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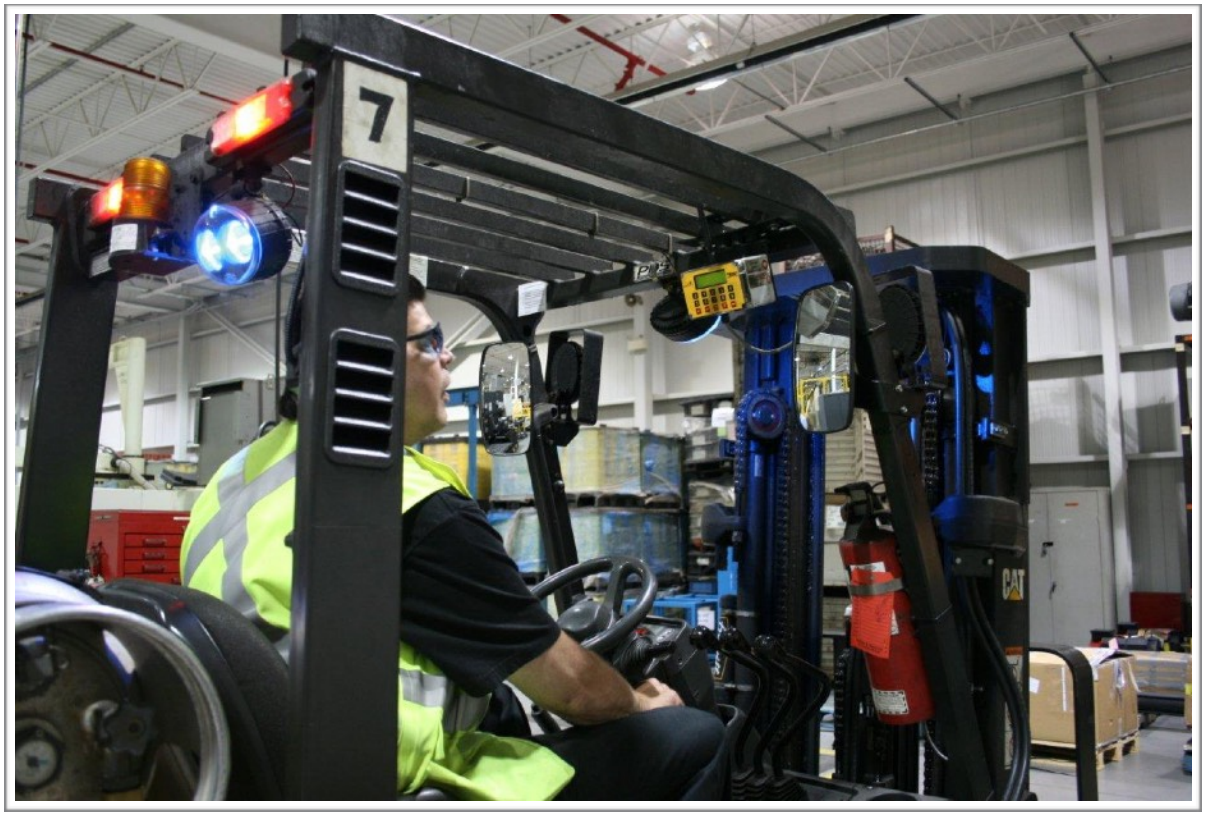
Installation & Operational Manual



Defender IM4-K

Lift Truck Impact Monitor with Keypad Operator Access Control and Automated Programmable OSHA Safety Check

RF Wireless Link

IM4-K M

Integrated Visual Data Technology Inc. 3439 Whilabout Terrace, Oakville, Ontario, Canada L6L 0A7 www.skidweigh.com

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General Installation Guide

This **IM4-K V1.25** Series installation & calibration guide describes how to install, set up, test and use your vehicle on-board keypad operator access control with automated OSHA safety check. Following the instructions in the **ADMINISTRATION MENU** guide will enable you to get the system set up and operating quickly. In the event that you require additional assistance, please contact customer support via e-mail at support@skidweigh.com , visit www.skidweigh.com or contact us at the address or contact number below:

Integrated Visual Data Technology Inc.
3439 Whilabout Terrace, Oakville, ON, Canada, L6L 0A7 Phone: 905-469-0985

Safety

Always disconnect the vehicle battery while installing SkidWeigh system or any other electronic product.
Use care when routing the components cables. Route the cables where they will be protected. Use commonly accepted install practices for after market industrial vehicle electronic devices.
The installation of the AC5-OS systems should only be performed by an acknowledged lift truck dealer technician or end user electro and hydraulic technical installer.
Here are two acceptable methods of making a wire connections:
* Soldering your connections (recommended)
* Crimp connectors (with the use of the proper crimping tool)
Regardless of the method you choose, ensure that the connection is mechanically sound and properly insulated. Use high quality electrical tape and shrink tubing where necessary. This product is connected directly to the vehicle's ignition switch, 12 to 55 VDC. There is no on-off switch on the unit.

