HANDBOOK
2025.01

MEASURING WITH A SYSTEM

The Easy Way to
Go Digital

www.solaflex.com

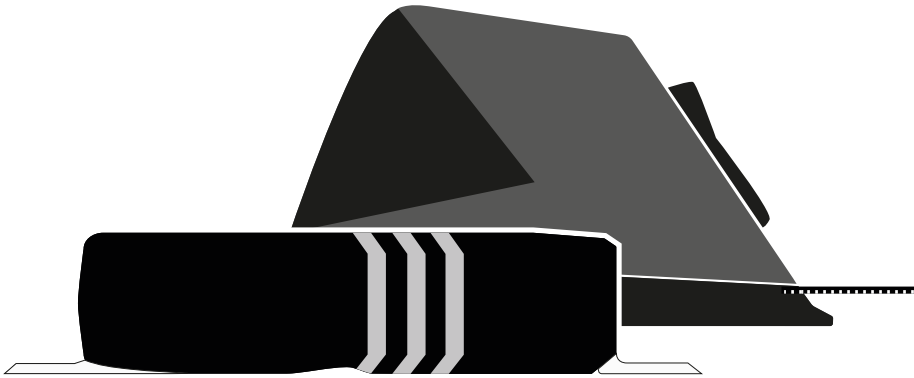
CONTENTS

Accurate measurements are crucial during the planning phase to ensure the successful execution of your projects. Only with precise measurements can an order be manufactured accurately. This saves both time and money — especially since many materials are difficult or impossible to adjust on site.

And not only that: precise measurement is the foundation for planning required materials and labor time, making it the foundation for accurate cost calculations. An exact measurement is therefore the cornerstone of your projects and essential for your success.

Perfect craftsmanship requires precise measurement!

DISCOVER
VIDEOS & TUTORIALS



Get together.

“How much time and money could be saved if all craftsmen across all trades used a standardized measuring system?”,

Walter and Christian, two craftsmen, asked themselves this question as they began developing an affordable digital measuring system.

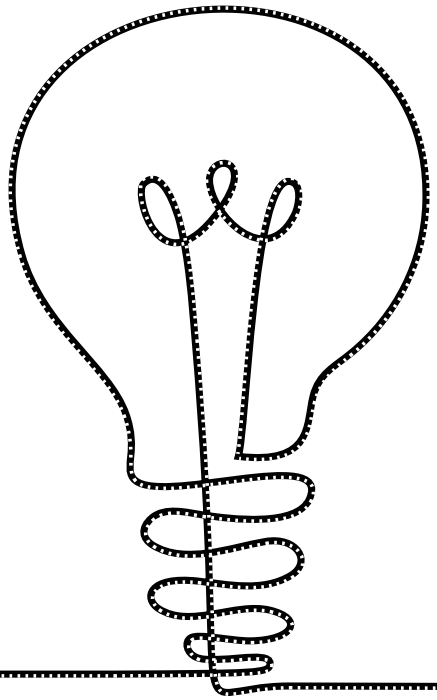
In almost every craft sector, there are interfaces with other trades and industries. In everyday work life, collaboration can become a challenge, making cross-industry thinking and cooperation increasingly important. A standardized measuring system saves time, reduces sources of error, and thus increases efficiency.

Get ready.

When does digitalization begin?

Those who want to be ready for digitalization, must start preparing for it now.

There is no getting around digitalization in the trades sector — it opens up many new opportunities and streamlines workflows.

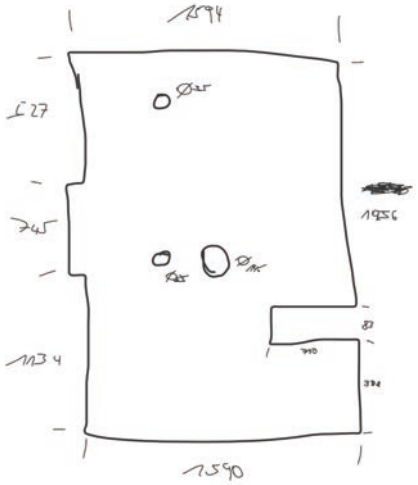


Measurement

ANALOG MEASURING

Taking measurements is usually the responsibility of highly qualified employees, as it forms the foundation for the entire production process.

Nevertheless, a wide range of errors can occur during the measuring itself and throughout further processes.

