



Ethernet communicator *E16T*

USER MANUAL

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Safety Requirements

The security alarm system should be installed and maintained by qualified personnel.

Prior to installation, please read carefully this manual in order to avoid mistakes that can lead to malfunction or even damage to the equipment.

Disconnect power before making any electrical connections.

Changes, modifications or repairs not authorized by the manufacturer shall void your rights under the warranty.



Please act according to your local rules and do not dispose of your unusable alarm system or its components with other household waste.

1 Description

Communicator E16T is intended to upgrade any intruder alarm panel with telephone line communicator (TIP RING) for event signaling via wired Internet (Ethernet).

Customers are informed about security system events in Protegus app. They can Arm/Disarm the alarm system remotely via panel's keyswitch zone.

Communicator can transmit full event information to Alarm Receiving Centre (ARC).

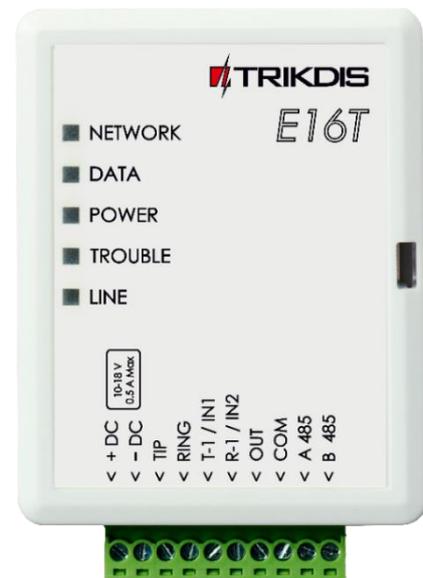
Features

Connection

- Connection to control panels via:
 - Telephone line communicator (TIP RING)

Communications

- Simultaneous event reporting to Protegus Mobile/Web application, allowing user to remotely control and monitor alarm system
- Communicator transfers all messages from control panel in Contact ID codes
- Messages in TCP/IP or UDP/IP protocol are sent to ARC
- In case of lost connection with the main channel, switches automatically to backup channel



Configuration

- Quick and easy configuration
- Two access levels for setting of operating parameters

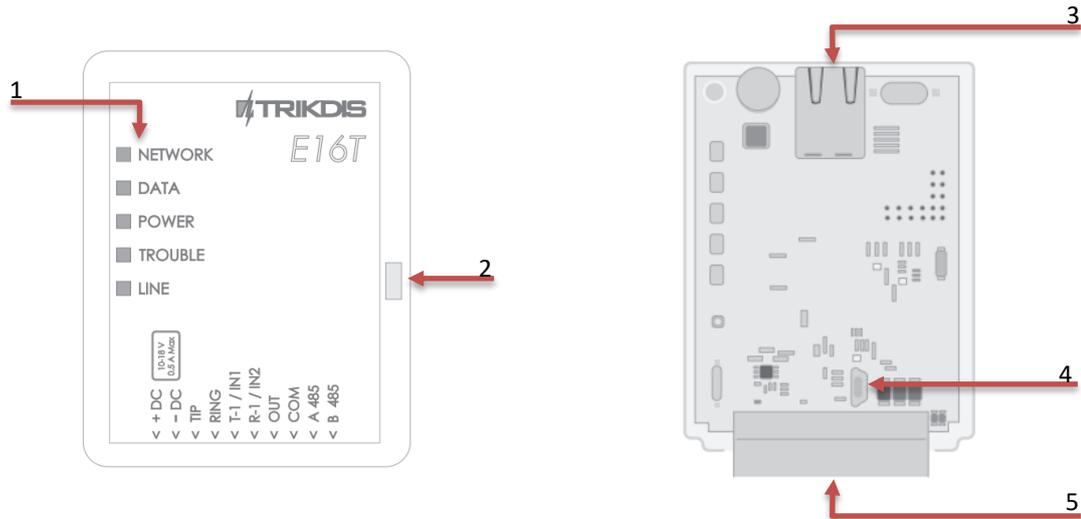
Input and output

- 2 input, selectable type: NC, NO, EOL = 2.2 kΩ
- 1 output controlled via:
 - Mobile/Web application

