



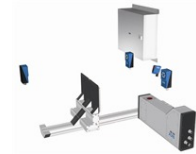
## Vision systems MCL

MCL-2000





**Model Name** > [MCL-2000](#)  
**Part No.** > [1053570](#)



**This kit includes the following items:**

Model Name	Part No.
> <a href="#">VSPI-4F2111</a>	> <a href="#">1047913</a>
> <a href="#">IVC-3D21111</a>	> <a href="#">1027538</a>
> <a href="#">WTB12-3N2433</a>	> <a href="#">1041417</a>
> <a href="#">VSPI-4F2411</a>	> <a href="#">1054705</a>
> <a href="#">VSPP-5F2113</a>	> <a href="#">1056082</a>
> <a href="#">VSPP-5F2413</a>	> <a href="#">1057303</a>
> <a href="#">VLR-66BL1611</a>	> <a href="#">6041962</a>

The MCL system is the easy, powerful and reliable choice for automated, on-demand maintenance inspections of your sorter. This vision-based system is easily installed onto your existing sorter frame and works stand-alone, without interfering with the sorter's control system. Using the MCL for daily maintenance check inspections enables you to quickly and easily detect any potential problems with the running wheels or the tilt wheels on your sorter. The MCL system performs its inspections on the sorter without stopping normal sorting activity. This pro-active maintenance check allows you to plan maintenance work and to minimize unexpected and uncontrolled emergency stops. This results in a lower total maintenance cost and a higher sorting throughput! The maintenance needs of the sorter are shown in an easy to understand way in the operator interface and can also be saved as CSV and Excel files on a PC for further processing and analysis.

**At a glance**

- Vision-based system for sorter inspections
- On-demand inspection of sorter cart components
- Non-intrusive: Inspections take place during sorting activity
- Inspects at full sorter speed
- Resolution of sorter cart height position < 0.1 mm
- Pre-configured software for the inspections
- Maintenance report format: CSV and Excel

**Your benefits**

- Increase sorter availability: Automated maintenance inspections performed during normal sorting activity, no need to stop sorter for an inspection
- Decrease costly emergency stops: Easy detection of sorter cart problems, Preventive maintenance can take place before major problems occur, Minimize number of uncontrolled production stops
- Decrease missorts: Correct shape of tilt wheels prevent risk of missort due to incorrect off-loading
- Minimize fire hazards in a greasy environment: Correct sorter cart height ensures no sparks are generated due to contact between sorter cart and linear motors, Correct wheel shapes minimize risk of overheated wheels
- Minimize power consumption of sorter: Correct height position of sorter carts ensures minimum power consumption of sorter line
- Easy to generate, on-demand maintenance report

## Features

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Type of system:	Maintenance check system
Applications:	Monitoring and inspection of sorter carts
System features:	Cart height, tilt wheel, control system S7 PLC
Laser class:	2M
2D inspections:	Vision sensors and external LED back light illumination
3D inspection:	Laser triangulation with IVC-3D smart camera
LED class:	Risk group 1 (low risk, IEC62471 : 2006)

## Performance

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Sorter speed:	1.8 m/s
Resolution sorter cart height measurement:	< 0.1 mm

## Interfaces

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Digital I/O:	-
Ethernet:	-
Output data:	Csv, xls
Operator interface:	MCL operator interface
Configuration interface:	SOPAS and IVC-Studio for device configuration

## Mechanics/electronics

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Supply voltage:	AC 110/230 V ± 10 %, 50/60 Hz
Cabinet dimensions (H x W x D):	470 mm x 530 mm x 176 mm
Weight:	21 kg
Enclosure rating:	Cabinet: IP 54 VLR back light: IP 20 Inspector I40: IP 67 IVC-3D: IP 65 WTB12: IP 66, IP 67
Standards <sup>1)</sup> :	-
Fixing:	Cabinet and mounting frame mounting holes diameter: 8.7 mm
Dimensions (L x W x H):	485 mm x 720 mm x 190 mm <sup>2)</sup>

