

TWCT22 User Programming Manual

Teltonika

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TELTONIKA

ALARM MONITORING & CONTROL SYSTEM

TWCT20

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Disclaimer:

The use of Alarm Monitoring and Control System TWCT22 is at sole discretion of the user. Teltonika cannot be held responsible for any damages arising due to use of Alarm Monitoring and Control System TWCT22. Therefore any liability claims would be discarded.

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1. Attention



All wireless devices for data transferring are susceptible to interference, which could affect performance



Only qualified personnel may install or repair this product



The device is not water-resistant. Keep it dry.



Do not mount or serve device during a thunderbolt.

2. Safety Instructions

This section will provide guidelines on how to use TWCT22 device safely. The device is used in restricted access location. We suggest you to adhere to following recommendations so as to avoid any damage to person or property. You have to be familiar with the safety requirements before you start using the device!



Installation and technical support of the device can be performed only by a qualified personnel or a person who has enough knowledge about this device and safety requirements.



All the associated (interconnected) equipment, PC and power supply units (PSU) shall comply with requirements of standard LST EN 60950-1. TWCT22 can be used for configurations on first (Personal Computer) or second (Notebook) computer safety class.

To avoid mechanical damage of the device, it is recommended to transport the device packed in damage proof pack. While using the device, place it such that the LED's are visible to the user. It's because these LED's provide information about the working modes and conditions of the device. Signal level of the TWCT22 depends on the environment in which it is working. If the device fails to work properly only qualified personnel may repair this product. We recommend to disconnect the device and forward it to repair centre or to the manufacturer. Against short-circuit and earth fault shall be provided a two-pole short-circuit back-up protection device in a building installation device. The disconnect device shall have contact separation of at least 3mm. The disconnect device shall be installed near the equipment and shall be easily accessible.

2.1. Disconnections from the main supply

The device is disconnected from the main supply in the following order: primarily peripheral devices are disconnected and lastly the device. For example:

- In the AC main supply the relays circuit is disconnected by short-circuit back-up protection device SF2, later the device and all sensors are disconnected by SF1 (figure 6.4.1).
- In the DC main supply the relays circuit is disconnected by SF2, later the device and all sensors are disconnected by SF1 (figure 6.4.2).
- When PC is connected

3. Introduction

TWCT22 is a compact alarm monitoring and remote control device for electronic equipments with support of Short Messages (SMS), phone calls, e-mails and GPRS connections. The device is configurable through internal WEB server interface via GSM network and RS232 interface. Multiple users can interrogate TWCT22 or be notified on configurable "Events".

4. Technical Specification

- Supply 24V • $\pm 10\%$ ■ 200mA
- Power consumption max 5W
- Wireless modem:
- Quad Band GSM (850/900/1800/1900MHz)
- 4 digital inputs
 - Input resistance 10kN
 - "0" (false) 0 – 3Vdc
 - "1" (true) 3 - 26Vdc
 - Connector: terminal blocks
- 2 Analog inputs.
 - Voltage mode
 - Input resistance 60kN
 - Voltage range: 0 – 10Vdc
 - Current mode
 - Input resistance 480 +/-2%kN
 - Current range: 0-20mA
 - Resolution 10bit A/D converter
 - Connectors: terminal blocks
- 4 relay outputs
 - Rated load 240V 50Hz ~7A, 24V 10A
 - Total current 20A
 - Connectors: terminal blocks
- Interfaces
 - RS232
 - _ Speed: 115200 bauds
 - _ Format: 8 bits
 - _ Parity: none
 - _ Stop bits: 1
 - _ Flow control: hardware
 - _ Connector RJ45
 - GSM GPRS

- Alarm message service via SMS, E-Mail
- Antenna MMCX connector
- Protocols HTTP and SMTP
- Possible configurations via internal WEB server interface
- Watchdog controller
- Operating temperature range from -20°C to +55°C
- Rel. humidity: 5...95% (non condensing)
- DIN Rail Mounting
- Safety
 - LST EN 60950-1
 - EMC

5. Using COM port to configure

5.1 Server Program

After installing the programs from the CD, you will find a program called “Server” in your start menu under the “Teltonika” folder. Run the .exe file to open the “Server” program which is used to connect to the TWCT22.

