

Version 3.2
INSTALLATION GUIDE
INTEGRA - BASIC



INTEGRA - BASIC Power Module

IMPORTANT

Before proceeding with the installation of this system,
you should make sure to have read and understood the instructions included in this guide.

CONTENTS

Warnings	1
General description of the module	1
Electronic specification	1
Equipment list	2
Use of the product	2
Programming	3
1. Programming the Arrow Board's raise / descent time	3
2. Adjusting the flashing speed of the Arrow Board's channel lamps	3
3. Programming the alert signal for low battery voltage	4
4. Motor type and Arrow Board type configuration	4
5. Vehicle Speed Signal (VSS) Configuration for Automatic Arrow Board Lowering	5
6. Automatic Arrow Board Lowering Configuration Based on Vehicle Speed (CAN Bus Signal)	6
7. Keypad operating mode (Signal Ignition) & Backup alarm "Bypass" mode	6
8. Output #4 Custom Configuration	7
9. Arrow Board Indicator on Keypad (Chaser)	7
10. Advanced Options (Keyboard Reset & Synchronization)	8
Wiring diagram	9
Wiring diagram : Motor Type	10
To contact technical support	11

WARNINGS

This document provides all the necessary information for the proper and safe installation of your INTEGRA BASIC SYSTEM.

Before proceeding with the installation or configuration of the INTEGRA BASIC SYSTEM, the technician must first have read and understood the instructions in this guide.

This document contains important information to prevent the risk of serious injury to both technicians and users.

Le système INTEGRA BASIC de Zone Technologie Électronique Inc. offre différente programmation afin d'améliorer le contrôle de vos accessoires.

GENERAL DESCRIPTION OF THE MODULE

The INTEGRA-BASIC kit is designed to provide control of up to eight vehicle-mounted accessories, including a fixed or elevating arrow board, work lights, warning beacons, a power inverter, and a ventilation fan. For LED or halogen arrow boards, the INTEGRA-BASIC kit allows control of the raising and lowering mechanism using motors equipped with or without a clutch. It also provides automatic arrow board lowering based on a user-programmable vehicle speed signal received from the CAN Bus or a VSS input. Compact and robust, the INTEGRA-BASIC power module is operated through an 8-button keypad and provides multiple programming options to improve the management and control of installed accessories. A set of 20 different button labels is included with the INTEGRA-BASIC kit, enabling quick and easy customization of the keypad to match the desired accessory configuration.

ELECTRONIC SPECIFICATION

Operating Voltage:	10Vdc to 16Vdc
Operating Temperature:	-40°C to 75°C (-40°F to 167°F)
Current Draw: (Supply Voltage = 12.0Vdc)	Without IGNITION / Output disabled = less than 5mA With IGNITION / Output disabled = 50mA With IGNITION / Output all activated with no load = 600mA
Output Power (positive):	MAX. Total (5x Outputs 12Vdc) = 50 Motor (MOT+ / (MOT -) = 20A (Motor Mode) / 10A (Mode ON/OFF) Key #7, POS #4 (12Vdc) = 10A Key #5, POS #5 (12Vdc) = 10A Key #6, POS #6 (12Vdc) = 20A Note* : Motor Fuses (20A), Keypad Fuses #5 à #7 (15A)
Output Power (negative):	Outputs 21 & 20 (GND) = 5A Arrow Channels (GND) = 5A/Channel Note* : Integrated Automatic Circuit Breaker (No Fuse Required)
Inputs:	IGNITION (12Vdc) = 10mA LIGHT (12Vdc) = 12mA AUX (12Vcc) = 10mA

EQUIPMENT LIST



INTEGRA-BASIC

INTEGRA-BASIC-CLAV



INTEGRA-BASIC-SUP

USE OF THE PRODUCT

The INTEGRA-BASIC system is operated using an 8-button keypad. Buttons #1 to #4 control the arrow board functions, including channel selection and motor control. Buttons #5 to #8 control the auxiliary outputs, with button #8 assigned to Output #20 (ground-switched output).

The keypad's amber LED indicators mirror the direction of the selected arrow pattern, providing immediate visual confirmation of the active command.

