 characters
```

Although you can use the value you want, we recommend that the folder number is the number of machine. So you have organized the data by machines.

This function data recorded indicated starting from the address given, including this. If data in those positions were replaced and if there were created. Up to 10 facts and 255 characters each. It is not mandatory to use the 40 data, you can use the ones you need. If you send more or less data than those listed in "CANT DATA" you will receive an error. This function will overwrite the data stored on the server exist.

EXAMPLE SAVE 3 DATA: "DATA1", "DATA2", "DATA3" IN FOLDER 100, ADDRESS 9:

```
DIR9 DIR10 DIR11
"DATA1", "DATA2", "DATA3" FOLDER 100, DIR 9:
```

```
toolmicro.ipdinamic.com/USER_MPASS_DATA?99|5|100|9|3|DATOS1|DATOS2|DATOS3|
```

RETURN:
|OK #

Example misuse:

```
toolmicro.ipdinamic.com/USER_MPASS_DATA?99|5|100|9|2|DATOS1|DATOS2|DATOS3|
RETURN:
|ERROR#
```



➤ **Read up to 40 data in the cloud, in the same request:** `_DATA?iDMACHINE|6
toolmicro.ipdinamic.com/USER_MPASS_DATA?99|6|NUMBER FOLDER|DIR|AMOUNT DATA TO READ|`

`_DATA?iDMACHINE|` -----API call
`6|` ----- ORDER TO READ multiple data
`No.FOLDER|` ----- FOLDER NUMBER FROM 1 TO 1000
`DIR|` ----- START address within that folder, from 1 to 999999
`AMOUNT OF DATA TO READ|` ----- number from 1 to 40

This function reads the data indicated starting from the given direction. If there is an address are declared as "NULL" (literal). For example, imagine you have recorded data in the address 1,2,3,6 and 7 of the folder 100 and requests to read 10 positions the resulting message would be:

`data1|data2|data3|null|null|data6|data7|null|null|null|OK#`
(Not numbered because it is delivered in order, in this case 1 to 10)

EXAMPLE read data in folder 2 from address 100, 4 data
`toolmicro.ipdinamic.com/USER_MPASS_DATA?99|6|2|100|4|`

RETURN:
`|data1|data2|data3|data4|OK#`
(DIR100 DIR101 DIR102 DIR103) ←EXPLAINING THIS IS NOT SENT

Same example but with nonexistent addresses:
RETURN:
`|data1|null|data3|null|OK#`
(DIR100 DIR101 DIR102 DIR103) ←EXPLAINING THIS IS NOT SENT

Example misuse:
`toolmicro.ipdinamic.com/USER_MPASS_DATA?99|6|2|100|40000000|`
RETURN:
`|ERROR #`



- **API: _MPASS?**

DESCRIPTION:

This Api set the passwords of their own machines.
Keys 1 and 2 have to be equal to 10 digits long letters and numbers.

ASCII characters allowed ASCII numbers 48 to 57
ASCII characters allowed uppercase ASCII 65 to 90
ASCII characters lowercase letters allowed ASCII 97 to 122
Any other will generate error.

toolmicro.ipdinamic.com/USER_PASS_MPASS?iDMACHINE|NUM MAQUINA|KEY ACTUAL|KEY1|KEY2|

_MPASS?iDMACHINE| ----- API call CONFIGURATION
MACHINE NUMBER ----- MACHINE NUMBER ON WHICH THE KEY CHANGE IS MADE
CURRENT KEY|-----The current key MACHINE
KEY1|----- NEWTHE KEY TO MACHINE THAT
KEY2|----- CONFIRMATION NEW KEY

EXAMPLE OF USE:

toolmicro.ipdinamic.com/USER_PASS_MPASS?99|5|1234|1234567890|1234567890|

RETURN:

|OK#

Example misuse:

toolmicro.ipdinamic.com/USER_PASS_MPASS?99|5|1234|1234567890|1????90|

RETURN:

|ERROR#

- **API: _MTOKEN?**

DESCRIPTION:

This API token generates a 40-digit key for a machine. This key does not expire and can regenerate many times as needed. Once generated you can access the functions of the machine by replacing the MPASS of the machine by token awarded. A call to mToken no limit cadence. This means you can make a request MTOKEN and then use any other function.

toolmicro.ipdinamic.com/USER_PASS_MTOKEN?iDMACHINE|

_MPASS?iDMACHINE ----- API call CONFIGURATION
iDMACHINE -----NUMBER machine that is generated TOKEN

EXAMPLE OF USE TO GENERATE A TOKEN IN THE MACHINE 4:

toolmicro.ipdinamic.com/USER_PASS_MPASS?4|

RETURN in this example:

|CG8W5RcJC1x9iukecCpYN5H4006ziR1g0zUaNvbn|OK#

Example of use of the key TOKEN generated with a function. For example _MAC? number generation

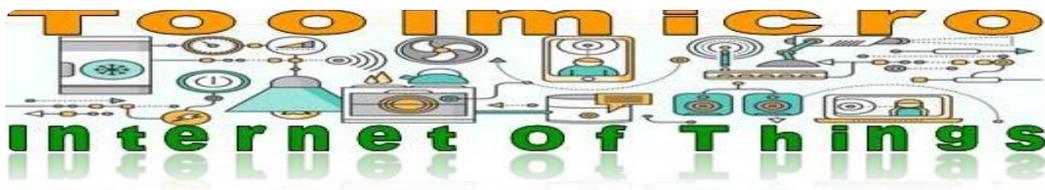
toolmicro.ipdinamic.com/USER_CG8W5RcJC1x9iukecCpYN5H4006ziR1g0zUaNvbn_MAC?99|5|

Example misuse:

toolmicro.ipdinamic.com/USER_PASS_MTOKEN?FFFDADSAA|

RETURN:

|ERROR #



APIS that can be used SERVER emailing the IOT