Electro-Magnetic Compatibility

CE conformity to EC directive 89/336 (EMC) by application of harmonized standards: Interference stability EN 61000-6-2 and EN 61326-1 interference emit EN 61000-6-3, EN 61326-1 for the pressure transducer.

IM4-K Defender / SkidWeigh Plus Series

Our policy is one of continuous improvement and the information in this document is subject to change without notice. The software version is displayed on the LCD display once the power is turned on to the system.

Overview of components

The standard **IM3-K** system consist of two main components:

* Digital indicator with RF module with wiring harness, mounting bracket
* Installation & calibration manual and operator usage instruction

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Default Operator ID# Access Code

Note: All IM4-K Defender systems supplied to the end user have **default operator ID = 111.** This is necessary for installation technician to input default ID# to verify electrical connection to the vehicle (seat switch connection of two wires BLUE and GREEN wires connected in series with one of the seat switch wire) and be able to enable vehicle operation. With LCD Display showing of DATE / TIME the "Administration Menu" will be accessible to the technician.

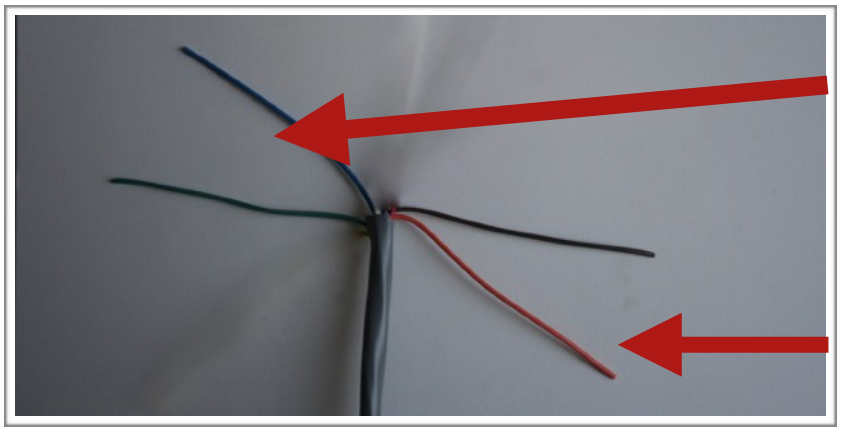
Selecting the mounting location for digital indicator

Use the mounting bracket with the anti vibration mount and fasten digital indicator on the vehicle dashboard, side railing on the right hand side or preferably on the overhead guard. There are many examples of mounting locations that will depend on the vehicle model. However, additional mounting items such as a flat brackets may be needed to help secure the unit to upper right corner of the guard or side railing.

Choose the correct location and make sure that:
- Indicator is visible and within reach of the operator
- Location so that operator has a clear unobstructed view of the working environment

Electrical connections

All **IM4-K** systems operate from 12 to 55 VDC.



Vehicle Enable Operation Interface
Use two wires **BLUE** and **GREEN** and connect them is series with vehicle seat switch wire
Normally Open Contacts

Power Supply
(+) **ORANGE Wire,** Connect to ignition switch
(-) **BROWN Wire.** Connect to battery negative

Orange Wire (+) Ignition switch
Brown Wire (-) Battery negative

Internal relay connections to be used to enable vehicle usage (Dry contacts)

BLUE Wire, common

GREEN Wire, N. O. contact

IVDT
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USB Port

Keypad

Toggle Arrows Keys
(LEFT or RIGHT) in set up menu
Select function in F 0 and F 9 menu

Optional Functions for impacts, weigh scale
Print Key or /and
SEND key to wireless base station

FUNCTION MODE KEY
F9
F0

"Enter key" ↵

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Note: To enable vehicle operation or to get to the "Administration Menu" you must log in into the system with valid operator ID#.
The LCD Display must show Date / Time to access "Administration Menu".
Default valid operator ID# is 111
(Should the operator ID# 111 be invalid than you must input **742F** to find out the valid ID#1)
Press F key to exit!

Administration Menu Instructions

To enter into the **Administration Menu**, input valid operator ID#. LCD Display will show Date / Time. Press **F key** and than number **9 key** and input password **521.** Use left and right arrow keys to scroll through the menu and follow the LCD instructions. Use **"Enter key"** ↵ to confirm selection.

LCD Display
MENU
PASSWORD = _

LCD Display
<> KEY to SCROLL
F KEY TO EXIT

Date / Time Set Up

LCD Display
SET CLOCK
ENTER TO SELECT

LCD Display
SET CLOCK
AUTO _

Use left ◀ and right ▶ arrow key *(bottom left side of the keypad)* to change from AUTO to MANUAL date/time set up.

Note: AUTO set up refers to system utilizing a wireless RF platform with automatic date /time update from IVDT Base Station communication and programming hub.
For the applications without Base Station, select MANUAL _ set clock and follow the LCD instructions.

LCD Display
SET CLOCK
MANUAL _

LCD Display
Aug 28, 2010
12:20:23

Press **“Enter key”** ↵ to confirm the setting. The cursor will automatically move to the next item to be changed (Month, Day, Year, Hours, Minutes, Seconds). On the last correction, seconds item press **“Enter key”** ↵ to confirm new date / time set up.

