

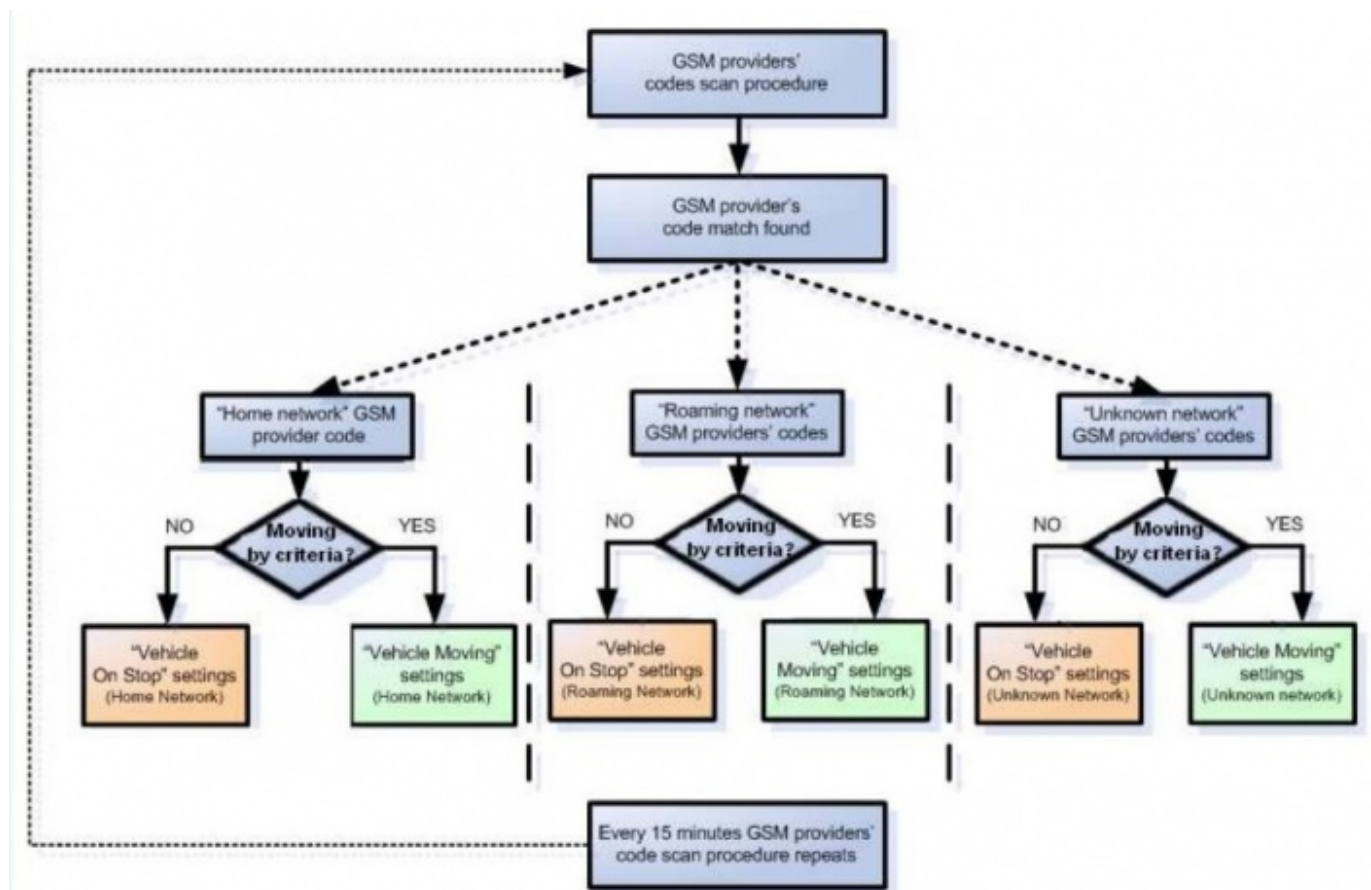
# Template:FM3612 Data acquisition mode settings

Data Acquisition Modes are an essential part of FM36YX device, it is also highly configurable. By configuration user defines how records will be saved and sent. There are three different modes: Home, Roaming and Unknown. All these modes with configured data acquisition and send frequencies depend on current GSM Operator defined in Operator list and are switched when GSM operator changes (e.g. vehicle passes through country boarder).

If current GSM operator is defined as Home Operator, device will work in Home Data Acquisition mode, if current operator is defined as Roaming Operator, device will work in Roaming Data Acquisition mode, and if current operator code is not written in Operator list (but there is at least one operator code in the operator list), device will work in Unknown Acquisition mode.

