Driver ID

The latest Vecima beacon models include support for connection to a "touch-and-go" style iButton reader, which allows drivers to identify themselves at the beginning of trip segments.

By using this feature, fleet managers have the ability to view reports based upon the name of the driver rather than the vehicle they are operating.

iButton and Reader

The iButton is a standardized button-shaped device that contains a chip with a unique code. The iButton Readers recommended for use with Vecima beacons have a small flat surface which reads the code from the iButton when it comes into contact. Two models of Readers are supported:

- Drill-through model (Part# 65xx-DS9092L+)
- Surface-mounted model (Part# 6xxx-TMR-W)

The drill-through model is permanently installed on the dashboard, and includes an embedded LED which provides visual feedback to the driver. The surface-mounted model is easily installed using an adhesive patch but does not include the LED.

iButtons, iButton key holders and Reader devices are all available from Vecima.

Supported Beacons

The Driver ID feature is currently available on the following beacon models:

- Vecima 6581 (4G LTE)
- Vecima 6650, 6651, 6681 (4G LTE)
- Vecima 6800 (4G LTE)
- Vecima 7301 (4G LTE)

1.Using the iButton

The driver is expected to tap the iButton to the Reader prior to turning on the vehicle ignition. When touched, the feedback to the driver is different based on the model of Reader used.

For the drill-through Reader with LED, two short beeps will be heard when the Driver ID code is read, and the LED on the Reader will blink for several seconds before returning to solid green. If the driver forgets to tap their iButton before the ignition is turned on, two short beeps will sound as a reminder. The buzzer may be configured in the portal profile to sound continuously until the driver taps their iButton.

The surface-mounted Reader does not support the LED feedback, and a single audio beep will be heard when the device successfully reads the Driver ID code from the iButton.

2. Reader Installation and Testing (65xx, 66xx)

The recommended iButton Reader for these beacon models is the drill-through Reader (Part# 65xx-DS9092L+), which includes the LED feedback. The Reader uses the 1-Wire data connection on the Vecima beacon to transmit the Driver ID. This is located on Pin 6 on the wiring harness, which is attached to the gray wire in the bundle. The LED interface is located on Pin 19 on the harness, attached to the purple wire. The recommended ground connection for the Reader is the black wire on Pin 1. Be sure to unplug the wiring harness from the Vecima beacon before connecting the wires from the Reader.

Please note that if the purple wire on Pin 19 is missing from your wiring harness, you will need to upgrade to the latest harness configuration. Please contact Vecima Support at support.telematics@vecima.com.

The Reader should be mounted on the dashboard within easy reach, so that the driver can touch the Reader with the iButton correctly and view the LED result. **It should not be installed on a conductive (metal) panel, as this will cause a short circuit.** Remove the plastic plug from the Reader wires so the individual wires can be separated. Connect the green wire on the Reader to the gray wire on the Vecima beacon (Pin 6). The orange wire on the Reader controls the LED operation and connects to the purple wire on the beacon wiring harness (Pin 19). The blue and yellow wires on the Reader are connected to the black ground wire (Pin 1).

If there is a short circuit on the Reader after installation, the LED will flash rapidly, and the beacon will report a Driver ID to the server that reads "ADDEADDEADDEADDE".

