rotork®

**Keeping the World Flowing
for Future Generations**

Actuator Setting Tool *Pro*
v1.1

Bluetooth®

Safe Use, Installation and Maintenance Manual

Contents

1. Key Functions

The Actuator Setting Tool *Pro* v1.1 (BTST v1.1)

Name **General Operation**

1. ↓ Key* Display next function down.
2. ↑ Key Display previous function up.
3. → Key* Display next function across right / select next actuator / change value (BT mode).
4. ← Key Display previous function across left / select previous actuator / change value (BT mode).
5. – Key** Decrease/change displayed function's value or option setting (IR mode).
6. + Key** Increase/change displayed function's value or option setting (IR mode).
7. ↓ Key Long press, Initiates search mode via Bluetooth. Short press initiates IrDA mode / mission.
8. ⇆ Key Enter displayed value or option setting / initiate BT search.
9. Infra-red transmitter window.
10. ⊥ Key Close actuator (Non-functional on SI or CVA actuators).
11. ● Key Open actuator (Non-functional on SI or CVA actuators).

* Pressing these two arrow keys simultaneously exits the IrDA setting mode and returns the actuator display to the pressure / position indication mode.

** Pressing these two keys simultaneously exits the Bluetooth mode and places the Actuator Setting Tool *Pro* into its idle state.

& Bluetooth®
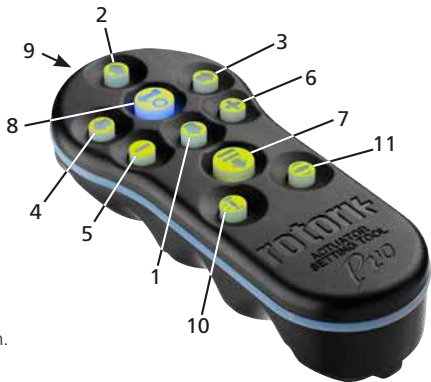
This manual contains important safety information. Please ensure it is thoroughly read and understood before installing, operating or maintaining the equipment.

2. Introduction

The Actuator Setting Tool *Pro* v1.1 (BTST v1.1) combines the legacy IR and IrDA communication protocols with the latest Bluetooth wireless technology. IR / IrDA support for older Rotork products is retained.

The BTST v1.1 can connect to wireless enabled actuators and related software to configure missions. Missions are a defined set of tasks performed by the BTST v1.1 on an actuator. Different missions can be programmed to the BTST v1.1 via Insight 2 software.

⚠ **WARNING:**
Use only approved battery types as detailed in the instructions section below.
Utilisez uniquement les types de piles approuvés, détaillés dans la section instructions ci-dessous.

⚠ **WARNING:**
Substitution of components may impair intrinsic safety.
La substitution de composants peut endommager la securite intrinseque.

⚠ **WARNING:**
Do not open in a hazardous area.
Ne pas ouvrir dans une zone dangereuse.

3. Specifications

Certification:

⟨Ex⟩ II 1G
Ex ia IIC T4 Ga
CML 19ATEX2194
CE 2776 IECEx CML 20.0054

UKCA 2503 CML 21UKEX2122

⟨SP⟩ c US Ex ia
Class 1, Div 1, Group A, B, C, D T4
CSA19CA80005457

⟨CCC⟩ Ex ia IIC T4 Ga
GB 3836.1-2010,
GB 3836.4-2010
GYJ20.1173X

⟨SP⟩ Ex ia IIC T4 Ga
CSAUK 20JPN025
JNIOSH-TR-46-1(2015)
JNIOSH-TR-46-6(2015)

| 労 (令和 2.1) 検 |
| CSAUK 20JPN025 |
| Rotork Controls Ltd |

Enclosure:	IP54
Temperature:	Tamb = -30 to +50 °C
Power supply:	4 x 1.5 V AAA Batteries (supplied and fitted)
Operating range:	Infra-red: 0.75 m (from actuator display window) Bluetooth: 10 m (from actuator display window)
Enclosure materials:	Polycarbonate resin containing 10% Carbon Fibre, Silicone Rubber.

