



MDB USB

B0016Q

MDB Master/Slave

Test System

Technical Manual

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General information

About this document	<p>This Technical Manual aims at giving insight to detailed technical aspects of the MDB Test System and general terms of the system and the purpose for which it is intended.</p>
System Overview	<p>MDB Test System software is an application which allows for automated testing of MDB boards. The application provides visual feedback of the testing status and stores it's result in a database. MDB test system works in Windows 10 operating system.</p>
Organization of the Manual	<p>The user's manual consists of 4 sections:</p> <ul style="list-style-type: none">▪ General information▪ System summary▪ Getting started▪ Using the system

System Summary

System Summary section provides a general overview of the system. The summary outlines the uses of the system's hardware and software requirements, system's configuration, user access levels and system's behavior in case of any contingencies.

System Configuration

MDB Test System works on Windows 10 operating system with .NET framework 6 or higher. The application requires a valid database connection to be able to store data and several connections to the MDB board that will be explained later in this document. After installation, the MDB test system can be used immediately without any further configuration.

User Access Levels

The application doesn't require any specific privileges to allow the correct functionality of the program.

Getting Started

Getting Started section explains how to install **MDB Test System** on the computer.
The section presents briefly system menu.

Installation

The user must run **MDBTestSystemSetup.msi** or **setup.exe** provided in the distribution package.

System Menu

MDB test system has a very simple menu.

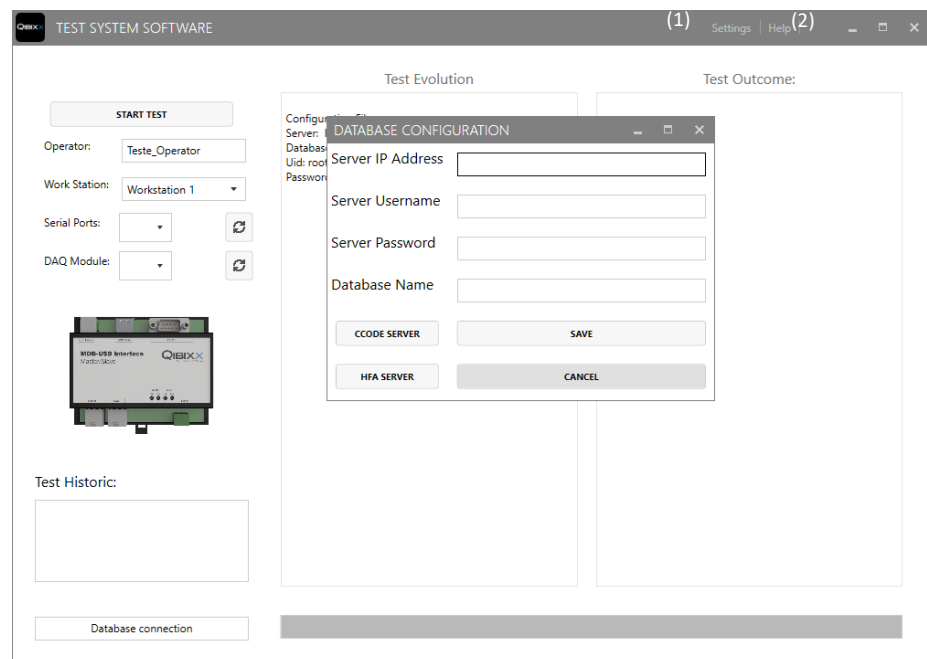
Settings

After clicking in “**settings**” (1), it will be displayed the following above window with 4 input fields that should contain the basic information of access to the database. A valid database connection is necessary to use the software.

Server IP Address: input the correct server IP address or URL of the database.

Server Username: input the database user name.

Server Password: input the database password.



Database Name: input the database name.

By clicking **CCODE SERVER** or **HFA SERVER** the data will be automatically filled in.

Help

Clicking in the “**help**” (2) will open this document.