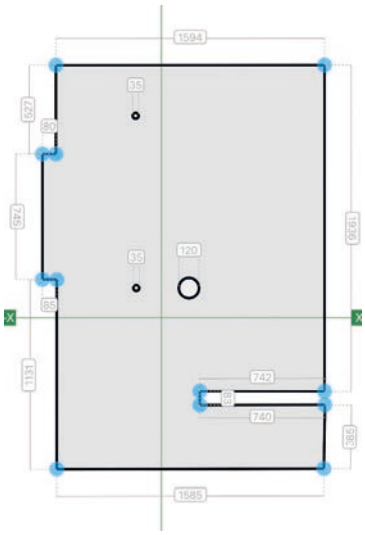


- Illegible hand sketches and disproportionate drawings
- Measurement or drawing errors are often overlooked
- Important information may not be recorded or forgotten
- For complex shapes, templates must first be created
- Contours from right angles are time-consuming to measure
- Transferring hand sketches into CAD software introduces risks
- Potential for errors at the interfaces, as multiple people are involved in the process

DIGITAL MEASURING WITH SOLAFLEX

With digital measuring, data is captured precisely using technical devices. This eliminates transmission errors and removes the need for repeated measurements.

The patented measurement system is universally applicable and, unlike other complex measuring systems, is affordable and easy to use. With Solaflex's digital measurement system, every measurement point is clearly defined. By directly transferring the measurement value from the digital measuring device to the measurement app, the contour becomes immediately visible and can be easily adjusted.



- Created sketches are digitally available at any time
- Direct transfer of measurement values into the app
- Guided, simple, and precise measuring
- No need to create templates or hand sketches
- Complex contours can be easily generated
- Export as DXF, PDF, or CSV and transfer to CAD software
- Saves time and costs while reducing sources of error
  Minimizes effort for work preparation

Measuring Methods

Every project requires not only proper planning and professional execution, but also the precise collection of all relevant information and data — including accurate measurements. The digital measuring system offers various methods tailored to different measurement tasks. The best method depends on what you want to measure, what kind of data you need, and how you plan to use it.

 FREEFORM MODE	 COORDINATE MODE	 TABLE MODE	 MEASUREMENT SHEET
The Freeform Mode is ideal for simple and right-angled shapes. In this mode, the edge lengths of an object are measured, enabling quick data capture of straightforward, rectangular contours.	Coordinate Mode is especially suitable when a high level of precision is required. Unlike conventional methods which measure the edges of an object, this mode captures the X and Y coordinates of each contour point.	In table mode, a customizable table can be created for capturing measurements. This method allows for especially quick recording of dimensions of simple shapes (e.g. length, width, height, ...).	The measurement sheet is ideal for object specification and for recording all relevant information,) such as customer data, specifications, dimensions, photos, and sketches.
Fast measurement of edge lengths	Ideal for highly precise measurements	Capture measurements in a custom table	Standardized recording of measurement data
Suitable for simple, right-angled shapes	Suitable for capturing angles and sloped edges	Ideal when no drawing is needed	Capture project data precisely and digitally
		Quickly transfer values into a table	Create customized measurement sheet templates
		Simple dimensioning (e.g. mirrors)	Specify objects based on predefined templates
Ideal for floor plan layouts	Ideal for kitchen countertops, large formats, glass cuts, etc.	Perfect for measurement lists (e.g. incoming goods inspections, wood, metal, etc.), windows, doors, ...	Ideal for: windows & doors, blinds, shutters, sun protection systems, shower cubicles, and much more
Export as PDF or DXF	Export as PDF or DXF	Export as PDF or CSV	Export as PDF, CSV or JSON

MEASURING IN FREEFORM MODE

The freeform mode is ideal for simple and rectangular shapes. In this mode, the edge lengths of objects are measured. No line laser is required for this measuring method.

Step 1:

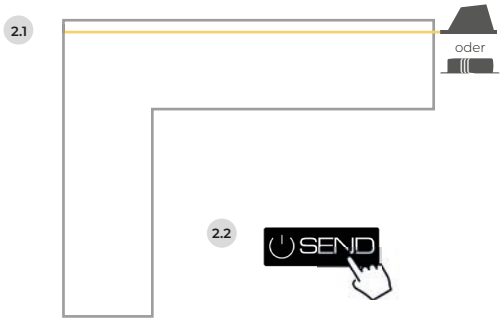
SET THE DIRECTION

The measuring direction can be set using the arrow keys on the measuring device. Alternatively, the direction can be changed in the app (see Fig. 1.1).

