

Ignition Power Management

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Ignition Power Management

Table 1: Feature History

Feature Name	Release Information	Description
Ignition Power Management	Cisco IOS XE Catalyst SD-WAN Release 17.9.1a Cisco vManage Release 20.9.1	Ignition power management prevents a router from draining the charge of a vehicle battery in automotive applications.
Ignition power management: configuration group support and real-time monitoring	Cisco IOS XE Catalyst SD-WAN Release 17.18.1a Cisco Catalyst SD-WAN Manager Release 20.18.1	Configure and monitor ignition power and sensing capabilities of IR1800 routers using Cisco SD-WAN Manager. It prevents the router from draining a vehicle's battery and keeps the router running when the vehicle is stopped, eliminating reload times each time the vehicle restarts.

Information About Ignition Power Management

When a router is installed in a vehicle and is powered by the electrical system of the vehicle, ignition power management prevents the router from draining the charge of the vehicle battery. When the vehicle engine is running, and charging the battery, the router remains operational. When the vehicle ignition is turned off, the router shuts down. You can configure a time interval to delay shutting down the router immediately.

For information about ignition power management, including feature limitations, see Ignition Power Management Overview in the *Cisco Catalyst IR1800 Rugged Series Router Software Configuration Guide*.

Supported devices for ignition power management

Cisco IR1800 router

Use Cases for Ignition Power Management

For a fleet of vehicles with Cisco IR1835 routers installed to provide network connectivity to each vehicle, you can configure the routers to sense the ignition status of the vehicle. The routers can start when the vehicle engine is running, and shut down shortly after the vehicle ignition is turned off. This ensures that the routers are operational and providing connectivity when the vehicles are in use, and not using power when the fleet vehicles are not in use.

Configure ignition power management using a configuration group

Before you begin

On the **Configuration** > **Configuration Groups** page, choose **SD-WAN** as the solution type.

Procedure

Step 1 From the Cisco SD-WAN Manager menu, choose **Configuration** > **Configuration Groups**.

Step 2 Create and configure an ignition power management feature in a System profile.

Table 2: Ignition Power Management

Field	Description
Name	Name for the ignition power management configuration.
Description	Description for the ignition power management configuration.
Enable	Enable or disable ignition power management.

Field	Description
Ignition Sense Enable	When ignition sense is enabled, it monitors the power supply voltage to detect whether ignition is on or off based on the configured thresholds. When ignition sense is disabled (on IR1835), it uses the ignition signal pin to detect whether ignition is on or off. **Note** Disabling ignition sense is supported only on IR 1835 routers.
Battery Type	Type of battery used.
Shutdown Timer	Timer (seconds) to delay shutdown after ignition is turned off.
Under voltage Threshold	Minimum voltage (in millivolts) for the device to operate before triggering an undervoltage event.
Sense voltage Threshold	Voltage threshold (in millivolts) for the device to sense ignition status. **Note** If the newly configured value is higher than the current input voltage, the router will shut down.

What to do next

Also see Deploy a configuration group.

Enable Ignition Power Management Using a CLI Template

1. Enable ignition power management, which enables the router to detect whether a vehicle ignition is on or off.

   ```
   ignition enable
   ignition sense
   ```

Note To disable ignition power management, configure **no ignition enable** and **no ignition sense**.

2. Configure the battery type as 12 V or 24 V. The default is 12 V.

   ignition *battery-type* {**12v** | **24v**}

3. (Optional) Configure an off-timer delay, to delay router shutdown after the ignition status changes to off. The range is 120 to 32,400 seconds, and the default is 300 seconds. Note that the device shutdown process begins approximately 100 seconds before the configured off-timer value.

   ignition off-timer *seconds*

4. (Optional) Configure the undervoltage parameter to trigger system shutdown if the voltage drops below a specific threshold. Configure the volts and millivolts as two separate inputs. The range of volts is 9 to 24, and the range of millivolts is 0 and 999. The default is 9.000 V.

   ignition undervoltage threshold *volts millivolts*

Here is a complete sample configuration, which configures a battery type of 12 V, an ignition off-timer of 300 seconds, and an undervoltage of 9 V (shown as 9 V and 0 millivolts)

```
ignition enable
ignition sense
ignition battery-type 12v
ignition off-timer 300
ignition undervoltage threshold 9 0
```

Monitor Ignition Power Management

Procedure

Step 1 From the Cisco SD-WAN Manager menu, choose **Monitor** > **Devices**.

Step 2 Select a supported IR1800 device.

Step 3 Click **Real Time** in the left pane.

Step 4 From the **Device Options** drop-down list, select **Ignition Power Management**.

Verify the Ignition Power Management Configuration

show running-config

On the device, use the **show running-config** command, filtering for ignition, to show the ignition power management configuration.

The following example is for a 12 V battery. Note that configuring the battery type as 12 V configures the sense-voltage threshold automatically to 13,000 mV.

```
Device#show running-config | section ignition
ignition off-timer 300
ignition undervoltage threshold 9 000
ignition battery-type 12v
ignition sense-voltage threshold 13 000
ignition sense
ignition enable
```

The following example is for a 24 V battery. Note that configuring the battery type as 24 V configures the sense-voltage threshold automatically to 26,000 mV.

```
Device#show running-config | section ignition
ignition off-timer 300
ignition undervoltage threshold 9 000
ignition battery-type 24v
ignition sense-voltage threshold 26 000
ignition sense
ignition enable
```

show ignition

On the device, use the **show ignition** command to show ignition power management configuration information.

- Configuring the battery type to 12 V configures the sense on value to 13.2 V and sense off to 12.8 V, and this appears in the **show ignition** output.
- Configuring the battery type to 24 V configures the sense on value to 26.2 V and sense off to 25.8 V, and this appears in the **show ignition** output.

The following example is for a 12 V battery:

```
Device#show ignition
Status:
Ignition management: Disabled
Input voltage: 17.672 V
Ignition status: Power on
Ignition Sense: Disabled
Shutdown timer: 0.0 s to off [will begin power down at ~100 sec]
Config-ed battery: 12v
Thresholds:
Undervoltage: 9.000 V
Overvoltage: 37.000 V
Sense on: 13.200 V
Sense off: 12.800 V
Undervoltage timer: 20.0 s
Overvoltage timer: 1.0 s
Ignition-Off timer: 300.0 s
```