The keypad features green backlit buttons for easy visibility. When a button is activated, its LED indicator changes to red, providing clear visual confirmation that the selected function is enabled.

The module is equipped with two diagnostic LEDs (**RED** & **GREEN**):

GREEN LED = Module Status

- 1 Flash / sec. = Button(s) Activated and/or Ignition Signal Present
- 1 Flash / 5 sec. = Module Disabled (No Active Buttons / No Ignition Signal)

RED LED = CAN Bus Status

- ON = CAN Bus detected
- OFF = CAN Bus not detected



NOTE : The labels supplied with the kit cannot be applied to any button at random.

Certain keypad buttons are assigned to dedicated functions.

ARROW BUTTONS: Buttons #1 to #4

- #1 : LEFT
- #2 : DOUBLE
- #3 : BAR
- #4 : RIGHT



Buttons #5 to #8 are configured as ON/OFF switches and may be used to control different auxiliary accessories installed on the vehicle.

PROGRAMMING

The INTEGRA-BASIC system offers multiple programmable parameters. To configure these settings, press and hold the required button combination until the button LEDs change state, indicating that the desired configuration menu is active.

For additional information, refer to the Programming Procedure section of this manual.

NOTE : It is important to deactivate all buttons and wait for the arrow board motor to complete its operating cycle before accessing any programming menu. Failure to do so may prevent the system from entering the selected menu correctly.

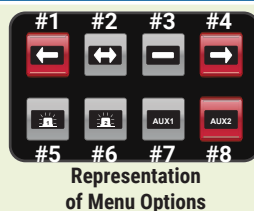
The only exception is Menu #7, which is used to configure the operating mode (with or without ignition signal).

Programming procedure:

1 Programming the Arrow Board's raise / descent time

1. Make sure the arrow is in the neutral (down) position before entering this programming menu.
2. Press and hold the **#1 & #8 KEYS** (Access to the programming menu).
3. Press the **#1 Key** once.
 - This will trigger the arrow board to **RAISE**.
 - Once the motor reaches its movement limits.
 - Press the **#8 KEY** once to confirm the arrow's **RISE** time.
4. Press the **#4 Key** once.
 - This will trigger the arrow board to **LOWER**.
 - Once the motor reaches its movement limits.
 - Press the **#8 KEY** once to confirm the arrow's **DESCENT** time.
5. Press and hold the **#8 KEY** to quit the programming menu.

IMPORTANT : This programming procedure must be performed with the vehicle engine running or with the ignition switch in the RUN position (electric vehicles).



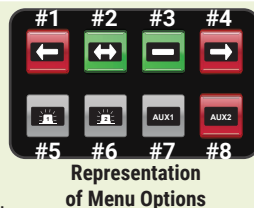
Configuration Overview

- #1 KEY:** Activates the Arrow Board Raise Programming Procedure.
- #4 KEY:** Activates the Arrow Board Lowering Programming Procedure.
- #8 KEY:** Motor limit confirmation. Press and hold for 3 seconds to exit the menu. This will also save the programming settings.

NOTE: Programming of the arrow board raise/lower time is not required when using an arrow board motor without a clutch (No Clutch).

2 Adjusting the flashing speed of the Arrow Board's channel lamps

1. Press and hold the **#3 KEY** (Access to the programming menu).
 - **#2 and #3 KEYS** will flash **GREEN** to represent the flashing pattern of the arrow board lamps.
 - **#1 KEY** increases the flash rate.
 - **#4 KEY** decreases the flash rate.
2. Once the desired flash rate has been reached, confirm the adjustment by pressing the **#8 KEY** until you exit the programming menu.



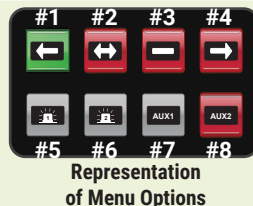
Configuration Overview

- #1 KEY:** Flash Rate (+).
- #4 KEY:** Flash Rate (-).
- #2 & 3 KEYS:** Flash Rate Representation.
- #8 KEY:** Press and hold for 3 seconds to exit the menu. This will also save the programming settings.