Step 2:

MEASURE LENGTH

Once the measuring direction is set, the edge of the object is measured (Fig. 2.1). Pressing „SEND“ transfers the measurement value to the software (Fig. 2.2), where it is immediately displayed (Fig. 2.3).



Step 3:

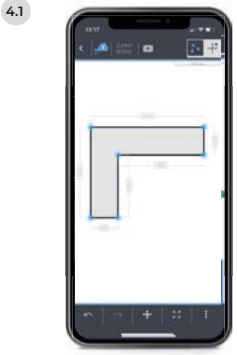
CHANGE MEASURING DIRECTION

By pressing one of the arrow keys on the roll meter / laser distance meter or by selecting the direction directly in the app,
the measuring direction is changed again (Fig. 3.1). The next edge is then measured and transferred with „SEND“.

Step 4:

COMPLETE SKETCH

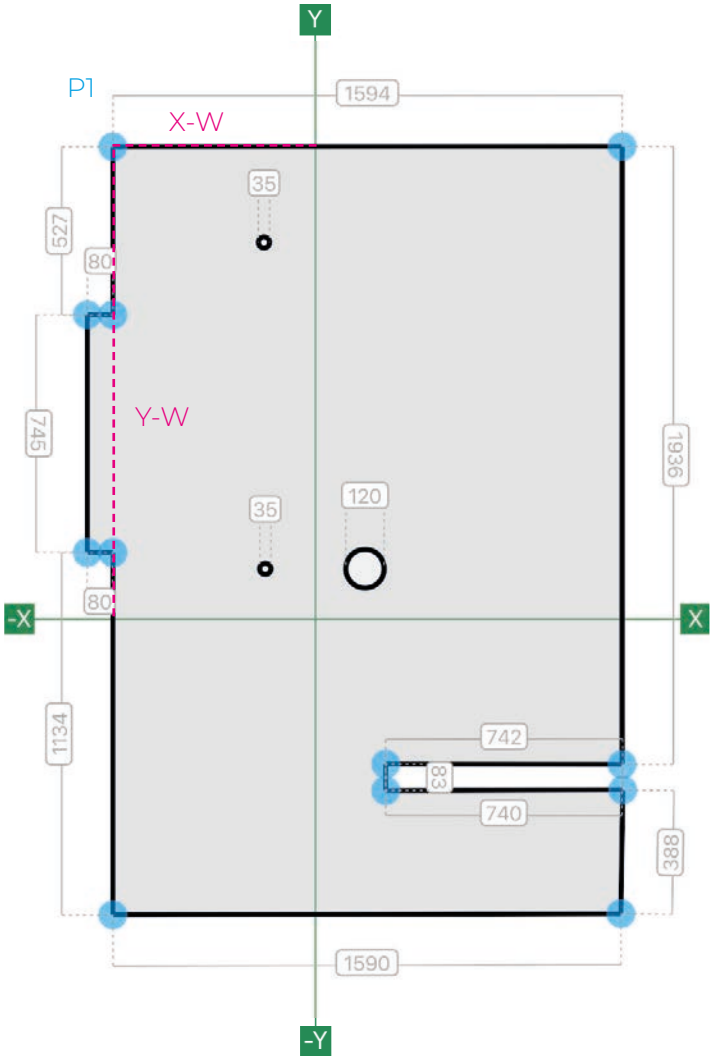
This process is repeated for all remaining contour points. The completed sketch is displayed in the app (Fig. 4.1).



MEASURING IN COORDINATE MODE

The coordinate mode is especially suitable when high precision is required. This patented measuring method is ideal for complex contours. Unlike conventional methods which measure the edges of an object, coordinate mode captures the X and Y coordinates of each contour point relative to a reference line. This also allows angles to be automatically determined, making tools like spirit levels, angle finders, or other measuring aids unnecessary.