4.   Instructions for Safe Selection, Installation, Use, Maintenance and Repair

The following instructions relevant to safe use in a hazardous area apply to equipment covered by CSA certificate numbers 80005457, IECEx CML 20.0054, CML 19ATEX2194 and CML 21UKEX2122.

1. The BTST v1.1 may be used in Division 1, 2 and Zones 0, 1, 2 hazardous areas that require IIC, IIB or IIA protection and temperature class T1, T2, T3 or T4.

2. The following checks must be conducted on the BTST v1.1 prior to taking it into a hazardous area:

   a. The BTST v1.1 function must be checked by ensuring a red or green LED illuminates on the front of the setting tool when any button is pressed. If an LED does not illuminate, the BTST v1.1 requires inspection and battery replacement.

   b. The BTST v1.1 does not require assembly or dismantling, however suitable precautions must be taken if the BTST v1.1 may come into contact with damaging substances (e.g. solvents that degrade polymeric materials). Regular inspections must be performed to confirm enclosure damage is not apparent. Do not use the equipment if damage is present.

3. The BTST v1.1 is not intended to be repaired by the user. Repair of the equipment is only permitted by the manufacturer or an approved agent in accordance with applicable code of practice.

4. No user adjustment of the BTST v1.1 is required.

5. The BTST must be inspected every three months, in a safe (non-hazardous), dry area by suitably trained personnel, to ensure it has been maintained in accordance with the applicable code of practice.

6. Subject to the applicable code of practice, the batteries may be replaced in a non-hazardous area with one fo the following types of Alkaline-Maganese or Zinc-Maganese 'AAA' size batteries:

- Duracell Procell type MN2400

- Energizer Ultimate

- Energizer HighTech

- Duracell Ultra

- VARTA Industrial

- VARTA High Energy

- Panasonic Pro Power

- Eveready Super

- Duracell Chinese

7. The BTST v1.1 contains no other user replaceable parts and it cannot be repaired by the user. If the BTST v1.1 is faulty or needs repairing, it must not be used.
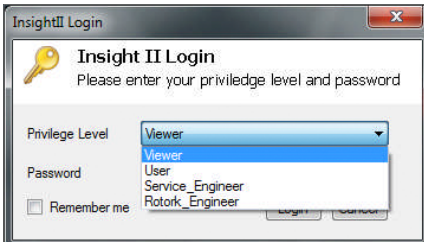
5. Using Insight 2

Insight 2 Login

Viewer Mode - Extract and View information Only
Password - 'ROTORK'

User Mode - Extract, View and Upload configuration changes.
Password - 'ROTACT'

⚠ **WARNING:**
It is important to know what mission is set on the BTST v1.1 before attempting to connect to an actuator. Failure to do so may render the actuator unusable or unstable. Refer to section 6 for details on identifying and setting a mission.

⚠ **WARNING:**
Before using the BTST v1.1 it is necessary to clear the tool of any previous missions.

To clear the setting tool of all pre-installed missions without using Insight 2, press and hold the ⬆ Key and ⬇ Key simultaneously for 5 seconds. The ⬅○ and ⬇̄ Key will flash green alternately to indicate the missions have been cleared.

BTST v1.1 Slave Mode

Place the setting tool into its Slave mode, so that it can be found by the Insight 2 software: Press and hold the Enter and Download buttons simultaneously for at least one second. The blue LED under the Enter key will flash slowly to indicate that the BTST v1.1 is in Slave mode, and can be discovered by the Insight 2 software. Under no circumstances should any other Windows programs (i.e. Bluetooth connection software) be used to connect to the setting tool. Insight 2 is the only program that will have access to the setting tool.

Put the actuator in 'STOP'

If the Mission includes steps to update the actuator's firmware, you must ensure that the actuator is in STOP - otherwise the Mission will fail. If the Mission doesn't include instructions to perform a firmware update, it will not be necessary to put the actuator in STOP, but it is still good practice to do so (if site conditions allow).
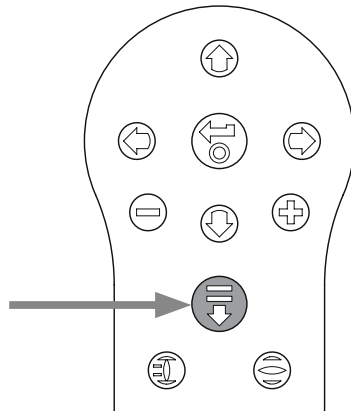
5.   Using Insight 2

1. To connect to the BTST v1.1: Click on the Connection tab and then click discover devices. A few attempts may be required before a device is found – this is normal behaviour.