There are some systems such as PLC'S that can send e-mail sent to a specific address subject and message, without attaching any files because they do not have that ability. In those messages can include text, variable values etc.

Some of our APIs are integrated into the e-mail system to receive the data processing and then to consult them or export them from other machines.

At the moment they are APIs that can be used by sending an e-mail to our server. The reason is that these teams can only give information but not receive.

As they used basically to make a request but not including the initial direction.

Cadence shipments email is subject to the type of account you have. If you have a cadence of 10 minutes, the mail is processed after that time.

If you send an email before it passes the time the mail is read and deleted, but the order as if making a request via tcp not processed.

API: _DATA?2 save data in the cloud

API: _DATA?5 save up to 40 cloud data in a single request

API: _WDT? Mcu monitors that are operational.

API: _MGET? Generates a GET against a web from a mail.

To use these APIs would be very simple.

For any Api in the subject of mail sends the machine must be put: IOTMAIL

In the message body to use the Api to write data:

INI:USER_MPASS_DATA?99|2|10|5|DATA|

INI: -----INDICATES THE START OF MESSAGE

USER_ -----USERNAME YOUR ACCOUNT

MPASS_ -----KEY MACHINE

_DATA iDMACHINE?| --- API call MACHINE WITH NUMBER

2| --- RECORD ORDER DATA

FOLDER| --- Folder number SOUGHT FROM 1 TO 1000

ADDRESS| - DIRECTION SOUGHT within that folder, from 1 to 999999

DATA| ----- Data to be saved up to 255 characters

EXAMPLE SAVE "DATA" IN FOLDER 10, ADDRESS 5:

INI:USER_MPASS_DATA?99|2|10|5|DATA|



In the message body to use Api Save up to 40 data in a single request:

INI:USER_MPASS_DATA?99|5|NºFOLDER|DIR|CANT DATA|DATO|

INI: ----- INDICATES THE START OF MESSAGE
USER_ ----- USERNAME YOUR ACCOUNT
MPASS_ ----- KEY MACHINE
_DATA?iDMACHINE| --- API call MACHINE WITH NUMBER
5| -----RECORD ORDER MULTIPLE DATA
No. FOLDER| ----- FOLDER NUMBER FROM 1 TO 1000
DIR| ----- START address within that folder, from 1 to 999999
CANT DATA| AMOUNT DATA SENT 1 to 40
DATA| ----- Data to be saved up to 255 characters

EXAMPLE SAVE 3 DATA: "DATA1", "DATA2", "DATA3" IN FOLDER 100, ADDRESS 9:

INI:USER_MPASS_DATA?99|5|100|9|3|DATA1|DATA2|DATA3|

In the message body to use the Api reset WDT:

INI:USER_MPASS_WDT?iDMACHINE|

USER_ ----- USERNAME YOUR ACCOUNT
MPASS_ ----- MACHINE KEY
WDTC? ----- CALL RESET API
iDMACHINE| ----- Machine number

Note the times of sending and receiving e-mail, servers sometimes take longer than expected. Be generous with the time set to reset the equipment.



In the message body to use MGET Api:

INI:USER_MPASS_MGET?iDMACHINE|COMPLETE ROUTE WEB|E-MAIL ACKNOWLEDGMENT|

USER_ ----- USERNAME YOUR ACCOUNT
MPASS_ ----- MACHINE KEY
MGET? ----- API call
iDMACHINE| ----- Machine number
ROUTE FULL WEB| - COMPLETE ROUTE OF PETITION
E-MAIL ACKNOWLEDGMENT| - E-MAIL WHERE IS THE RESULT OF GET SENT

This function can be very useful when a service provider that we use, such as a website that sends SMS, does not support sending an e-mail to send an SMS. And our machine for example a PLC can only send e-mail. This is just an example, but there are many services and providers that do not support e-mail to use their services and there is a request to get against their APIs. Returning to the previous example suppose that this company tells us that to send an SMS you have to send this frame:

<http://empresasms.com/Api/get/send.php?user=USER&password=1234&to=34658658658&text=TEXT SMS>

The body of our email message would read:

INI:USER_MPASS_MGET?99|<http://empresasms.com/Api/get/send.php?user=USER&password=1234&to=34658658658&text=TEXT DEL SMS>|miemail@mail.com|

(Remember, 99| is the number of your machine making the request in the example is 99)

Which is the field: miemail@mail.com|

When a request is normally the service provider gives an answer to the request for example:

- OK
- ERROR
- Or any other data