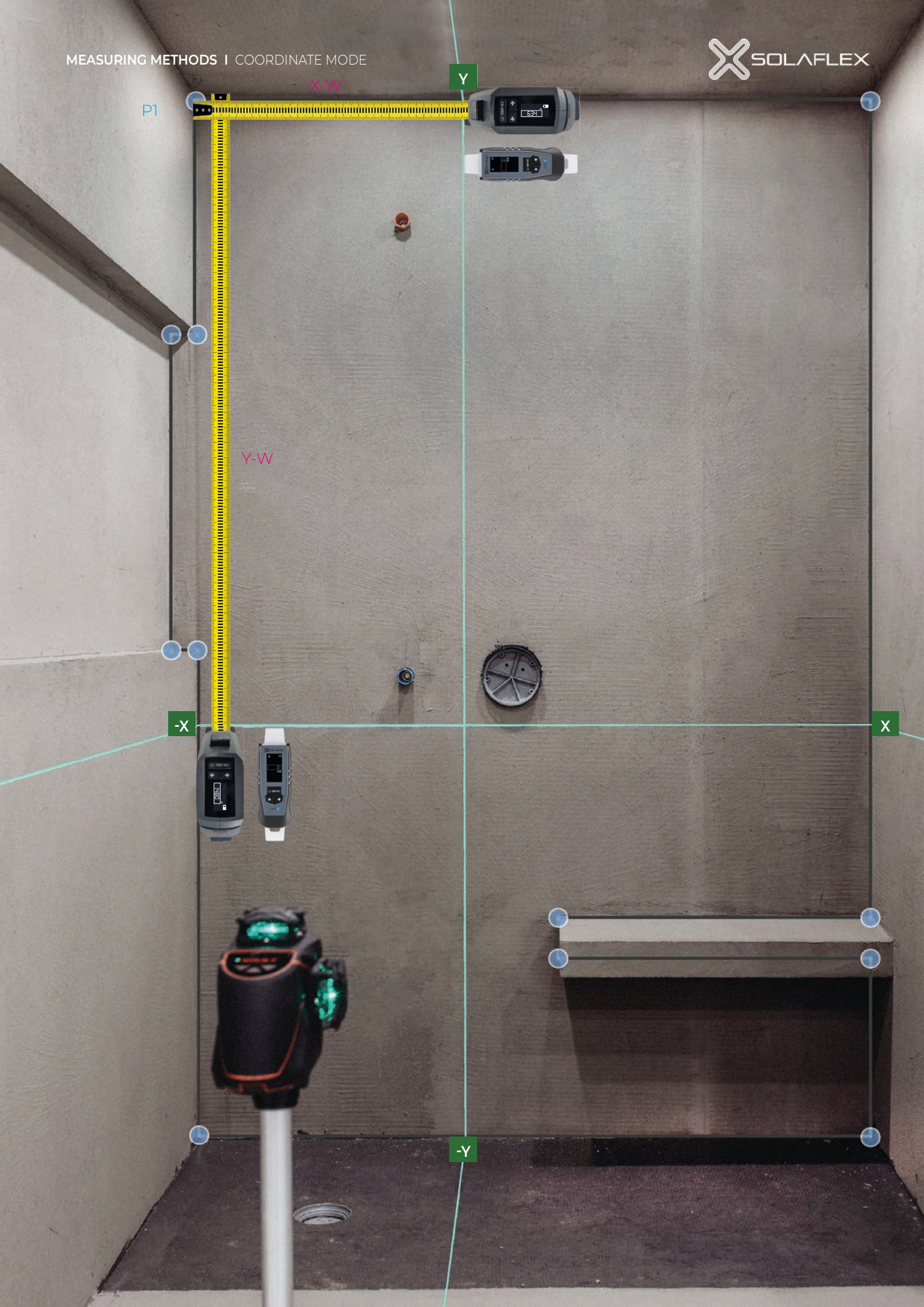
A standard self-leveling line laser is required for this measuring process. The laser projects a coordinate system directly onto the object to be measured.



In practice, the contour to be measured is captured point by point. This means that each measuring point (P1), is defined by an X value (X-W) and a Y value (Y-W). These values are determined by measuring the distance from each axis to the point.

To determine the X value (X-W) measure from the Y-axis (Y) to the point (P1) gemessen.

Then, to determine the Y value (Y-W), measure from the X-axis (X) to the same point (P1).


