



Critical Event Reporting

Parameter Reference

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Hard Braking

Detects sudden vehicle decelerations.

Data Source (Sensor)

Data read from: speed readings and ABS status from vehicle data bus.

Platforms Supported

MCP100

MCP110/200

MCP50

OT_ME_IMCT (requires firmware: 18.38)

OT_MCT & OT_IMCT (requires firmware: 16.75/76)

Vehicle Bus Requirements

J1587 or J1939

Feature Enablement

- CER enabled in mobile Op Profile (Customer Portal)

Trigger Criteria

Triggered when either set of conditions below are true:


- Vehicle speed exceeds 20 mph (default). For OmniTRACS, this value can be changed at the NMC, as described by *HB Speed Thresh* below. For MCPs, it is fixed at the default of 20 mph.
- For each of three consecutive calculations made 0.2 seconds apart, the speed decreases by at least 9 mph/sec. (default). For OmniTRACS, the deceleration threshold can be changed at the NMC, as described by *HB Decel Thresh* below. For MCPs, it is fixed at the default of 9 mph/sec.

or

- The vehicle's ABS is detected as active.

Parameters Set at NMC

Name	Definition	Default	Valid Values
HB Speed Thresh	The speed the vehicle must meet or exceed before a Hard Braking event will be triggered.	20	5 - 63
HB Decel Thresh	The rate at which the vehicle must decelerate for each of three consecutive calculations made 0.2 seconds apart.	9 mph/sec	6 -30 mph/sec


 **Note:** These parameters are settable for the OmniTracs platform only. For MCPs, parameters are fixed at default values.

Filters Set in the CER Host Application

Within the CER host application, you can define a filter based on the following parameters. An event will be included in a filter if all of the following conditions are true:

- The **ON/OFF** switch is ON.
- The vehicle speed is between the min and max settings for Speed MPH (min/max) OR speed data is missing and Include Missing Speed is checked.
- The deceleration is between the min and max settings for Deceleration MPH/sec OR deceleration data is missing and Include missing deceleration is checked.

Name	Description	Default	Valid Values
ON/OFF	If ON, hard braking events are reported for this filter.	OFF	OFF/ON
Speed MPH (min)	Vehicle must be travelling at this speed or faster for an event to be included in the filter.	none	0 to (max-1)
Speed MPH (max)	Vehicle must be travelling at this speed or slower for an event to be included in the filter.	none	(min+1) to 100
Include missing speed	If checked, event is triggered when speed data is missing	unchecked	checked / unchecked
Deceleration MPH/sec (min)	The vehicle must be decelerating at this rate or higher for an event to be included in the filter.	none	0 to (max-1)
Deceleration MPH/sec (max)	The vehicle must be decelerating at this rate or slower for an event to be included in the filter.	none	(min +1) to 100
Include missing deceleration	If checked, the filter will ignore the Min & Max Speed limits for events with missing incident speed values.	unchecked	checked / unchecked

 **Note:** The ABS active state is not filterable.

Manual CER Event

Triggered when driver initiates a manual CER event from the mobile unit.

Data Source (Sensor)

Data read from: input from driver on mobile unit.

Platforms Supported

MCP100

MCP110/200

MCP50

OT_ME_IMCT

OT_ME_MCT

Vehicle Bus Requirements

none

Feature Enablement

- CER enabled in mobile Op Profile (Customer Portal)

Trigger Criteria

Triggered when all conditions below are true:

- Driver initiates manual CER event from the mobile unit by command sequence on DIU or presses the separate hardware panic button. (The panic button is an optional accessory, available on the MCP100 and OT platforms.)

Hardware	Firmware	Key Sequence	DCN for driver card
OT: ME-IMCT units	18.38	Shift+!	80-JA354-1
OT: ME-IMCT units	18.46	Shift+t	80-JA137-1
OT: MCT & IMCT units	16.75/76	Shift+!	80-JA354-1
OT: MCT & IMCT units	16.87/88/89/90	Shift+t	80-JA137-1
MCP50	All	---	
MCP100	All	Shift+t	80-JA137-1
MCP200	All	Ctrl+t	80-JB314-1

Parameters Set at NMC

None.

Filters Set in the CER Host Application

Within the CER host application, you can define a filter based on the following parameters. An event will be included in a filter if all of the following conditions are true:

- The **ON/OFF** switch is ON.