PROGRAMMING

3 Programming the alert signal for low battery voltage

1. Press and hold the **#8 KEY**
(Access to the programming menu).
2. Select the desired voltage monitoring level using the appropriate key to configure the warning signal.
 - **#2 KEY:** 10.5Vdc
 - **#3 KEY:** 11Vdc
 - **#4 KEY:** 11.5Vdc



3. After making your selection, save the setting by pressing the **#8 KEY** until you exit the programming menu.

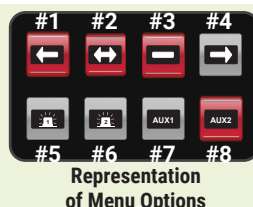
NOTE: By default, no low-voltage alert is programmed. The audible low-voltage alert is active only when the keypad is enabled. The keypad is enabled whenever a key is activated or when the Ignition signal is connected to the control module.

Configuration Overview

- #1 KEY:** No Battery Alert.
- #2 KEY:** Triggers a low-voltage alert if the detected voltage drops below 10.5Vdc.
- #3 KEY:** Triggers a low-voltage alert if the detected voltage drops below 11Vdc.
- #4 KEY:** Triggers a low-voltage alert if the detected voltage drops below 11.5Vdc.
- #8 KEY:** Press and hold for 3 seconds to exit the menu. This will also save the programming settings.

4 Motor type and Arrow Board type configuration

1. Press and hold the **#2 & #8 KEYS**
(Access to the programming menu).
2. **Arrow Model**
Select whether your Arrow will be Arrow Board or Light Sticks type by pressing the **#3 KEY**.
 - A. **(RED)** Elevating Arrow Board
(Outputs #13 to #19, 5 Segments, GND)
 - B. **(GREEN)** Light Sticks (Outputs #2 & #3, +12Vdc)



-  Right Arrow = Active Output #2
-  Left Arrow = Active Output #3
-  Double Arrow = Active Outputs #2 & #3

3. **Configuration of Motor-Dedicated Outputs #2 & #3**
Select whether your Arrow will be a **Fixed** or a **Elevating** Arrow by pressing the **#2 KEY**.
 - A. **(RED)** Elevating Arrow (Outputs #2 & #3 used for motor control)
 - B. **(GREEN)** Flèche fixe (Outputs #2 & #3 can be activated using the **#8 KEY** in ON/OFF mode)

4. Motor Type Selection

- Use the **#1 KEY** to select the motor type: with clutch or without clutch.
 - A. **(RED)** Motor WITH Clutch
 - B. **(GREEN)** Motor WITHOUT Clutch
5. After making your selection, save the setting by pressing the **#8 KEY** until you exit the programming menu.

Configuration Overview

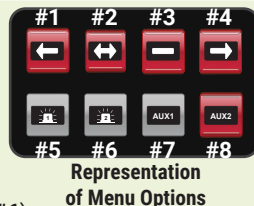
- #1 KEY:** Motor Type Selection.
 - A. **(RED)** Motor **WITH** Clutch
 - B. **(GREEN)** Motor **WITHOUT** Clutch
- #2 KEY:** Configuration Outputs #2 & #3
 - A. **(RED)** Motor with Elevation.
 - B. **(GREEN)** Activated by the **#8 KEY** (ON/OFF Mode)
- #3 KEY:** Configure the Arrow Model.
 - A. **(RED)** Arrow Board
(5 Segments, GND)
 - B. **(GREEN)** Light Sticks
(Outputs #2 & #3, 12Vdc)
- #8 KEY:** Press and hold for 3 seconds to exit the menu. This will also save the programming settings.

NOTE: When a Light Stick model is selected, Outputs #2 and #3 are unavailable for the #8 Key ON/OFF control. These two configurations are not compatible.