X-W
Y
P1
Y-W
-X
X
-Y

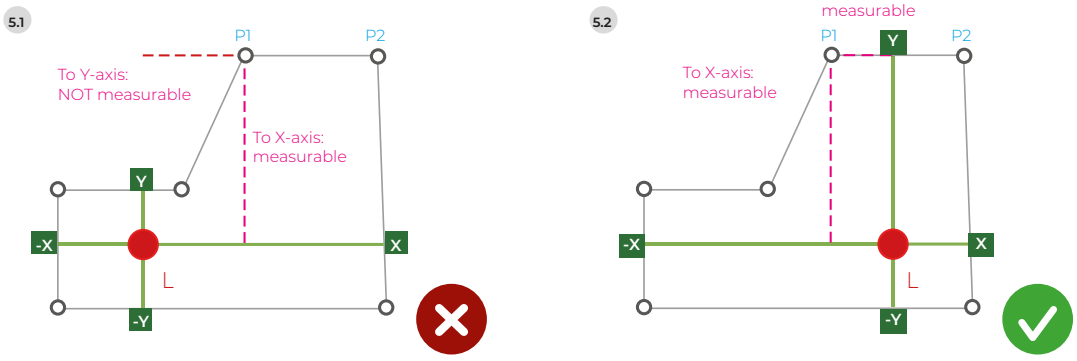
Step 1:

POSITIONING THE LASER

Using a standard self-leveling line laser, the coordinate system is projected onto the object to be measured (e.g., a wall or floor). To ensure smooth measuring, correct positioning of the laser is essential.

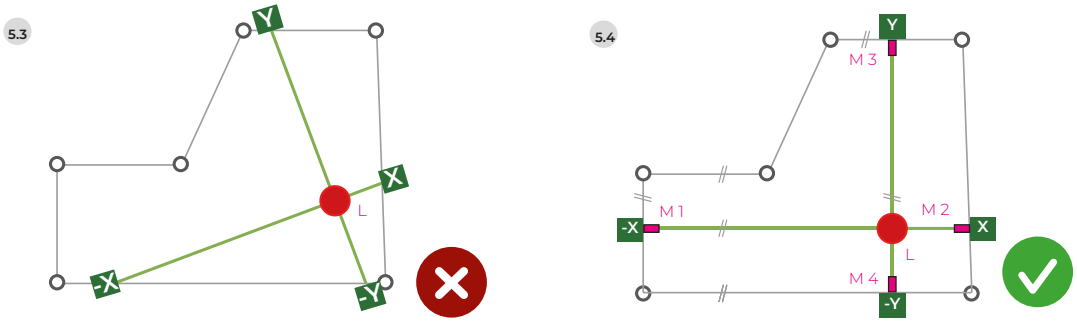
Measurability of all contour points

The laser should be placed in a way that allows as many contour points as possible to be measured. Figure 5.1 shows a floor plan where the laser is positioned poorly, points (P1) and (P2) cannot be measured because the wall blocks the Y-axis line of sight. Figure 5.2 shows an improved laser position from which all points are accessible.



Align parallel to edges

To simplify measuring, the laser lines should run parallel to as many edges of the object as possible. The laser should NOT be positioned at an angle in the room (Fig. 5.3 and 5.4).



Step 2:

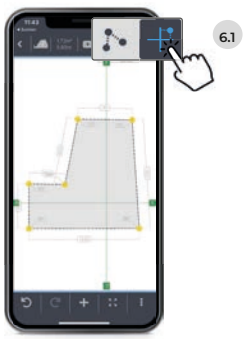
MARKING THE LASER POSITION

Once the laser is in the correct position, it's recommended to mark the laser lines at both ends.
This allows the original position to be quickly restored if the laser is accidentally moved (Figure 5.4).

Step 3:

PRE-SKETCHING THE CONTOUR

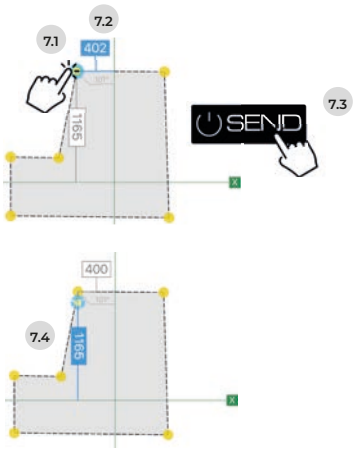
Switch to coordinate mode in the top-right corner of the app (Figure 6.1).
Then, roughly sketch the contour points of the object within the app.
Make sure to place the points in the correct quadrant of the coordinate system.