1.1 Technical Parameters

Parameter	Description
Power supply voltage	10 - 15 VDC
Max current consumption	70 mA
Ethernet connection	IEEE 802.3, 10 Base-T, RJ45 socket
Data pack content	Contact ID format codes
RS485 bus length (for future use)	CAT5 twisted pair, up to 100m
Memory	Up to 100 messages
Input	2 selectable type: NC/NO/EOL-2,2 kΩ
Operating environment	From -10 °C to 50 °C, with relative air humidity 80% when +20 °C
Dimensions	65 x 79 x 25 mm

1.2 Communicator structure



- 1. Light indications
- 2. Slot to open housing

- 3. Ethernet connection RJ45 socket
- 4. USB Mini-B port for configuration
- 5. Terminal for external connections

1.3 Terminal block description

Contact	Description
+DC	+12V power supply terminal
-DC	Common ground terminal
TIP	For connecting to the security control panel Tip terminal
RING	For connecting to the security control panel Ring terminal
T-1/IN-1	Double purpose terminal: T-1 for future use or 1 st selectable type input
R-1/IN-2	Double purpose terminal: R-1 for future use or 2 nd selectable type input
OUT	Open-collector controllable output
COM	Common (negative)
A 485	Negative data connection to Trikdis control panel SP231
B 485	Positive data connection to Trikdis control panel SP231

1.4 Light indication

LED	Operation	Description
“Network” displays connection to network status	Green ON	Connected to network
“Data” displays data transfer process	Yellow ON	Unsent event messages are present in buffer
	Green flashing	Messages are being received from the control panel PSTN dialler
“Power” displays power supply status and the functioning of the microprocessor	Green flashing	Power supply is on with sufficient voltage and microcontroller is operational
	Yellow flashing	Power supply voltage is not sufficient (≤11,5 V)
“Trouble” displays connection to network problem	Red ON	Network connection problem, check cable connection
	Red OFF	Communicator is connected to network
“Line” displays control panel status when event is received	Green ON	The security control panel has picked up a handset Off-hook

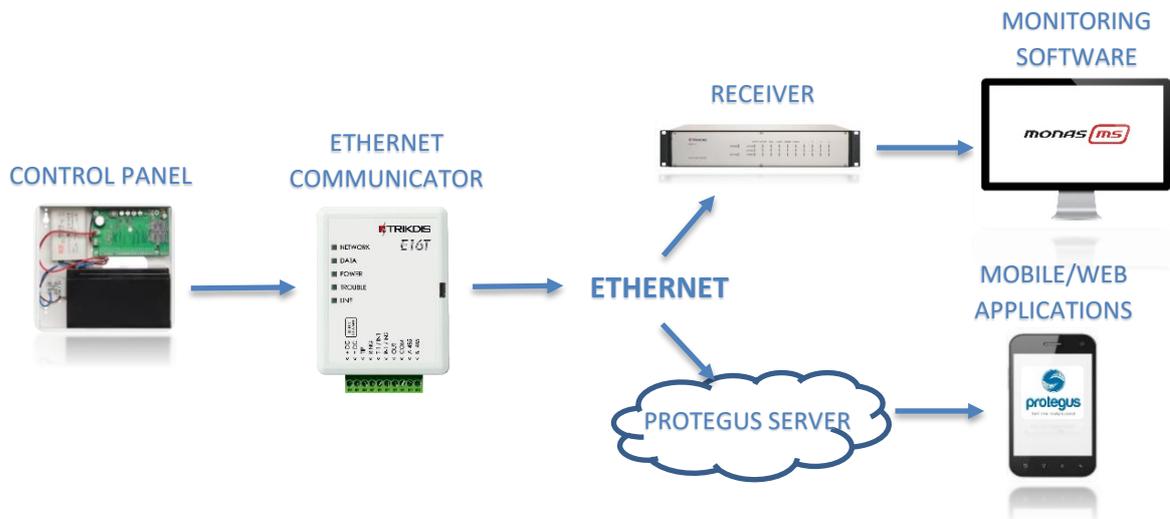
	Green OFF	The security control panel has not picked up a handset On-hook
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1.5 Before you begin

Before you begin, make sure that you have the necessary:

- 1) USB cable (Mini-B type, not included) for communicator E16T configuration.
 - 2) CAT-5 Ethernet cable (maximum 100m, not included).
 - 3) Flat-head screwdriver.
 - 4) At least 4 wires cable for connecting communicator to control panel.
 - 5) particular security control panel's installation manual.
- Order them separately from your local distributor

1.6 System view



2 Configuration of security control panel

Follow the programming manual of particular security control panel and set up its telephone communicator:

- 1) Enable the PSTN dialer of the panel.
- 2) Select dialing mode DTMF.
- 3) Select Contact ID communication format.
- 4) If communicator is connected to a real telephone landline, enter a telephone number - **1234** for dialing, (If it is not connected to landline, any number not shorter than 2-digits, can be used).
- 5) Enter a 4-digit Account number in the panel.

