

Application Notes – AGV Calibration Interface

DDTM-AN002, Ver. 1.1

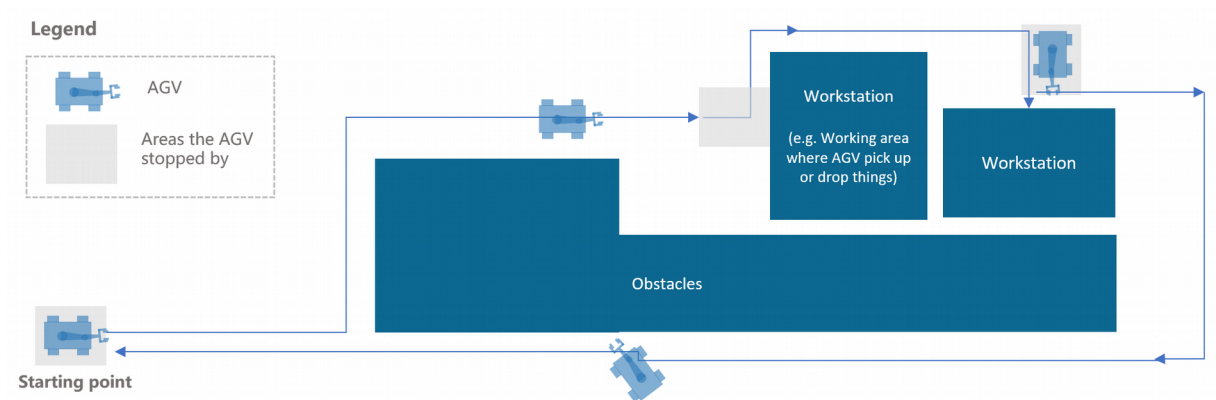
Summary

In AGV applications, TransducerM heading stability can be further ensured by implementing its run-time calibration interface.

Details

AGV (Autonomous Guided Vehicle) usually finds utilities in logistics, moving objects from A to B, or it is equipped with special instruments to accomplish tasks at specified locations. During its operation, it happens that sometimes the AGV stops moving, such as when loading and unloading the payload; such moment can be used to calibrate the TransducerM sensor for long time heading output stability.

Below illustrates the possible calibration spot marked by ' ' gray rectangle.



TransducerM Advantages

- TransducerM can calibrate even when the engines are running, and fans rotating, as long as the AGV is not intentionally moving.
 - For example, it is possible to calibrate the sensor when diesel engines are running, or the factory floor is vibrating.
- Arbitrarily calibration time period – the calibration can last as short as a few milliseconds to as long as half an hour.
 - TransducerM automatically determines how to process the data, just use as much chance for calibration as possible without interfering vehicle operation.

Implementation

- Step 1 – After AGV stops driving completely, start calibration
 - This can be achieved by the following code if you are using SYD Dynamics C++ library (complete code can be found in 'TransducerM_Example_CPP_QT_V124R2.zip')


```
eOD.Write_Ep_Calib(toId, 5, 3, 0xaa65, (uint32)(calibLimit*100), (uint32)(calibConfidence*100))
```
 - Alternatively, refer to 'User Guide' section 'Write Your Own Communication Library → EasyProtocol → Object Types → Calibration' and find the 'Run-time Static Calibration (Forced Calibration)' on the description tables. It includes a command initiator and a status report message.
- Step 2 – Before the AGV starts to move again, stop calibration
 - Similar to Step 1, by using the following code. For status report message, refer to the comments of the code.


```
eOD.Write_Ep_Calib(toId, 5, 4, 0xaa65, 0, 0)
```
 - Similar to Step 1, you can find on the description tables. It includes a command initiator and a status report message.



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