

Accident detection, log and SMS alerts

WHAT'S NEW

Accident detection has been introduced for FM PRO3 device. It is available for PRO3 only firmware version starting 00.02.49, configurator version 01.62.

- DOUTs control mechanism
- New IO parameters
- New SMS alerts and accident log



Accident detection monitor and send alerts upon event of accident or crash.

- Event trigger from digital inputs (e.g. air bag went off)
- Event trigger from extreme/harsh braking
- Event trigger from overspeeding, harsh acceleration
- Accident log writing and sending to server
- SMS alerts in event of accident

You can get all newest software and firmware at <ftp://dev.ruptela.lt> (user name: ftp, password: ftp).

Accident log and SMS alerts

Accident log contain information about various parameters before and at the moment of accident. Required parameters are stored every 1 second. Log contain information for 5 last minutes and then overwrite from oldest records. If accident log is triggered (according to IO parameters conditions), log is being written for 1 more minute and sent to server. After server accepted packets, log is deleted from device's memory.

Collected parameters:

Parameter	Description	Value expression
Location	Latitude and longitude coordinates	value is multiplied by 10000000
RPM	RPMs of engine	Actual RPM value
Speed	vehicle speed	Actual speed, km/h
Engine state	indicate if engine was on or off	0 - engine off, 1 - engine on
Brake pedal position	indicate if brake pedal was pressed or released	0 - released, 1 - pressed
Acceleration pedal position	indicate pedal position	0-100 % (data only from OBD)

NOTE

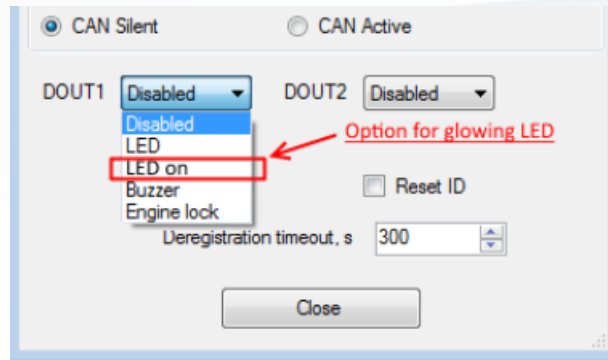
Parameters must be active from vehicle CAN line otherwise device cannot get needed information.

SMS alerts can be triggered on state change of DINs and overspeeding, extreme, harsh braking/acceleration events. Further description is provided in *New IO parameters*.

You can set phone numbers, who will get SMS alerts, in **Authorized numbers** options. Two numbers can get alerts.

DOUTs control

New DOUT control mechanism is introduced. New option *LED on* will keep LED glowing indicating that engine can be started. LED will glow according to deregistration timeout.



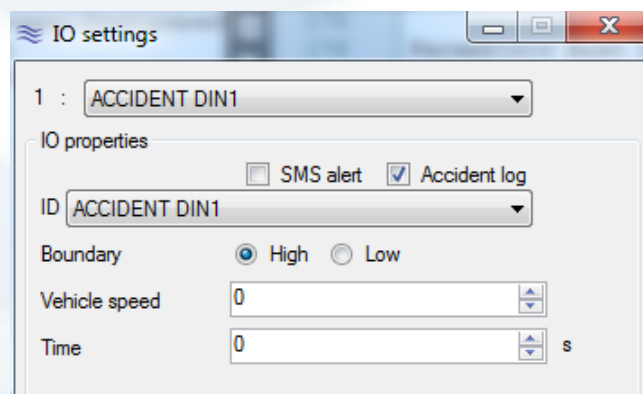
New IO parameters

There are 8 new IO parameters dedicated accident detection.

- ACCIDENT overspeeding
- ACCIDENT extreme braking
- ACCIDENT harsh breaking
- ACCIDENT harsh acceleration
- ACCIDENT DIN1
- ACCIDENT DIN2
- ACCIDENT DIN3
- ACCIDENT DIN4

Accident DINs

Accident DINs can indicate when some safety mechanism, e.g. air bag or seat belt were initialized. This helps to detect accident and trigger data send to server.



NOTE

You have to connect digital inputs wires to chosen safety mechanism.