2.1 Attention: Program Honeywell Vista panel landline dialler

Communications Setup

Using keypad go to the following sections, and program them as indicated:

- *41 - Enter receivers Phone Number
- *43 - Enter Account Number
- *47 – Select Tone dialling 1 and enter desired number of dial attempts
- *48 - Contact ID. Use the default, Contact ID 4 by setting *48 to 77
- *49 - Split/Dual report. *49, should be set to 5
- *50 - Burglar Dialler Delay (optional). The default is [2,0] which causes a 30 second delay until an alarm event is sent out. If you want the event to be sent out with no delay then set this to [0,0].

Exit Programming

Once all the sections are programmed, leave installers mode by entering *99 on the keypad.

3 Connecting E16T to TrikdisConfig

Communicator can be configured using **TrikdisConfig** software via **USB cable** or **remotely**. The software is available on www.trikdis.com and operates in MS Windows OS.

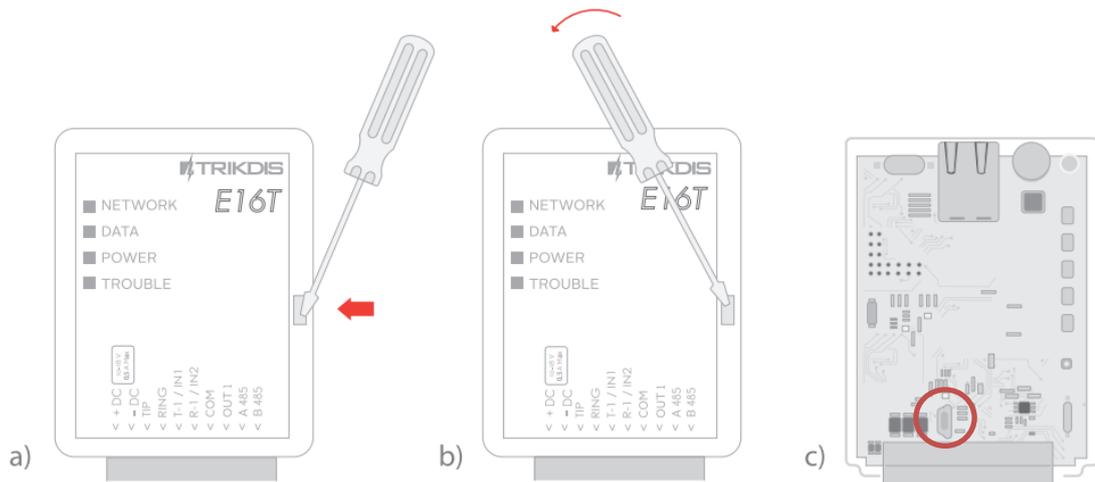
IMPORTANT: To use **remote configuration** function, first te communicator has to be configured via USB cable and Protegus service must be enabled.

1.1 Download and install **TrikdisConfig**.

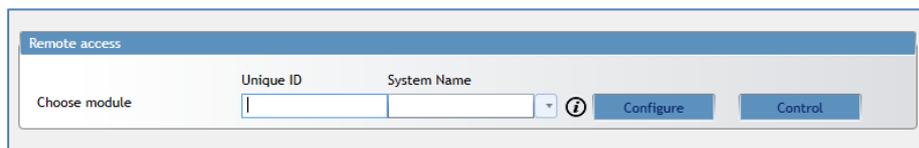
1.2 Connect the communicator to the computer using USB cable or remotely.

Using USB cable: run the configuration software **TrikdisConfig**. The software will automatically recognise the connected device and will open a window for communicator configuration:

- a) Insert screwdriver to the slot (red arrow). (it is unnecessary to put in screwdriver's head to the bottom of the casing).
- b) **Hold the bottom part of the casing with one hand** and gently push screwdriver to the left side.
- c) Plug in USB cable. Run the configuration software **TrikdisConfig**. The software will **automatically** recognise connected communicator and will open a window for communicator configuration;



Remotely: run the configuration software **TrikdisConfig**. In section **Remote access**, field **Unique ID** enter MAC address of communicator (MAC address is provided on the product package). (Optional) in the field **System Name** enter the desired name for the module. Press **Configure**.



