



IO CONTROLLER DYNAMIQ

016-8000-037EN REV. A

Configuration manual
(English) (Translated version)

RAVEN

PREFACE

This installation manual is intended for persons responsible for installing a SBGuidance Auto system. The manual contains important instructions that should be complied with when commissioning, operating and servicing the SBGuidance system.

This manual has been compiled with the utmost care. Raven Europe assumes no responsibility for any errors or omissions in this document.

Any comments or questions can be sent to service-eu@ravenind.com.

Raven Europe or any of its suppliers will accept no liability for physical or material damage caused whilst using the SBGuidance system.

The installed Raven system produces less than 70dB (A) noise.

This installation manual uses a number of concepts for extra attention to a few things:

**Tip!:**

Provides recommendations on how certain activities can be performed much easier.

**Please note!:**

Indicates certain problems that the user should take note of.

**Caution!:**

Indicates that the machine can be damaged.

**Warning!:**

Indicates a risk of injury.

DISCLAIMER

WARNING!

- The safety instructions contained in the manuals of the tractor or implements must be complied with at all times.
- Always switch off the tractor before installing or repairing hydraulic and electrical components of the SBGuidance system.
- It is strictly prohibited to use the SBGuidance system on public roads.
- It is strictly prohibited to leave a driving vehicle unattended when the SBGuidance system is switched on. The driver is always responsible for the direction and course of the vehicle.
- To prevent injury or fire, replace defective fuses only with fuses of the same type and amperage.
- The SBGuidance the operating system is not able to detect and avoid obstacles. If there is an obstacle in your path, you will always need to take action for it to be avoided.
- Only allow authorized/qualified persons to operate the system. Authorized/qualified persons are defined as: persons who have read and understood the manual, have been given instructions by a product specialist, and who are both physically and mentally fit and able to operate the system.
- The system contains moving parts! Make sure the immediate environment is clear of people before operating the system.
- In case of system failure or breakdown switch of the tractor and disconnect the electrical power source to avoid further damage. Contact your dealer for further instructions on how to repair your system.
- Always wear personal protective equipment when operating/adjusting/repairing the system outside of the tractor cab.
- In order to prevent power surges from occurring, always start the machine first, before initiating the SBGuidance control system.

PAY ATTENTION!

- Only touch the touch-screen with your finger or by using a special touch-screen stylus/pen. Operating the touch-screen with sharp objects may cause permanent damage to the screen.
- Always consult your supplier as to which products are best suited first before cleaning the touch-screen with chemicals or alcohol.
- If the terminal is not used for a long period, better remove the terminal from the tractor and store in a heated environment. This will extend the life span of the electronic components.
- To prevent theft, it is better to not let the terminal and GPS-antenna unattended in the tractor on the field.

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1 IO CONTROLLER DYNAMIQ

The following external signals can be inputted in the green Deutsch connector of the DynamIQ:

| Function | Description | Port |
|------------------------------|--|------|
| Operation Mode | Start/pause crop registration, enable-/disable plough steering | 4 |
| Remote GO | External GO-button for activating tractor- or implement steering | 3 |
| 2-wheel/4-wheelsteeringmodus | 4-wheel steering modus detection for self-propelled sprayers | 2 |
| Seat switch | Operator presence switch used as precautions | 1 |

For correct operation, the following components are required:

- SBGuidance 4.1.57 or newer.
- DynamIQ firmware v2.0.6 or newer.
- DynamIQ ISO (shipped from January, 1 2017) firmware v1.0.2.003 or newer.
- SmartRemote activation.
- IO Controller DynamIQ cable (Remote GO, Operation Mode, operator presence).

1.1 REMOTE GO

For Remote Go in combination with tractor steering, the Remote Go button should be connected to the tractor DynamIQ.

For Remote Go in combination with implement steering, the Remote Go button should be connected to the implement DynamIQ.

In addition to the standard Remote GO cable (11158000016), there are some brand specific Remote GO cables available for connection to GO-buttons of tractor manufacturers.

1.2 OPERATION MODE

For Operation Mode, both DynamIQ modules (tractor and implement) can be used.

There are several Operation Mode cables available:

- Standard Operation Mode cable with flying leads (11158000121).
- Operation Mode cable for connection of a hitch sensor (11158000128).
- Operation Mode cable for connection to the 7-pin ISO-connector of a tractor (1115800012).

1.3 HARDWARE

At a DynamIQ with serial number lower than 2000 some PCB adjustments must be executed before the external inputs can work. At a DynamIQ ISO or a DynamIQ with serial number 2000 or higher these adjustments are not necessary.