PROGRAMMING

5 Vehicle Speed Signal (VSS) Configuration for Automatic Arrow Board Lowering

1. Press and hold the **#4 KEY**
(Access to the programming menu).
2. **Speed Detection Type (VSS or CAN)**
Press the **#2 KEY** to choose whether vehicle speed is detected through a **VSS** signal or the **CAN bus**.
 - A. **(RED)** VSS Mode
 - B. **(GREEN)** CAN bus Mode (For more information, see **Menu #6**)



3. **VSS Speed Limit Programming**
Program the speed at which the arrow will automatically lower.
 - A. Press the **#3 KEY** once to turn the key LED **GREEN**.
 - B. Use the vehicle and accelerate to the desired speed.
 - C. Press the **#3 KEY** a second time to turn the key LED **RED**.
- Important:** Programming the speed limit requires operating the vehicle and reaching the desired speed.
- Note:** The speed is recorded only when the **#3 KEY** transitions from **GREEN** to **RED**.

4. **Arrow Key Status when the Programmed Speed Limit is Exceeded**
This menu section allows you to configure the action applied to the arrow keys when the programmed speed limit is exceeded. Press the **#1 KEY** to select the desired option.
 - A. **(RED)** The control module will automatically lower the arrow board when the programmed speed limit is exceeded. However, the selected arrow key will remain **ACTIVE**. If the vehicle speed drops back below the programmed threshold, the arrow will automatically raise again.
 - B. **(GREEN)** When the programmed speed limit is exceeded, the control module automatically lowers the arrow board and **DEACTIVATES** the selected arrow key.
5. After making your selection, save the setting by pressing the **#8 KEY** until you exit the programming menu.

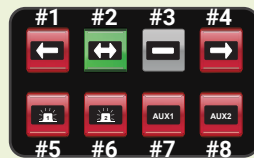
Configuration Overview

-  **#1 KEY:** Arrow Key behavior when the Programmed Speed Limit Is Exceeded.
 - A. **(RED)** Arrow Lowers, Arrow Keys Remain **ACTIVE**.
 - B. **(GREEN)** Arrow Lowers, Arrow Keys **DEACTIVATE**.
-  **#2 KEY:** Speed Detection Type.
 - A. **(RED)** VSS Mode
 - B. **(GREEN)** CAN Bus Mode
-  **#3 KEY:** VSS Speed Limit Programming.
 - A. **(GREEN)** Initiates the speed acquisition procedure.
 - B. **(RED)** Records the speed (VSS value) during the **GREEN-to-RED** transition of the #3 Key LED.
-  **#4 KEY:** Resets the recorded VSS speed value.
-  **#8 KEY:** Press and hold for 3 seconds to exit the menu. This will also save the programming settings. This action also saves the programmed VSS speed setting or confirms the reset of the stored VSS value.

PROGRAMMING

6 Automatic Arrow Board Lowering Configuration Based on Vehicle Speed (CAN Bus Signal)

- Press and hold the **#4 KEY**
(Access to the programming menu).
- Speed Detection Type (VSS or CAN)**
Press the **#2 KEY** to choose whether vehicle speed is detected through a **VSS** signal or the **CAN bus**.
A. (**RED**) VSS Mode (For more information, see **Menu #5**)
B. (**GREEN**) CAN bus Mode
- CAN Bus Speed Limit Programming**
Allows selection of **pre-programmed** speed settings using **Keys #5** through **#7**.
To select a speed, press the corresponding key once. This will change the key's LED from **RED** to **GREEN**.
 - #5 KEY:** Arrow lowering speed set to 20 km/h.
 - #6 KEY:** Arrow lowering speed set to 30 km/h.
 - #7 KEY:** Arrow lowering speed set to 50 km/h.
- Arrow Key Status when the Programmed Speed Limit is Exceeded**
This menu section allows you to configure the action applied to the arrow keys when the programmed speed limit is exceeded. Press the **#1 KEY** to select the desired option.
A. (**RED**) The control module will automatically lower the arrow board when the programmed speed limit is exceeded. However, the selected arrow key will remain **ACTIVE**. If the vehicle speed drops back below the programmed threshold, the arrow will automatically raise again.
B. (**GREEN**) When the programmed speed limit is exceeded, the control module automatically lowers the arrow board and **DEACTIVATES** the selected arrow key.
- After making your selection, save the setting by pressing the **#8 KEY** until you exit the programming menu.