Exit System

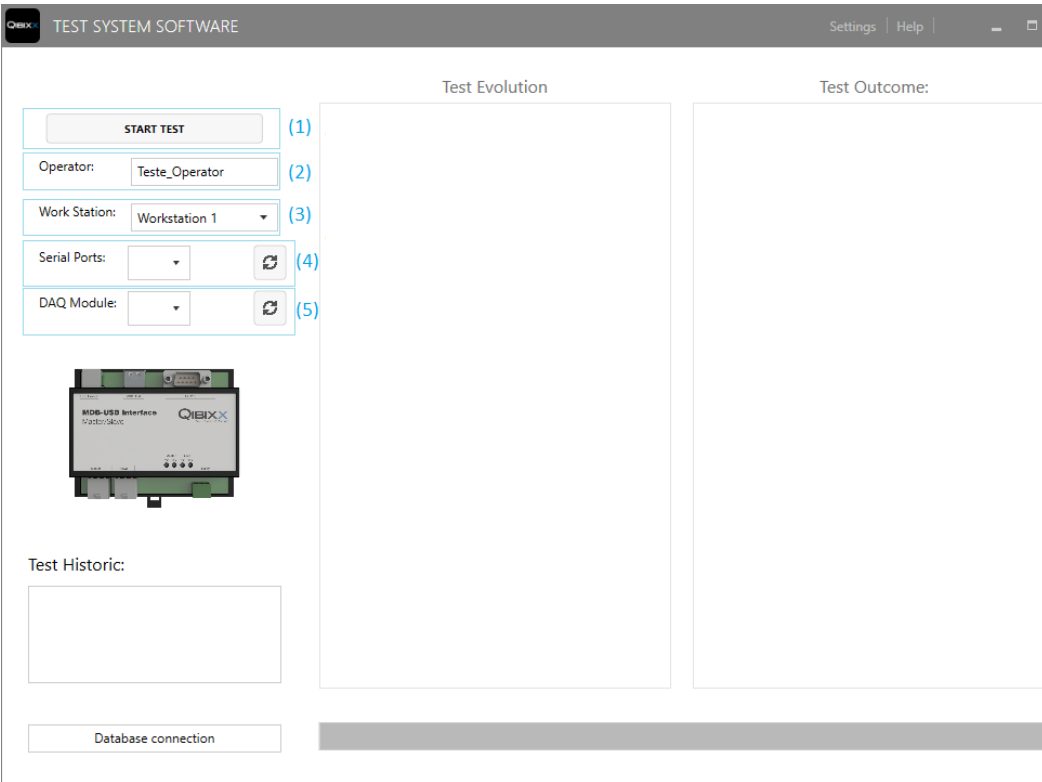
Click on Exit.

Using the System

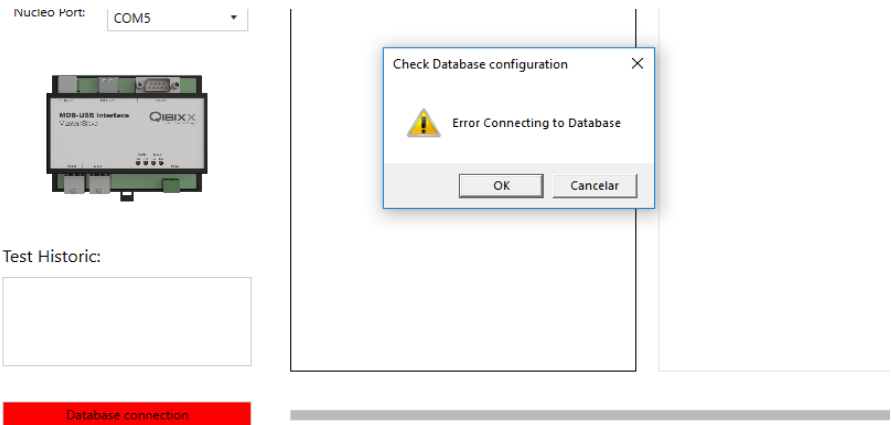
This section provides a detailed description of system functions

