

Installation, Calibration, Set Up & Operation Manual



IM5 Defender Series (Vehicle operation not disable)



IM5V140

General Installation Guide

This IM5 Defender Series guide describes how to install, calibrate, set up and use your onboard systems. Following the instructions in the **ADMINISTRATION MENU** you will be able to get the system set up, calibrate 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 Defender system or any other electronic product. Make sure that main electrical cable, pressure transducer and any other associated cables are securely mounted and do not impede any of the vehicle's controls. 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 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.

IM5 Defender 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 IM5 Defender system consist of two main components:

- **Digital indicator** ** with wiring harness, mounting bracket (*Keypad operator access control with visual alert*)
- Installation & calibration manual and operator usage instruction

** **The IM5 Defender Series configuration might consist of additional hardware.**

Depending on the system application the additional hardware such as USB port, RFID card reader, impact strobe alert modules, RF module, etc., will be included in the indicator.

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



Compact size

All of the IM5 Defender systems are compact, housing dimension of only 120 x 80 x 55 mm is ideal for the installations to material handling vehicles of all kinds. All systems are internally short circuit protected with resettable fuse. There is no need to install external inline fuse in orange wire that is connected to the ignition switch.

Example: *Two wires harness for customized systems without vehicle disable function. (Impact, OSHA safety check, external audio / visual alert for operator access control verification)*

Electrical connections

All Defender systems operate from 12 to 55 VDC.

POWER CONNECTION

Orange Wire (+) Ignition switch On position

Brown Wire (-) Battery negative

Vehicle Operator Access Control (Visual Alert)

The IM5 Defender **does not disable vehicle operation.**

When power to the system is turned on the LCD display will prompt operator to input valid operator ID#.

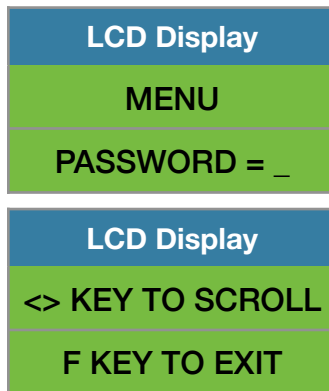
The visual alert will be activated and stay on until valid operator ID# is inputted into the system.

Administration Menu Instructions

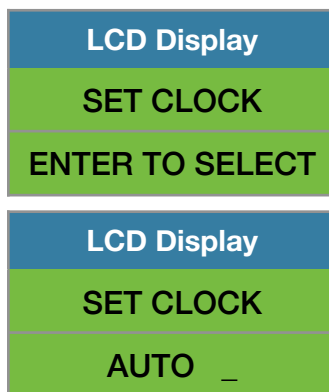
(Set up for Time/Date, Vehicle ID#, Impacts Setup, OSHA Safety, USB Data Upload,)

To enter into the Administration Menu the LCD Display must show Data / Time. Press **F** key and then number **9** and input the password **521**.

Use **< >** keys to scroll the menu. Follow the LCD instructions.



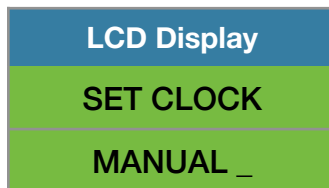
Date / Time Set Up



Use left ◀ and right ▶ arrow key 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.

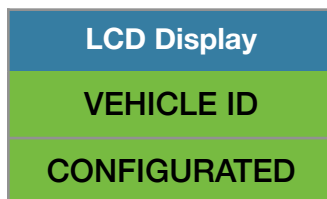
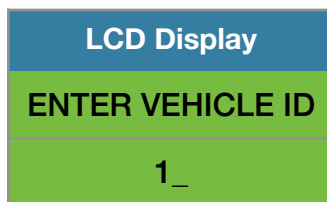
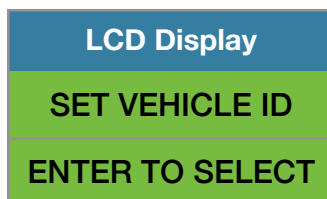
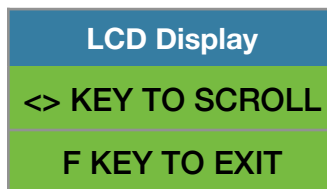


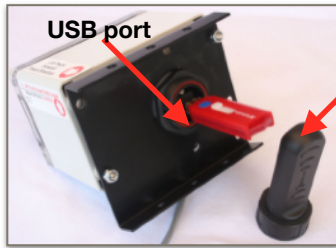


Press “**Enter key**” ↵ to confirm the setting. The cursor will automatically move to the next item to be changed (Month, Day, Year, Hours, Minutes, Seconds). On the last correction, seconds item press **Enter key** ↵ to confirm new date / time set up.