This functionality allows having different AVL records acquire and send parameters values when object is moving or stands still. Vehicle moving or stop state is defined by Stop Detection Source parameter. There are 3 ways for FM36YX to switch between Vehicle on Stop and Vehicle Moving modes. FM36YX allows having 6 different modes.

Note: If there are no operator codes entered into operator list, FM36YX will work in Unknown network mode ONLY.



# Data Acquisition Mode configuration

Operator search is performed every 15 minutes. Depending on current GSM operator, Home, Roaming or Unknown mode can be changed faster than every 15 minutes. This process is separate from operator search. Movement criteria are checked every second.

<b>System</b>	Data Acquisition Modes : Home <table border="1"> <tr> <th colspan="2">Vehicle on STOP</th> <th colspan="2">Vehicle MOVING</th> </tr> <tr> <td>Min Period:</td> <td>600 sec.</td> <td>Min Period:</td> <td>30 sec.</td> </tr> <tr> <td></td> <td></td> <td>Min Distance:</td> <td>200 m.</td> </tr> <tr> <td></td> <td></td> <td>Min Angle:</td> <td>20 deg.</td> </tr> <tr> <td>Min Saved Records:</td> <td>1</td> <td>Min Speed Delta:</td> <td>0 km/h</td> </tr> <tr> <td>Send Period:</td> <td>1 sec.</td> <td>Min Speed Source:</td> <td>GPS</td> </tr> <tr> <td></td> <td></td> <td>Min Saved Records:</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>Send Period:</td> <td>1 sec.</td> </tr> <tr> <td colspan="2" style="text-align: center;">GPRS Week Time</td> <td colspan="2" style="text-align: center;">GPRS Week Time</td> </tr> </table> Data Acquisition Modes : Roaming <table border="1"> <tr> <th colspan="2">Vehicle on STOP</th> <th colspan="2">Vehicle MOVING</th> </tr> <tr> <td>Min Period:</td> <td>600 sec.</td> <td>Min Period:</td> <td>1200 sec.</td> </tr> <tr> <td></td> <td></td> <td>Min Distance:</td> <td>1000 m.</td> </tr> <tr> <td></td> <td></td> <td>Min Angle:</td> <td>30 deg.</td> </tr> <tr> <td>Min Saved Records:</td> <td>10</td> <td>Min Speed Delta:</td> <td>0 km/h</td> </tr> <tr> <td>Send Period:</td> <td>600 sec.</td> <td>Min Speed Source:</td> <td>GPS</td> </tr> <tr> <td></td> <td></td> <td>Min Saved Records:</td> <td>10</td> </tr> <tr> <td></td> <td></td> <td>Send Period:</td> <td>600 sec.</td> </tr> <tr> <td colspan="2" style="text-align: center;">GPRS Week Time</td> <td colspan="2" style="text-align: center;">GPRS Week Time</td> </tr> </table> Data Acquisition Modes : Unknown <table border="1"> <tr> <th colspan="2">Vehicle on STOP</th> <th colspan="2">Vehicle MOVING</th> </tr> <tr> <td>Min Period:</td> <td>3600 sec.</td> <td>Min Period:</td> <td>300 sec.</td> </tr> <tr> <td></td> <td></td> <td>Min Distance:</td> <td>100 m.</td> </tr> <tr> <td></td> <td></td> <td>Min Angle:</td> <td>10 deg.</td> </tr> <tr> <td>Min Saved Records:</td> <td>1</td> <td>Min Speed Delta:</td> <td>0 km/h</td> </tr> <tr> <td>Send Period:</td> <td>1 sec.</td> <td>Min Speed Source:</td> <td>GPS</td> </tr> <tr> <td></td> <td></td> <td>Min Saved Records:</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>Send Period:</td> <td>1 sec.</td> </tr> <tr> <td colspan="2" style="text-align: center;">GPRS Week Time</td> <td colspan="2" style="text-align: center;">GPRS Week Time</td> </tr> </table>	Vehicle on STOP		Vehicle MOVING		Min Period:	600 sec.	Min Period:	30 sec.			Min Distance:	200 m.			Min Angle:	20 deg.	Min Saved Records:	1	Min Speed Delta:	0 km/h	Send Period:	1 sec.	Min Speed Source:	GPS			Min Saved Records:	1			Send Period:	1 sec.	GPRS Week Time		GPRS Week Time		Vehicle on STOP		Vehicle MOVING		Min Period:	600 sec.	Min Period:	1200 sec.			Min Distance:	1000 m.			Min Angle:	30 deg.	Min Saved Records:	10	Min Speed Delta:	0 km/h	Send Period:	600 sec.	Min Speed Source:	GPS			Min Saved Records:	10			Send Period:	600 sec.	GPRS Week Time		GPRS Week Time		Vehicle on STOP		Vehicle MOVING		Min Period:	3600 sec.	Min Period:	300 sec.			Min Distance:	100 m.			Min Angle:	10 deg.	Min Saved Records:	1	Min Speed Delta:	0 km/h	Send Period:	1 sec.	Min Speed Source:	GPS			Min Saved Records:	1			Send Period:	1 sec.	GPRS Week Time		GPRS Week Time	
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**Min Period** This parameter indicates time interval in seconds in order to acquire new record. If value is 0 it means no records by min period will be saved.

