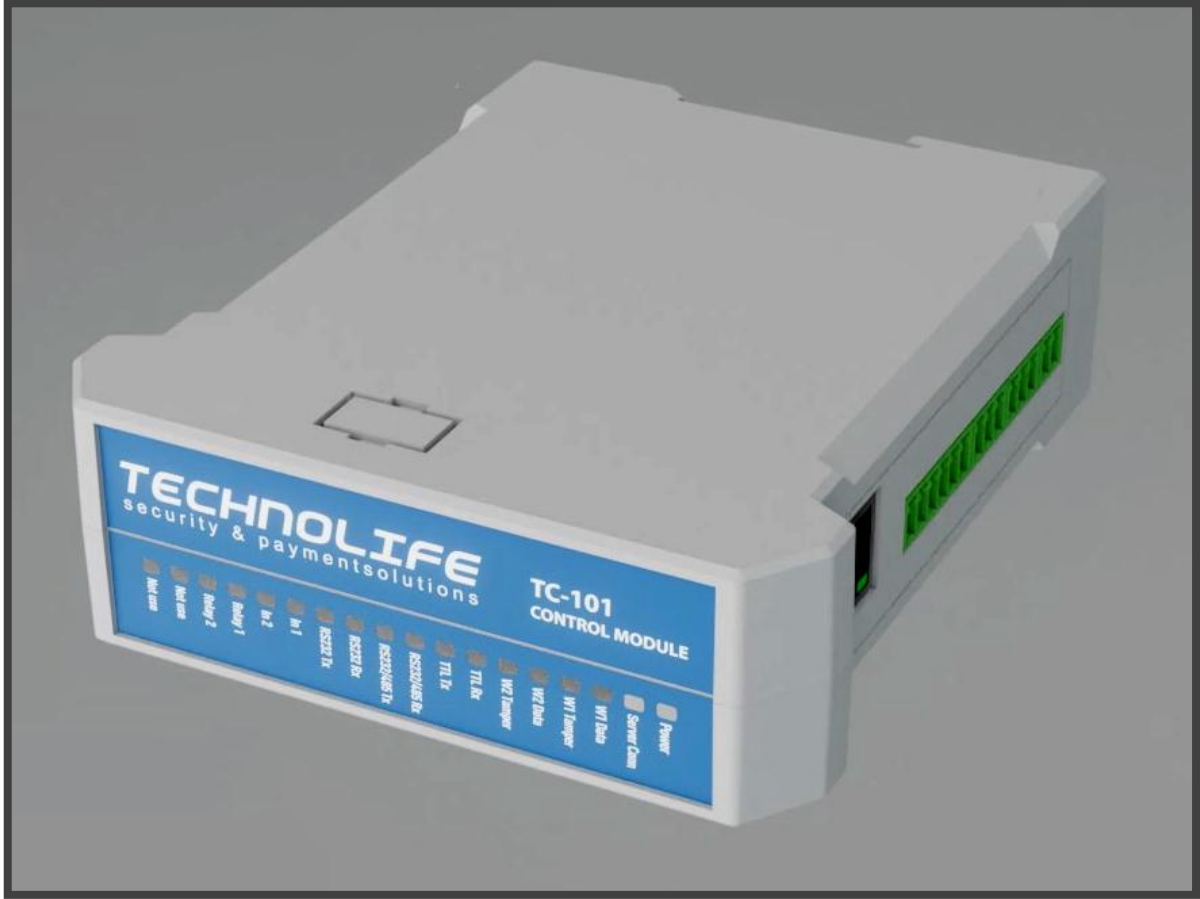


TC-101

NETWORK CONNECTED CONTROL PANEL

Hardware Installation and User Manual



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IMPORTANTS

MANUFACTURER

Technolife Bilişim Sistemleri Sanayi Ticaret Limited Şirketi
Yenişehir Mahallesi, Mustafa Akyol Sokak No:7A-A Arwen Plaza
Posta Kodu : 34912
Pendik, İstanbul / Türkiye
+90 212 451 10 55

Web: <https://www.technolife.com.tr/>

Sales : technolife@technolife.com.tr

Help : destek@technolife.com.tr

RULES TO FOLLOW DURING USE:

- Before using the product, please read the product manual. Follow the specified instructions, paying attention to necessary adjustments and electrical connection sections.
- For safe use of this product, installation must be performed by individuals with experience and knowledge of electrical connections and potential hazards.
- Use the product only in dry indoor environments that do not expose it to water. This product is designed for indoor use only and does not have water and dust proof protection.
- Keep the product in a dry environment. Otherwise, the product may malfunction.
- All repair operations can only be carried out by the Technolife Bilişim Sistemleri Sanayi Ticaret Limited Şirketi technical service. No other individuals should attempt to service the product. Otherwise, potential hazards and malfunctions are not the responsibility of our company.
- The operating voltage and connection diagrams of the product are specified. If the product is powered outside the specified voltage value or incorrectly connected, potential hazards and malfunctions are not the responsibility of our company.
- Isolate from direct sunlight, dust, oil, corrosive and flammable gases.
- Not suitable for outdoor use.
- There should be less than 90% RH relative humidity, with no condensation and icing.
- Please carefully read the instructions on the "Connection Guide" page during the connection process.
- Ensure that cables connected to the terminal blocks do not short-circuit while the power is connected.

ABOUT PRODUCT



TC-101 is an advanced controller with network connectivity features. It forms the backbone of medium to large-scale security systems, capable of handling 100,000 users and 100,000 events. It features an ESP32 control unit with a powerful processor architecture. With its programmable structure, it can manage peripheral devices both online and offline. It can also be used as a bridge between the server and peripheral devices with its transparent communication structure.

FEATURES

GENERAL FEATURES

POWERFUL ARCHITECTURE:

The module managed by ESP32 provides seamless power in projects with a 240MHz CPU and 520KB RAM Memory.

FLEXIBLE STRUCTURE: A flexible architectural structure that allows rapid development for your projects.

WIRELESS COMMUNICATION (OPTIONAL):

Optional Wi-Fi offered for wireless communication.

ADVANCED PERIPHERAL CONNECTIONS:

RS232/485/TTL Serial port and Wiegand connection support.

HMI SCREEN SUPPORT:

Integration possibility of smart HMI screens via TTL. Design your own screens with 5V power supply and TTL connection via a single output port.

JSON COMMUNICATION:

Ensure fast integration with a modern and easy communication structure.

ONLINE/OFFLINE OPERATION:

Manage your projects both online and offline with its programmable structure.

WS/WSS and MQTT SUPPORT:

Embedded socket client application ensures secure connection and encrypted communication.

TECHNICAL FEATURES

- 1x TTL Port (5V/3V)
- 1x RS232 Serial Port
- 1x RS232/485 Serial Port
- 2x Wiegand26/32/34/56/64
- 2x Analog input
- 2x Digital input
- 2x Role NC/NO (10A)
- 1x 100Mbit Network
- 1x ESP32 Wifi 2.4GHz ve BLE Modül(opsiyon)
- Working place -20 ~ +60 degree
- 100.000 User Capacity
- 100.000 Transaction Capacity
- Expandable Embedded Scenarios
- 240Mhz Cpu
- 520KB RAM Memory
- RTC (Real time clock)
- MQTT and Web Socket (ws/wss) supports
- Sntp Service Support
- Simultaneous Connection with 3 Different Servers
- 255 Time Zone Definition
- 255 Card Group Definition
- Defining 255 Escort Card Groups
- <200ms Reacting Time