Step 4:

MEASURE AND SEND VALUES

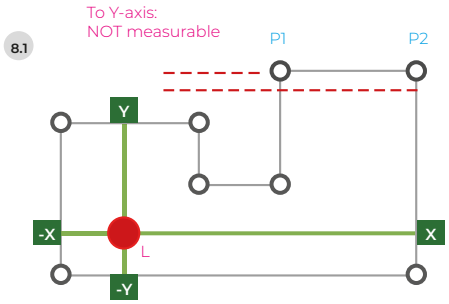
Now select any contour point (Fig. 7.1), measure the X-coordinate (Fig. 7.2), and send the measured value by pressing „SEND“ (Fig. 7.3). Repeat this process for the Y-coordinate (Fig. 7.4). Once both values have been transmitted, the next contour point is automatically selected. Important: Always measure parallel to the laser lines!



Step 5 (optional):

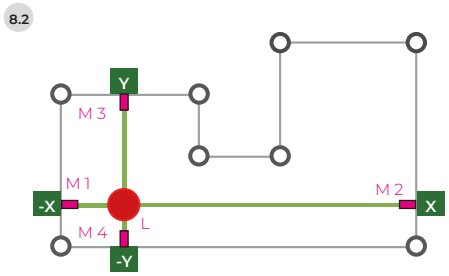
REPOSITIONING THE LASER (IF REQUIRED DUE TO THE ROOM LAYOUT)

For certain contours, it may not be possible to measure all points from a single crosshair position. Fig. 8.1 shows a floor plan where points P1 and P2 are blocked by a wall and cannot be measured in relation to the Y-axis. To measure this contour, the laser can be repositioned during the measuring process. Alternatively, the object can be split across multiple surfaces and measured separately.



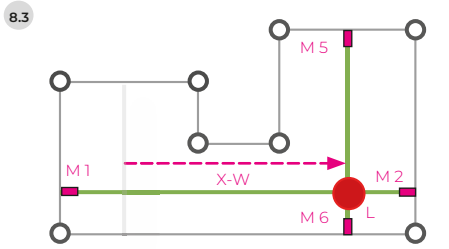
Mark the initial position

Before repositioning the laser, the current laser position should be marked accordingly (Fig. 8.2) M1–M4.



Reposition the laser

Now the line laser can be moved to the new position and this new position should also be marked (Fig. 8.3) M5–M6. Important: The new position must be aligned parallel to the original one!

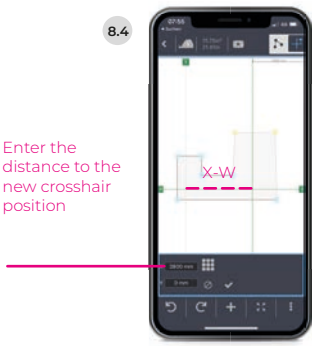


Measure the distance to the new crosshair position

Next, measure the distance from the new crosshair position to the original one. (X-W)

Shift the crosshair

In the app, select the “Shift Crosshair” function (see page 15, “Additional Features”). You can then shift the appropriate axis (Fig. 8.4). The coordinates will automatically be adjusted in the background based on the new position.



MEASURING IN TABLE MODE

This mode allows you to create and individually configure tables. It enables fast and efficient measurement of multiple similar objects (e.g. windows, doors, stairs, ...). The created table can be exported and sent as a CSV or PDF file.

Step 1:

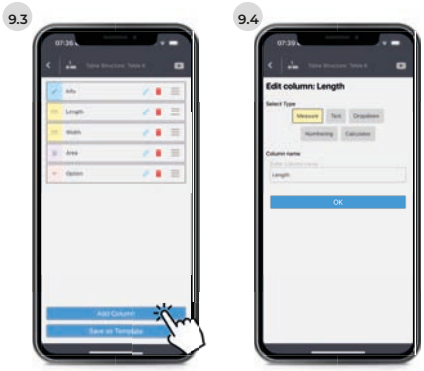
CREATE A TABLE

The first step is to create a new table (Fig. 9.1). By tapping the pencil icon, the table can be edited (Fig. 9.2) and customized as needed.

Existing columns can be deleted using the recycle bin icon. The order of the columns can be changed by dragging the three-line icon.
Additional columns can be added using the „Add column" button (Fig. 9.3).