Representation of Menu Options

Configuration Overview

- #1 KEY:** Arrow Key behavior when the Programmed Speed Limit Is Exceeded.
A. (**RED**) Arrow Lowers, Arrow Keys Remain **ACTIVE**.
B. (**GREEN**) Arrow Lowers, Arrow Keys **DEACTIVATE**.
- #2 KEY:** Speed Detection Type.
A. (**RED**) VSS Mode
B. (**GREEN**) CAN Bus Mode
- #5 KEY:** Speed (CAN Bus) = 20Km/h
- #6 KEY:** Speed (CAN Bus) = 30Km/h
- #7 KEY:** Speed (CAN Bus) = 50Km/h
- #8 KEY:** Press and hold for 3 seconds to exit the menu. This will also save the programming settings.

7 Keypad operating mode (Signal Ignition) & Backup alarm "Bypass" mode

- Press and hold the **#2 & #3 KEYS**
(Access to the programming menu).
- Keypad Operating Mode (Ignition Signal)**
Select the Keypad operating parameter based on the presence of the ignition signal at the control module by pressing the **#1 KEY**.
A. (**RED**) Keypad operational **WITHOUT** Ignition Signal present.
B. (**GREEN**) Keypad operational **ONLY** when an ignition signal is present.
- Backup Alarm Bypass Mode**
Enable the Backup Alarm Bypass mode by pressing the **#2 KEY**. This option allows **Output #20 (GND)** to be used for connecting your backup alarm.
Pressing the **#8 KEY** will interrupt the **GND** supply to the backup alarm, disabling the alarm.
A. (**RED**) "Bypass" Backup Alarm Mode **DISABLED**
B. (**GREEN**) "Bypass" Backup Alarm Mode **ENABLED**
- After making your selection, save the setting by pressing the **#8 KEY** until you exit the programming menu.



Representation of Menu Options

Configuration Overview

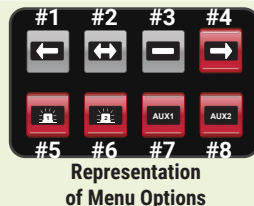
- #1 KEY:** Keypad Operating Mode (Ignition Signal).
A. (**RED**) Keypad Operates **WITHOUT** the Ignition Signal Present.
B. (**GREEN**) Keypad Operates **ONLY WHEN** the Ignition Signal is Present
- #2 KEY:** Backup Alarm "Bypass" Mode.
A. (**RED**) "Bypass" Backup Alarm Mode **DISABLED**.
B. (**GREEN**) "Bypass" Backup Alarm Mode **ENABLED**.
- #8 KEY:** Press and hold for 3 seconds to exit the menu. This will also save the programming settings.

NOTE : The Backup Alarm "Bypass" function is only available when the Ignition Signal is present at the control module..

PROGRAMMING

8 Output #4 Custom Configuration

1. Press and hold the **#7 & #8 KEYS**
(Access to the programming menu).
2. **Output #4 Activation Parameter Setting**
Pressing the **#4 KEY** allows you to modify the activation parameter for **Output #4**.
 - A. (**RED**) **Output #4** Activated by the **#7 KEY**
 - B. (**GREEN**) **Output #4** Activated by **Ignition Signal**
 - C. (**OFF**) **Output #4** is activated by the **#7 KEY**. However, the **#7 KEY** operates in "slave" mode and follows the activation state of the arrow keys. Manual operation of the **#7 KEY** is not available.
3. **Timed Output Programming**
Programs a delay for **Output #4**, allowing the output to remain active for a specified period after the **Ignition Signal** is lost. The programmed delay depends on the selected key (see the three options below).
 - A. **#5 KEY** 30min delay (½ Hour)
 - B. **#6 KEY** 60min delay (1 Hour)
 - C. **#7 KEY** 240min delay (4 Hours)
4. After making your selection, save the setting by pressing the **#8 KEY** until you exit the programming menu..