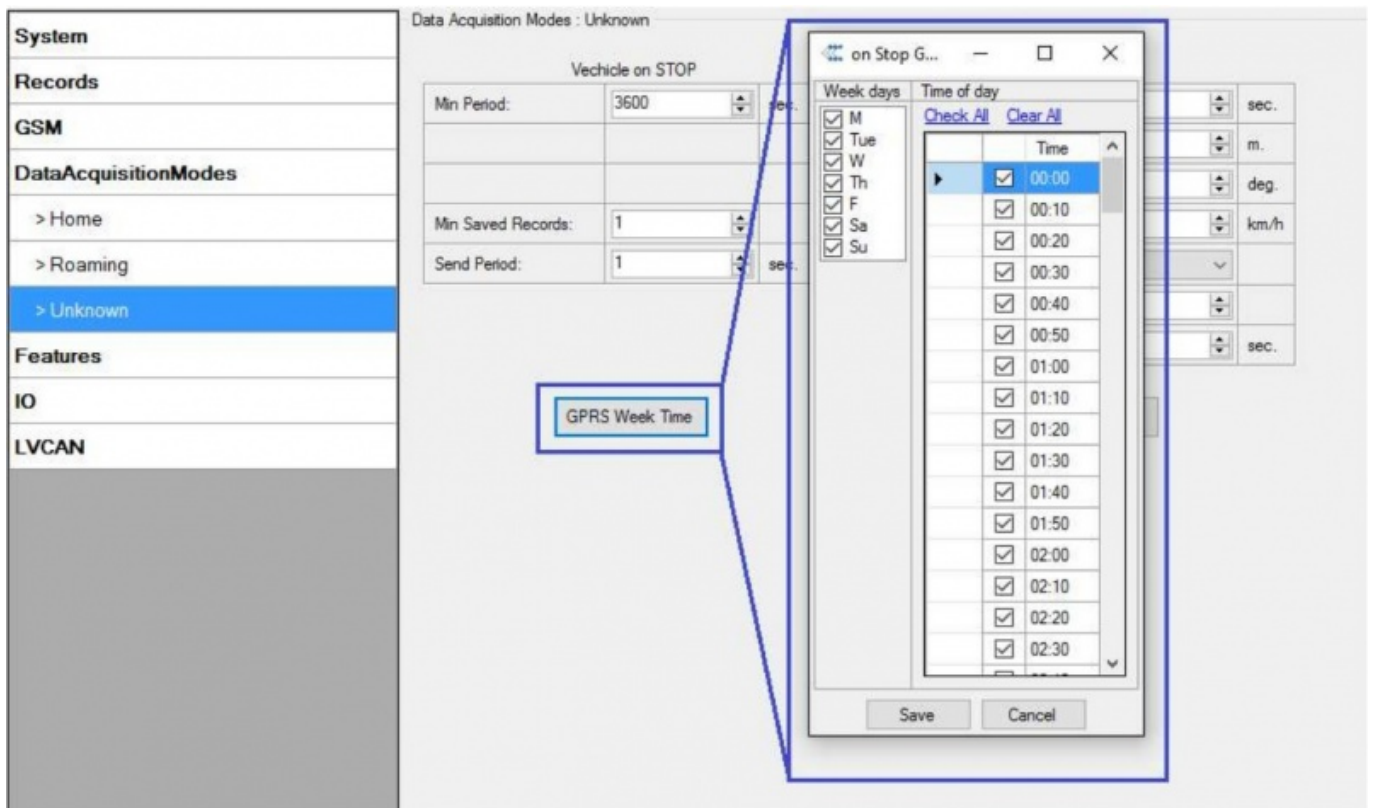
**Min Saved Records** defines minimum number of coordinates and I/O data that should be transferred with one connection to server. If FM36YX does not have enough coordinates to send to

server, it will check again after time interval defined in **Sending Period**

**Send period** - GPRS data sending to server period. Module makes attempts to send collected data to server every defined period. If it does not have enough records (depends on parameter Min. Saved Records described above), it tries again after defined time interval.