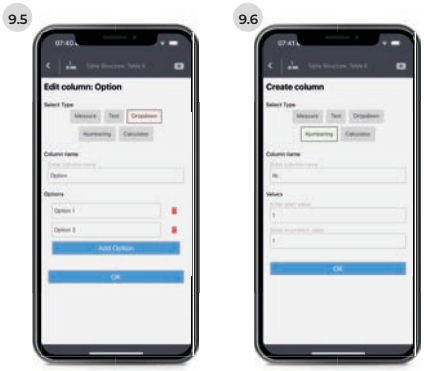
COLUMN TYPES

Depending on the content needed (measurement or text), the following column types can be selected: **Measure, Text, Dropdown, Numbering or Calculator** (Fig. 9.4).

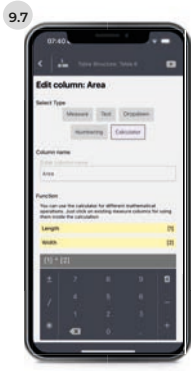


Dropdown: (Abb. 9.5)
The dropdown column allows you to define custom selection options, which can then be chosen directly in the table.

Numbering: (Abb. 9.6)
The numbering column automatically numbers the rows in the table. The starting value and the increment can be defined individually.



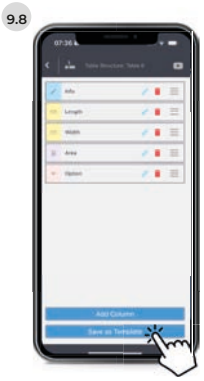
Calculator: (Abb. 9.7)
With the column type „Calculator", you can add custom formulas to the table. All „Measurement" columns can be selected for the calculation. For example, predefined dimensions (e.g. installation allowances) can be subtracted from the measured values. The final measurement will then be displayed in the table.



Step 2 (optional):

SAVE AND REUSE TEMPLATES

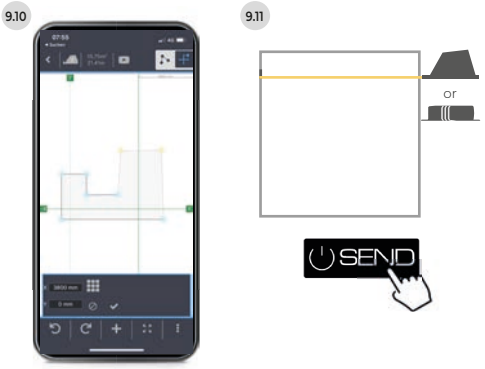
If you frequently use the same table, it is recommended to save it as a template (Fig. 9.8). Enter a name for the template and confirm with “OK”.
Previously saved templates can be accessed via “Show templates” (see Fig. 9.9) and selected by tapping the green checkmark.



Step 3:

FILL IN / MEASURE TABLE

To fill in the table, tap a cell in the first row and enter the value.
After confirming, the next column will be selected automatically.
Use the digital measuring device to take the measurement (Fig. 9.10) and transfer the value using the “SEND” button (Fig. 9.11).
The cursor will then automatically move to the next column.



Step 4:

ADD / FILL IN MORE ROWS

Once the last column of a row is filled, a new row is automatically created, and the cursor moves to the first field of that row. You can now enter further data or edit existing rows. To delete a row, tap the recycling bin icon. To add a new row, tap “Add row”. To duplicate an existing row, tap “Duplicate row” (Fig. 9.12).

Step 5 (optional):

ADD HAND-DRAWN SKETCHES, PHOTOS, AND NOTES

Important images, sketches, and notes can be easily added directly in the app—keeping all key project details available at any time (Fig. 9.13).

Step 6:

EXPORT TABLE

The completed table can be exported and shared as a PDF or CSV file (Fig. 9.14).

PREMIUM FEATURE

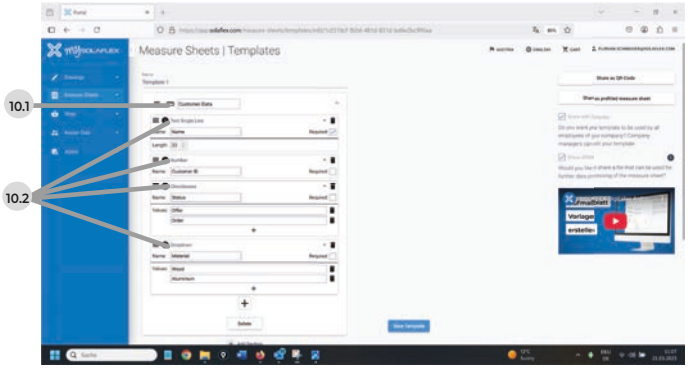
MEASUREMENT SHEET

With the digital measurement sheet from Solaflex, you gain access to an innovative measuring method that simplifies standardized measuring, product specification, and the complete collection of all relevant project data. Whether it's customized templates, direct measurement value transfer, or seamless integration into existing ERP systems – the digital measurement sheet makes the entire process more efficient and user-friendly.