USER MANUAL

CONTROL CARD USAGE METHODS

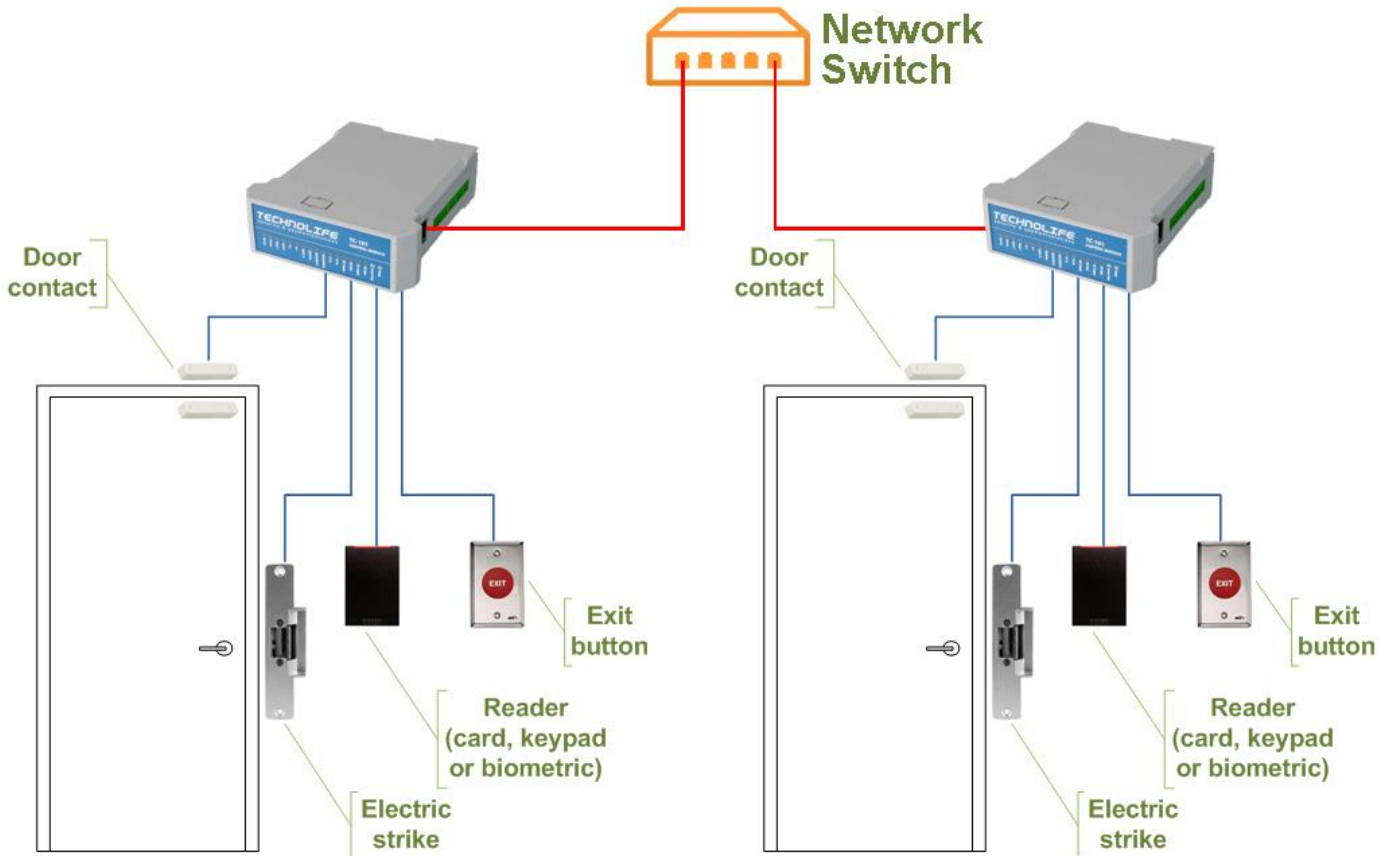
The operating modes of the control card are set via API/SDK. A control card that is in factory settings is configured according to the transparent mode by default (please contact the manufacturer to obtain API/SDK).