1.3 Click **Read [F4]** to read the communicators parameters and enter the Administrator or Installer code in the pop-up window. In order for the program to remember the code, check the box next to **Remember password**.

Note: if administrator code is set as default (123456), it is not required to enter it and the request window will not appear.

1.4 To open a configuration file, click **Open [F8]**.

Note: When new firmware is released, TrikdisConfig will ask if firmware can be updated, click yes, and new window will open.

- In order to save the previously entered data, check **Preserve settings** box.
- Press **Update [F12]** and new firmware will be written to the communicator.

3.1 Status bar

Once the communicator parameters are read, the status bar will display information about the device.

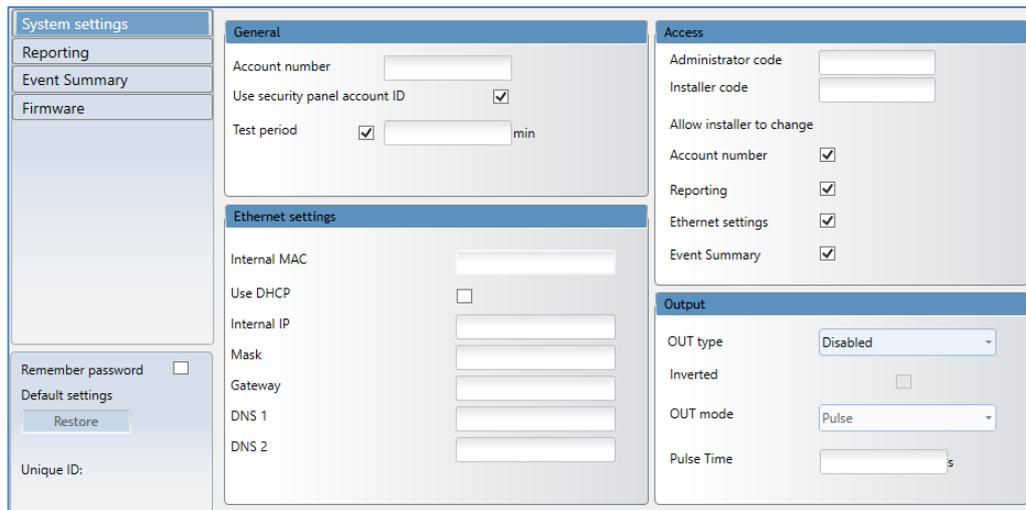


Status bar

Name	Description
Unique ID	MAC number of the device
Status	Action status
Device	Device type
SN	Serial number
BL	Bootloader version
FW	Firmware version
HW	Hardware version
State	Connection status
Admin	Access level (shows up after access code is confirmed)

4 Setting operation parameters

4.1 System settings



Settings → General:

- Write an **Account number** (four - symbols hexadecimal number).
- Mark **Use security panel account ID** checkbox if messages from the security control panel must contain its identification number.
- **Test period**: set how often periodic test messages should be sent.

Settings → Ethernet settings

- **Internal MAC** is unique for each Ethernet communicator, and it is not changeable.
- When **Use DHCP** checkbox is marked, communicator will automatically register to the network.
 - If automatic registration is unsuccessful, enter **Internal IP address**, subnet **Mask** and **Gateway** address manually. E16T supports DNS service.