On the bottomside of the DynamIQ PCB (Figure 1) the following soldering jumpers must be soldered:

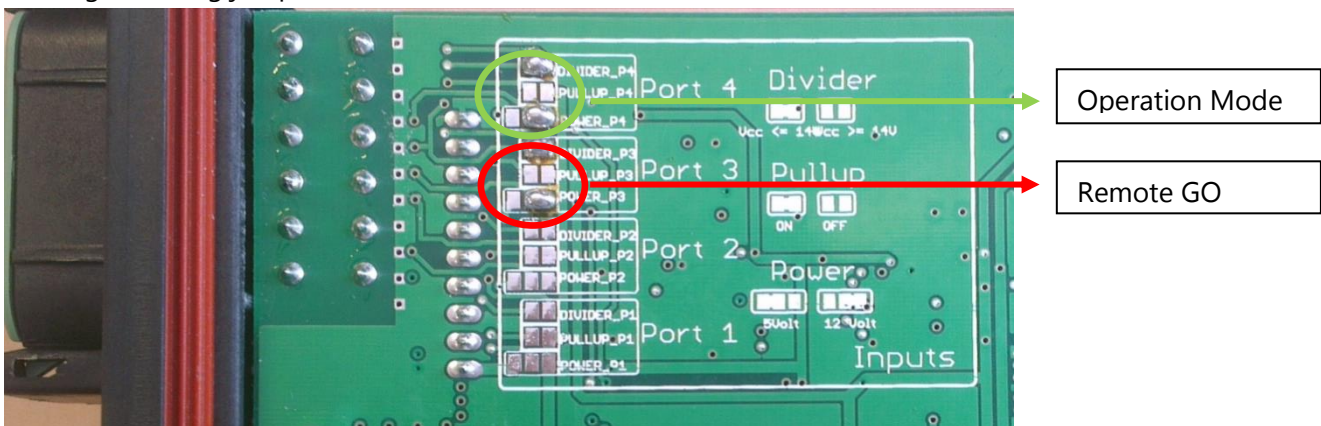


FIGURE 1 DYNAMIQ SOLDERING JUMPERS



Please note!:

For 2-wheel / 4-wheel steering mode detection, at Port 2 the same soldering jumpers must be soldered as with the Operation Mode and Remote GO (Port 3 and 4).

The green Deutsch connector (Figure 2) of the DynamIQ is used to connect the external signal(s). see below the pin out of the green Deutsch connector for the various external signals:

Port 4 – Operation Mode (standard/hitch sensor)

| Pin | Description |
|-----|-------------|
| 8 | Signal |
| 9 | 12VDC |

Port 4 – Operation Mode (7-pole ISO connector)

| Pin | Description |
|-----|-------------|
| 7 | Ground |
| 8 | Signal |

Port 3 – Remote GO

| Pin | Description |
|-----|-------------|
| 4 | 12VDC |
| 5 | Signal |

Port 2 – 2-wheel-/4-steeringmodus detection

| Pin | Description |
|-----|-------------|
| 1 | 12VDC |
| 2 | Signal |

Port 1 – Operator presence switch

| Pin | Description |
|-----|-------------|
| 11 | Signal |
| 12 | 12VDC |

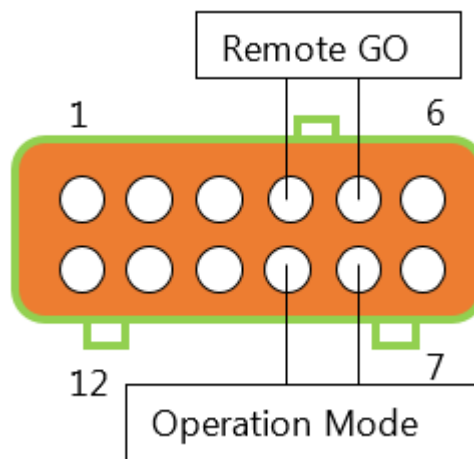


FIGURE 2 GREEN DEUTSCH CONNECTOR

1.4 SOFTWARE

1.4.1 GENERAL SETTINGS



Please note!:

A SmartRemote license must be activated when the external inputs of the DynamiQ are used.

In the SBGuidance Configurator, SmartRemote must be activated. Open the SBGuidance Configurator by pressing "Shift" + SBGuidance. Go to *Settings* > *Add-ons* and put a mark in front of *SmartRemote* (Figure 3).

Then go to tab *SmartRemote* and put a mark in front of *IO Controller (DynamIQ)* (Figure 4).

Save the settings by tapping the diskette button.

At last, test if the external GO-button or Operation Mode works in the SBGuidance software.