2. Once the search is complete, any discovered devices will be listed in the left hand (mode) panel.
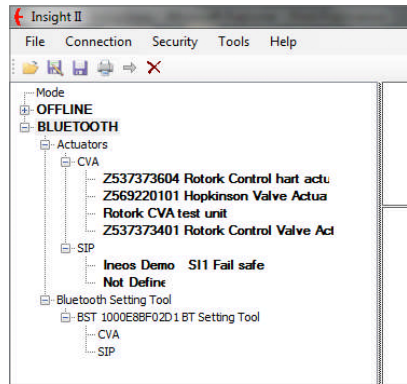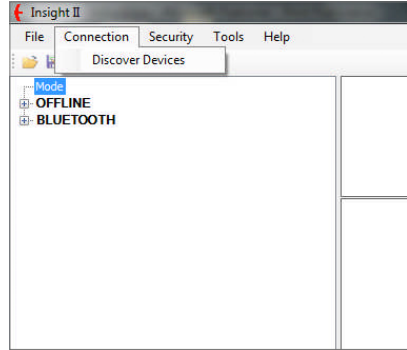
3. Right click the Bluetooth Setting Tool entry and click connect.

4. The blue LED under the Enter key should flash more rapidly to indicate an active connection between the BTST v 1.1 and Insight 2 software.

At this stage missions can be viewed / edited and data collected can be extracted.
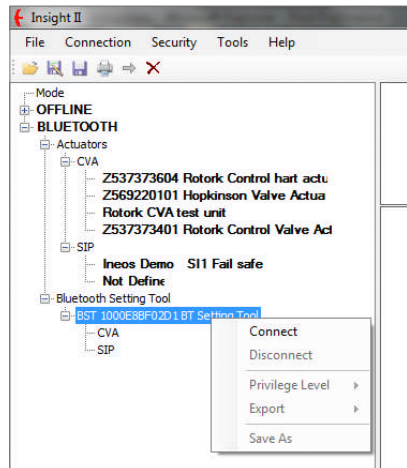
6. Setting and Editing Missions

⚠ **WARNING:**
Pay attention to the Actuator Type when configuring a mission. Only set the Actuator Type for the required mission.
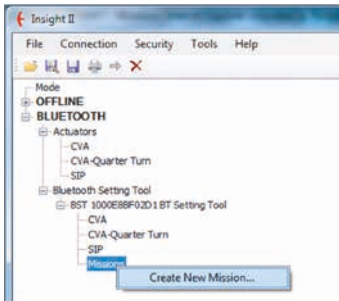

1. To set a mission, right click Missions in the setting tool navigation tree and then click 'Create New Mission'.

2. The New Mission window will appear.

3. Using the Mission type drop down box, select the mission you require. For most cases this will be Get configuration and Datalog files.
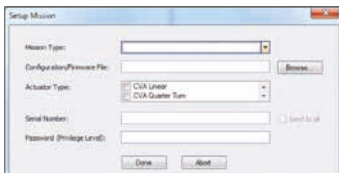

4. Next select the type of actuator you wish to extract these files from. You can select more than one type for a passive mission.

5. If you only want to extract from one actuator in particular, you can enter it's serial number. If you want to collect files from more than one actuator, click the 'send to all' checkbox.