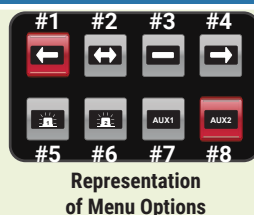
Configuration Overview

-  **#4 KEY: Output #4 Activated By:**
 - A. (**RED**) **Output #4** Activated by the **#7 KEY**
 - B. (**GREEN**) **Output #4** Activated by the **Ignition Signal**
 - C. (**OFF**) **Output #4** Activated by the **#1 to #4 KEY**
-  **#5 KEY: Output #4 Timed**
 - A. (**RED**) 30min (½ Hour) delay **DISABLED**
 - B. (**GREEN**) 30min (½ Hour) delay **ENABLED**
-  **#6 KEY: Output #4 Timed**
 - A. (**RED**) 60min (1 Hour) delay **DISABLED**
 - B. (**GREEN**) 60min (1 Hour) delay **ENABLED**
-  **#7 KEY: Output #4 Timed**
 - A. (**RED**) 240min (4 Hour) delay **DISABLED**
 - B. (**GREEN**) 240min (4 Hour) delay **ENABLED**
-  **#8 KEY: Press and hold for 3 seconds to exit the menu. This will also save the programming settings.**

NOTE : Timed Output Programming is only available when the **#4 KEY** is **GREEN** in this programming menu.

9 Arrow Board Indicator on Keypad (Chaser)

1. Press and hold the **#7 KEY**
(Access to the programming menu).
2. Press the **#1 KEY** to enable "Chase" Mode. When activated, the key LED will turn **GREEN**. This mode uses the LEDs on the keypad to provide the operator with an additional visual indication of the arrow board's current display pattern.
3. After making your selection, save the setting by pressing the **#8 KEY** until you exit the programming menu.



Configuration Overview

-  **#1 KEY: "Chase" Mode**
 - A. (**RED**) "Chase" Mode **DISABLED**
 - B. (**GREEN**) "Chase" Mode **ENABLED**
-  **Touche #8 :** Press and hold for 3 seconds to exit the menu. This will also save the programming settings.



"Chase" Mode

The LEDs above the arrow keys will mirror the direction of the active arrow display.

PROGRAMMING

10 Advanced Options (Keyboard Reset & Synchronization)

WARNING: When replacing a keypad on an existing installation, it is **REQUIRED** to perform the synchronization procedure to allow the keypad to retrieve the current programming settings from your system.

1. Press and hold the **#4 & #8 KEYS** (Access to the programming menu).

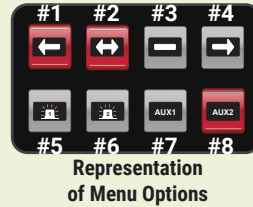
2. Keypad Synchronization

Press and hold the **#1 KEY** for 2 seconds. The key LED will turn **GREEN**. You may then release the key. Once the synchronization process is complete, the key LED will change from **GREEN** to **RED**.

3. Factory Reset

Press and hold the **#2 KEY** for 2 seconds. Once the reset procedure is complete, the key LED will turn **GREEN**.