**Basic
system
m
usage**

Correctly connect the **MDB** board using as reference the image in Appendix(A) open the software. After correctly configuring the database the user must fill the **form** (2)(3)(4) in the main window. The form consists of four input fields, **“Operator”** (2), where the user must input his name without numbers of special characters, **“Work Station”** (3), where the user must choose his working station, **“RS232 Port”** (4), where the user must select the COM Port associated with the RS232 cable and finally, **“DAQ Module Port”** (5), where the user must select the COM Port associated with the DAQ Module. The inputs boxes can be refreshed by clicking in the refresh button to its right. After filling correctly, the main window form, to start testing the user must press **“Start Test”** (1) button.



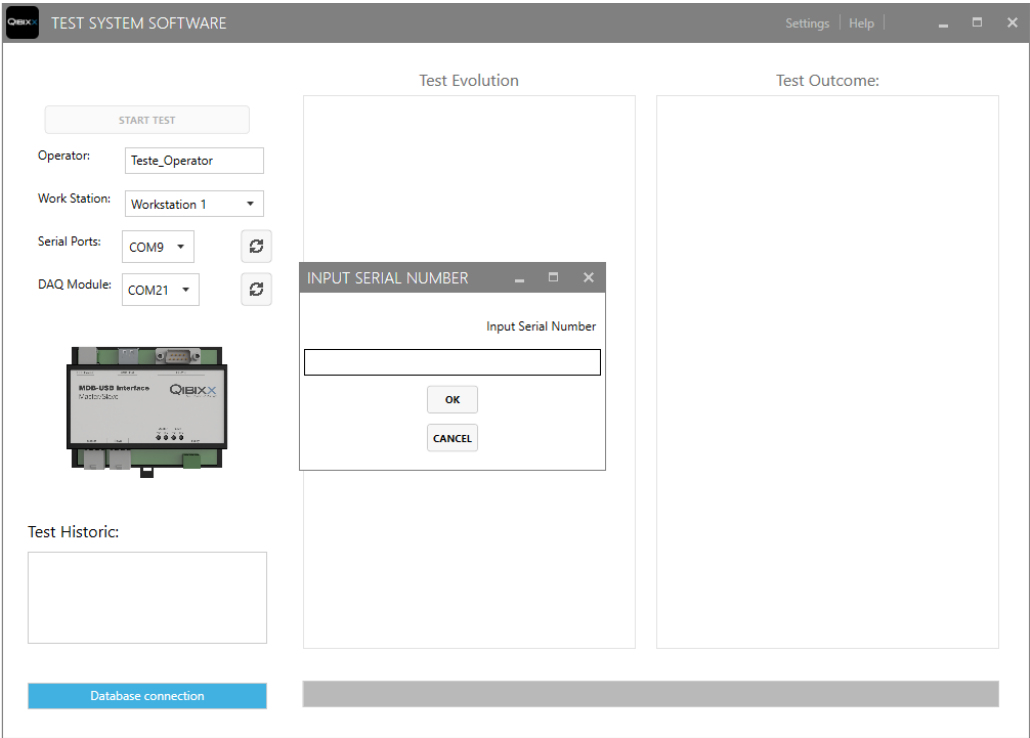
The software will try to establish a connection to the database and to the DAQ Module, if it's not possible the software will alert the user and stop. To continue the user must obtain a valid database connection and/or reselect the correct COM Ports.



When the database connection is established, the software will try to connect to the MDB board and if successfully, the software will start to perform several tests.

**Unit
testin
g**

Every time a new test starts the user must input its serial number (only 10 digits and all must be numbers) and press “Ok” button for the automated tests to start by the following order.



