

Technical News Bulletin

Steinhausen, September 2021



ID Mark Precision Reader

- A statistical code reader for Data Matrix codes printed on hot containers
- Ensure quality check of the printed code immediately after printing on the conveyor

Introduction

The ID Mark Precision Reader is a standalone reading system designed to read and qualify Data Matrix codes printed on hot containers by the ID Mark laser marker.

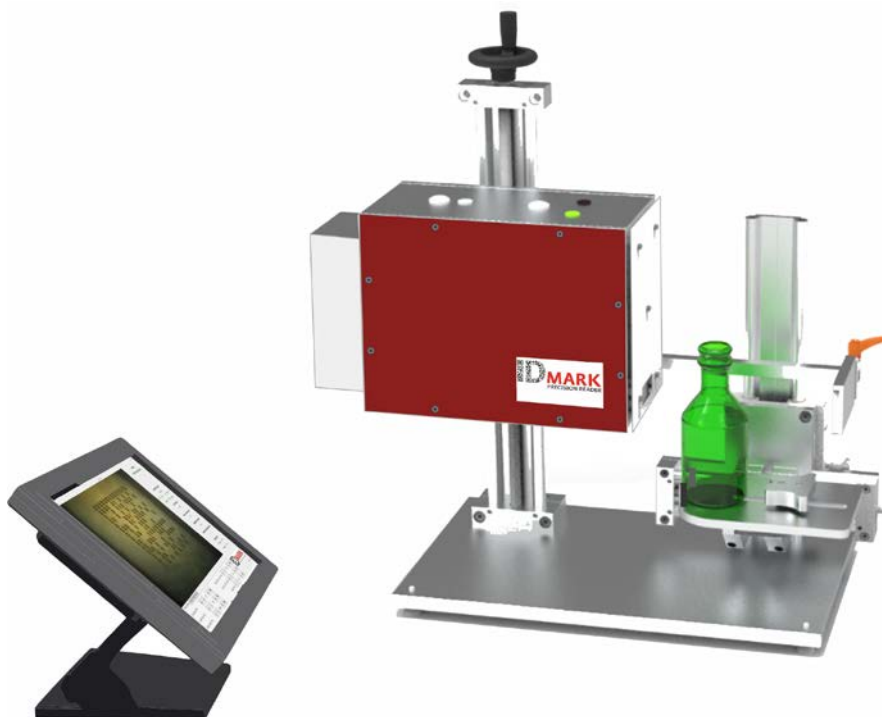
Located close to the ID Mark laser marker, it allows to check in real time the printing quality in order to speed up the Data Matrix code set up to achieve high code reading rates.

Principle of operation

The ID Mark Precision Reader uses a high-definition camera coupled to a LED light source to read the Data Matrix code on a hot container and check for the code value, size, and contrast as per [Data Matrix ECC200](#) specifications.

System description

The ID Mark Precision Reader is a solid and stable tabletop system that consists of a camera box and a container stand, connected to its user interface display.



The camera box contains all the hardware required for the reading of the data matrix, as well as a built-in cooling system. It is fixed on a column for height adjustment, in order to be aligned with the area of the container where the data matrix is printed.

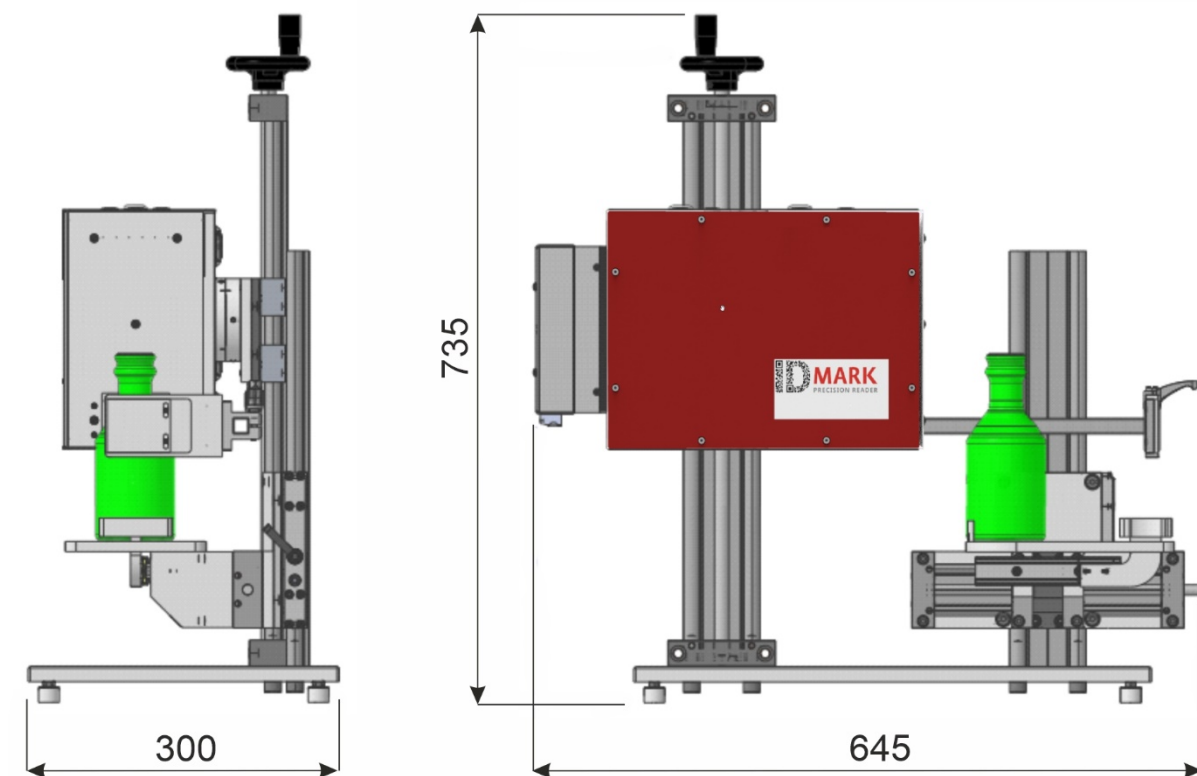
The container stand allows for precise and stable positioning of the hot container to obtain a sharp reading of the data matrix code.