Reader Wiring Diagram
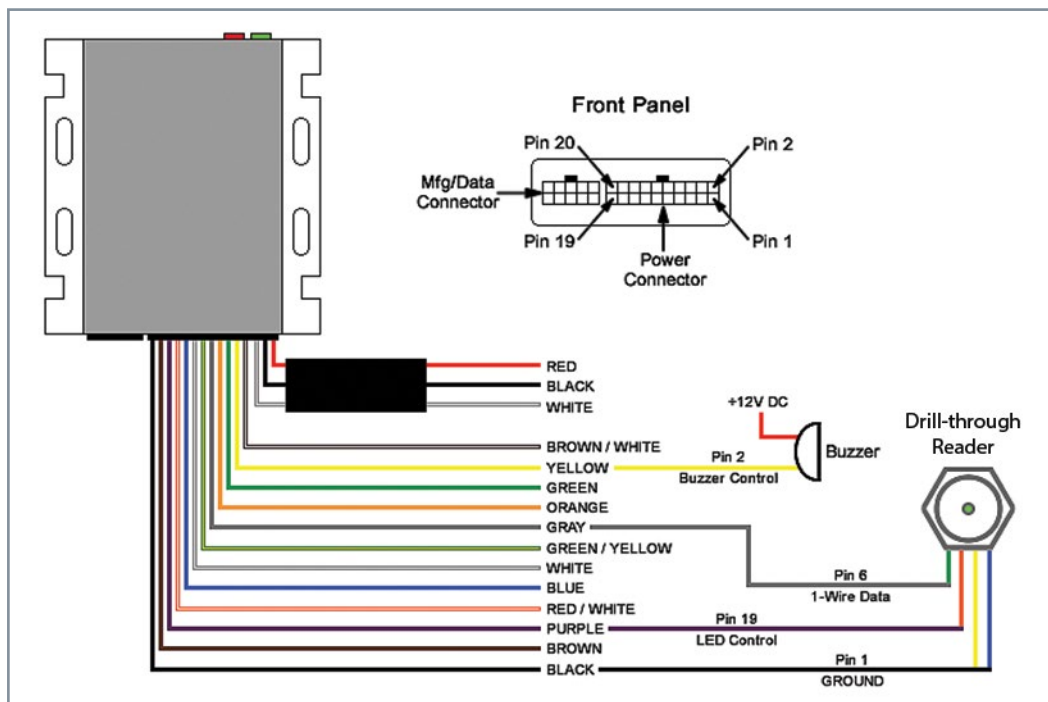
Once installed, the Reader may be tested by checking the green LED, which is in the center of the device surface. When the Reader is active, the LED will remain solid green. To test the Reader, touch the surface with an iButton for a few seconds. The LED will blink for several seconds before returning to solid green. This indicates that the identification code from the iButton has been successfully read by the Reader and stored in the Vecima beacon.

The Driver ID feature also makes use of a warning buzzer which provides immediate audio feedback when the driver fails to use their iButton.

A 12V piezoelectric buzzer capable of emitting a 75db alarm is appropriate in most cases. If the installation is in a large vehicle where the beacon is under the dashboard, a louder buzzer may be required so that it can be heard by the driver. For large trucks, the buzzer can be in the 12V to 28V range.

On the Vecima beacon, the yellow wire in the wiring harness on Pin 2 is connected to the ground terminal on the buzzer, and the power terminal is connected to the vehicle source.

3. Reader Installation and Testing (6800)

The recommended iButton Reader for the 6800 is the surface-mounted model (Part #6xxx-TMR-W). Note that this Reader does not have LED feedback like the drill-through model, as this feature is not supported by the 6800. Add-on features such as Driver ID connect to the plug and play 6800 device using the micro-USB port on the side of the device. The feature adapter cable (Part #68xx-IN-1W) is used.

The wires in the adapter cable are described in the following chart:

Wire Color	Connection
Red	Power (+5V) (to be used if required for accessories)
Black	Ground
Brown	Input 1
Green	RS232 Rx (unused)
Yellow	RS232 Tx (unused)
Orange	1-Wire interface (Driver ID, Temperature Sensor)

To install the iButton Reader, ensure the adapter cable is unplugged from the 6800 device. First, connect the black (Ground) wire on the iButton Reader to the black (Ground) wire on the adapter cable. Next, connect the red (1-Wire signal) wire on the iButton reader to the orange (1-Wire interface) wire on the adapter cable. Please note that the red (Power) wire on the adapter cable is not used for this feature. Once the wires are connected the micro-USB connector on the adapter cable may be reinserted into the 6800 device.
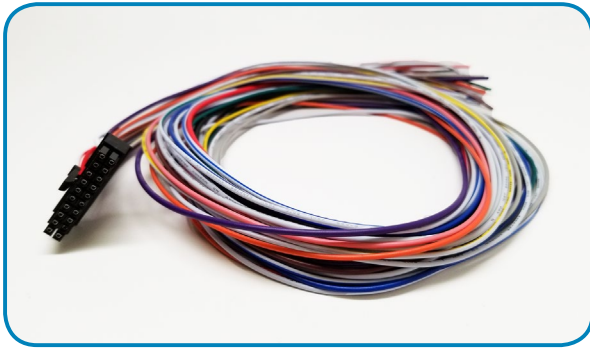
The micro-USB plug on the feature adapter cable may become dislodged by excessive vibration. It is a good practice to secure the cable to the 6800 device using a "zip"-style cable tie.