**USB Type
B and
LEDs**

This test will be performed by attempting to establish a connection to the MDB board, prompt the user that the LED test is about to start and after the user confirms the test will

attempt to light all LEDs in a sequence. During testing, it will be asked to the user if the LEDs lighted up and down. If the user inputs a negative answer or if any failure occurs (e.g. no board communication) the software will consider it as a failed test and store the test result in the database.

Relay test

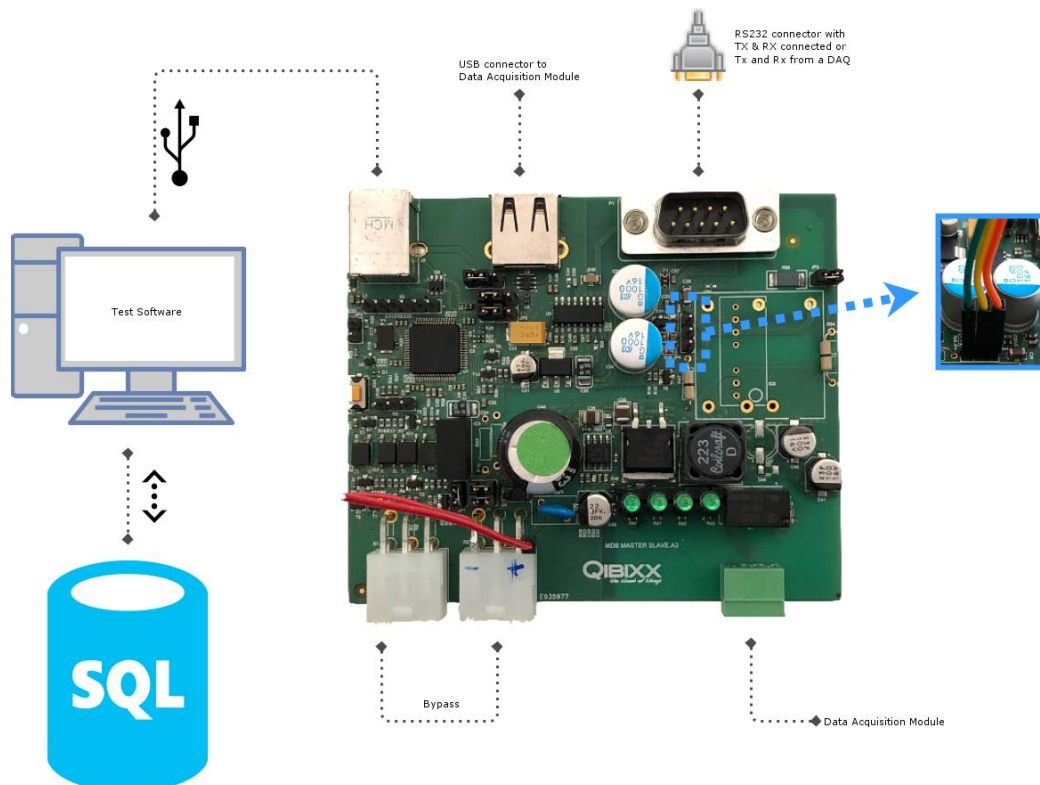
This test will attempt to activate and deactivate the relays on board. During testing, a valid connection between MDB board and the DAQ Module is mandatory, because the DAQ Module will validate the correct activation and deactivation of the relays. The proper function of the relays will be validated by the DAQ Module and if any failure occurs the software will consider the test as a failed test and store it in the database.

Serial test

This test will perform a read and write operation using the serial port. If any failure occurs the software will consider it as a failed test and store it in the database.

Device Current and USB Type A

This test will perform a measurement of the board current consumption and switch the power supply from USB to MDB Mode, read the power supply on the USB Type a Connector and perform all test described above, again. If any failure occurs the software will consider it as a failed test and store the results in the database.



Appendix A

MDB Board Connections

1. Connections Diagram
An electronic device will be provided to connect all the things described below.