4. Save the reset and synchronization settings by pressing the **#8 KEY** until you exit the programming menu.



Configuration Overview



#1 KEY: Keypad Synchronization



#2 KEY: Factory Reset

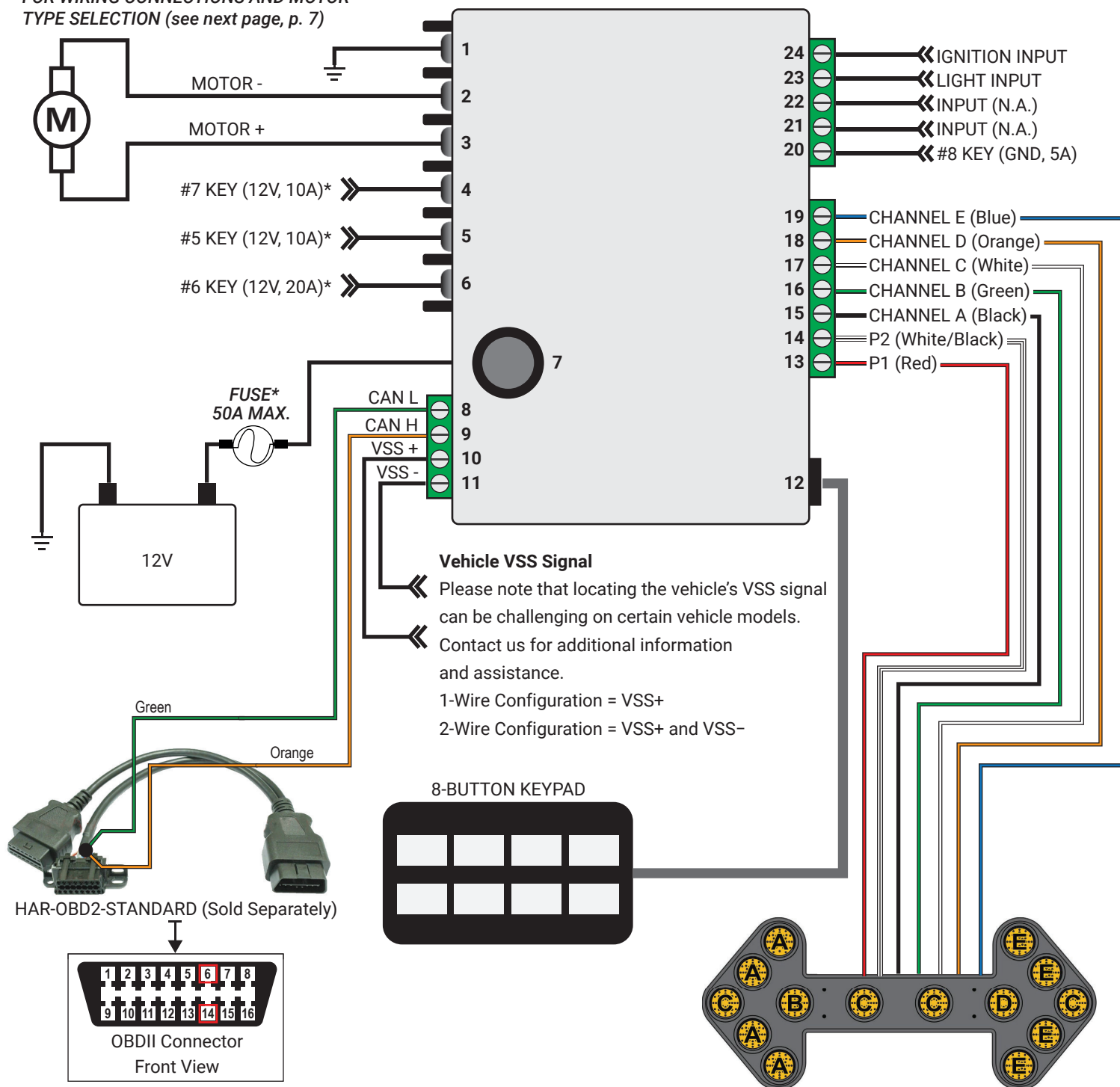


#8 KEY: Press and hold for 3 seconds to exit the menu. This will also save the programming settings.

WIRING DIAGRAM

FOR WIRING CONNECTIONS AND MOTOR
TYPE SELECTION (see next page, p. 7)

Integra-Basic

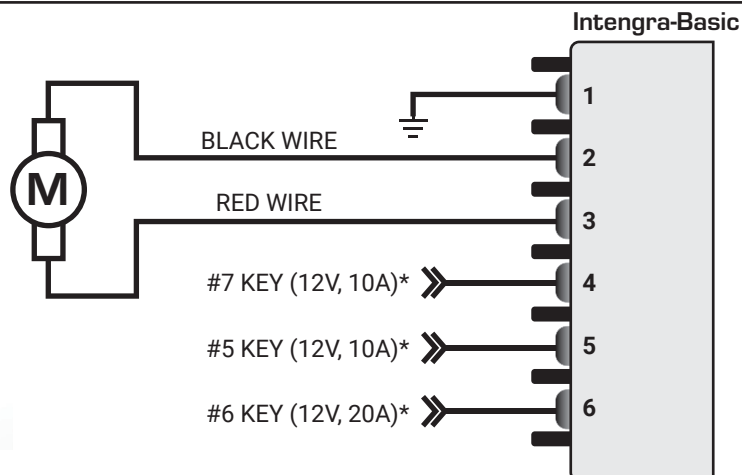


*The fuse ratings shown in this diagram are for reference only. Adjust the fuse values to match the electrical loads of your specific installation. Refer to the Technical Specifications (Page 1) for additional information.