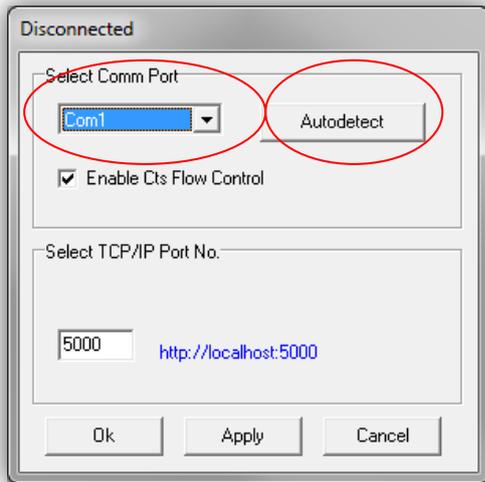


Figure 5.1.1

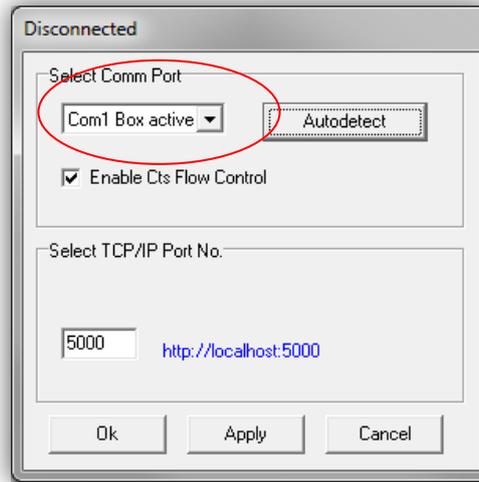


Figure 5.1.2

Use the “Auto detect” button to automatically detect the COM port to which the TWCT22 is

When the connection is made, the COM port box will read, “Com1 Box active” as shown in figure 5.1.2 and the web browser will automatically open to the TWCT22 Home screen. (Figure 5.1.3)

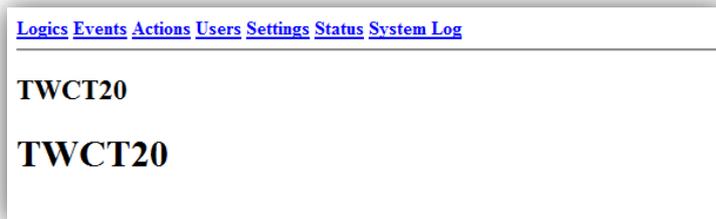


Figure 5.1.3

6. Programming

6.1 Home Screen

The headings along the top of the home screen take you to the different stages of the program. These stages are listed below with a brief description of what they do.

Logics – The “logic” is what makes things happen. It converts an “Event” into an “Action”. (Process)

“Events” – An “Event” is the starting point of the program. When an “Event” happens then the program can begin. (Inputs)

Actions – an “Action” is the end point of the program. When an “Event” happens, the “Logic” processes the “Event” and triggers an “Action”. (Outputs)

User – This is where you can configure which users or groups of users can trigger programs from external communications e.g. SMS, E-mail or Phone Call.

Settings – this is where you configure all the internal settings for the device, e.g. internal time, analogue inputs GSM/GPRS settings, Reply Email settings and more.

Status – Tells you the current communication status, and time of the TWCT22 as well as the software version.

System Log – This is a list of all errors or failed actions, “Events” or logics.

6.2 Programming order

First thing is to plan your program. Write down what you want to start the program (Event). Then think of what you want the end result to be (Action). The order to program the TWCT22 is,

Users → Events → Actions → Logics

6.3 Setting up Users

First click on the “Users” button on the home screen, then the following screen will appear.



Figure 6.3.1

Note. SMS users must start with +44... and phone call users with 07....

Click “NEW Person” then a user will appear. Click on the user name and then configure the details.



Figure 6.3.2

Note. It is a good idea to identify between SMS users and phone call users in the User name.



Figure 6.3.3

Once you have configured the users, you can then configure the groups if you wish to use them.

Click on “NEW Group” then a group will appear. Click on the group name and then configure the details. Name the group and then hold shift to select multiple users. After you have configured the group, click apply.