Select empty parameter slot, choose ACCIDENT DINx in ID list. To enable parameter check **SMS alert** and/or **Accident log**.

- SMS alert - send SMS to predefined numbers.
- Accident log - DIN state change trigger accident log creation and sending to server.

Next thing, you have to set condition for event. Boundry, vehicle speed and time are used to set those conditions:

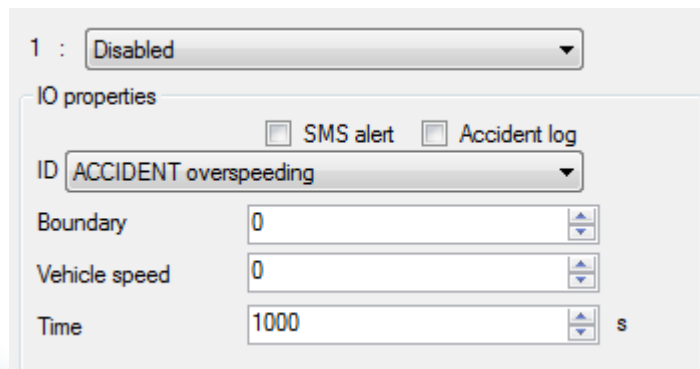
- Boundary - Needs to be set to high or low. This is related to how safety device will trigger DIN - we need to know if, e.g. upon initialization of air bag, DIN state will change to low or high. According to this boundary must be set.
- Vehicle speed - vehicle speed at which DIN state change should occur. Another example of DIN usage: if seat belt is not fastened, DIN state is LOW, time set to 10 seconds. Set speed to 90 km/h, DIN boundary to LOW and you will get alert if seat belt is not fastened when speed is 90 and above for 10 seconds.
- Time - Period of time, how long boundary and speed conditions must be present.

NOTE

If you set Speed to 0, this condition will be ignored. When DIN state change to specified, alert will be sent disregarding speed.

Accident overspeeding

Accident overspeeding parameter allow overspeeding monitoring and alerts.



1 : Disabled

IO properties

SMS alert Accident log

ID ACCIDENT overspeeding

Boundary 0

Vehicle speed 0

Time 1000 s

- SMS alert - send SMS to predefined numbers.
- Accident log - Overspeeding trigger accident log creation and sending to server.

Next, set required conditions:

- Boundary - Set speed boundary. This indicate at which speed overspeeding is considered.
- Vehicle speed - In simple words it duplicate Boundary condition. However more specific conditions can be set using both. E.g. if you set boundary to 90 km/h (overspeeding is considered at 90 km/h) and vehicle speed to 110 km/h for 30 seconds (Time condition), overspeeding (90 and above) is detected only when 110 km/h speed is detected for more than 30 seconds. If you do not want complex conditions, leave vehicle speed condition 0.
- Time - time condition for how long vehicle speed condition must be held in order to trigger alert.

NOTE

If you set Speed to 0, this condition will be ignored. When boundary is exceeded alert is triggered momentary.

Accident harsh and extreme braking, harsh acceleration

NOTE

Harsh, extreme braking and harsh acceleration data is taken from accelerometer. Accelerometer must be installed, configured and calibrated according to [description](#).

Those new IO parameters are configured same and their trigger logic is the same.

1 : Disabled

IO properties

SMS alert Accident log

ID ACCIDENT harsh acceleration

Boundary 0

Vehicle speed 0

Time 0 s

- SMS alert - send SMS to predefined numbers.
- Accident log - harsh and extreme braking/acceleration will trigger accident log creation and sending to server.

Now, again, set condition to trigger event:

- Boundary - boundary is set for acceleration or deceleration [m/s^2]. Example values can be found in ECO Driving parameters menu by choosing one of default profiles.
- Vehicle speed - set speed at which boundary condition should be considered fulfilled. If you set speed to 0, event will be triggered disregarding speed of vehicle.
- Time - Set time interval for how long vehicle speed should be above entered value to trigger event.

Ruptela Protocol update for private servers

Integration protocol was updated regarding receiving accident log. To receive newest copy of integration protocol please contact Ruptela technical support team.