Once the configuration is complete, the Reader may be tested using an iButton. The 6800 device contains an internal buzzer, which will beep once when the iButton is tapped on the Reader and a message containing the iButton ID is successfully sent to the system.

4. Reader Installation and Testing (7301)

Like the 6800 model, the 7301 does not support the LED feedback. Either model of iButton reader will work with the 7301 beacon.

The 1-Wire Data connection on the 7301 wiring harness is the Green wire on Pin 13 on the 20-Pin Molex.

AIN3	10	20	K-LINE
DOUT2	9	19	DOUT1
DOUT3	8	18	DOUT4/AIN4
AIN2	7	17	AIN1
CAN2L	6	16	CAN2H
DIN2	5	15	DIN1
DIN4	4	14	DIN3
1WIRE POWER	3	13	1WIRE DATA
CAN1L	2	12	CAN1H
GND	1	11	+10...30 V DC

Connecting the Drill-Through Reader (Part# 65xx-DS9092L+)

The Green wire on the drill-through reader is the 1-Wire Data connection. Connect this to the Green 1-Wire Data connection (Pin 13) on the 7301 wiring harness. The Orange wire on the reader controls the LED and is ignored in this case. The Blue and Yellow wires on the Reader are connected to the Black ground wire (Pin 1) on the harness.

Please refer to the instructions provided in section 2 for mounting the drill-through reader on the dashboard.

Connecting the Surface-Mounted Reader (Part# 6xxx-TMR-W)

For the surface-mounted reader, the Red wire is the 1-Wire Data connection. This is connected to the Green 1-Wire Data connection (Pin 13) on the 7301 wiring harness. The Black wire on the Reader is connected to the Black ground wire (Pin 1) on the harness.

The surface-mounted reader is attached to the dashboard using the included adhesive patch. It has a 4 foot (1.3 m) connector wire, providing some flexibility for positioning the reader.

Connecting the Buzzer

Similar to the 65xx and 66xx models described in section 2, an external buzzer is required for the 7301. The Red wire on the buzzer is connected the Red power source (Pin 11) on the 7301 wiring harness. The Black wire on the buzzer is the output signal, which connects to the Orange/White wire on Pin 9 of the 7301 wiring harness (digital output #2).
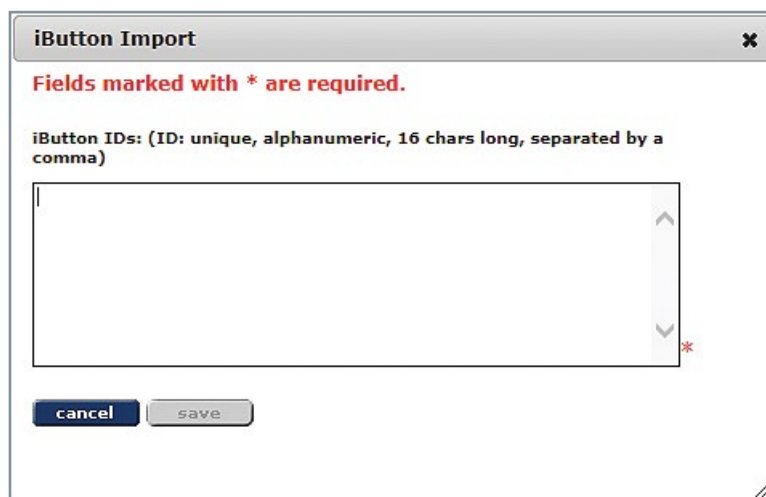
Once the configuration is complete, the reader may be tested using an iButton. The buzzer will beep when the iButton is tapped on the reader and a message containing the iButton ID is successfully sent to the system.

5. Portal Configuration – iButton Provisioning

There are two ways to provision an iButton into the Portal:

1. The first time an iButton is touched to a Reader attached to a beacon registered to a subscriber, the identifier from that iButton will be stored in the list of available iButtons for that subscriber.