Figure 6.3.3

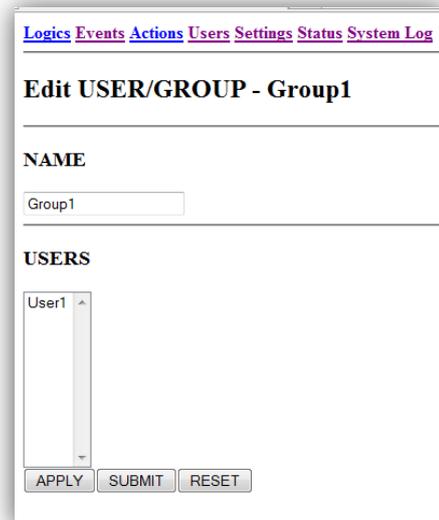
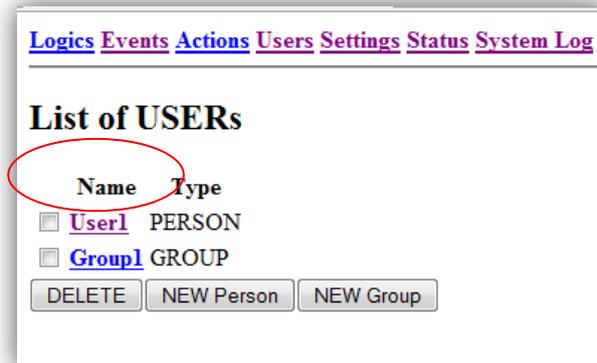


Figure 6.3.4

6.4 Events

First click on the Event Button at the top of the home screen, then the following screen will appear.

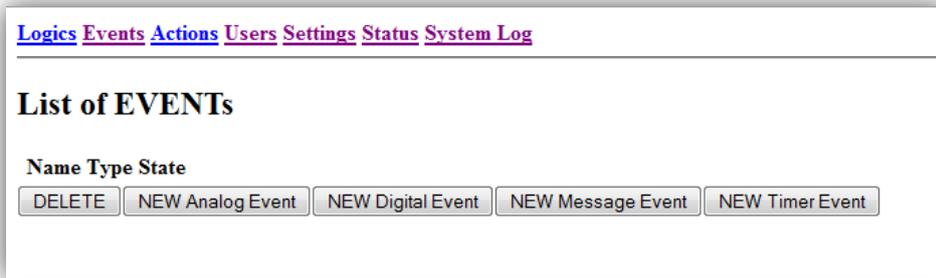


Figure 6.4.1

In the “Events” window you have a choice of 4 different types of “Events”. These “Events” are explained below:

- Analog – This input can be set to Analog Up, Down, High or Low.
- Digital - This input can be set to Digital Up, Down, High or Low.
- Message – This is a set message which can be received by SMS or Call.
- Timer – This is a set time before an event is to happen.

6.4.1 Analog Events

On the TWCT22 there are 2 Analog inputs on the top of the device (A in 1 and A in 2). To program an Analog event, click “NEW Analog Event” then click on the new analogue name when it appears in the list and configure the event. After you have configured the event then click apply.

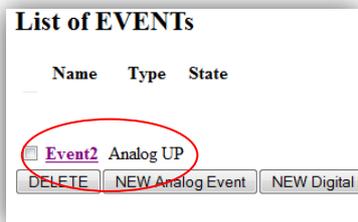


Figure 6.4.4.1

Figure 6.4.1.2

- The name of the event does not have any role in the execution of the event. It is only used for identification purposes as you may have multiple events.
- Select the event type: Analog UP, Analog DOWN, Analog HIGH or Analog LOW.
- Choose which Analog input to use.
- The time interval after which the event will be sent to the logic function if the event condition still exists.
- Select the level of the trigger: 0-10V or 0-20mA