Transparent Usage

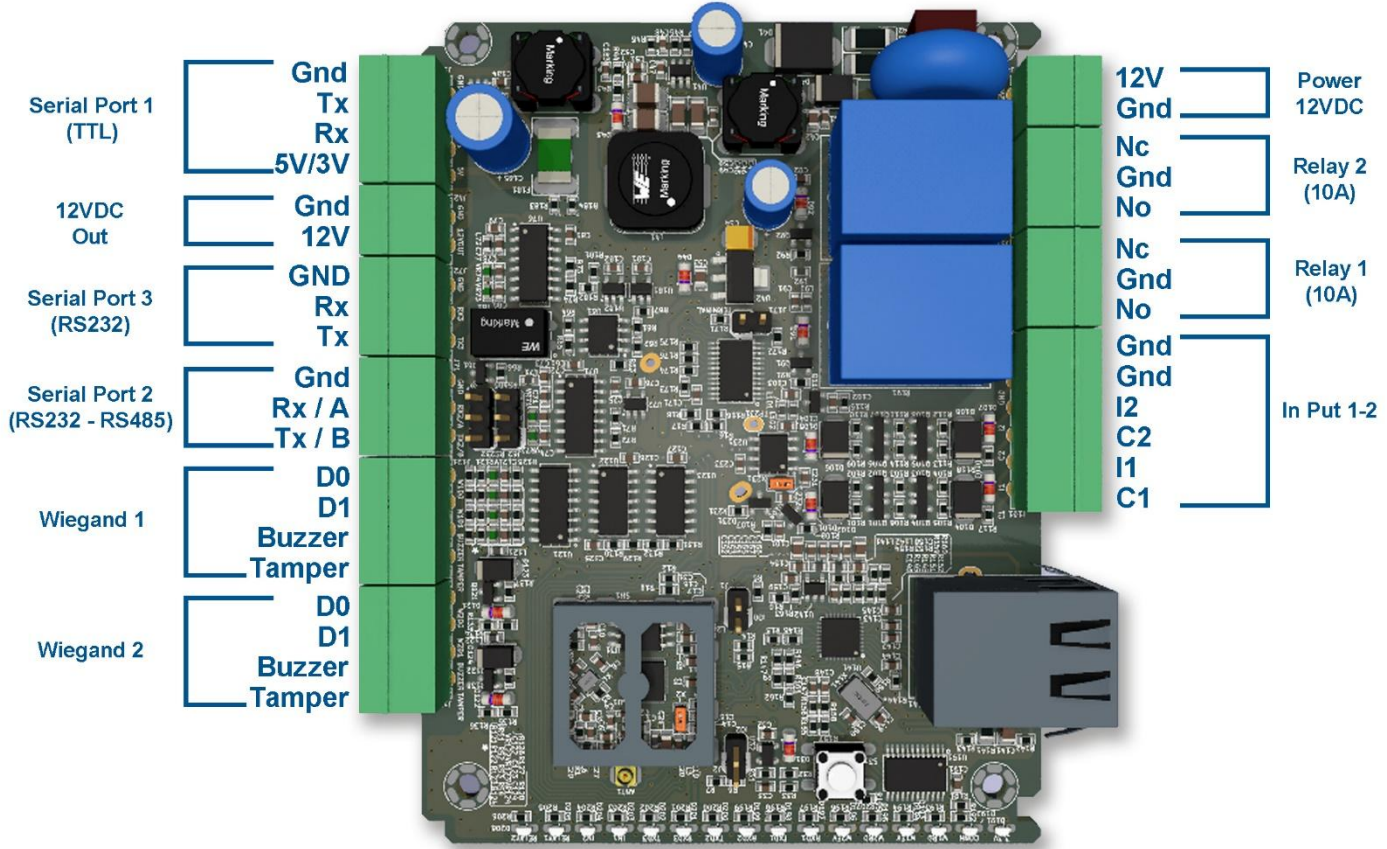
All data coming through the ports is transparently transmitted to the central computer service over the network. Similarly, data on the server is also transmitted to the connected devices on the control card. In this position, the card forwards all incoming/outgoing data transparently between the server and the connected devices without making any decisions.

Using in Access Control Card Mode

If access control is desired at the point where Wiegand readers (such as doors, turnstiles, parking barriers, radar gates, etc.) are located, connect the Wiegand 1 port for entry direction and Wiegand 2 port for exit direction accordingly.



CONNECTION GUIDE



NETWORK INFORMATION

IP: 10.0.0.10

Port: 8585 / TCP

Communication: Web socket (ws/wss) and Mqtt Server (Programmable via API)

SERIAL PORT CONFIGURATIONS

Baudrate: 9600

Data Bit: 8

Parity: None

Stop Bit: 1

Default "Timeout" value for response: 3 seconds

SUPPORTED READERS

Wiegand 26/32/34/56 bit communication, OSDP 1 and 2, RS232, and RS485.

EXIT BUTTON CONNECTIONS

Connect the NC terminals of the exit button to the I1-C1 terminals.

DOOR CONTACT MONITORING CONNECTIONS

Connect the contact monitoring terminals to the I2-C2 terminals on the panel.

CONNECTIONS FOR MAGNETIC/MECHANICAL LOCKS AND RELAY OUTPUTS

You can obtain voltage supplies for your locks from the 12VDC out section on the control card. Use Relay1 and 2 ports for relay outputs. Ensure the correct connection of NC and NO terminals for lock outputs. Use GND as the common terminal. If control of lock supply voltages is desired through the relay, prefer to use GND terminals to extend the life of the relay. The control card relay outputs operate only as NC and NO during any authorization process.

OSDP/RS485 READER CONNECTION

Terminate the addressed OSDP or RS485 reader A and B terminals at the A and B terminals of Serial Port 2 on the panel. Each panel supports a maximum of 16 readers.

RS232 READER CONNECTION

Connect the reader RX/TX/GND terminals to the appropriate terminals on Serial Port 3 on the panel.