Name	Description	Default	Valid Values
ON/OFF	If ON, manual events are reported for this filter.	OFF	OFF/ON

Stability Control

Detects vehicle instability (potentially leading to rollover or jackknife). Also known as Vehicle Dynamic Control (VDC).

Data Source (Sensor)

Data read from: third-party anti-rollover device broadcasting on vehicle data bus. Devices currently supported include Bendix and Meritor-Wabco. With these devices (and others) stability control is a component of the anti-lock braking (ABS) system.

Platforms Supported

MCP100

MCP110/200 (requires firmware: n/a)

MCP50 (requires firmware: n/a)

OT_ME_IMCT (requires firmware: 18.42 or higher)

OT_ME_MCT (requires firmware: 16.83 or higher)

Vehicle Bus Requirements

J1587 or J1939.

Feature Enablement

- CER enabled in mobile Op Profile (Customer Portal)
- VDC trigger enabled at NMC

Trigger Criteria

When the third-party sensor detects vehicle instability it broadcasts a *VDC On* message over the vehicle data bus. It continues to broadcast *VDC On* messages until stability is recovered. At that point, it broadcasts a *VDC Off* message. It continues to broadcast *VDC Off* messages until another instability is detected. See third-party documentation for more information on the sensor's behavior.

The MCP triggers a stability control event when all conditions below are true:

- Vehicle stability control is enabled at the NMC (see *VDC Trigger Enable* below).
- Vehicle speed exceeds 8 mph (default). This value can be changed at the NMC, as described by *VDC Speed Threshold* below.
- The MCP detects two or more consecutive *VDC On* messages. This minimum value can be changed at the NMC, as described by *VDC On Threshold* below.

Parameters Set at the NMC

Name	Description	Default	Valid Values
VDC Trigger Enable	Set to 1 to enable stability control monitoring.	0	0 / 1
VDC Speed Threshold	When the rollover sensor broadcasts an instability event, the vehicle must be travelling at least this fast for the MCP to look for VDC events.	8	0 - 63 mph

Name	Description	Default	Valid Values
VDC On Threshold	The number of consecutive <i>VDC On</i> messages that must be detected before the MCP considers a stability control event to be in progress.	2	2 - 7
VDC Off Thresh	The number of consecutive <i>VDC Off</i> messages that must be detected before the MCP considers a stability control event to be finished.	4	2 - 7
VDC Bits Tracked	Determines which bits the MCP tracks to detect VDC events. 0=brake only 1=engine only 2=brake or engine 3=brake and engine	2	0 - 3

Filters Set in CER Host Application

Within the CER host application, you can define a filter based on the following parameters. An event will be included in a filter if all of the following conditions are true:

- **ON/OFF** switch is ON.
- The vehicle speed is between the min and max settings for Speed MPH (min/max) OR speed data is missing and Include Missing Speed is checked.
- The deceleration is between the min and max settings for Deceleration MPH/sec OR deceleration data is missing and Include missing deceleration is checked.

Name	Description	Default	Valid Values
ON/OFF	If ON, stability control events are reported for this filter.	OFF	OFF/ON
Speed MPH (min)	Vehicle must be travelling at this speed or faster for an event to be included in the filter.	none	0 to (max-1)
Speed MPH (max)	Vehicle must be travelling at this speed or slower for an event to be included in the filter.	none	(min+1) - 100
Include missing speed	If checked, the filter will ignore the Min & Max Speed limits for events with missing incident speed values.	unchecked	checked / unchecked
Stability Control Count (min)	The MCP must count at least this many stability control events for the events to be included in the filter.	none	0 to (max-1)
Stability Control Count (max)	The MCP will not include events in this filter if the number of events meets or exceeds this value.	none	(min-1) to 255
Include missing count	If checked, the filter will ignore the Min & Max Stability Control Count limits for events with missing incident count values.	unchecked	checked / unchecked

Lane Departure Warning

Vehicle departs lane with no turn signal.

Data Source (Sensor)

Data read from: third party sensor broadcasting on vehicle data bus. Currently supported sensors include Iteris and Takata SafeTrak3. (Takata not supported on OT.)

Platforms Supported

MCP100

MCP110/200 (requires firmware: n/a)

MCP50 (requires firmware: n/a)

OT_ME_IMCT (Iteris only; requires OT firmware: 18.50 or higher)

OT_ME_MCT (Iteris only; requires OT firmware: 16.87 or higher)

Vehicle Bus Requirements

J1939. J1708 with Iteris converter box.