If we want Toolmicro send an e-mail to an email account with the result of the consultation we have done we have to put the e-mail in which that response will be received.

If we need not receive any e-mail must be put: nouse|

This is the same example but without using acknowledgment:

INI:USER_MPASS_MGET?99|<http://empresasms.com/Api/get/send.php?user=USER&password=1234&to=34658658658&text=TEXT DEL SMS>|nouse|

In this example, the body of the e-mail message that we sent as an acknowledgment to your account would look like this:

REQUEST:

INI:USER_MPASS_MGET?99|<http://empresasms.com/Api/get/send.php?user=USER&password=1234&to=34658658658&text=TEXT DEL SMS>|miemail@mail.com|

SERVER REPLY:

OK SEND SMS

ToolMicro Team.



FUNCTIONS FOR ADMINISTRATOR NOT FOR MACHINES

- **API: _WDTC?** (USE ONLY FOR ADMINISTRATOR NOT FOR MACHINES)

DESCRIPTION:

This API is designed to set the timer on the equipment mcu watchdog.

Failure to receive the scheduled restart time is notified by e-mail by sending a text. Also sends a mail with a text to the address when after not receiving the restart at the set time is received again.
two separate texts, one set for each situation.

The minimum waiting time is 5 minutes and maximum 500 minutes.

Note that this is not a real wdt used to have information on the activity of a team. Reset the machine will send it in within the specified time.

For example:

If you set the WDT machine 1 for receiving a reset every 20 minutes

The machine 1 sends a reset our server 12:00

The next reset for an error does not occur will have to be sent from the machine 1 before 12:20.

Consider that if the machine 1 has a rate of 10 minutes and sent a request to our server at 12:00 you can send reset request from 12:11. If you send previously not be processed.

Without any additional configuration on the mcu.

Simply and with minimal memory consumption and program lines form.

CHARACTERS OF THE AMOUNT OF TEXTS 250

HOW TO USE:

toolmicro.ipdinamic.com/USER_PASS_WDTC?1|5|maildeaviso@aviso.com|TEXTO FAULT|TEXT OF RECOVERED|

WDTC? -----API CALL DELIVERY

1| ----- TEAM NUMBER

10| ----- MINUTES TO EXPECT TO BE RESET MESSAGE

maildeaviso@aviso.com| ----- E-MAIL SENT WHERE THE NOTICE

FAULT TEXT| ----- IF YOU DO NOT RECEIVE RESET MESSAGE TO SEND TEXT

TEXT OF RECOVERED| ----- AFTER HAVING SENT THE MESSAGE OF FAILURE IF YOU RECEIVE RESET
TEXT TO SEND

EXAMPLE OF USE:

toolmicro.ipdinamic.com/USER_PASS_WDTC?1|10|maildeaviso@aviso.com|TEXTO FAULT|TEXT OF RECOVERED|

RETURN:

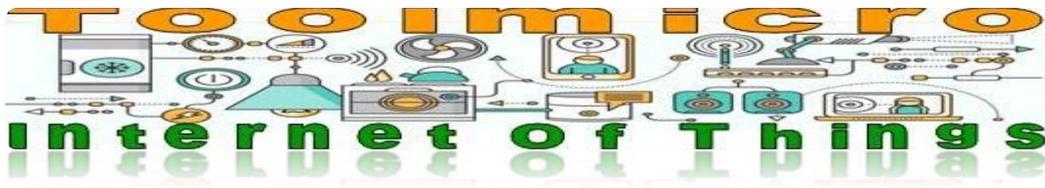
|OK #

Example misuse:

toolmicro.ipdinamic.com/USER_MPASS_WDTC?1|500|mailaviso@aviso.com|TEXTO FAULT|TEXT OF RECOVERED|

RETURN:

|ERROR #



- **API: _IMPORTDAT?** (USE ONLY FOR ADMINISTRATOR NOT FOR MACHINES)

DESCRIPTION:

This API is designed to import saved data.

You can import only one folder or all.

The result is a plain text in CSV format but separated by "|" because commas may appear in the data. Also added at the end of each line combination of carriage return and line feed.

HOW TO USE:

toolmicro.ipdinamic.com/USER_PASS_IMPORTDAT?15|

_IMPORTDAT? -----API call

15| ----- FOLDER NUMBER TO IMPORT. IF IT IS 0 IMPORTED ALL

EXAMPLE OF USE, DATA ALL IMPORTING

toolmicro.ipdinamic.com/USER_MPASS_IMPORTDAT?0|

RETURN:

INI

FOLDER|DIR|DAT|DATE|HOUR

1|28|AAAA,10/10/10|21:00

1|40|BBBB,CCC,DDDD|10/10/10|21:00

1|128|21/10/15--11:08—TEST DAT|10/10/10|21:00

2|28|NO DATA TEST|10/10/10|21:00

END

IF THERE IS NO DATA, IT RETURNS:

INI

FOLDER|DIR|DAT|DATE|HOUR

No data saved

END

Example misuse:

toolmicro.ipdinamic.com/USER_MPASS_IMPORTDAT?REWRWE|

RETURN:

|ERROR #



- **API: _IMPORTDATMAQ?** (USE ONLY FOR ADMINISTRATOR NOT FOR MACHINES)

DESCRIPTION:

This API is designed to import all data such as passwords, of all their machines.

The result is a plain text format separated by "|" because commas may appear in the data. Also added at the end of each line combination of carriage return and line feed.

HOW TO USE:

toolmicro.ipdinamic.com/USER_PASS_IMPORTDATMAQ?0|
_IMPORTDAT?0| -----API call

EXAMPLE OF USE, import all the data

toolmicro.ipdinamic.com/USER_MPASS_IMPORTDATMAQ?0|

RETURN:

```
INI
NUM MAQ|PASSWOR|LAST IP|DATE INI|DATE END|DATE DELETE|COMMENTS|SERVER ROUTE
1|1234567890|192.168.0.0|22/08/18|22/08/25|22/08/25|COMMENTS|iot1.ipdinamic.com
2|1234567890|192.168.0.0|22/08/18|22/08/25|22/08/25|COMMENTS|iot1.ipdinamic.com
...
.....
.....
END
```

DESCRIPTION:

NUM MAQ --- Machine number
Passwor - CURRENT KEY
LAST IP LAST IP ACCESS
DATE INI - START DATE OF SERVICE
DATE END - END OF SERVICE DATE
DELETE DATE - DATE ERASING DATA
COMMENTS - - IF ANY COMMENTS
ROUTE SERVER - ROUTE TO ACCESS SERVER API

Example misuse:

toolmicro.ipdinamic.com/USER_MPASS_IMPORTDATMAQ?1212122|
RETURN:
|ERROR #



• **API: _STATUS 1|?** (USE ONLY FOR ADMINISTRATOR NOT FOR MACHINES)

DESCRIPTION:

This API is query the status of your account

HOW TO USE:

toolmicro.ipdynamic.com/USER_MPASS_STATUS?1|

STATUS?1|----- API call CONSULTATION

EXAMPLE OF USE:

toolmicro.ipdynamic.com/USER_MPASS_STATUS?1|

RETURN:

START DATE: 1/1/18

MAIL ADDRESS: DODO@DOD.COM

LAST IP: 192.168.0.45

STATUS: ACTIVE

START DATE - DATE OF THE SERVICE

MAIL ADDRESS - MAIL ACCOUNT FOR NOTIFICATION

LAST IP - LAST IP THAT HAS ACCESSED THE SYSTEM IN ADMIN MODE

STATUS: ACTIVE - STATUS OF ACCOUNT

Example misuse:

toolmicro.ipdynamic.com/USER_PASS_STATUS?dsfdsfsdfsdfs|

RETURN:

|ERROR #

• **API: _CNFMAIL?** (USE ONLY FOR ADMINISTRATOR NOT FOR MACHINES)

DESCRIPTION:

This API is where you configure the mail notifications will be sent

HOW TO USE:

toolmicro.ipdynamic.com/USER_PASS_CNFMAIL?0|mimail@mail.com|

_CNFMAIL?0|----- API CALLING

mimail@mail.com|----- DIR E-MAIL ALERT

EXAMPLE OF USE:

toolmicro.ipdynamic.com/USER_MPASS_CNFMAIL?mimail@mail.com|

RETURN:

|OK #

Example misuse:

toolmicro.ipdynamic.com/USER_MPASS_CNFMAIL?0|mimaail.com|

RETURN:

|ERROR #



- **API: _PASS?** (USE ONLY FOR ADMINISTRATOR NOT FOR MACHINES)

DESCRIPTION:

This Api can set passwords for machines and consult your account.
This API can configure the key main access your account.
Keys 1 and 2 have to be equal to 10 digits long letters and numbers.

ASCII characters allowed ASCII numbers 48 to 57
ASCII characters allowed uppercase ASCII 65 to 90
ASCII characters lowercase letters allowed ASCII 97 to 122
Any other will generate error.

toolmicro.ipdinamic.com/USER_PASS_PASS?PARAMETER|iDMACHINE|DATOS|... ..

_PASS? ----- API call CONFIGURATION
PARAMETER| ----- may be 1, 2 or 3
iDMACHINE| -----NUMBER machine that acts
DATA| ----- configuration data

EXAMPLE OF USE:

➤ **Query example, parameter 1:**

toolmicro.ipdinamic.com/USER_PASS_PASS?1|iDMACHINE|
toolmicro.ipdinamic.com/USER_PASS_PASS?1|99|

RETURN KEY THAT THE ACTUAL MACHINE AND COMMENTARY:

|1234|Comment#

➤ **Example of key change and comment of a machine, parameter 2:**

toolmicro.ipdinamic.com/USER_PASS_PASS?2|iDMACHINE|CURRENT KEY|KEY1| Key 1 REP|COMMENTARY|
toolmicro.ipdinamic.com/USER_PASS_PASS?2|99|1234|1234567890|1234567890|MAQUINA COOL2|

Confirming Key 1 and Key 2 may be the same.
The commentary is something to identify the machine 100 CHARACTERS MAX

RETURN:
|OK #

➤ **Example main change key account, parameter 3:**

toolmicro.ipdinamic.com/USER_PASS_PASS?3|0|CLAVE ACTUAL|KEY 1|KEY 1 REP|
toolmicro.ipdinamic.com/USER_PASS_PASS?3|0|1234|1234567890|1234567890|
(The machine ID This option is 0)

RETURN:
|OK #

To an erroneous operation returns:

|ERROR #



• **API: _ATOKEN?** (USE ONLY FOR ADMINISTRATOR NOT FOR MACHINES)

DESCRIPTION:

This Api generates a 40-digit key token for the administrator. This key does not expire and can regenerate many times as needed. Once generated you can access administrator functions PASS administrator replacing the token awarded. A call to ATOKEN no limit cadence. This means you can make a request ATOKEN and then use any other function.

toolmicro.ipdinamic.com/USER_PASS_ATOKEN 1?|

_ATOKEN 1?|----- API call GENERATION

DEBUELEVE in this example:

|CG8W5RcJC1x9iukecCpYN5H4006ziR1g0zUaNvbnj|OK #

Example of use of the TOKEN key generated, for example _SETGTM?

toolmicro.ipdinamic.com/USER_ CG8W5RcJC1x9iukecCpYN5H4006ziR1g0zUaNvbnj_SETGTM 12?|

Example misuse:

toolmicro.ipdinamic.com/USER_PASS_ATOKEN?WQWQWQ

RETURN:

|ERROR #

• **API: _SETGTM?** (USE ONLY FOR ADMINISTRATOR NOT FOR MACHINES)

DESCRIPTION:

This API is set the desired time zone. If you do not configure anything by default the server is in the time zone 1. See Table 1 slot.

When configuring a time zone when such a machine keeps a data on the server, the date and time is recorded. When you import data shows the dates and times in which they were kept. This setting affects those dates and times.

HOW TO USE:

toolmicro.ipdinamic.com/USER_PASS_SETGTM?number Time Zone|

_SETGTM? ----- API call

time zone number|----- See Table 1 to select the one you want

EXAMPLE OF USE TO SET TIME ZONE 12(UTC + 02: 00) Cairo (Per Table 1)

toolmicro.ipdinamic.com/USER_PASS_SETGTM?12|

RETURN:

|OK #

Example misuse:

toolmicro.ipdinamic.com/USER_PASS_SETGTM?10000|

RETURN:

|ERROR #



IMPORT DATA FORM BY E-MAIL

- **Import all data BY E-MAIL** (USE ONLY FOR ADMINISTRATOR NOT FOR MACHINES)

One way to import data is sending an e-mail to this address:
iotmail1@toolmicro.com

In the subject, put: (IF THIS IS NOT SET, THE MESSAGES ARE NOT PROCESSED)
IOTMAIL

And in the message:
INI: USER_MPASS_IMPORTDAT?mimail@mail.com|

INI: ----- INDICATES THE INITIATION OF THE MESSAGE
USER_ ----- USER NAME
PASS_ ----- ACCESS KEY
IMPORTDAT? ----- CALL OF IMPORT
mimail@mail.com| - -----MAILING ADDRESS WHERE DATA WILL BE SENT

The result is shipping to the address you request an e-mail:
With the subject: IOT Data Server

It contains plain text files in CSV format separated by "|" because commas might appear in the data. is added at the end of each line carriage return and line feed.

And two attachments.

The first attachment with the name: dataregiot.csv
This file will contain all the data that you have recorded with the _DATA API of your machines.
The second one with the name: maqregiot.csv contains the data of the machines: Keys, start and end dates of the contracted service and comments.

- **Import data FILTERED BY E-MAIL**

Another way to import data by sending an e-mail to this address: iotmail1@toolmicro.com
But by filtering the result by number of folder or "folder"

In the subject, put: (IF THIS IS NOT SET, THE MESSAGES ARE NOT PROCESSED)
IOTMAIL

And in the message:
INI: USER_MPASS_IMPORTSELECT?mimail@mail.com|Num Folder|

INI: ----- INDICATES THE INITIATION OF THE MESSAGE
USER_ ----- USER NAME
PASS_ - ----- ACCESS KEY
IMPORTDATSELECT? --- IMPORT CALL
mimail@mail.com| ----- MAILING ADDRESS WHERE DATA WILL BE SENT
Nun Folder| ----- Number from 1 to 1000 of the folder you want to import

Without in Num Folder it puts 0 all the folders will be imported

The result is shipping to the address you request an e-mail:
With the subject: IOT Data Server

It contains plain text files in CSV format separated by "|" because commas might appear in the data. is added at the end of each line carriage return and line feed.

And an attached file called: dataselectiot.csv

This file will contain all the data recorded with the API _DATA in that folder.
There is no specific Api to sort the results since passing the data to Excel for example, it is very simple sort as you like.



Requests and replies Error Codes

All requests to consider them valid will have this structure.

For both GET and POST:

```
GET /.....DATA..... .. |HTTP / 1.1
```

```
POST /.....DATA..... .. |HTTP / 1.1
```

Everything fits does not receive any response from the server.

Some examples of invalid frames:

```
GET ///.....DATOS.....| HTTP/1.1
```

```
GET /.....DATOS.....|HTTP/1.1
```

```
GET /.....DATOS.....| HTTP/1.0
```

```
GET /.....DATOS..... HTTP/1.1
```

```
GET .....DATOS.....| HTTP/1.1
```

Example GET request

Request from a MCU or APP:

```
Host Name:toolmicro.ipdinamic.com
```

```
PUERTO: 80
```

```
PETITION: GET /USER_PASS_DATA?1|2|1|1|HELLO| HTTP/1.1
```

Petition in the navigation bar of a browser:

```
http://toolmicro.ipdinamic.com/USER_PASS_DATA?1|2|1|1|HELLO|
```

Example POST request

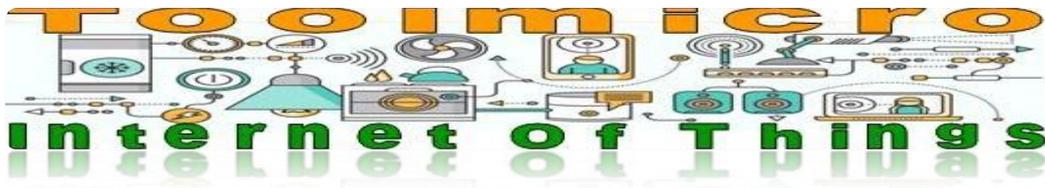
Request from a MCU or APP:

```
Host Name:toolmicro.ipdinamic.com
```

```
PUERTO: 80
```

```
PETITION: POST /USER_PASS_DATA?1|2|1|1|HELLO| HTTP/1.1
```

From the bar of a browser can not make a post, you must put it on a form or used for example as a free extension Chrome "SureUtils» REST API Client "is one but many.



RESPONSES FROM OUR SERVER

The answers have been designed to be as short as possible and thus occupy the minimum on your hardware. Basically they consist of head, body and response or data.
Do not confuse the response: 200 OK that is what gives the server in response to a general process completed with what is returned in the RESPONSE or DATA.

Sample Response:

```
HTTP / 1.1 200 OK      ←HEADBOARD
Content-Length: 4     ←BODY
|OK #                 ←RESPONSE O DATA
```

HEADBOARD:
HTTP / 1.1 200 OK

BODY:
content-type: text / plain
content-length: 6 ←NUMBER OF CHARACTERS OR SENT IN RESPONSE DATA

Answer or DATA its value can be:

|ER1# - ERROR IN CADENCE TIME
The machine has made a request before the cadence time has passed

|ER2# - USER, PASSWORD OR TOKEN INCORRECT.
Any of the parameters indicated is incorrect. Be careful as 4 consecutive erroneous requests will block your ip for a while.

|ER3# - BLOCKED TEMPORARILY IP.
You have tried to access the systems more than 4 times and the ip has been blocked.

|ER4# - MACHINE ASSIGNMENT ERROR
A machine has made a request with the user and the correct password or token but they correspond to another machine. This action does not block the IP.

|ER5# - ERROR OF FRAME
The submission frame is not correct or characters not allowed in some text string have been used

|ER6# - SERVER OUT OF SERVICE TEMPOPRALLY
The server is updating

|OK# - PETITION ADDRESSED CORRECTLY.
The request has been answered and the function used will send additional data if necessary. These data will be before this answer.



Some teams are not all supported ...☺

Adafruit	Particle
Amd	Pycom
Alorium Technology	raspberry Pi
Arduino Hardware	RedBear
BEAGLEBONE	Pi Revolution
Controllino	Seeed Studio
Dragino	Siemens
digital Matter	Sielco Sistemi
Electric Imp	SODAQ
Espressif Systems	STMicroelectronics
hologram	Texas Instruments
Intel IoT	VERSE Technology
Koyo	WIZnet
mcThings	Zerynth
MediaTek Labs	Zolertia
microchip	Tessel
MultiTech	GPRS Bee
Onion	

And many more....



Toolmicro Terms and conditions for service

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You can not use the Services if Toolmicro direct competitor, except with the prior written consent of Toolmicro. In addition, you can not access online services, under any circumstances, in order to monitor its availability, performance or functionality, or for any other benchmarking or competitive purposes.

This Agreement was last updated on August 1, 2018. It is effective between you and TOOLMICRO from the date of its acceptance of this Agreement and for each instance of use of the service.

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We want our relationship with you is as slender and informal as possible, but read these terms of service carefully before you start using Toolmicro, because when using the website accept and agree to be bound by these Terms of Service (s), including our Privacy Policy. If you do not agree with some of the provisions of this document, you can leave the web site (although sad to see it go!) Or contact us at soportelegal@toolmicro.com. We will be happy to hear your comments and suggestions

2. Definition of confidential information

As used herein, "Confidential Information" means all revealed by one party ("Disclosing Party") to the other party ("receiving party"), either orally or in writing confidential information, which is designated as confidential or to be understood reasonably. Be confidential given the nature of the information and the circumstances of disclosure. Your confidential information will include data; Our services include our confidential information online; and Confidential Information of each party shall include the terms and conditions of this Agreement as well as business and marketing plans, technology and technical information, product plans and designs, and business processes disclosed by such party. But nevertheless, confidential information will not include any information that: (i) is or becomes known to the general public without breach of any obligation owed to the Disclosing Party; (ii) he was known to the receiving party before disclosure by the Disclosing Party without breach of any obligation owed to the Disclosing Party; (iii) is received from a third party without breach of any obligation due to Disclosing Party; or (iv) it was independently developed by the receiving party. (iii) is received from a third party without breach of any obligation due to Disclosing Party; or (iv) it was independently developed by the receiving party. (iii) is received from a third party without breach of any obligation due to Disclosing Party; or (iv) it was independently developed by the receiving party.

3. Protection of confidential information

Unless the Disclosing Party permits otherwise in writing: (i) the receiving Party shall use the same degree of care used to protect the confidentiality of its own confidential information of a similar type (but in no event less than reasonable care) not to disclose or use any confidential Information of the disclosing Party for any purpose outside the scope of this Agreement; and (ii) the Receiving Party shall limit access to the Confidential Information of the Disclosing Party to those of its employees, contractors, licensees and agents who need such access for purposes consistent with this Agreement.

4. Disclosure required

Receiving Party may disclose Confidential Information of the Disclosing Party if it is required by law to do so, provided that the Receiving Party shall give the Disclosing Party prior notice of such compelled disclosure (to the extent legally permitted) and reasonable assistance in Disclosing part cost, if the Disclosing Party wishes to contest the disclosure. If the receiving party is required by law to disclose Confidential Information of the Disclosing Party as part of a civil process in which the Disclosing Party is a party, and the Disclosing Party is not contesting the disclosure, the Disclosing Party will reimburse the Party receiving fair to compile and provide secure access to such confidential information cost.

5. User responsibilities

Users shall not: (i) allow a third party to access Online Services except as permitted herein; (ii) create derivative works based on the Online Services; (iii) copy, frame or mirror any part or content of the Online Services that is not copy or frame in your own intranet or otherwise for its own internal business purposes; (iv) reverse engineer the Online Services; (V) access Online Services to build a competitive product or service or copy functions, functions or graphics of the online services; (Vi) use Online Services to store or transmit infringing, defamatory or illegal or tortuous, or store or transmit material in violation of the privacy rights of third parties; (Vii) use Online Services to store or transmit malicious code or malware, or engage in phishing or other fraudulent activity; (Viii) interfere with or disrupt the integrity or performance of the Online Services or third-party data contained therein; or (ix) attempt to gain unauthorized access Online Services, our systems, our data or networks.

