

# How To Connect iCex model ICX-T245/245

## to RealiteQ Project

## Basic instructions V1.1

## **1.** Before starting

You need:

iCex model ICX-T245LTE-CAT4-XX or ICX-T255-LTE-NBM1

Mobile antenna (included) and GPS antennas (optional)

SIM card

- Standard dimension 2FF(not micro or nano) •
- Ordinary (no need for static IP)
- Can be open for Data only (no need voice and SMS)
- Recommended data package of 250 MB/month or • more
- For TRB245 SIM supporting LTE (4G) up to CAT 4 (150 MB/s)
- ICX-T255 works with RealiteQ only with SIM cards for LTE Cat M1. Despite ICX-T255 supports standard NB-IoT, this standard has very narrow band and very long latency. We don't recommend using it with RealiteQ

24 (9-30) V DC power supply – providing at least 0.5 A@24V DC Computer with LAN connector and Wi-Fi Standard LAN cable

URL and your username and password.

Important: You must have Administrator's Permissions for your RealiteQ project.

### 2. Hardware connections

### 2.1. Insert SIM card

- Unscrew two back panel hex bolts and remove the back panel (point 1). •
- Insert your SIM card(s) into the SIM socket(s), which are located on the bottom side of PCB.
- Attach the panel and tighten the hex bolts.



Fig. 1 Remove cover and insert SIM card(s)



Fig. 2 Proper insert SIM card





Important: If you are inserting only one SIM card, insert it in lower tray (1) – closer to PCB

\* XX states for specific area model - EU, US, LA, CN





Note: To obtain GPS coordinates in iCex UI and in RealiteQ project (/status/gps group), GPS antenna needs to "see" the sky.

#### 2.3. Connect power

#### Connect:

- + 24 (9-30) V DC to + pin of 16 pin connector.
- 0V to pin of 16 pin connector.
- Insert 16 pin connector to iCex



**16 PIN CONNECTOR PINOUT** 



#### 2.4. Connect iCex to your computer with standard Ethernet cable (RJ45 to RJ45)

#### 3. Set manually IP address in your computer (captures are for Windows 10)

- Open Network and internet settings (points 1 & 2)
- On left side of display, select *Ethernet* (point 3)
- Select Change adapter options (point 4)





- Right click on your Ethernet card (point 5) and select *Properties* (point 6)
- Select TCP/IPv4 (point 7) and apply on *Properties* (point 8)
- Select Use the following IP address (point 9)
- Type IP address 192.168.16.200 (point 10) and Subnet mask 255.255.255.0 (point 11)
- Confirm with OK and close windows.

Etherne	t 6	This connection uses the following items:	Optain 9 tress automatical	Y
topcoir Lenovo	Disable	Client for Microsoft Networks	Use the following IP address:	, 10
5	Status Diagnose	Npcap Packet Driver (NPCAP)     QoS Packet Scheduler	IP address:	192 . 168 . 16 . 200
	Bridge Connections	🗹 📭 אינטרנט גירסה 4 אינטרנט גירסה 4 📭	S <u>u</u> bnet mask:	255 . 255 . 255 . 0
	Create Shortcut	Microsoft LLDP Protocol Driver	Default gateway: 11	
	Properties	Install Uninstall Properties	○ O <u>b</u> tain DNS server address autom	natically
		•		

## 4. Open iCex UI and your RealiteQ project in your computer

- Open your browser
- Type default iCex IP address **192.168.16.202** (point 1). You will enter in iCex user interface.
- Login with Username **iCex** (point 2) and Password **iCex** (point 3)
- Confirm Login (point 4). Login sign in right upper corner of display will change from red to green and the tab will switch to Main.

e iCex Setting, Monitor and	Contro × +
$\leftarrow$ $\rightarrow$ C $\triangle$ M	Not secure   192.168.16.202
🏥 Apps 🚺 Topco 🔇 F	RealiteQ Home Page 💡 ( 📊 s 🛛 W Wikipedia, the free 🔍 RealiteQ   ui 🔓 translate 🏹 Telenor portal 💽
Realite	
Login	Main Driver - 1 Driver - 2 Driver - 3 Files Trace
2	Login
User name	icex 3 4
Password	
	Login
	Change login detail

Note: in this tutorial we will use RealiteQ project <u>https://tutorial.realiteq.net/</u>.



## 5. Set iCex parameters in your RealiteQ project

- Open a new tab in your browser
- Enter the URL of your project and login with your username and password.
- After successful login in your RealiteQ project, apply on **Project configuration and edit** icon in bottom right corner of display.
- Select Nodes

Return Display Map units location	General Setting	Project setting Project Select Nodes		Project configuration and edit	ata ©2021 Terms of Use
Screens list	Project config	Users		28/07/2021 13:03:49	2 😥 😫
•	Add new <b>Gro</b>	up Group + Th	nis group wi	ll be iCex.	

• Give name of iCex in the project (point 1). Our icex name is tut\_01

**Important**: Group and Node names must be with English characters, lower case. If group or node name has more than one word, there needs to be underscore sign between words.