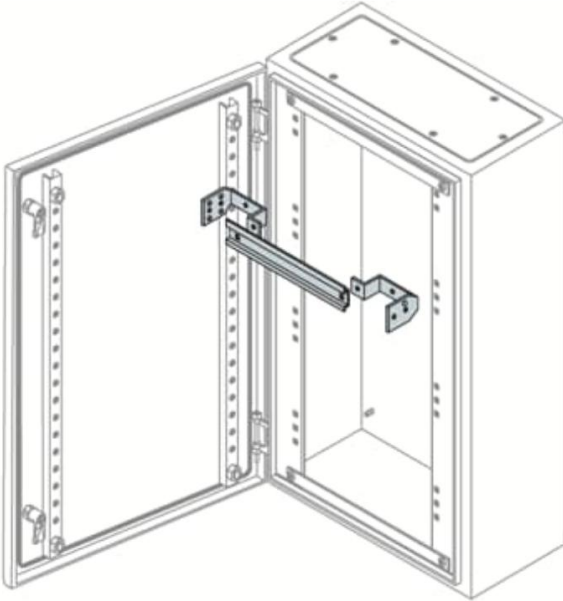
WIEGAND READER CONNECTION

Connect the D0 and D1 terminals on the reader to the appropriate port on the control card. If supported by your reader, also connect the Temper and Buzzer terminals. Obtain voltage supplies for the Wiegand reader from the "12VDC Out" terminals on the control card. The control card power supply voltage is provided directly from this output.

HMI TFT SCREEN CONNECTION

The control card is compatible with all Nextion brand screens. Connect the RX, TX, GND, and VDC terminals of the Nextion screen to the appropriate terminals on Serial Port 1.

TC-101P PANEL INSTALLATION



TC-101P panel mounting unit is specially designed for the installation of the control unit. You can mount the TC-101 control unit directly onto the panel rail inside.

The separators inside the panel allow for the organization of the control units. Connect the panel power outputs according to the connection diagram of the control unit. If you are using a battery (optional), ensure that the power supply unit has battery charging capability.

The mounting panel is IP55 rated. A cast liquid gasket is used in the cover section. There are 10 cable entries on the panel to facilitate cable entry.

FACTORY RESET

To reset the control card to factory settings, carefully remove the control card from its box. Short-circuit J2 numbered jumper on the card for 10 seconds while there is electricity on the card, then release it. Make sure all LEDs light up in sequence. Your control card will revert all values to their default settings.

INDICATORS

Power

Indicates the status of the electrical power.

Server Conn

Indicates the connection status with the server. If it blinks continuously at long intervals, the connection is unsuccessful. If it blinks rapidly three times while establishing a connection, or blinks continuously at short intervals while the connection is established.

W1 ve W2

Indicates the data movement on the D0 and D1 terminals of the Wiegand port.

W1 Tamper ve W2 Tamper

Indicates the status of the Tamper sensor on the reader.

TTL Rx / TTL Tx / RS232 Rx / RS232 Tx / RS485 Rx / RS485 TX

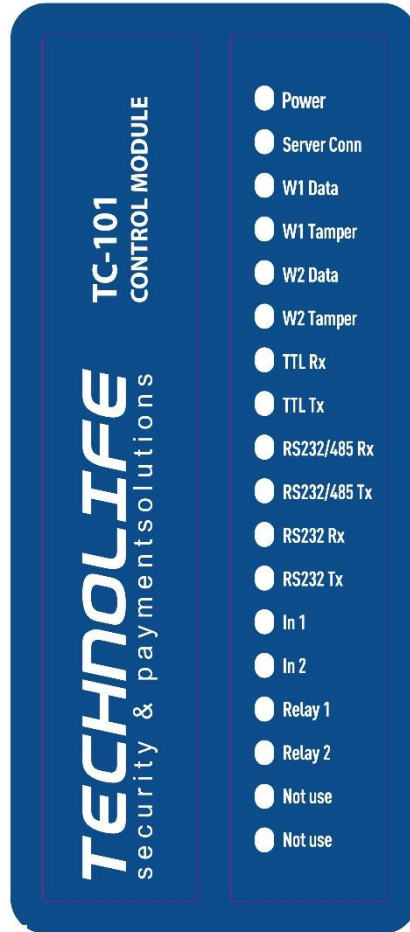
Indicates the communication status of the RX/TX on the serial ports.

In1 / In2

Indicates the status of the contacts on the I1-C1 or I2-C2 terminals.

Relay 1 / Relay 2

Indicates the status of roles 1 and 2.



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