6. Finally enter the relevant password for the actuator. For configuration and datalogger refer to section 9.
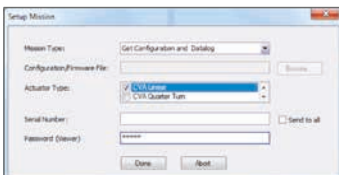

Once the mission has been set click 'Done' and the navigation tree will be updated to show that a mission has been set.
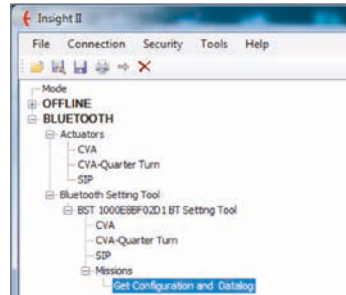
You can also set multiple missions. This would normally include for instance another Datalogger and configuration download where the actuator uses a different password. Repeat the same procedure when adding missions and the updated navigation tree will look like this:
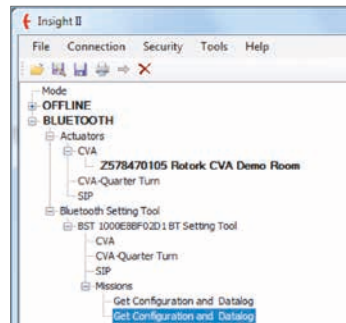
After completing the set mission function, the tool can be set to idle mode either by pressing the + / – keys simultaneously or by using the disconnect function in Insight 2. The mission set can now be executed by following the instructions in the Execute Mission section on page 9.
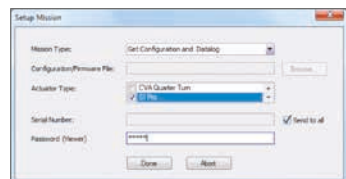
7.   Bluetooth Device Search Mode

1 Searching for Bluetooth devices in the immediate area

To search for Bluetooth devices in the immediate area, press and continue to hold the Download button (⬇) on the Actuator Setting Tool *Pro*.

While the button is held, the BTST v1.1 will continue for search for devices. As the search is taking place, the green LED under the Enter button will flash green. Each time a Bluetooth device is detected, the LED under the Enter button will pulse blue once. It is important to make sure to not point the setting tool at an IrDA device during the search as it will always try to connect to IrDA first (either cover up the front of the setting tool or point away from any active IrDA device). When the operator releases the Download button, if Bluetooth devices have been found, the LED under the Enter key will remain blue. If no devices have been found, the LEDs under the Enter and Download keys will alternate red.
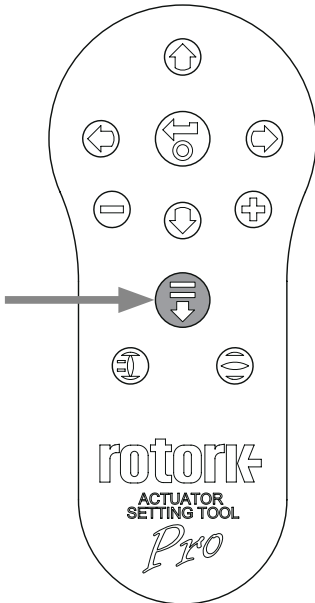
2 Selecting the desired device

When the search (above) is complete, and devices have been found, the blue LED under the Enter button will remain illuminated. The operator can then select the desired actuator by cycling through the found actuators using the left and right arrow keys. Pressing either the left or the right arrow keys will connect to the first device in the list of found devices.

While the BTST v1.1 is connecting to the next actuator, the blue LEDs under the Enter and Download keys will flash simultaneously. When the connection is achieved, both blue LEDs will remain lit.

IQ3 UNITS the blue LED in the display window will illuminate to confirm Bluetooth communication is active.

CVA UNITS the LED on the top cover will flash Blue to confirm Bluetooth communication is active.

SI UNITS will confirm Bluetooth is active on lower part of LCD display and its backlight will flash on and off whilst communication is active.

If the actuator is not the correct one, simply press the left or right button to select the previous or next actuator.

It is important that you have a clear view of the actuator's Bluetooth status LED or LCD display to ensure you are connecting with the correct actuator. If the actuator is not the correct one, simply press the left or right button to select the previous or next actuator.

If the operator wishes to abort the operation, pressing the + / – buttons simultaneously on the Actuator Setting Tool *Pro* returns the tool to its idle state.