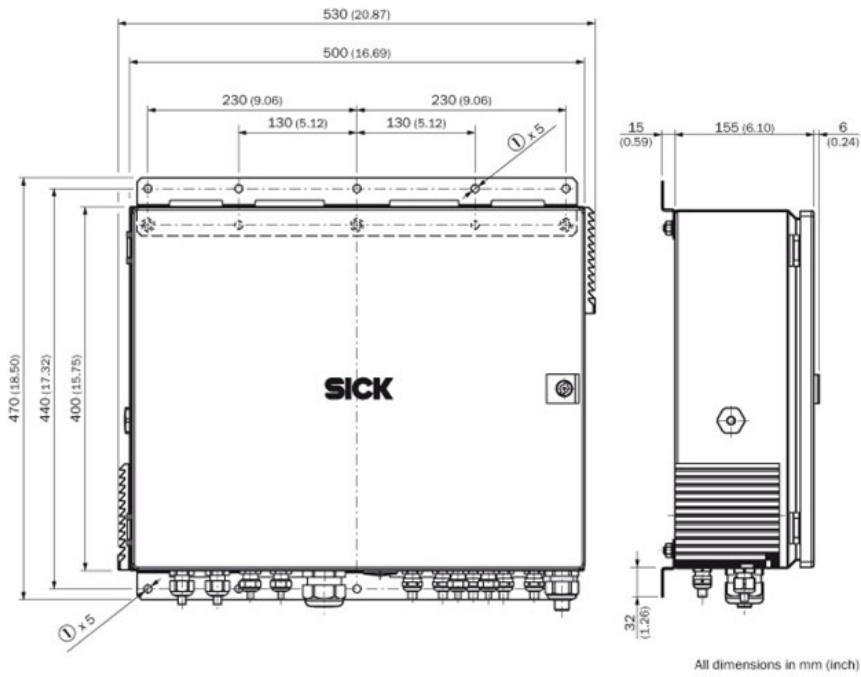
<sup>1)</sup> Note that all electrical devices in system configuration have individual EC Declaration of Conformity mark <sup>2)</sup> Bounding box dimensions

## Ambient data

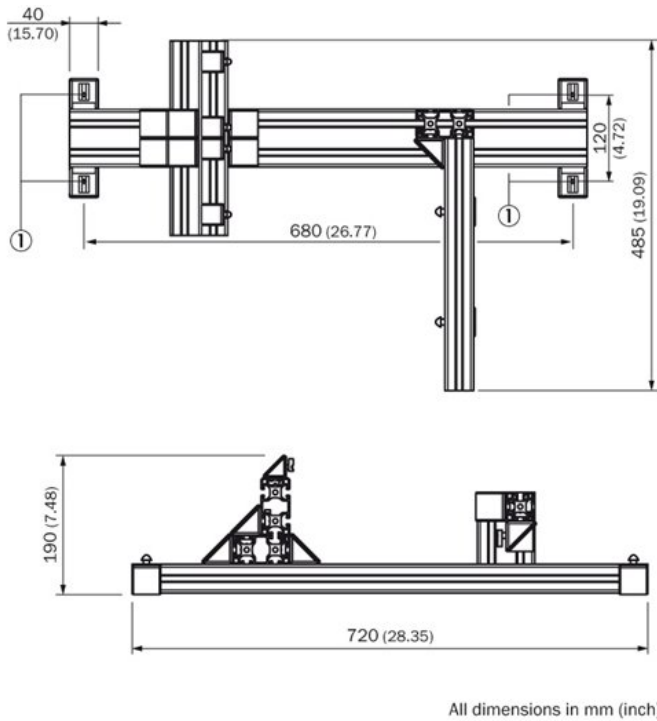
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Ambient operating temperature:	0 °C ... 40 °C
Ambient storage temperature:	-20 °C ... 60 °C
Air humidity:	85 %

**Dimensional drawing: cabinet**

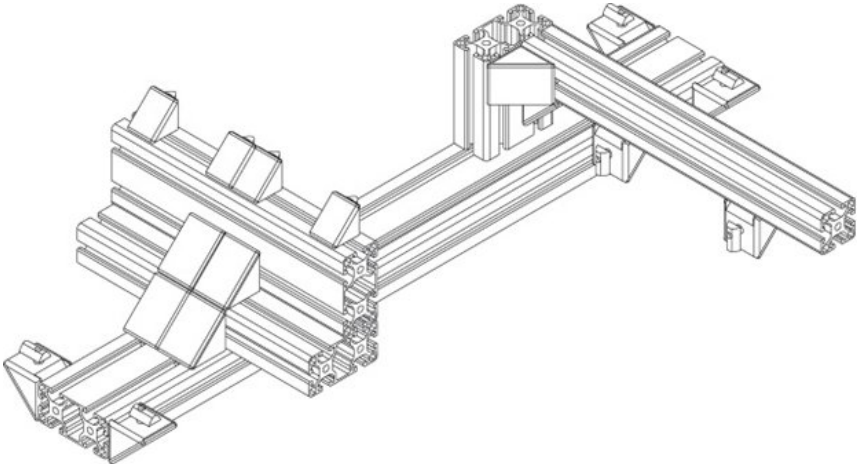


**Dimensional drawing: mounting frame**



**Dimensional drawing: mounting frame overview**

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