The user shall: (i) be responsible for compliance with this Agreement; (ii) be solely responsible for the accuracy, quality, integrity and legality of the means by which you acquired your data and application resources; (lii) approved by Toolmicro celebrate with their partners and customers excluding guarantees and limiting the liability of Toolmicro due to their use of online services agreements; (Iv) make commercially reasonable efforts to prevent unauthorized access to or use of the Online Services and notify Toolmicro quickly on such access or unauthorized use; (V) use Online Services only in accordance with applicable laws and governmental regulations; and (vi) Toolmicro provide full contact information and accurate.

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Toolmicro can collect some, all or none of the following:

Name, address, phone number, business name and email address

Logon credentials, if you create an account

Information about purchases or other transactions with us

Information about their customer service and support interactions with us

Any other information you choose to provide in connection with your use of the Service

Toolmicro only uses personal information from users to provide user services Toolmicro or to contact the user about the services or the site. With respect to any type of data the user can choose to load or display to / with Toolmicro, we take seriously the privacy and confidentiality of such data, and store such data securely recognized providers of cloud and employ standard techniques industry to protect against unauthorized data, including, among others, personal information User. Toolmicro does not share personal information without your consent, unless doing so is appropriate to carry out their own application

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Otherwise, protect our property, legal rights or those of others.

By visiting the Site or using the Service, you consent to the collection, transfer, processing, disclosure and other uses of the information described in this Privacy Policy.

Changes to the Privacy Policy: Toolmicro may modify this Privacy Policy at any time. Using the information collected Toolmicro is subject to the Privacy Policy in effect at the time the website uses or receives such information. If Toolmicro make any major changes, notify the user Toolmicro posting an ad on the website or by sending an email to the user. A user is bound by any changes to the Privacy Policy when he or she uses the Services after such changes have been published for the first time.

Privacy Policy in its entirety can be found at <https://toolmicro.com/privacy-policy>.

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Toolmicro and the User are independent contractors, and nothing in this Agreement will create any partnership, joint venture, agency, franchise, sales representative or employment relationship between the parties. Users are not in any way authorized to make any license, contract, agreement, warranties or representations on behalf of Toolmicro or create any obligation, express or implied, on behalf of Toolmicro except to the extent and for the purposes expressly provided for disclosed herein.

10. Communicate with Toolmicro

Toolmicro can contact the user, via email or other means provided by the user. For example, Toolmicro can send promotional emails related to Toolmicro or its partners or communicate with you about your use of the website. Toolmicro can also use technology to alert Toolmicro through a confirmation email when you open an email from us. Users can modify preferences for e-mail notification website by clicking on the proper link included in the footer of the email notifications. Toolmicro communication can be terminated by Toolmicro or user at any time without cause.

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Except for breach of confidentiality obligations and compensation in section: next INDEMNITY, each party hereto: (I) expressly waives all claims against the other for indirect, incidental or special damages (including, without limitation, claims for loss of profits, revenue), data or service interruptions) arising out of or relating to the provisions of any service or work product under this agreement; and (II) expressly accepts the ultimate responsibility for Toolmicro regarding any claim related to this agreement or the services below will be limited to the least amount of the fee received by Toolmicro for services in the previous 6 months.

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14. Term and Termination

This Agreement commences on the date on which the user accepts and continues until either party terminates it in accordance with this Agreement. After completion of the user's subscription to the Online Services, this Agreement will also terminate, subject to the provisions survivors.

Any termination of your subscription services online, your INFORMATION AND OTHER MATERIALS DEVELOPED BY YOU THROUGH THE USE OF ONLINE SERVICES PERMANENTLY REMOVED CAN.

15. Termination of the online service

You can cancel your subscription to the Online Services without cause at any time upon written request to Toolmicro. Such requests will be considered accepted by a written response to verify that Toolmicro received and acknowledged your request or to run the "Delete my account" options My profile of each user included in services). Toolmicro can delete your account if your account usage by third parties, this is described as misuse or if the service attempt saturation.

We may terminate your subscription to the Online Services at any time without prior cause automatically if you do not comply with any term or condition of this Agreement.

In the event of termination, unpaid and outstanding fees will be settled and paid to Toolmicro within 30 days after the end of the contract.

16. provisions

The following sections shall survive the termination or expiration of this agreement: Property rights held by Toolmicro, our proprietary software, warranties, limitation of liability, indemnity and general provisions.

17. Changes to the online service

As part of normal operation and updating of the Online Services, we reserve the right to improve, modify or change the characteristics of the Online Services (or any part thereof) at any time and from time to time, with or without prior notice. Notwithstanding the foregoing, we will make all commercially reasonable efforts to notify you in writing of any major change in the service that has a substantially negative material impact for you.

18. Rates

The services that are signed and their rates and associated levels of participation are described in <https://toolmicro.com/pricing>.

19. Online Service

Online services are billed annually and are non-refundable. No refunds or credits for partial months of service, rebates or refunds for months plan unused. You are responsible for paying all charges in accordance with the use of online services associated with your data and application resources, even if not used or authorized the use of the Online Services. If you cancel your subscription to the Online Services before the end of the year, the cancellation of the user will come into effect immediately and will not be charged again with the only exception that will be responsible for all charges already incurred or provided for services.