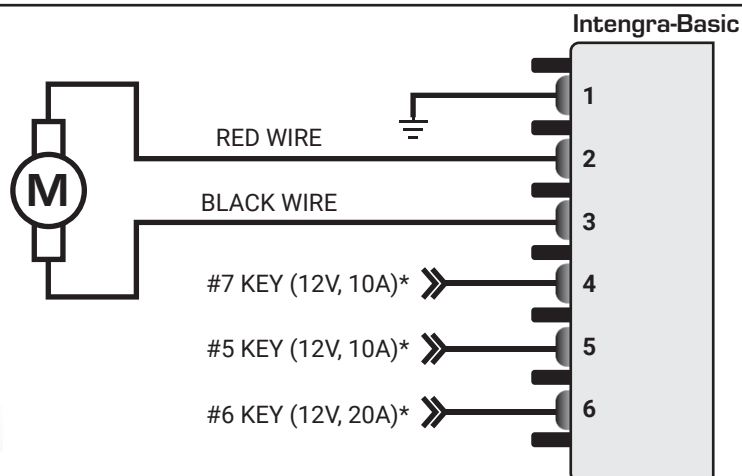
WIRING DIAGRAM

Motor Type

ZFS100-KIT



ZFS200-KIT



Determine whether the motor is equipped with a clutch or is clutchless

Locate the label on the motor (see photo). The label will indicate whether the motor is equipped with a clutch or is clutchless.



Note : The INTEGRA-BASIC is factory-programmed for use with a clutchless motor. Refer to Programming Menu #4 and Option #1 to modify and adjust the module settings for operation with a motor equipped with a clutch.

IMPORTANT : Changing from a clutch-equipped motor to a clutchless motor requires a programming change in Menu #4. Failure to make this modification may result in damage to the control module, motorized assembly, and even the vehicle.



LIMITED WARRANTY

Zone Technologie Électronique Inc. guarantees every component that it produces for a period of 24 months starting on the date of the purchase or of the delivery. The products of **Zone Technologie Électronique Inc.** are verified, inspected and recognize as exempt of any fabrication default.

If a product is found to be defective during the warranty period of 24 months, the product will be repaired or replace at the workshop of the **Zone Technologie Électronique Inc.** society.

All installation, using or modification of the **Zone Technologie Électronique Inc.** products which is not recommended by the manufacturer leads to a voiding of the actual warranty.

Zone Technologie Électronique Inc. can't be held liable for the damages or charges that arise because of misuse, a careless maneuver or any others attempts to repair or for any reparations made by a third party. No other warranty, written or verbal, then the one from **Zone Technologie Électronique Inc.** will be recognized.

Zone Technologie Électronique Inc. also has the right to repair or replace any defective product to its sole discretion. **Zone Technologie Électronique Inc.** can't be held liable for the charges that arise during the installation or the removal of a product that requires maintenance and/or repairing.

It is expressly specified that we shall be committed by no other warranty (express or tacit) of intrinsic quality, marketable quality or capacity in a particular use.

To contact technical support:

Telephone : (450) 572-1476 / Toll Free : 1 (866) 362-9663
E-Mail : support@zonetechnologie.com

Zone Technologie Électronique Inc. reserves the right to bring changes to this document and/or product included, without notice, and this at any moment.
Zone Technologie Électronique Inc. can't be held liable regarding any possible mistakes and/or omissions in this document



Our Contact Information

Telephone : 450-572-1476

Toll Free : 1-866-362-9663

E-Mail : support@zonetechnologie.com

9000 Industriel Blvd., Chambly (Quebec), J3L 4X3