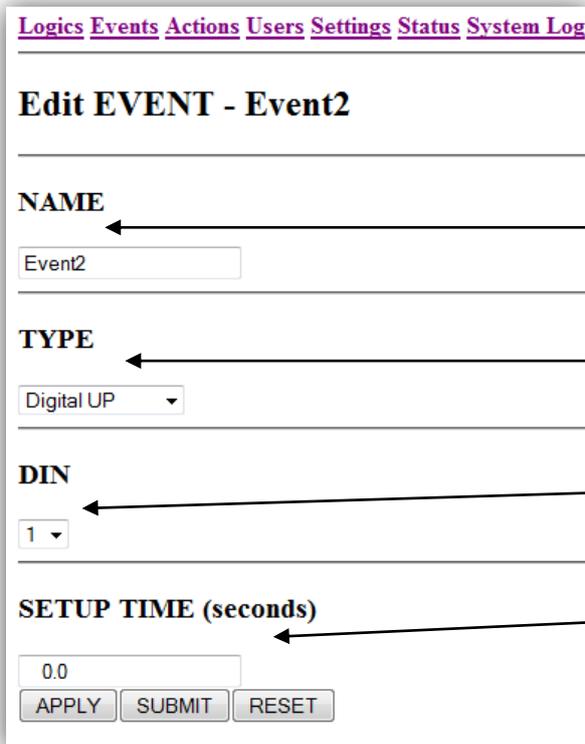
6.4.2 Digital Events

On the TWCT22 there are 4 Digital inputs on the top of the device. To program a Digital event, click “NEW Digital Event” then click on the new Digital Event name when it appears in the list and configure the event. After you have configured the event then click apply.



Figure 6.4.2.1

Figure 6.4.2.2



The name of the event does not have any role in the execution of the event. It is only used for identification purposes as you may have multiple events.

Select the event type: Digital UP, Digital DOWN, Digital HIGH or Digital LOW.

Choose which Digital input to use.

The time interval after which the event will be sent to the logic function if the event condition still exists.

6.4.3 Message Event

The TWCT22 can respond to either an SMS message or a Call from a phone. Either of these events can trigger an action. Click on “New Message Even” to create a new event and then click on the new event when it appears in the list and then configure the event. After the configuration is complete, click submit.



Figure 6.4.3.1

- The name of the event does not have any role in the execution of the event. It is only used for identification purposes as you may have multiple events.
- Select the event type: SMS or Call.
- Choose which User or Group will trigger this event.
- Choose what the input message will be. This must be exactly what the phone sends.

6.4.4 Timer Event

The TWCT22 has a built in real-time clock. You can set the time of the device and use that time to trigger Timer Events. Timer Events can be set to start at any exact time/date and finish at any exact time/date with repetition periods set by seconds, minutes, hours, days or months. You can also select which days of the week the program is to run.

To Program a new timer event, click on "New Timer Event" then click on the new time event when it appears in the list and configure the event. After you have configured the event click submit.

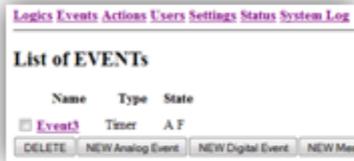


Figure 6.4.4.1

Figure 6.4.4.2

The name of the event does not have any role in the execution of the event. It is only used for identification purposes as you may have multiple events.

Set the exact date and time for when you want the program to begin.

Set the exact date and time for when you want the program to end.

Set the exact repetition period between cycles.

Set which days you would like the program to run.

6.5 Actions

First click on the Actions Button at the top of the home screen, then the following screen will appear.

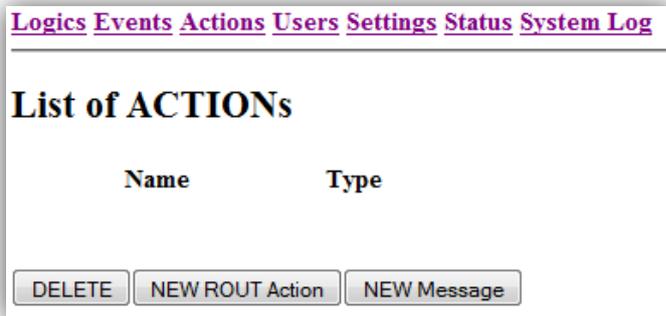


Figure 6.5.1

In the Actions window you have a choice of 2 different types of Action. These Action are explained below:

- ROUT – Relay Out. There are 3 different Relay commands, On, Off and Toggle
- Message – A Message action can send an SMS, Call or an Email.

6.5.1 ROUT Action

The TWCT22 Relay outputs can either be switched on, off or toggle. To program a new ROUT Action, click on “New ROUT Action” and then click on the new ROUT Action when it appears in the list and configure the Action. After you have configured the action click submit.