Settings → Access

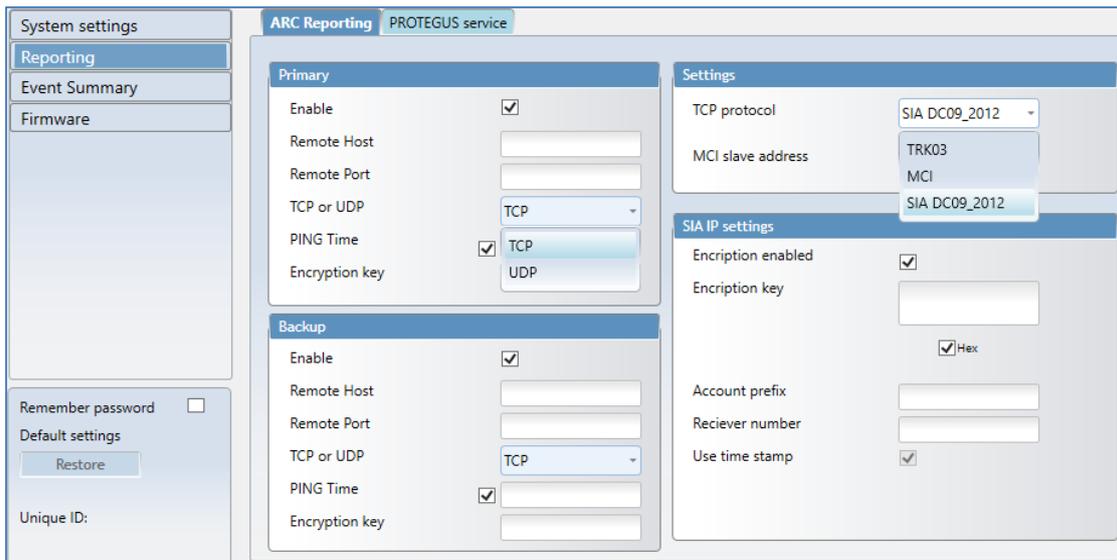
- Administrator code - allows full access to the configuration.
- Installer code - allows limited access to the configuration, as set by administrator. Administrator can allow installer to change:
 - Account number;

- Reporting;
- Ethernet settings;
- Event summary.

Settings → Output

- Choose output operation type from list **OUT type**.
- Mark **Inverted** checkbox if output function should be inverted.
- **OUT mode:**
 - **Pulse:** a status will be kept for a time period as indicated in **Pulse Time** (period in seconds) field.
 - **Level:** a status will change and remain the same until the next command.

4.2 Reporting → Alarm Receiving Centre (ARC) reporting



Reporting → Primary and backup

- To have connection with Primary and Backup channels mark checkboxes **Enable**.
- Fill in fields for **Remote Host**, **Remote Port**.
- Choose reporting protocol **TCP** or **UDP**.
- Enable **PING Time** and set time between signals in seconds (required for communication monitoring).
- Enter **Encryption key** (six-symbol hexadecimal number).

Reporting → Settings

- Choose **TCP protocol** (an encryption protocol for messages to be sent to the monitoring station).
 - Choose TRK03 when Trikdis IPcom receiver is used or communicator will be connected to Trikdis control panel SP231.
 - Choose MCI if event messages will be sent to the repeater.
 - When event messages are sent to SIA IP receiver, select SIA_DC09_2012 and set SIA IP settings.
- **MCI slave address** – address assigned by control panel to connected communicator (not changeable).

Reporting → SIA IP settings

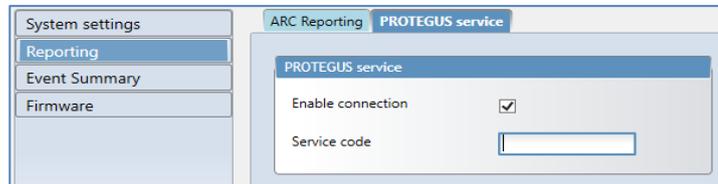
- Mark checkbox **Enable encryption** to enable message encryption.
- Enter **Encryption key** (up to 32 symbols).
- **Account prefix** – enter receiver number.
- **Receiver number** – enter line number.
- **Use time stamp** – mark checkbox if time stamp is required.

4.3 Reporting → Protegus service

Protegus service allows end - users to remotely monitor and control status of their alarm system with the communicator and Protegus apps.