Vehicle ID# Set Up

- Maximum input number for vehicle ID is 4 digits.

LCD Display
<> KEY to SCROLL
F KEY TO EXIT

LCD Display
SET VEHICLE ID
ENTER TO SELECT

LCD Display
ENTER VEHICLE ID
1_

LCD Display
VEHICLE ID
CONFIGURATED

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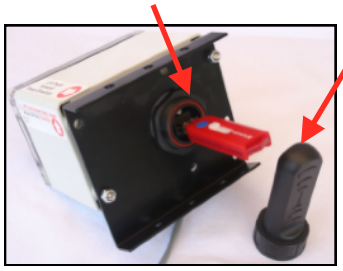
USB port

USB Port Protective Cover



Save data to USB

The AC4-OS system will allow you to download all recorded data onto a USB drive.

Follow instructions shown on the LCD display

This function is located in **Supervisor Menu** to protect the integrity of the information.

LCD Display
<> KEY to SCROLL
F KEY TO EXIT

LCD Display
SAVE TO USB
ENTER TO SELECT

LCD Display
SAVING TO USB
- - - - - - -

LCD Display
ERASE SDRAM ? N

When the system has finished uploading the data to the USB memory stick the LCD display will prompt you to erase the SDRAM , all files contained on the SKidWeigh Plus ED3-IM . Once you have made your selection **Y** or **N** the system will automatically bring you back to the main screen in the supervisor menu.

LCD Display
<> KEY to SCROLL
F KEY TO EXIT

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Set Up for LOW and HIGH Impacts Monitoring

Press **F** key and than number **9** key and input password **521.**

Use left arrow keys to scroll through the menu to get to the **SET IMPACT** and follow the LCD instructions. Use left or right arrow for desired low impact value. Press **"Enter key"** ↵ to select.

LCD Display
SET IMPACT
ENTER TO SELECT

Use left or right arrow for desired low impact value. Press **"Enter key"** ↵

LCD Display
ENTER LOW IMPACT
4.0 G

Use left or right arrow for desired low impact value. Press **"Enter key"** ↵ to select.

LCD Display
ENTER HIGH IMPACT
8.0 G

Use left or right arrow for desired high impact value. Press **"Enter key"** ↵ to select.

Left and right arrow keys

"Enter key" ↵

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Programming valid operator ID#'s

- With power turned on to the system the LCD display will indicate to **"ENTER ID NUMBER"**

LCD Display
ENTER ID NUMBER
ID =

- Input password **742F** and LCD display will prompt you to input first valid operator ID#. *(Any number in range from 1 to 999)* and press **"Enter key" ↵.**
(In our example ID#s are 111, 222 and 333.)

LCD Display
ENTER VALID IDs
ID 1 =111

- LCD display will advance and prompt you to input second valid operator ID# and press **"Enter key" ↵.**

LCD Display
ENTER VALID IDs
ID = 222

- LCD display will advance and prompt you to input third valid operator ID# and so on.

LCD Display
ENTER VALID IDs
ID = 333

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-I icon meaning that impact module is active

Note:

On the last valid operator ID number that you have input-ed into the system, press **"Enter key" ↵ and than press F key.**

- At any time if you want to look for the operators ID numbers already in the system or change them you must get to the LCD display message as shown below.

LCD Display
ENTER ID NUMBER
ID =

Input password **742F**

LCD Display
ENTER ID NUMBER
ID = 742F

The system will show first valid operator ID#. To keep this first valid ID# press **"Enter key" ↵** To change the current ID#, input new ID number and press **"Enter key" ↵.**

Note: On the last valid operator ID number that you have inputed into the system, press **"Enter key" ↵** and than press **F key.**

* System will accept up to 150 valid operator's ID numbers. (Maximum 3 digits, range from 1 to 999)

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RF Antenna

Operator Usage Guide

Turn on ignition switch (Vehicle operation will be disabled until valid operator ID# is entered)

Input valid operator ID# and press **"Enter key"** ↵

LCD Display
ENTER ID NUMBER
ID =

LCD display will show date and time

or

LCD message will prompt the operator to complete OSHA safety check procedure before vehicle operation is enabled.

LCD Display
SAFETY / CHECK
LEAKS/DAMAGE?F

Default values for all OSHA "safety check's messages" shown on the LCD Display are marked as **F** meaning that safety procedure **"fail"**.

Press **"Enter key"** ↵ to confirm if the **F** (fail) if true.

To change **F** (Fail) to **P** (Pass) press left or right arrow key. The LCD will change to **P** and press **"Enter key"** ↵ to confirm selection.

System will automatically advance to next OSHA "safety check message".

Follow above procedure for all next OSHA "safety check messages" by inputing the **F** or **P**. After the last "safety check message" input (**F** or **P**) is done the LCD display will go back showing Date / Time. Vehicle operation will be enabled.

LCD Display
Aug 28, 2010
12:20:23