Set vehicle ID#

- Maximum input number for vehicle ID# is 3 digits.



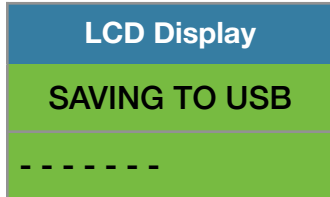
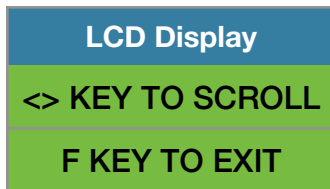


USB Port Protective Cover

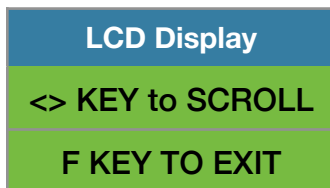
Saving data to USB memory stick

- Insert memory stick into USB port
- With LCD display showing date /time press **F** key and then number **9** and input password **521**.

Follow instructions shown on the LCD display.



When the system has finished uploading the data to the USB memory stick the LCD display will prompt you to erase the SDRAM. Once you have made your selection **Y** or **N** the system will automatically bring you back to the main screen in the supervisor menu.



Set Vehicles Impacts

To enter into the **Supervisor Menu**, press **F** key and than number **9** key and input the password **521**.
Use left ◀ and right ▶ arrow key (bottom left side of the keypad) to change G's value.

LCD Display
MENU
PASSWORD = _

LCD Display
SET IMPACTS
ENTER TO SELECT

LCD Display
ENTER LOW IMPACT
6.0 G _

LCD Display
ENTER HI IMPACT
12.0 G _

LCD Display
ENTER HI IMPACT
CONTINUOUS ? Y

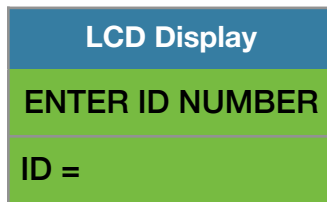
LCD Display
IMPACT
CONFIGURATED

Keypad Operator Input Vehicle Access Control

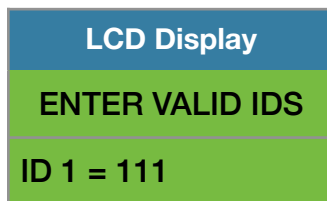


How to program keypad operator vehicle access ID#'s (If applicable)

- With power turned on to the system the LCD display will indicate to “ENTER ID NUMBER”

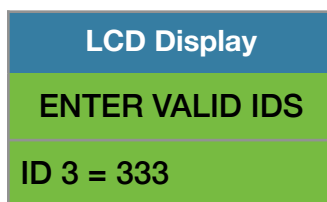


- Input code **742F**. The LCD display will prompt you to input first valid operator ID#. (Any number in range from 1 to 999) and press “Enter key” ↵.



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

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



- * Above example showing operators ID# 111, 222 and 333.

- On the last valid operator ID number that you have inputed into the system you must press “**Enter key**” ↵ and then press **F** key.
- At any time if you want to look at the current operators ID numbers already in the system, change or delate them you must input password **742F** while LCD display is showing “Enter ID Number”.
- **Note:** Default factory ID# is 111.

RFID Card Operator Input Vehicle Access Control

How to program operator(s) RFID access cards

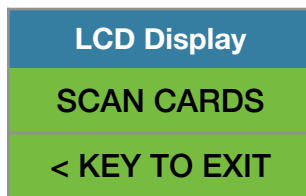
The RFID operator access HID card reader is integrated into digital indicator housing with Defender system having proprietary software that allows self programming, deleting and management of authorized vehicles operators on the any of the SkidWeigh products equipped with RFID card readers. There is no need for any additional programming devices!