Feature Enablement

- CER enabled in mobile Op Profile (Customer Portal)
- LDW trigger enabled at NMC

Trigger Criteria

When the third-party sensor detects a lane departure it broadcasts an *LDW On* message over the vehicle data bus. It continues to broadcast *LDW On* messages until it detects that the vehicle has stopped changing lanes or the turn signal has turned on. At that point, it broadcasts a *LDW Off* message. It continues to broadcast *LDW Off* messages until another lane departure is detected. See third-party documentation for more information on the sensor's behavior.

The MCP monitors these messages from the sensor and when it receives a specified number of *LDW On* messages, it considers that a Lane Departure Event has occurred. A setting at the NMC (*LDW On Thresh*) controls the number of messages necessary.

The MCP issues an over-the-air (OTA) notification when all conditions below are true:

- The Lane Departure Warning feature is enabled at the NMC, as described by *LDW enable*, below.
- Vehicle speed exceeds 30 mph (default). This value can be changed at the NMC, as described by *LDW Speed Threshold* below.
- The MCP counts at least 5 Lane Departure events within 5 minutes. These values can be changed at the NMC, as described by *LDW Event Ct Thresh* and *LDW Time Thresh* below.

Parameters Set at NMC

Name	Definition	Default	Valid Values
LDW Enable	Set to 1 to enable lane departure warning.	0	0 - 1

Name	Definition	Default	Valid Values
LDW Event Ct Thresh	The number of Lane Departure Warnings the MCP must detect within the specified time period before the MCP issues an OTA notification.	5	1 - 31
LDW Time Thresh	The specified time period for counting consecutive Lane Departure Warning events as described above.	5 min	1 - 63
LDW On Thresh	The number of consecutive <i>LDW On</i> messages the sensor must broadcast for the MCP to consider an LDW event in progress.	1	1 - 7
LDW Off Thresh	The number of consecutive <i>LDW Off</i> messages the sensor must broadcast for the MCP to consider an LDW event to be over.	1	1 - 7
LDW Speed Thresh	When the MCP detects a Lane Departure event, the vehicle must be travelling at least this fast for the MCP to consider it valid.	30	0 - 63

Filters Set in the CER Host Application

Within the CER host application, you can define a filter based on the following parameters. An event will be included in a filter if all of the following conditions are true:

- **ON/OFF** switch is ON.
- The vehicle speed is between the min and max settings for Speed MPH (min/max) OR speed data is missing and Include Missing Speed is checked.
- The number of events detected falls between Min and Max for Events (min/max) over a number of minutes that you specify.

Name	Description	Default	Valid Values
ON/OFF	If ON, LDW events are reported for this filter.	OFF	OFF/ON
Speed MPH (min/max)	The vehicle must be travelling at this speed or faster for an event to be included in the filter.	none	0 to (max-1) mph
Speed MPH (max)	The vehicle must be travelling at this speed or slower for an event to be included in the filter.	none	(min+1) to 100 mph
Include missing speed	If checked, the filter will ignore the Min & Max Speed limits for events with missing incident speed values.	unchecked	checked / unchecked
Events (min)	The minimum number of events that must occur during a specified time interval (see minutes below) for data to be included in this filter.	none	0 to (max-1)
Events (max)	The maximum number of events that can occur during a specified time interval (see minutes below) for data to be included in this filter.	none	(min+1) - 100
in . . . minutes	The number of minutes comprising the time interval described in the Events (min/max) fields.	none	0 to 100 minutes

Lane Departure Disabled

Someone at the vehicle disables the lane departure warning system.

Data Source (Sensor)

Data read from: third party sensor broadcasting on vehicle data bus. Currently supported sensors include Iteris and Takata SafeTrak3. (Takata not supported on OT.)

Platforms Supported

MCP100

MCP110/200 (requires firmware: n/a)

MCP50 (requires firmware: n/a)

OT_ME_IMCT (Iteris only; requires OT firmware: 18.50 or higher)

OT_ME_MCT (Iteris only; requires OT firmware: 16.87 or higher)

Vehicle Bus Requirements

J1939. J1708 with Iteris converter box.

Feature Enablement

- CER enabled in mobile Op Profile (Customer Portal)
- LDW trigger enabled at NMC

Trigger Criteria

The MCP issues an over-the-air (OTA) notification that lane departure warning system has been disabled when all conditions below are true:

- The Lane Departure Warning feature is enabled at the NMC, as described by *LDW enable*, below.
- Vehicle speed exceeds 30 mph (default). This value can be changed at the NMC, as described by *LDW Disablement Speed Threshold* below.
- The MCP detects at least 5 Lane Departure Warning Disabled messages within 5 minutes. These values can be changed at the NMC, as described by *LDW Disablement Event Ct Thresh* and *LDW Disablement Time Thresh* below.