2. The iButton Management Interface provides an "Import" button which will allow iButton codes to be read from the iButton and manually entered into the list of devices. Please note that these codes are lengthy alpha-numeric strings and manual entry is not recommended for large numbers of devices.

iButton Import Interface
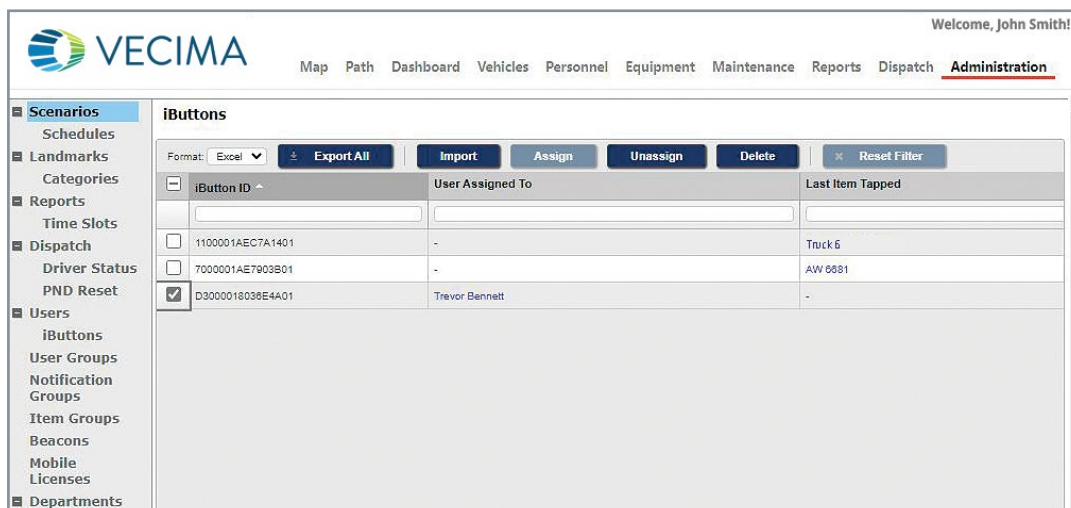
Once the iButton codes have been input into the system, they will appear in the list in the iButton Management interface. Unassigned iButtons will be highlighted in orange, as seen in the example below.

iButton Management Interface

Drivers are selected from among the list of Users created under the administration tab of the portal. When viewing the list of Users, those with an iButton assigned to them will be indicated with the (iB) icon.

To assign an iButton to a driver, open the iButton management interface by selecting "iButtons" in the left-hand menu. Check the box next to the iButton ID and click the "Assign" button now enabled at the top. This will launch a pop up window. Select the desired user from a drop down list and click save.

Once the iButton is assigned to a driver, if they touch their iButton to a Reader attached to a registered Vecima beacon, the Driver ID identified from that iButton will be associated with events generated by that beacon.