- You can add **Tag name** (point 2) and **Description** (point 3) to your group and nodes. Tag name and description can be in any language, with lower and upper case, as long as needed.
- Return

   Add Group path: /path

   Property
   Value

   Type
   Group
   1

   Offset
   /
   2

   Path
   tut\_01
   2

   Tag-name
   iCex narije
   3

   Description
   iCex tutorial
- Apply (in red after changing) to save settings

## 6. Add Status group to project tree

- Download *ICX-T245-255 Status* group template from <u>https://www.realiteq.com/</u> → Downloads
   → Specs and Manuals Download.
- Open it in Excel
- Replace **/template** (point 1) with the name of iCex in example **/tut\_01** (point 2).
- Apply on **Replace all** (point 3).
- Save edited file.
- Upload edited file to your project. In Nodes display, apply on Upload (point 4), then Chose file (point 5). Select edited *ICX-T245-255 Status.csv* file in your PC and apply on Submit (point 6). Now Status group with its sub-groups appears in your project.



	Α	В	С	D	E	F	G	Η		
1	path	kind	descriptio	tagname	source	active	read_only	admin_on	keep_hist	requ
2	/template/status	Find	and Ronlaco						X	F/
3	/template/status/.bandwidth	Tinu	ина перисе	-	1					F/
4	/template/status/.bandwidth	Fi	n <u>d</u> Reg	ace	T					F/
5	/template/status/.bandwidth		_	_/_	_				_	F/
6	/template/status/gps	Find	what: /t	emplate	2				$\sim$	F/
7	/template/status/gps/s23	R <u>e</u> p	lace with: /t	ui_01					~	F/
8	/template/status/gps/s24			_						F/
9	/template/status/gps/s25			3				Opt	ions >>	F/
10	/template/status/gps/s26									F/
11	/template/status/modem	Re	place <u>A</u> ll	<u>R</u> eplace		Find All	Eind Nex	t	Close	F/
12	/template/status/modem/s12		เกมร์เตอ วต	n.		INUL	INUL	TALJL	TALJL	F/

Return Download Uplo	ad
	Display Group path: /tu
Property	
Туре	Group
Offset	1
Path	tut_01
Tag-name	iCex name 5
Description	6
Active Choos	e Zunner Lpload: Choose File No file chosen
Visible	Cancer
Sourco	

#### 7. Create Access token

- Apply on Return to leave Nodes menu and return to Project configuration and edit display.
- Select Access token (point 1) to give unique 128 bit "password" to protect communication between iCex and COMP.
- Apply on Create (point 2), then type the path of icex /tut\_01 (point 3) and then Add (point 4).

Return			Return
		Project setting	Edit units access token
Display	General	Project	Del Path Access token
Map units location	Setting	Nodes	
Screens list	Project config	Users	3
Reports list	_	Access token	4 Path [htt_0] Add Cancel

• Copy created by COMP Access token



#### 8. Set parameters in iCex user interface

- Switch back to iCex tab in your browser
- Type icex Name in our case tut\_01 (point 1)
- Type project URL, to which iCex will be connected in our case tutorial.realiteq.net (point 2)
- Paste Access token (point 3)
- Apply (now in red) to keep settings (point 4).
- Save to INI File (switches to red after Apply) to save settings in iCex memory (point 5)
- **Restart** iCex (point 6). Connect to RealiteQ after **Restart** takes about 5 10 seconds
- In your project tree, you will see your iCex Connected

<b>ICUILEN</b>									
New Generation of SCADA & Remote control solutions									
Realite	eQ™								
Login	Main	Driver - 1 Driver - 2	2 Driver - 3	Files	Trace				
Read	Setting	Save to INI file Apply		Monitor & Contro	ol				
Device		5	Control		-				
Path			Restart	Apply					
Name	tut_01	2	Reboot 6	Apply					
URL	tutorial.realited	j.net	Software version	n					
Access-Token 4077c1b5910a4d2caff36e264759422e		Version	5.0.0.7						
Network IP address Device clock									
DHCP	No	<b>&gt;</b> v	Date/Time	28/07/2021 1	1:58:43				
IP address 192.168.16.202 Communication to server									

You can afford the Best

Note: after restarting iCex you will need to log in again.

After you will login again, you can go to **Status** tab to the status of iCex. You will see it also in **Status** group in your project.

Reali	teQ™				<b>RealiteQ</b> <sup>®</sup>
Login	Main	Driver - 1 Driver - 2	Driver - 3	Status Files	
Read	Setting	Save to INI file Apply	Mo	onitor & Control	Root tut_01 status modem
Device			Router status		
DIO 0 type	nput 🗸		Connect state	Connected	GPS GPS
DIO 1 type	nput 🗸		Network state	registered (home)	<b>E S S S S S S S S S S</b>
DIO 2 type	nput 🗸		Byte sent	313010	GPS Latitude
			Byte recive	233032	<b>34.982057</b>
			Connet type	CAT-M1	GPS longitude
			Signal (DB)	-51	E) C @25 101.300000
			Operator name	HOT mobile	GPS altitude
			Operator no.	42507	
			SIM State	inserted	GPS speed
			SIM number	8997207104184525467F	
			IMEI	867035049902727	Modem
			Modem temperature	430	
			GPS		Khytes sent
			Latitude	?	5 460 33 kB
			longitude	?	
			Altitude	?	
			Speed	?	
			I/O Status		
			DIO 0	Off	E 0 s15 867035049902727
			DIO 1	Off	
			DIO 2	Off	<b><u>s16</u></b>
			Analog	267	8997250400037631858F

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