Parameters Set at NMC

Name	Definition	Default	Valid Values
LDW Enable	Set to 1 to enable lane departure warning.	0	n/a
LDW Disablement Event Ct Thresh	The number of Lane Departure Warnings Disabled messages the MCP must detect within the specified time period before the MCP issues an OTA notification.	5	1 - 31
LDW Disablement Time Thresh	The specified time period for counting consecutive Lane Departure Warning disabled events as described above.	5	1 - 63

Name	Definition	Default	Valid Values
LDW Disablement Speed Thresh	When the MCP detects a Lane Departure Warning Disabled event, the vehicle must be travelling at least this fast for the MCP to consider it valid.	30	0 - 63 mph

Filters Set in the CER Host Application

Within the CER host application, you can define a filter based on the following parameters. An event will be included in a filter if all of the following conditions are true:

- **ON/OFF** switch is ON.
- The vehicle speed is between the min and max settings for Speed MPH (min/max) OR speed data is missing and Include Missing Speed is checked.
- The number of events detected [within what time period??] falls between Min and Max for Events (min/max).

Name	Description	Default	Valid Values
ON/OFF	If ON, LDW disabled events are reported for this filter.	OFF	OFF/ON
Speed MPH (min/max)	The vehicle must be travelling at this speed or faster for an event to be included in the filter.	none	0 to (max-1) mph
Speed MPH (max)	The vehicle must be travelling at this speed or slower for an event to be included in the filter.	none	(min+1) to 100 mph
Include missing speed	If checked, the filter will ignore the Min & Max Speed limits for events with missing incident speed values.	unchecked	checked / unchecked
Events (min)	The minimum number of events that must occur during a specified time interval (see minutes below) for data to be included in this filter.	none	0 to (max-1)
Events (max)	The maximum number of events that can occur during a specified time interval (see minutes below) for data to be included in this filter.	none	(min+1) - 100
in . . . minutes	The number of minutes comprising the time interval described in the Events (min/max) fields.	none	0 to 100 minutes

Forward Collision Warning

Detects when a forward collision is imminent. Allows a carrier to track near-miss incidents over time.

Data Source (Sensor)

Data read from: third party sensor broadcasting on vehicle data bus. Currently supported sensors include Mobileye, Bendix Wingman Advanced, and Meritor-Wabco Onguard systems.

Platforms Supported

MCP100

MCP110/200

MCP50

Vehicle Bus Requirements

J1939. 2007 trucks or newer.

Feature Enablement

- CER enabled in mobile Op Profile (Customer Portal)
- FCW/FTV trigger enabled at NMC
- FCW/FTV trigger enabled on host (CSN administration)

Trigger Criteria

Triggered when all conditions below are true:

- The third-party sensor sends an FCW message. For Mobileye, this is an ACC1 message; for Bendix Wingman Advanced, it is a Smartmessage; for Meritor-Wabco Onguard, it is an ACC1+XBR message. See third-party documentation for more information on the sensor's behavior.
- Vehicle is travelling at least 20 mph.

Parameters Set at NMC

Name	Description	Default	Valid Values
FTV/FCW Trigger Enable	Set to 1 to enable stability control monitoring.	0	0 / 1
FTV/FCW Speed Threshold	When the sensor broadcasts an FCW event, the vehicle must be travelling at least this fast for the MCP to consider it valid.	20	0 - 63 mph

Filters Set in the CER Host Application

Name	Description	Default	Valid Values
ON/OFF	If ON, FCW events are reported for this filter.	OFF	OFF/ON
Speed MPH (min)	Vehicle must be travelling at this speed or faster for an event to be included in the filter.	none	0 to (max-1)

Name	Description	Default	Valid Values
Speed MPH (max)	Vehicle must be travelling at this speed or slower for an event to be included in the filter.	none	(min+1) - 100
Include missing speed	If checked, the filter will ignore the Min & Max Speed limits for events with missing incident speed values.	unchecked	checked / unchecked
All	If checked, automatically checks all the settings listed below.	unchecked	checked / unchecked
Smart Message	If checked, the filter includes Smart Message alerts from the Bendix Wingman Advanced system.	unchecked	checked / unchecked
Mobileye	If checked, the filter includes alerts from the Mobileye system.	unchecked	checked / unchecked
Haptic Warning	If checked, the filter includes Haptic Warning alerts from the Meritor-Wabco OnGuard system.	unchecked	checked / unchecked
Collision Mitigation	If checked, the filter includes Collision Mitigation alerts from the Meritor-Wabco OnGuard system.	unchecked	checked / unchecked

Following Time Violation

Detects if vehicle is following too closely behind the vehicle in front of it.