## GPRS Week Time configuration

**GPRS Week Time tab** - most GSM billing systems charge number of bytes (kilobytes) transmitted per session. During the session, FM36YX makes connection and transmits data to a server. FM36YX tries to handle the session as much as possible; it never closes session by itself. Session can last for hours, days, weeks or session can be closed after every connection in certain GSM networks - this depends on GSM network provider. GPRS Context Week Time defines session re-establish schedule if session was closed by network. New GPRS context is opened if time is 10 minutes till time checked in table. Therefore if all boxes are checked, FM36YX is able to open new connection anytime. At scheduled time match FM36YX checks for GPRS session activity. If GPRS session is alive, FM36YX sends data to server according to Send period parameter. If it is not, FM36YX checks if it is able to re-establish the session.

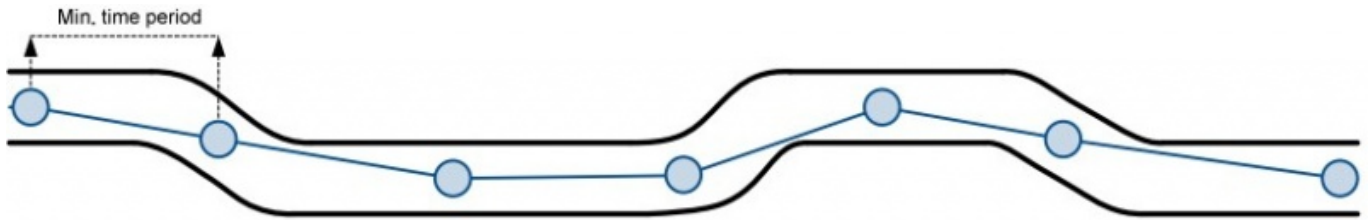


Device checks if the time between last saved record and current time is equal or higher than Time based acquire interval. If so, FM36YX saves record to memory. If not, FM36YX checks if the distance from last record to current record is equal or higher than Distance based acquire interval. If so, saves the record to memory. If not and speed is higher than 10km/h, then FM36YX checks if angle difference between last record and current record is equal or higher than Angle based acquire value. If so, saves the record to memory. These checks are performed every second.

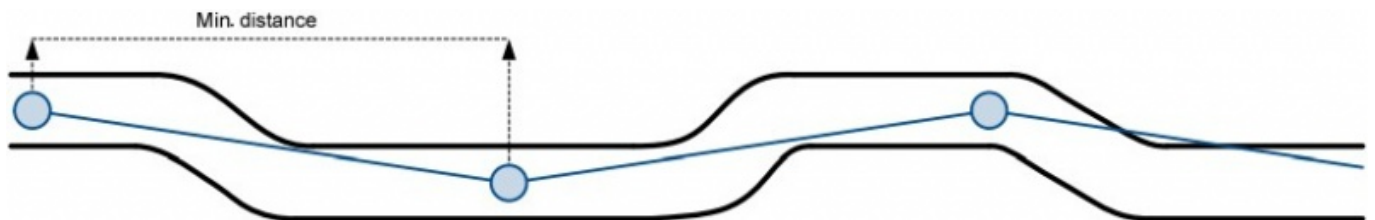
**⊗ Note:** Keep in mind that FM36YX operates in GMT:0 time zone, without daylight saving.

FM36YX is able to collect records using four methods at the same time: time, distance, angle and speed based data acquisition:

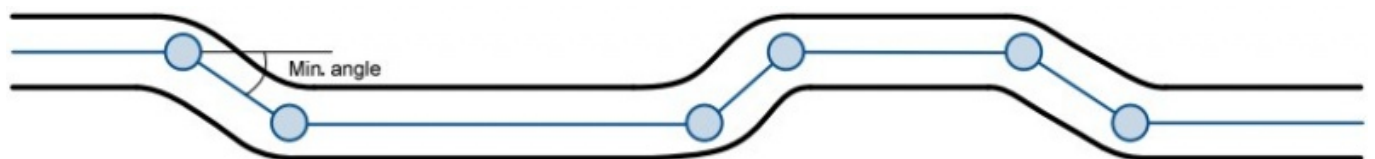
Time based data acquiring (Min. period) - records are being acquired every time when defined interval of time passes. Entering zero disables data acquisition depending on time.



Distance based data acquiring (Min. distance) - records are being acquired when the distance between previous coordinate and current position is greater than defined parameter value. Entering zero disables data acquisition depending on distance.



Angle based data acquiring (Min. angle) - records are being acquired when angle difference between last recorded coordinate and current position is greater than defined value. Entering zero disables data acquisition depending on angle.



Speed based data acquiring (Min. speed delta) - records are being acquired when speed difference between last recorded coordinate and current position is greater than defined value. Entering zero disables data acquisition depending on speed.

