Smart box
PQSB02

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User manual

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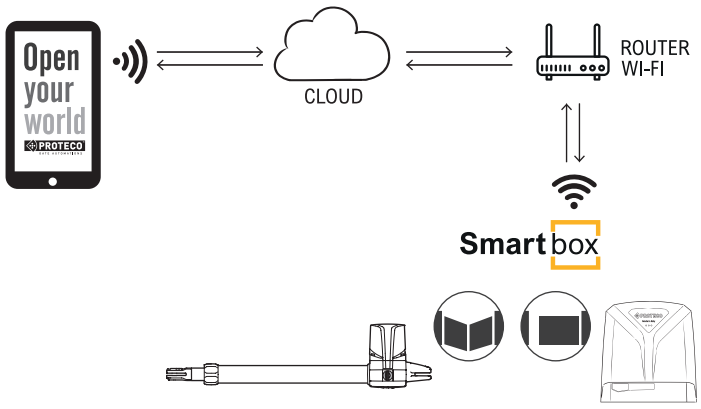
ENGLISH

1 INTRODUCTION - Proteco Open your world:

Proteco Open your world is a smart and intuitive system that allows you to remotely manage your gate automation or other access points — such as garage doors, awnings, road barriers and more.
From anywhere in the world, at any time, you can check the status of your access system and control its movement — all from your smartphone or tablet, as long as you're connected to the Internet.
Proteco open your world system unlocks new capabilities such as scheduled automatic openings and temporary access permissions for occasional users — a particularly useful feature for hospitality businesses like hotels and guesthouses.
Built on the **Tuya** platform, Proteco Open your world ensures full integration with all compatible smart home systems.

Our system combines next-generation electronic devices, internet connectivity, and a user-friendly smartphone app to deliver a modern and intuitive experience.
Simply install the **Smart Box** on your automation system and connect it to the cloud via Wi-Fi — it's quick and easy.
With just a tap on your smartphone, you can open and control gates and access points from anywhere, with complete security and maximum convenience.



A next-generation interface device for managing all your automated access systems via smartphone.

Both the user and the automation device must be Internet-connected.
Users connect via Wi-Fi, mobile data, or other available technologies on their smartphone or tablet.
The gate connects via Wi-Fi to a router, which must be online through ADSL, fiber, satellite, or similar.

Scan the QR code
to download and install the
Proteco Open your world app.

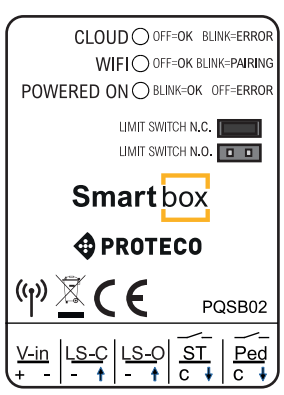
2 INSTALLATION

The **Smart Box** is a universal device that can be connected to all types of automation systems. The device must have access to a Wi-Fi connection, for which the network name (SSID) and password are required.
After completing the physical installation (including wiring) of the device, as described in the following sections, the owner's smartphone must be used to configure the **Smart Box**.
The smartphone must have the **Smart Life** app installed in order to access **Proteco Open your world**.

2.1 Requirements

1. Wi-Fi coverage must be available at the automation location; the Wi-Fi SSID and password must be known.
   If the Wi-Fi signal is weak or unavailable, a standard Wi-Fi repeater can be used.
   To quickly verify coverage, use a smartphone at the automation site (near the electronic control board) to scan for available Wi-Fi networks and ensure the user's network is reachable.
2. The chosen Wi-Fi network must provide Internet access.
3. Smartphones used must have Wi-Fi capability and run Android version 6 or later, or iOS version 13 or later.

2.2 Smart box Terminal Block



The device has 5 functional connections:

- **V-in** Power input 12-24V DC, to be taken from the automation control board.
- **LS-C** Closing limit switch input.
  The common "-" terminal is internally connected to the other common "-" terminals.
- **LS-O** Opening limit switch input.
  The common "-" terminal is internally connected to the other common "-" terminals.
- **ST** Start output, clean N.O. contact.
- **Ped** Pedestrian output, clean N.O. contact.

The LS-C and L-O inputs are used to detect the automation status (open/closed); the **ST** and **Ped** outputs are controlled by the app for the Start and Pedestrian commands, respectively.

2.3 Wiring

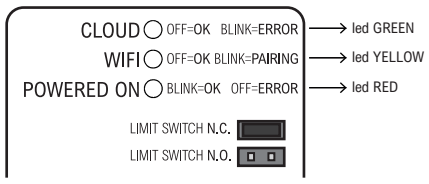
The **Smart Box** must be wired to the automation system using small gauge wires, for example 0.5 or 1 mm² for the **V-in** power supply, and 0.2, 0.5, or 1 mm² for the other signals.
The **V-in** power supply and the **Start** and **Ped** outputs must be connected to the automation control board, following the correct wiring procedures for each type of automation system (refer to the control board manual).

