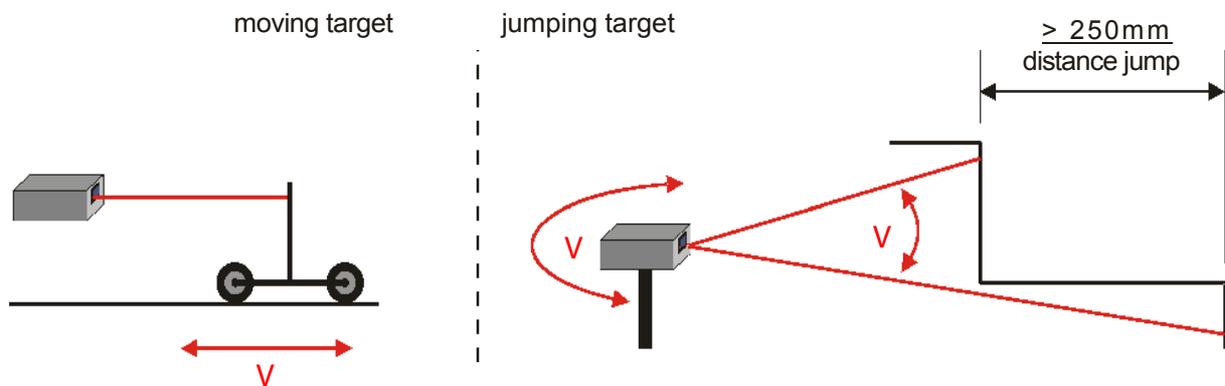


## MRL3 Application Note A1 002

This application note describes the configuration for the fastest possible measurement rates. It includes a description of the necessary configuration commands.

### Moving Target Tracking Mode

This measurement mode is optimized for measuring moving targets, where the measured distance will only change gradually and an immediate change in the distance (distance jump) will never happen. This situation is often seen on cranes, in automatic warehouses etc. The following illustration shows the difference between moving targets and jumping targets.



The Moving Target Tracking Mode requires a reduced measurement algorithm, which uses a previous measured distance for the distance calculation to reduce the measurement time. To obtain the first distance at the start of the Moving Target Tracking Mode, a complete measurement is automatically executed .

As this mode uses incremental measurements, complete measurements should be programmed whenever the fast measurement speed is not needed. To change from the fast tracking mode to the normal tracking mode, an 'n' character is sent and to activate the fast tracking mode again an 'f' character is sent. The 'n' and 'f' characters must not be terminated.

Further, automatic changes between fast and normal tracking are possible with the DeltaDistance parameter. If the distance change between two subsequent measurements is less than the programmed DeltaDistance, the normal tracking mode is activated automatically, while the fast tracking mode is automatically activated if the distance change is more than the programmed DeltaDistance.

The target speed cannot be greater than 250mm per 0.6 seconds.

## Configuration Command (sNuc)

This command configures the measurement mode of the user configured tracking command. The standard measurement commands are not influenced.

Two modes can be configured:

Standard mode

the measurement time depends on the signal conditions. The MRL-3 determines the necessary measurement time to ensure the accuracy specified in the technical data. This is the default mode used for distance measurement.

Moving Target Tracking Mode (fast tracking)

This mode is optimized to measure the distance to moving targets.

	Set Command	Get Command
Command	sNuc+xxxxxxxx+yyyyyyyy< trm>	s Nuc
Return successful	gNuc+xxxxxxxx+yyyyyyyy<trm>	gNuc+xxxxxxxx+yyyyyyyy<trm>
Return Error	gN@Ezzz<trm>	gN@Ezzz<trm>
Parameters	<p><i>N</i> Module number (0. .9)</p> <p><i>xxxxxxxx</i> Mode</p> <p><i>Q</i> Standard Mode 2: Fast Tracking Mode</p> <p><i>yyyyyyyy</i> DeltaDistance in 0.1mm;</p> <p>Distance difference between two measurements for automatic change between run and stop.</p> <p>If DelatDistance is zero, manual changes with 'n' and 'f' characters</p> <p><i>zzz</i> Error code</p>	

For saving the new settings, please use the "Save configuration parameters"-command (sNs).

### Possible measuring commands:

To start measurements, only the following commands are influenced by the above settings. All these commands are described in the "Technical Reference Manual" in chapter: "8.5 Special User Commands".

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User-configured single sensor tracking (sNuh)

User-configured tracking with buffering – Start (sNuf) Read

out – User-configured tracking with buffering (sNuq)

### Important Notices:

The standard measurement commands sNg / sNh / sNf and sNq are NOT influenced. They will always operate with the MRC specified measuring range (500m) and maximum accuracy ( $\pm 1.5\text{mm}/\pm 3\text{mm}$ ).

Please keep in mind, that an applied offset is also taken into account for the distance calculation.

After a device-reset the configuration will be set back to it's default values.