iButton Management Interface – iButton Assignment
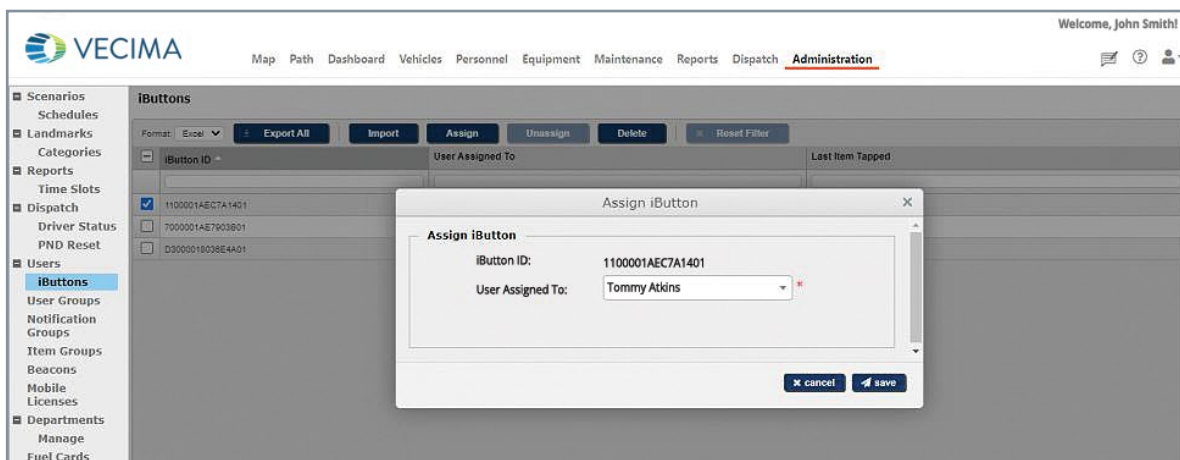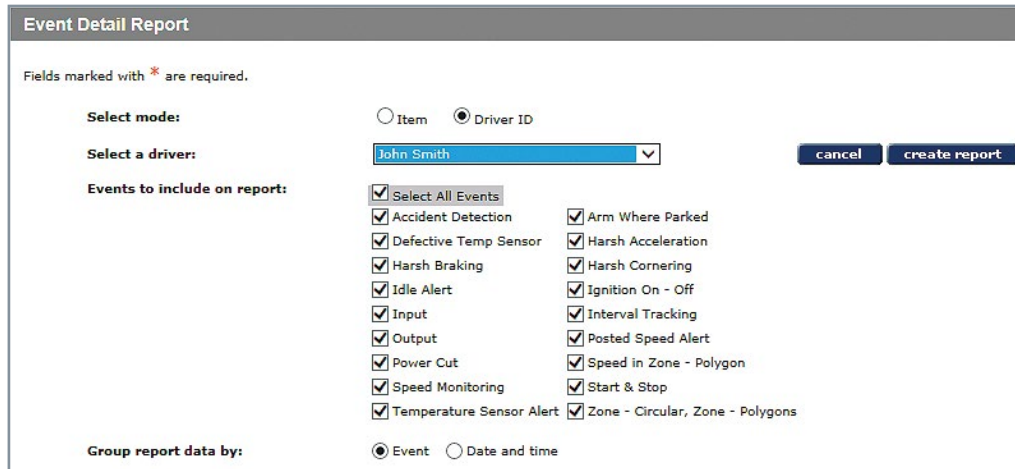
6. Event Reporting Using Driver ID

The following portal reports support Driver ID, and may be generated by selecting the Driver Name as opposed to the Item Name in the report setup.

- Route Log
- Stop Report
- Event Detail Report
- Trip Report
- Driver Behavior Report

The example on the next page shows the report input page for an Event Detail Report. The user is allowed to select a "mode" for the report, either Item or Driver ID. If Driver ID mode is selected, the user will be provided with a list of driver names for creating the report, and the result will display only those events associated with the selected driver.

Event Detail Report Input – Driver ID

Driver ID in Map View

In addition to items, operators may now select drivers for display in Map View.
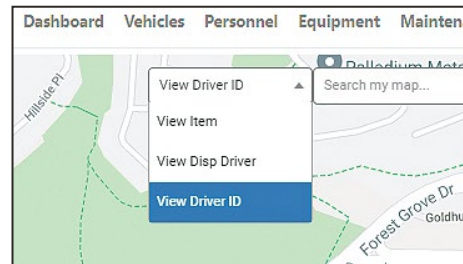
7. Important Considerations

- For 65xx and 66xx beacons, a special wiring harness is required for installations that include 1-Wire devices. This harness provides additional protection for the 1-Wire circuitry in the beacon. Please contact Vecima Support at support.telematics@vecima.com if necessary to verify that the correct harness has been supplied.

- Because the identification of the current driver is determined by the ignition events received by the beacon, it is a best practice to maintain an ignition scenario with a 24/7 schedule to prevent inconsistent results and to ensure the driver is properly warned by the buzzer when they fail to touch their iButton to the Reader.

- The 1-Wire Data bus is a shared connection. If the Temperature Sensor feature is also used, the iButton Reader will be wired to the same pin as the Temperature Sensor.

- When the Power Savings scenario is activated, the LED on the Reader will be solid green only when the vehicle ignition is turned on.

If you are still experiencing difficulty obtaining appropriate results for the Driver ID feature after following the steps in this document, please contact Vecima Support at support.telematics@vecima.com