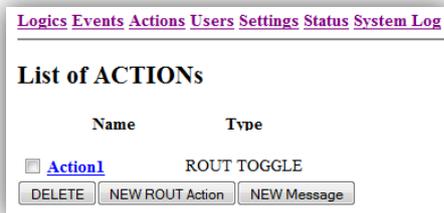


Figure 6.5.1.1

Figure 6.5.1.2

- The name of the action does not have any role in the execution of the action. It is only used for identification purposes as you may have multiple actions.
- Select the type of ROUT action: On, Off, Toggle
- Select which relay you would like to switch.
- Select how long you would like the Relay to stay switched.

6.5.2 Message Action

The TWCT22 can send messages via three different communications, E-mail, Call or SMS. To program a new message action, click the “New Message” button and then click on the new message Action when it appears in the list and configure the Action. After you have configured the action click submit.



Figure 6.5.2.1

Figure 6.5.2.1

- The name of the action does not have any role in the execution of the action. It is only used for identification purposes as you may have multiple actions
- This is where you choose which type of Message communication you would like, E-Mail, Call or SMS.
- This is where you select the User or the Group which you would like the message to go to.
- This is where you define the message you would like to receive.

6.6 Logics

The Logic is the process which combines all the Events, Actions and Users together to make the program work. First, click on the “Logics” button and the screen bellow will appear.



Figure 6.6.1

To create a new logic, Click the “New” button and then click on the new logic and the following screen will appear. Use this screen to combine which inputs and outputs you would like to use in this program.

The name of the Logic does not have any role in the execution of the Logic. It is only used for identification purposes as you may have multiple actions

With this drop down menu you can select “AND” or “OR”. This relates to the Inputs. “AND” means all selected inputs must be active and “OR” means one or the other. To select multiple, Hold “Ctrl” and click on the ones you want.

Here you select which Event(s) you want to trigger the Action in this program.

Here you select which Action(s) you want to happen in the program.

Device Settings

The device settings must be set for the device to work correctly. To configure the settings, click on the settings button at the top of the page. Each section of the settings should be applied as you progress through the list.

Analog Inputs

When there is no input on either of the Analog inputs on the device you should click on the "0V" button to calibrate the inputs.

Fault Relay

This will energise the selected relay when a fault in the device is detected.

Date and Time

This is the manual way to configure the Time and Date of the device the format of the input is:

Date: YYYY/MM/DD

Time: HH/MM/SS

When the unit is switched off, the manual time will need to be re-entered.

Time zone and Daylight saving

This is so that the unit automatically updates the time when the time zone changes.

Time Synchronisation Server

This will make the Unit automatically detect the time when it is started up so you do not have to manually enter the time. A recommended Server for the UK is:

Hostname: nist.netservicesgroup.com

Mode: *unicast

Timeout (Hours): 0.1

GSM/GPRS

These are the settings from your Sim Card Network Provider. These can be found at:

<http://www.filesaveas.com/gprs.html>

The PIN code is the pin which is put on your sim card. You do not need to use a PIN code. It is purely for security reasons.

Authentication Method should be set to "*None"

The E-Mail SMTP Server should be the SMTP server provided by your SIM Card Network Provider. A Separate E-Mail Account should be set up for the device using a **NON AUSTHENICATED EMAIL PROVIDER**. I recommend GMX. This can be found at <http://www.gmx.com> . This server may be blocked by your spam filter so you must allow the given E-Mail address through the filters.

This E-Mail Address you create should be entered in the "Sender Address" box.

The Authorisation settings only need to be configured if you need to access this unit remotely.

The SMS Centre number can be left as standard.

The Bridged Network Connection only need to be conferred if you need to access this unit remotely.

The Language can either be English or German.

At the bottom of the page you have the option to download the configuration which can then later be uploaded to the device or you can load the same configuration to multiple devices.

Status

To check the Date, Time, signal strength and Network Provider settings you can click on the "Status" button at the top of the page. This will also tell you the remote IP address of the device if you want to connect to the device remotely.

System Log

Every error which occurs with the device will be logged in the System Log. It is a good idea to clear the system log after checking it so that it does not become too big and cluttered.

Contact Us:

If you have any problems configuring the device or you think the device is faulty, please contact us.

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