The touch-screen display is the user interface to access the setting and the reading of the data matrix code, connected to the camera box.

Installation Requirements

The ID Mark Precision Reader must be installed on a table near the ID Mark laser marker.

Dimensions:



Weight
50 Kg

Power supply:
130/240 VAC, one phase, 3 A

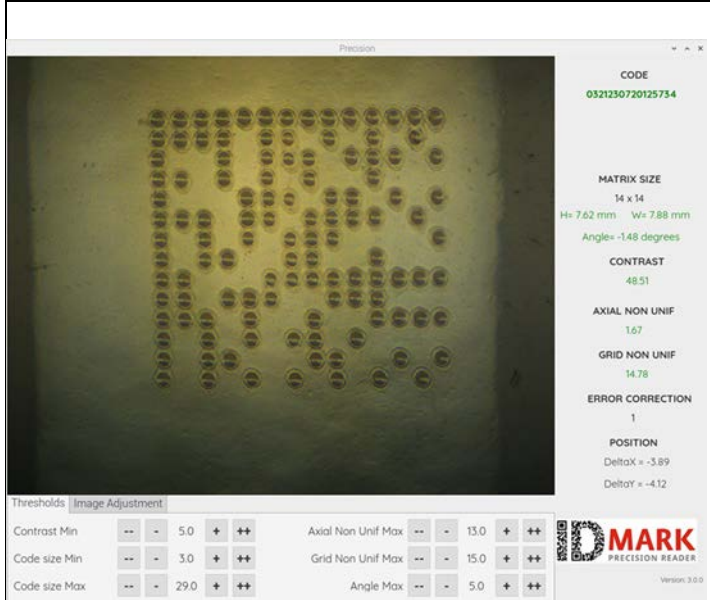
Operation

The operator picks up a printed container on the IS conveyor (downstream the ID Mark) and place this container on the stand of the ID Mark Precision Reader, with the printed code facing the camera box. The height of the camera box is adjusted so that the printed code is in front of the camera lens. The ID Mark Precision Reader displays the results of the quality analysis on the screen.

For daily operation, it is recommended to use a sample container to set up the ID Mark Precision Reader for the:

- height adjustment of the camera box
- precise and stable positioning of the container as per its diameter
- selection of the adjustable parameters and the preset parameters
- camera focus adjustment

Parameter characteristics

 <p>The screenshot shows the ID Mark Precision Reader software interface. On the left, a camera view displays a Data Matrix ECC 200 code on a printed container. On the right, the software displays the following parameters: CODE: 0321230720125754; MATRIX SIZE: 14 x 14; H: 7.62 mm, W: 7.88 mm; Angle: -1.48 degrees; CONTRAST: 48.51; AXIAL NON UNIF: 1.67; GRID NON UNIF: 14.78; ERROR CORRECTION: 1; POSITION: DeltaX = -3.89, DeltaY = -4.12. At the bottom, there are controls for 'Thresholds' and 'Image Adjustment' with sliders for Contrast Min, Code size Min, Code size Max, Axial Non Unif Max, Grid Non Unif Max, and Angle Max.</p>	Code	Value of the printed code
	Matrix size	Size of the code in dot, for example 14x14 or 16x16 dots
	Cell contrast	Difference between the highest and the lowest reflectance values. See Data Matrix ECC 200 specifications. A value of 40% is needed to ensure a read rate at cold end over 99.7%.
	Axial non unif	Axial Non-uniformity of the code. See Data Matrix ECC 200 specifications.
	Grid non unif	Grid Non-uniformity of the code. See Data Matrix ECC 200 specifications.
Error correction	Number of corrections tools used by the Error Check Correction algorithm.	
Position	DeltaX	Horizontal position of the reading code (millimeters). When = 0, the code is centered, when > 0 the code is found on the right-hand part of the image.
	DeltaY	Vertical position (millimeters). When = 0 the code is centered, when > 0 the code is found in the upper part of screen.

Specification

The order number for the ID Mark Precision Reader is 606-10012.

Features

Code reading on hot container

Code inspection as per ECC 200 Specifications

Benefits

Immediate quality control to detect potential defect before reaching the cold end, thus saving production

Fulfill the ISS standard of AIMI and the standard [ISO/IEC16022:2006](#).