20. Fees charged

We can choose to charge fees online service through a bill, in which case Toolmicro must receive full payment of invoices issued in a given month 30 days after the invoice date or the Online Services can terminated or suspended. The unpaid bills are subject to a finance charge of 1.5% per month on any outstanding balance, or the maximum permitted by law, whichever is less, plus all expenses of collection. It has 30 days after receiving the invoice to dispute any charges. The changes agreed in a previous bill will be reflected in the next invoice applicable to the User.

If payment has been authorized by credit card, no additional notice or consent for billing to that credit card for all amounts (including late fees and termination fees) is not required.

To verify the validity of the method of payment, Toolmicro may choose to issue advanced by an amount equal to or less than the billing period of the first month payment. Thereafter, any use of the Online Services, in any capacity, is subject to fees online service.

21. Rate Changes

We reserve the right to change our rates ("Rate Changes") for all services, including, inter alia, monthly and yearly subscription plan fees to online services without notice.

22. Taxes

The user will pay each and every applicable taxes, regardless of how they designate, incurred as a result of or in connection with this Agreement or the Services, excluding taxes based on our net income. The prices displayed on the website do not include taxes are added to the total if necessary.

23. Minors

It is advisable to minors and children who do not use Toolmicro without the consent of their parents. By using the website, users say they have the legal capacity to enter into this binding agreement, regardless of age and authority.

24. Cambios and improvements

Toolmicro may temporarily interrupt their servers, or the availability of data for security reasons or restructuring Toolmicro computing resources to improve their services. In any case, Toolmicro make its best efforts so that such interruptions minimally affect the CUSTOMER. Toolmicro not liable for damages caused by such interruptions. Toolmicro not responsible for such interruptions, although



not communicated to the Customer. Customer shall provide that these temporary cuts may occur and be their responsibility to adapt their systems so that no problems are generated.

25. Copias backup of client machines

Toolmicro backs. Disaster or server failure data existing copy, lost recover. Data from the time of the last backup until the time of the incident.

26. Sobre service "DEDICATED SERVER"

Toolmicro backs. Disaster or server failure data existing copy, lost recover. Data from the time of the last backup until the time of the incident. Dedicated Server service will be managed by Toolmicro. The end user can not access the machine / s, will have to ask Toolmicro extensions or changes, they will be valued and will communicate the possibility or not, to make these changes and the extra cost will have to assume the customer.

27. General Provisions

Notices: Any notice made under this Agreement shall be sufficient if made in writing electronic or physical form and e-mailed, certified or registered mail or delivered by mail to the addresses set at the beginning of this Agreement. The address part, digital or not, or the person designated for the purposes of any notice may be modified by written notice to the other party.

Entire Agreement: This agreement constitutes the entire agreement between the parties and supersedes all prior agreements, proposals or prior and contemporaneous representations, whether written or oral, regarding your topic.

This Agreement, and any dispute arising out of or relating to this shall be governed solely by the internal laws of the State Spanish, regardless of conflict of law rules.

I am meeting place; Suspension of trial by jury: the courts located in Zaragoza, Spain. Shall have exclusive jurisdiction to settle any dispute arising out of this Agreement or related to it. Each party hereby consents to the exclusive jurisdiction of such courts. Each party waives any right to a jury trial regarding any action or litigation in any way arising out of this Agreement or related to it.

Export Compliance: Each party will comply with applicable laws and export regulations of Spain and other applicable jurisdictions in providing and using the Services.

Assignment: Neither party may assign any interest in this Agreement or any of its duties or rights under this Agreement without the prior written consent of the other, except that: (i) each party may assign its rights and obligations to an Affiliate that part of advance notice to the other in writing; and (ii) either party may assign its rights and obligations prior notice to the other in connection with any merger, acquisition or sale of all or substantially all of its assets.

28. Definitions agreement

"Affiliate" means any entity that directly or indirectly controls, is controlled by, or is under common control with the subject entity. "Control" for the purposes of this definition, means direct or indirect ownership or control of more than 50% of the voting interests of the entity subject.

"Online Services" refers to the online services provided by Toolmicro as described in this Agreement administered: // [//cualquiersubdominio.toolmicro.com](http://cualquiersubdominio.toolmicro.com) or cualquiersubdominio.ipdinamic.com, or [//toolmicro.com](http://toolmicro.com).

"Proprietary software" means the software developed, licensed or bought by Toolmicro, including our Online Services as a whole and other software that can be implemented in integrated systems, computers, laptops and server systems.

"Services" refers to online services and, where requested, hire, and agreed accommodating development operations Toolmicro services as an extension of the services provided by us.

"We", "Us", "Our", "Company" or "Toolmicro" means IoT services a Limited Liability Corporation Doelectric based in Zaragoza Spain Rio Aragon Street nº15 Cuarte de Huerva

"You", "Your" or "User" means: (i) the company or other legal entity for which you are accepting this Agreement and its Affiliates of that company or entity; or (ii) an individual, in the case of a non-legal entity as defined in the registration information provided to us.

"Your application resources" refers to a web application server, personal computer or handheld device and configuration parameters related to us, you and / or a third party acting on behalf create and that interoperates with the Services.

"Your Data" means all electronic data or information submitted by you or devices that you or your customers or partners have, to online services.

"Your partners" and "Your customers" refers to any person or entity that is neither you nor your affiliates, but you use the Online Services while associated with its services and services provided by Toolmicro.