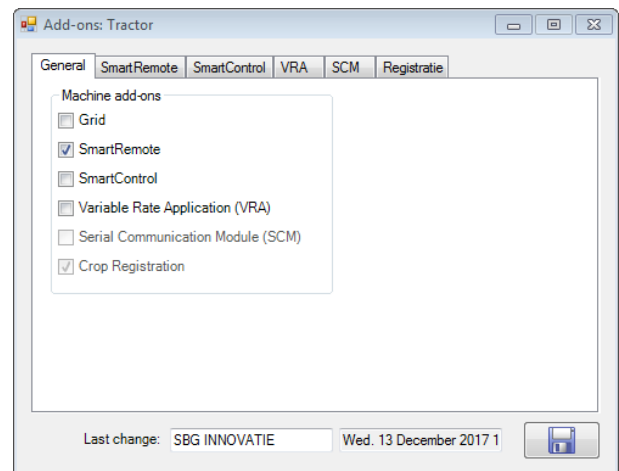


FIGURE 3 ADD-ONS GENERAL SETTINGS

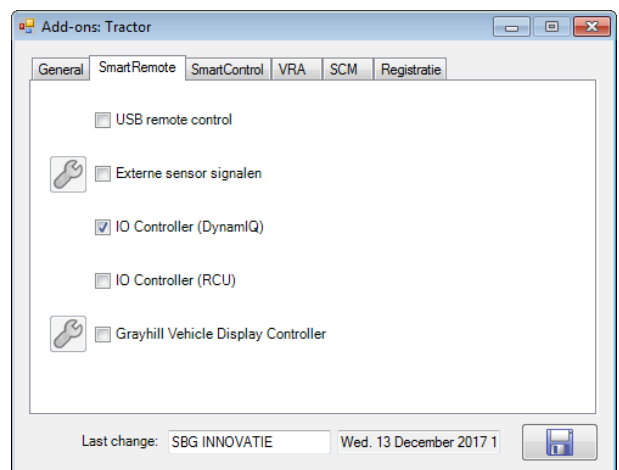


FIGURE 4 ADD-ONS SMARTREMOTE SETTINGS

1.4.2 SETTINGS OPERATOR PRESENCE

For the operator presence functionality you have to set some additional settings. Go to the Configurator and to *Interfaces > CANTool*. Select the right *Hardware manufacturer* and *Hardware channel* and tap on *Initialize*. Go to *MyDevice* and select *Navigation Controller (Tractor)* and tap on *Connect*. Go to *MyPartners* and tap on *Add* behind *IO Controller DynamiQ Tractor*. Tap on *Aux* to go to the settings wizard of the operator presence sensor (Figure 5 and Figure 6).

The current voltage of the sensor is visualized behind *Current Voltage*. Determine the voltages when the operator is present and not present on the seat. For example, the voltage of the sensor is 1,29 V when the operator is present (Figure 5). Set the *Lower Limit (V)* to 1,0 V and the *Upper Limit (V)* to 1,5 V. So, the voltage when the operator is present should be in between the *Lower Limit (V)* and *Upper Limit (V)*. Make sure the *Lower Limit (V)* and *Upper Limit (V)* are set at least 0,2 V lower/higher then the voltage when the operator is present. If the limit settings are fine, the status indicator behind *Operator Present Status* should be green if the operator is present and should be red if the operator is not present (Figure 6).

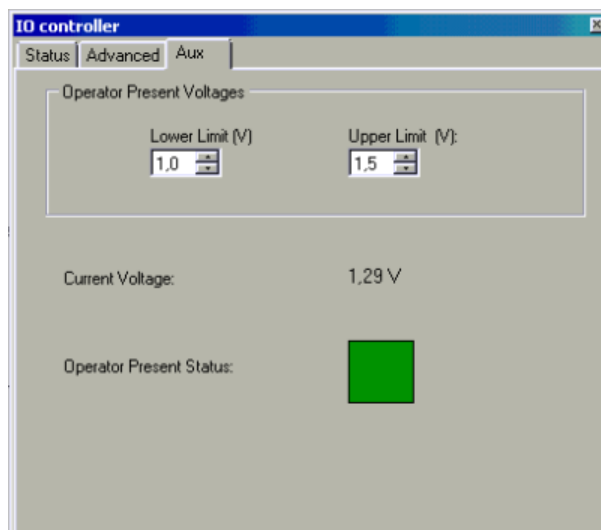


FIGURE 5 OPERATOR PRESENT

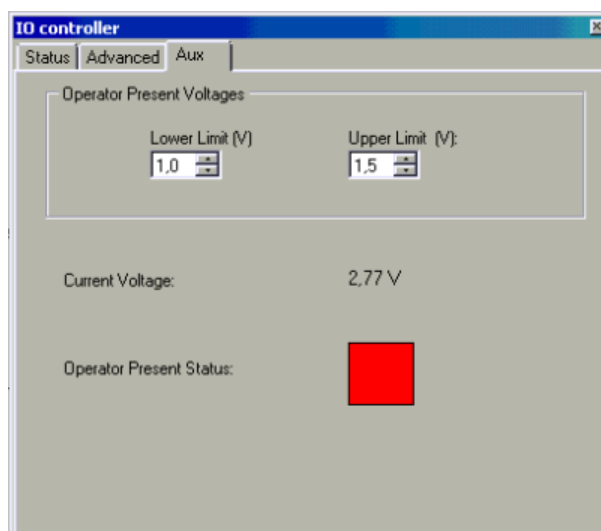


FIGURE 6 OPERATOR NOT PRESENT

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