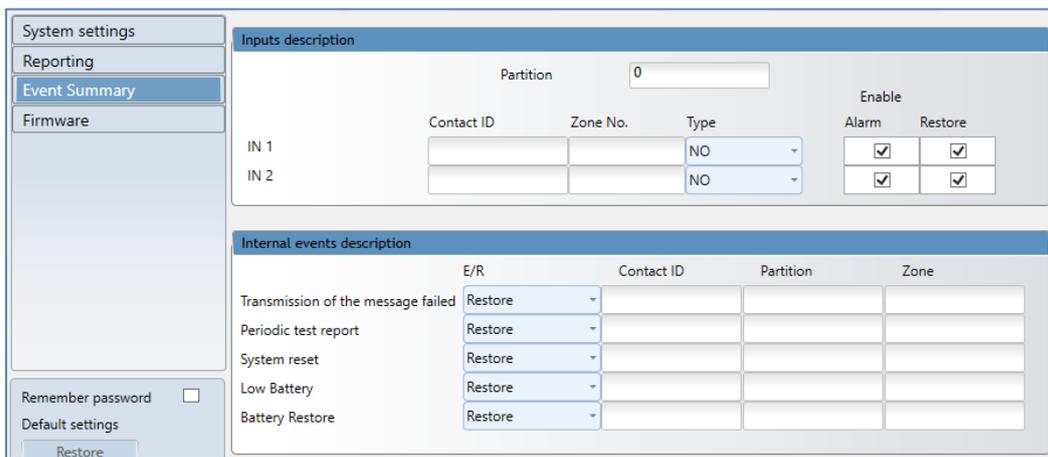
For more information about PROTEGUS service visit <http://www.protegus.eu/>.

- Enable cloud service at **Reporting → PROTEGUS service** tab.



- Enter **Service code** (default code – 123456), for more safety change it to 6-symbol authentication code. This code is used, when adding new system to the application and controlling remotely via TrikdisConfig software (for more details refer to [5. TrikdisConfig remote control](#)).

4.4 Event Summary



Event summary → Input description

- Describe input by filling in fields (these will be sent if Alarm/Restore occurs):
 - **Partition**;
 - **Contact ID** - can be customized or left default value;
 - **Zone No** - describe which zone will be controlled with IN 1, IN 2.
- Select **Type** of input (NO, NC, EOL).
- Enable: report when event occurs (**Alarm**); report when input line will restore (**Restore**).

Event summary → Internal events description

- To describe internal events select event type (Event or Restore), enter **Partitions** and **Zone** numbers.
- **Contact ID** code can be customized.

4.5 After all parameters are set, click Write [F5], to write parameters from TrikdisConfig program to communicator.

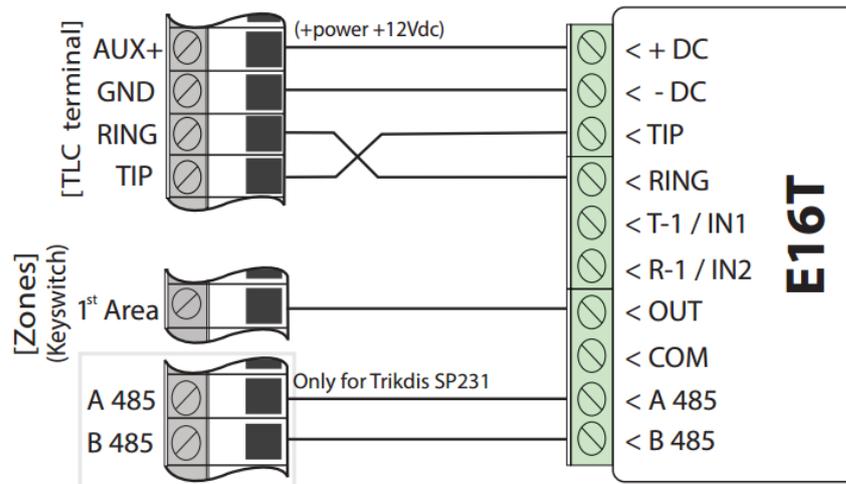
4.6 To create a configuration file which contains new parameters, click Save [F9].

4.7 Disconnect device:

- Click **Disconnect** to disconnect from access level (installer or admin) while communicator is connected via USB cable to a computer (role indication will be gone from status bar).
- If a configuration is done via USB cable, unplug the USB cable; click **Disconnect** to go back to the main window.