To monitor the door status, two limit switches are required: one to detect the closed position and one to detect the fully open position. Sliding gates typically have limit switches already installed, while other types of automation may not; in such cases, installation of the switches is necessary.

2.4 Limit Switch Detection Logic

By default, the **Smart Box** detects a limit switch as "**normally closed**."
This behavior can be reversed by opening the Limit Switch jumper.

Note:
The installed limit switches must be of the same type (both N.O. or both N.C.).



Below are some connection examples.

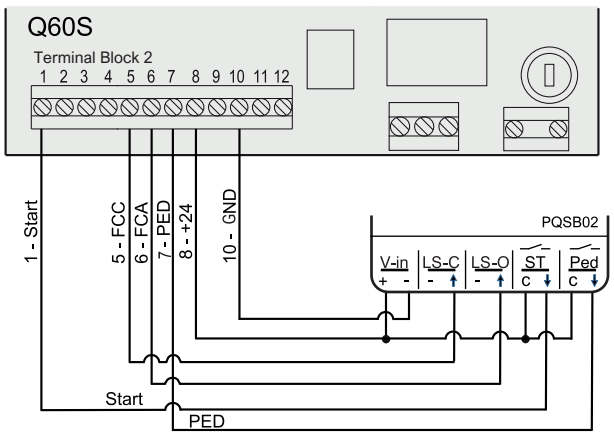
Warning:
All Proteco control boards for sliding gates are preset by default with the motor on the right-hand side (DX).
If, during installation, the motor is placed on the left-hand side (SX), it will be necessary to invert the limit switch wiring.

2.5 Pre-installed Limit Switches (Sliding Gate Control Boards)

The limit switches are already installed, and the **Smart Box** reads them simultaneously with the automation control board.
The inputs must be connected to the same terminals where the limit switches are already connected, keeping in mind that the common "-" terminals of **V-in, LS-C,** and **LS-O** are internally connected.

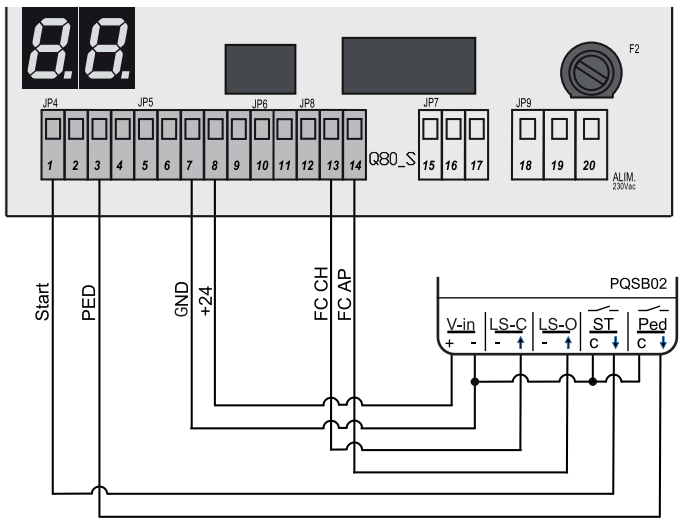
2.5.1 Q60S wiring diagram

Remove the jumper → LIMIT SWITCH N.O.

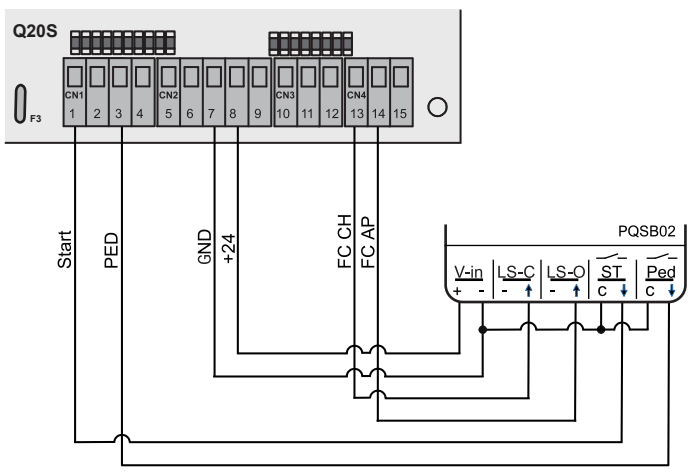


2.5.2 Q80S wiring diagram

In principle, this wiring diagram can be adapted for use with Q81S sliding gate control boards.