- Turn ignition switch to on position
- The LCD display will indicate to “SCAN CARD”

1. Scan RFID MASTER CARD

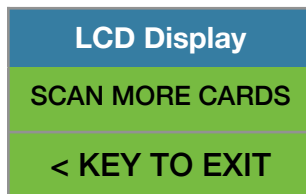
LCD display will show



2. Scan first valid HID operator card.

The LCD display will show for the moment the value of the inputted card.

The LCD display will indicate that “CARD ADDED OK “and short beep once



3. Scan second valid HID operator card.

Follow instructions shown on LCD display.

Keep adding the valid cards to vehicle. When all cards inputted into the system press < **KEY TO EXIT**

Lift Truck SkidWeigh RFID Authorized Operator Access System has a capability to add up to 250 valid operator cards.

Note: *Proceed with programming valid operator cards for each vehicle in your fleet.*

How to delete operator(s) RFID cards already in the system

Turn ignition switch to on position

The LCD display will indicate to “SCAN CARD” (as shown on the picture)

Scan RFID MASTER CARD

LCD display will show



LCD Display

< KEY TO EXIT

Scan first valid operator card that you want to delete from the system

LCD display will show the card ID# . Use left ◀ and right ▶ arrow key to change to Y.

LCD Display

FC:222 ID: 44444

DELETE(Y/N)? N

The current card ID# 44444 will be deleted from the system. LCD display will automatically show

LCD Display

SCAN MORE CARDS

< KEY TO EXIT

Scan next valid operator CARD that you want to delete from the system

Follow instructions shown on LCD display.

Keep adding cards to be deleted. When all cards inputed into the system press < KEY TO EXIT

Note: In the case that you need replacement of RFID MASTER CARD, please call us at 905-469-0985

How to disable RFID reader

Vehicle access enable function in case of lost HID master card, valid card(s) or reader malfunction

- With digital indicator showing “ IVDT SCAN CARD” press and hold **F** key for 5 seconds
- LCD display will show PASSWORD =_
- Input **521** and RFID reader will be disabled. Vehicle will be operational without RFID operator card.

How to enable RFID reader

With digital indicator showing date / time press **F** key and than input number **9**.

- LCD display will show PASSWORD =_
- Input **521**

< KEY TO SCROLL and follow instructions

| |
|------------------|
| LCD Display |
| RE-ACTIVATE RFID |
| ENTER TO SELECT |
| LCD Display |
| RE-ACTIVATE RFID |
| TURN ON RFID ? N |

ProxPoint Plus RFID Card Reader / SkidWeigh Technology

Read Range Typical 3"

Operating Voltage 12 to 55 VDC

Operating Temperature (-35 C to 65C)

Operating Humidity 5-95% non-condensing

Transmit Frequency 125 kHz

Card Compatibility All 125 kHz HID Proximity cards, long and short formats, as well as Corporate 1000 cards formats

LED Type Bicolored (green and red)

Transient Surge and Reverse Voltage Protection

Extra Security, Recognizes card formats up to 85 bits with over 137 billion unique codes

Application for all kinds of lift trucks regardless of the vehicle make, type ,model or operating voltage

Self programming, no additional devices required to add or delete cards from the Defender system

Memory capacity to up to 250 operators ID#

FCC Compliance, part 15 of the FCC rules

OSHA Safety Check (If applicable)



“Enter key” ←

The OSHA safety check will be automatically initiated every 8, 12 hours or daily.

Default value shown on LCD display is (F) representing “fail”.

Use < > key to change. Follow the LCD messages menu and press “Enter key” ← after choosing F or P

F = Fail and (P)= Pass

Operator Usage Guide

- **Turn ignition switch to on position**
 - LCD display will show the software version and will prompt operator to input valid ID#
 - Visual alert will be activated and stay on until valid operator ID# is inputted into the system
 - Scan valid operator RFID card if applicable.
 - Input valid operator ID# and press “Enter key” ← if keypad operator access control is used.
- *When applicable complete OSHA safety check procedure. Use < > arrow key to select F or P.*
- **High Impact Detection**
 - Audio / Visual alert will be activated
 - Alert duration is set to factory default time of 5 seconds
 - High impact value will be shown on LCD display
 - High impact value will be saved to USB port or /and RF Base Station
- **Recorded Data**
 - Low and High Impacts
 - Vehicles ID#
 - Operators ID#
 - Date / Time
 - OSHA safety check events
 - Session start times