8. Mission Function

1 Put the actuator in 'STOP'

If the Mission includes steps to update the actuator's firmware, you must ensure that the actuator is in STOP - otherwise the Mission will fail. If the Mission doesn't include instructions to perform a firmware update, it will not be necessary to put the actuator in STOP, but it is still good practice to do so (if site conditions allow).

2 Execute the Mission

Once the desired actuator has been selected (as in section 2 on page 8), the Mission can be initiated. The blue LED beneath the ENTER key will be illuminated indicating that an actuator has been selected.

Press the DOWNLOAD key and the ENTER key will start to flash, press the ENTER key within 2 seconds to initiate the Mission. If you change your mind let the ENTER key stop flashing and the Mission will not initiate.

If the Mission completes successfully, the green LEDs under the ENTER and DOWNLOAD keys will alternate green for 5 seconds before returning to the solid blue LED. If the Mission fails, the red LEDs under the Enter and Download keys will alternate red for 5 seconds.

If the operator wishes to abort the operation, pressing the + / – buttons simultaneously on the Actuator Setting Tool *Pro* returns the tool to its idle state.

9. Extracting Files

Extracting Files

Follow instructions in section 5 to put the BTST v1.1 into slave mode. This time the tree will indicate the presence of one or more files and these files will be located by actuator type.

Clicking on a file will automatically extract and display the file. Once the file has been extracted the navigation tree will expand to show the different items in the file.

Click on the entry you require for access to the settings / log file.
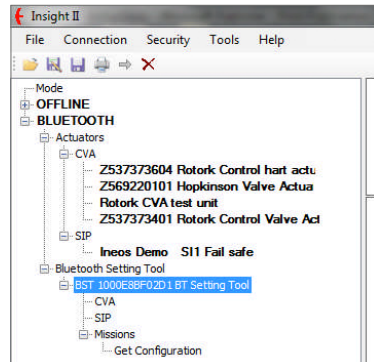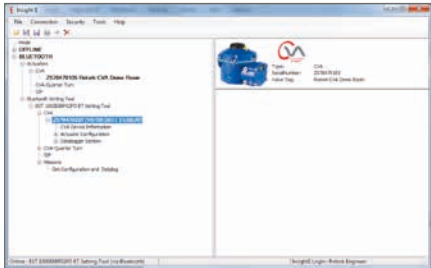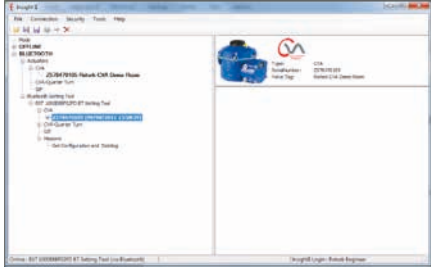
10. RF Regulatory Information

USA-Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

• Reorientate or relocate the receiving antenna.

• Increase the distance between the equipment and the receiver.

• Connect the equipment to outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CAUTION:
EXPOSURE TO RADIO FREQUENCY RADIATION.

This device must not be co-located or operating in conjunction with any other antenna or transmitter.

Canada – Industry Canada (IC)

This device complies with RSS 210 of Industry Canada.

Operation is subject to the following two conditions:

(1) this device may not cause interference, and

(2) this device must accept any interference, including interference that may cause undesired operation of this device.

L'utilisation de ce dispositif est autorisée seulement aux conditions suivantes:

(1) il ne doit pas produire d'interference et

(2) l'utilisateur du dispositif doit être prêt à accepter toute interférence radioélectrique reçue, même si celle-ci est susceptible de compromettre le fonctionnement du dispositif.

CAUTION:
EXPOSURE TO RADIO FREQUENCY RADIATION.

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website www.hc-sc.gc.ca/rpb

Brazil only

This equipment operates as secondary functionality, that is not entitled to protect from harmful interference, even for stations of the same type, and cannot cause interference to systems operating as primary functionality.

11. Passwords

	Insight 2	IQ Range / CK Range / SI Range	CVA Range	SI *Pro* Range
View	ROTORK	ROTORK	VIEW	PASSWORD
User	ROTACT	ROTACT	SULIS	PASSWORD

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www.**rotork**.com

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service network is available on our website.

PUB095-013-00