Data Source (Sensor)

Data read from: third party sensor broadcasting on vehicle data bus. Currently supported sensors include Mobileye and Bendix Wingman Advanced.

Platforms Supported

MCP100

MCP110/200 (requires firmware:)

MCP50 (requires firmware:)

Vehicle Bus Requirements

J1939. 2007 trucks or newer.

Feature Enablement

- CER enabled in mobile Op Profile (Customer Portal)
- FCW/FTV trigger enabled at NMC
- FCW/FTV trigger enabled on host (CSN administration)

Trigger Criteria

Following time is defined as the number of seconds before a vehicle would collide with an object in front of it, if that object were stationary. It is calculated from the vehicle's speed and the distance between the vehicle and the forward object.

The MCP triggers an Following Time Violation (FTV) when all conditions below are true:

- The vehicle is travelling at least 37 mph (default). This value can be changed at the NMC, as described by *FTV Min Speed*, in the table below.
- Following time (as reported by third-party sensor) remains below one second (default) for at least 40 continuous seconds (default). These values can be changed at the NMC as described by *FTV Follow Time Min* and *FTV Time Max* in the table below.

Parameters Set at NMC

Name	Description	Default	Valid Values
FTV Min Speed	The vehicle must be travelling at least this fast for the event to be triggered.	37	1-80
FTV Trigger Enabled	Set to 1 to enable FTV feature.	0	0-1
FTV Follow Time Min (s)	If the vehicle's following time is less than this interval (in seconds), the MCP accumulates following time violation time .	1	7
FTV Time Max (s)	If the vehicle accumulates at least this number of seconds of Following time violation time, an FTV event is triggered.	40	1-36000

Filters Set in the CER Host Application

Name	Description	Default	Valid Values
ON/OFF	If ON, FTV events are reported for this filter.	OFF	OFF/ON
Speed MPH (min)	Vehicle must be travelling at this speed or faster for an event to be included in the filter.	none	0 to (max-1)
Speed MPH (max)	Vehicle must be travelling at this speed or slower for an event to be included in the filter.	none	(min+1) - 100
Include missing speed	If checked, the filter will ignore the Min & Max Speed limits for events with missing incident speed values.	unchecked	checked / unchecked

Overspeed/Excessive Overspeed

Detects vehicle instability (potentially leading to rollover or jackknife). Also known as Vehicle Dynamic Control (VDC).

Data Source (Sensor)

Data read from: speed readings from vehicle data bus..

Platforms Supported

MCP110/200 (requires firmware: n/a)

MCP50 (requires firmware: n/a)

Vehicle Bus Requirements

J1587 or J1939.

Feature Enablement

- CER enabled in mobile Op Profile (Customer Portal)
- Performance Monitoring (PM) enabled with settings for overspeed/excessive overspeed in mobile Op Profile (Customer Portal)

Trigger Criteria

CER leverages the overspeed/excessive overspeed trigger in PM. An administrative user of PM can set these thresholds for each vehicle type. The thresholds are found under PM/Settings/Vehicle Types.

For CER to report an overspeed/excessive overspeed event the vehicle must exceed the speed value set in PM for a duration specified on the NMC.

PM has separate threshold values for the overspeed and excessive overspeed events. There is only one parameter for duration, so this must be the same for both overspeed and excessive overspeed.

Parameters Set at the NMC

Name	Description	Default	Valid Values
Overspeed Duration	How long the vehicle must exceed the overspeed or excessive overspeed thresholds to trigger an overspeed or excessive overspeed event.	30 sec	1 - 300 sec

Filters Set in CER Host Application

Within the CER host application, you can define a filter based on the following parameters. An event will be included in a filter if all of the following conditions are true:

- Overspeed events will be included in the filter if the Overspeed **ON/OFF** switch is set to ON .
- Excessive overspeed will be included in the filter if the Excessive Overspeed **ON/OFF** switch is set to ON.