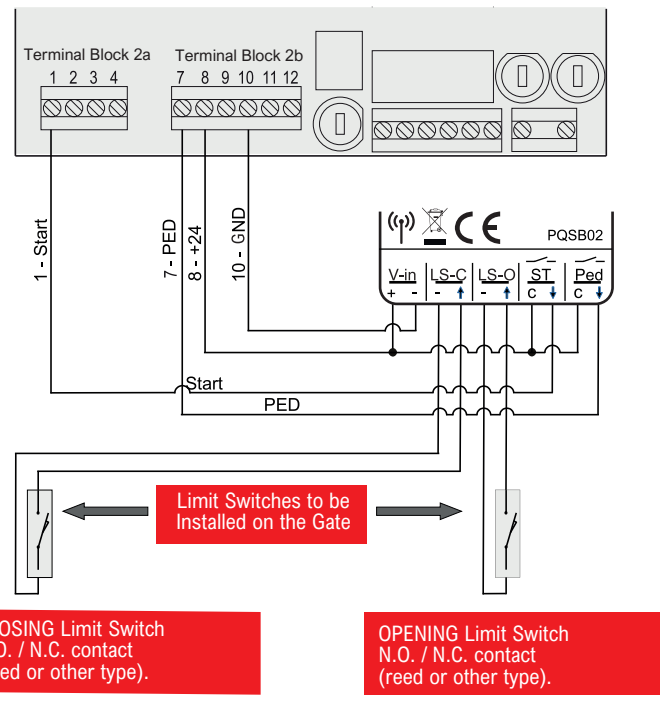
2.5.3 Q20S wiring diagram



2.6 Limit Switches Added Later

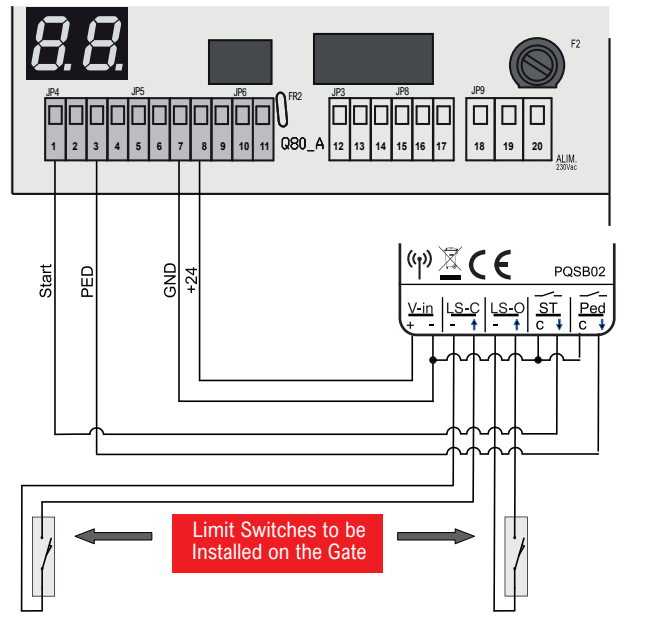
Install two normally open or normally closed limit switches, reed or other types of clean contacts, and connect them exclusively to the **Smart Box**.
All other connections should be made to the automation control board, as shown in the following examples.

2.6.1 Q60A wiring diagram

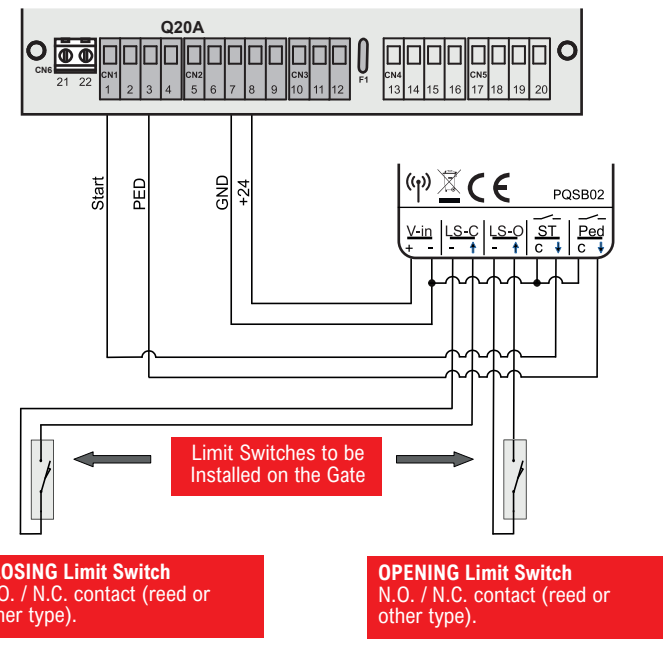


2.6.2 Q80A wiring diagram

This schematic diagram is applicable to most other swing gate control boards (Q81A, Q50A, etc.), keeping in mind that each board has its own terminal numbering.



2.6.3 Q20A wiring diagram



3 POWER ON / WIRING CHECK

After completing the connections according to the diagram, power on the automation system and verify that:

1. The red POWER ON LED on the **Smart Box** should blink (indicating power is ON).
2. The automation system operates correctly (wiring errors may compromise its functionality).

At this stage, you may proceed with the Wi-Fi configuration as detailed in the **Proteco Open your world** application manual.
Ensure that the mobile device (smartphone or tablet) is connected to the same Wi-Fi network during the **Smart Box** configuration process.

4 TECHNICAL DATA

Power Supply	12-24 V dc
Power Consumption	@24V ~55 mA (1,3 W)
Wi-Fi Frequency and Type	2,4 GHz, 802.11 b/g/n
Radio power	< 10 mW
Maximum Output Load	1 A, 48 Vcc
Operating Temperature	-40 .. +85 °C
IP protection	20