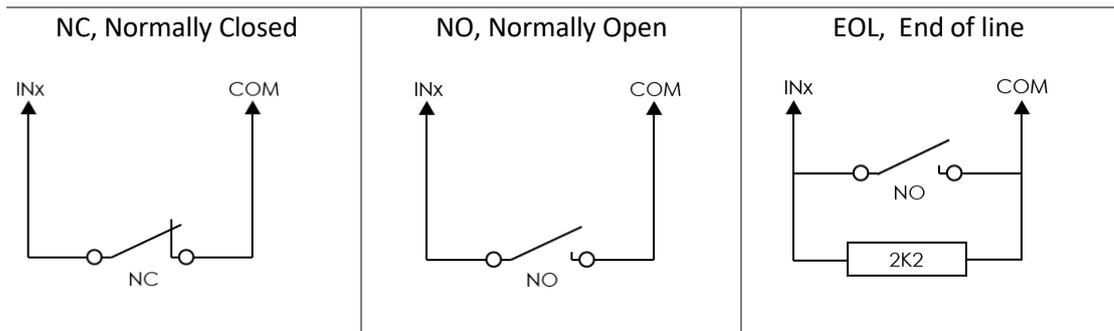
5 Physical installation process

5.1 Connect the communicator to the control panel using wiring diagram below

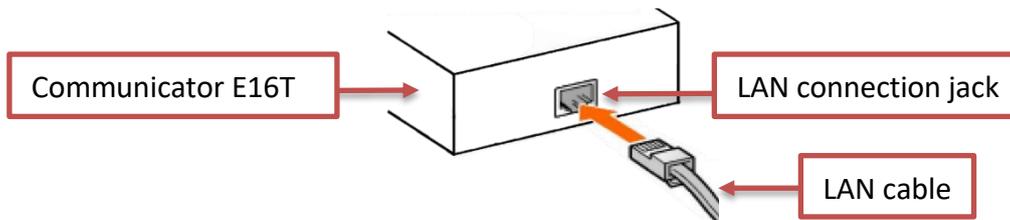


5.2 (Optional) connect sensors

The communicator contains two selectable type input terminals (IN1, IN2) for connection of sensors, they can be NC, NO or EOL.



5.3 Connect LAN cable

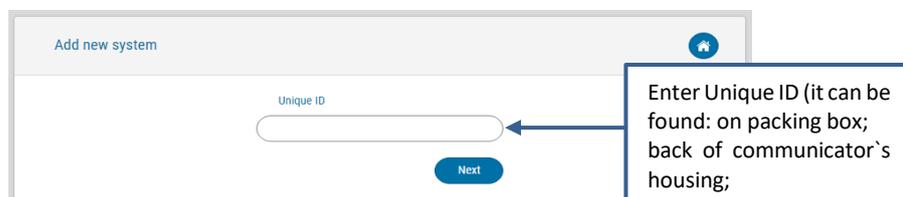


5.4 Turn on power supply

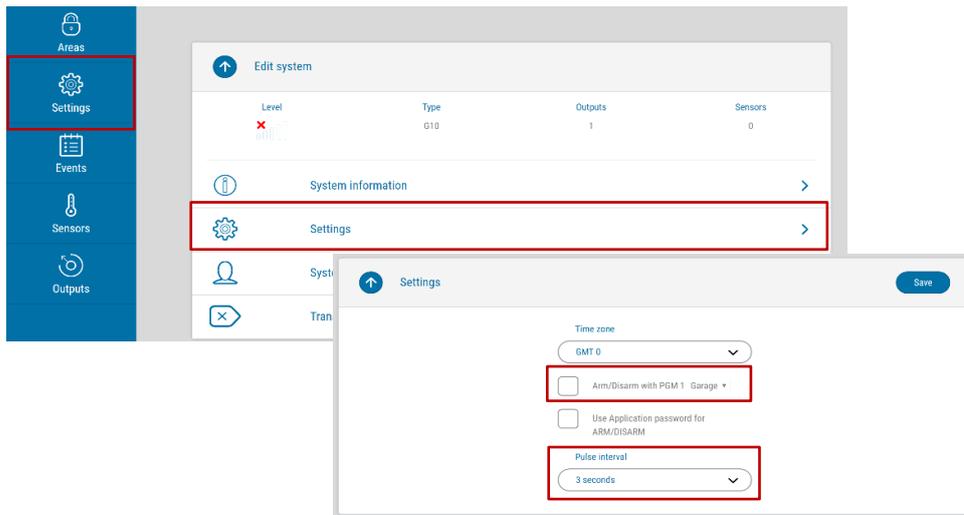
6 Protegus WEB service

To receive notifications to Protegus applications, register your communicator to Protegus web service:

- 1) Log in or sign in to <https://www.protegus.eu/login>.
- 2) Add the system to the Protegus: press **“Select system”**; next **“Add new system +”**, and enter the required data as shown below.



- 3) (Optional) If you will use remote arm/disarm feature, in Protegus main window, choose **Settings** from side bar and again **Settings**. In new **Settings** window tick the checkbox: **Arm/Disarm with PGM**



IMPORTANT! In Protegus app one PGM output can be assigned to control one Area (1 PGM - 1 Area; 2 PGM - 2 Areas) regardless of how many areas are controlled by same keyswitch zone in panel.

Set which Area will be controlled by Protegus in system **Settings**. There select the checkbox **Arm/Disarm with PGM**, and the number of Area, which you want to control.

In Protegus **Areas** window, you will see all areas available in the system, with controllable areas highlighted.

IMPORTANT! To use keyswitch control feature with the **Honeywell/Ademco Vista 48** security system, right Pulse period time must be set:

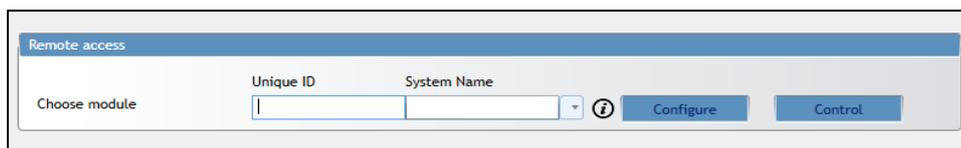
- If Pulse period is set less than 2 seconds - system will operate in Normal Arm mode.
- If Pulse period will be set more than 2 seconds - system will operate in Stay Arm mode.

Not all Vista control panels will have this functionality. For detailed information about this functionality, please refer to Honeywell Vista panel installation manual.

7 TrikdisConfig Remote control

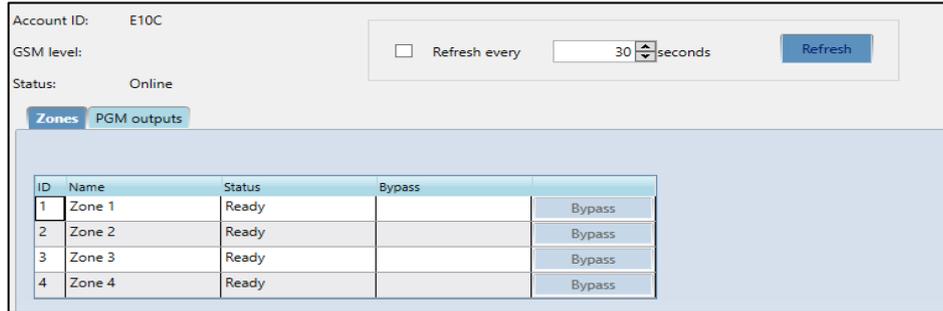
Communicator E16T can be controlled remotely using TrikdisConfig software. To do so, follow steps below:

- 1) Open TrikdisConfig.
- 2) At the field **Remote access**, in the field **Unique ID** enter the MAC address. MAC address is provided on the product package.
- 3) (Optional) In the field **System Name** enter the desired name to the module.
- 4) Press **Control** button.



- 5) Enter **Self-service code**: it is the same code as Protegus service code (see [3.3 Reporting → Protegus service](#)).

6) In new window, **Zones tab**, zones can be controlled. Also, (in all tabs) refresh time can be selected.



8 Perform system test

After configuration and installation is complete, perform a system test.

- 1) Activate an event in the control panel, and make sure that the event arrives to the alarm receiving centre or is received by the Protegus mobile application.
- 2) To test communicator input, activate it and make sure that the correct messages arrives to recipients (app users).
- 3) To test the communicator output, please activate it remotely and make sure that the correct messages arrives to recipients, and output activates as it should.

9 Manual firmware update

The communicator firmware can be changed manually.

When writing firmware manually, it can be changed to a newer or older version. To update:

- 1) Run TrikdisConfig.
- 2) Connect the communicator via USB cable to the computer or connect to the communicator remotely.
 - If newer firmware version exists, the software will offer to download the newer firmware version file.

Note: If there is an installed antivirus software on your computer, it might block automatic firmware update option. In this case, you must reconfigure your antivirus software.

- 3) Select the menu branch **Firmware**.
- 4) Press **Open firmware** and select the required firmware file.
 - If you do not have the file, the newest firmware file can be downloaded by registered user from www.trikdis.com, under the download section of the E16T communicator.
- 5) To save communicators parameters, which were set earlier, check box **Preserve settings**.
- 6) Press **Update [F12]**.
- 7) Wait for the prompt about the completed update to appear.
- 8) Click **OK** in the prompted window.