Step 1:

CREATE CUSTOM TEMPLATES

The first step is to create a new measurement sheet template via MySolaflex. Various sections can be added. The arrangement of fields can be changed by tapping the three-line icon (Fig. 10.1).



PROJECT INFORMATION / CUSTOMER DATA

Depending on what information is needed, you can choose from the following field types: Text, Number, Checkbox, Measurement, or Dropdown (Fig. 10.2).

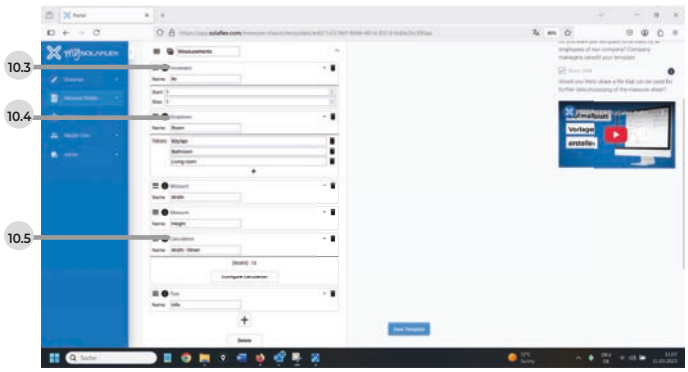
INSERT TABLES

Custom measurement tables can be integrated into the sheet. In addition to text and measurement fields, the following column types can be added:

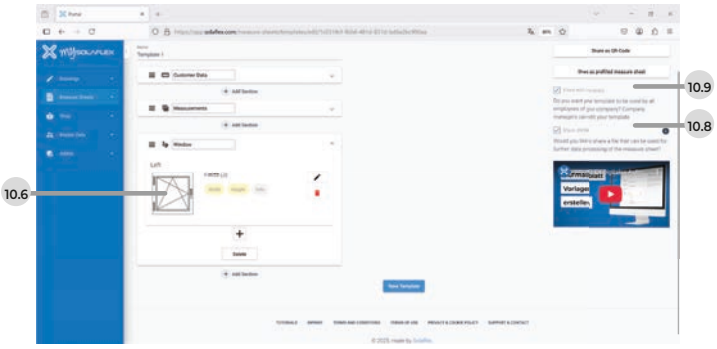
Numbering: (Abb. 10.3)
Rows in the table are automatically numbered using the numbering column.

Dropdown: (Abb. 10.4)
With the dropdown column, custom selection options can be defined and selected when filling out the measurement sheet.

Calculation: (Abb. 10.5)
The "Calculation" column type allows you to insert custom formulas into the table. All "Measurement" columns in the table can be used for the calculation.

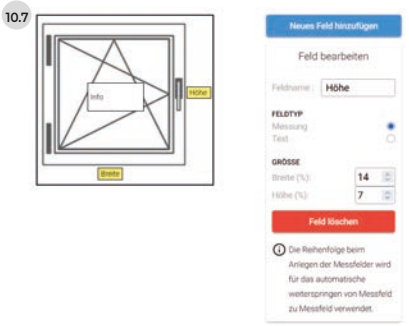


TO THE TUTORIAL VIDEOS



ATTACHING SKETCHES (Abb. 10.6)

One or more sketches can be integrated into the measurement sheet. Measurement and text fields can be inserted, configured, and positioned directly on these sketches. (Fig. 10.7)



SAVE AND SHARE TEMPLATES

The completed measurement sheet template can be shared with all users under an enterprise license via the "Share with company" feature. (Fig. 10.8)

Alternatively, the template can also be shared via QR code. (Fig. 10.9)

Step 2:

FILLING OUT THE MEASUREMENT SHEET

SELECT TEMPLATE

Open the app, choose the „Measurement Sheet" method (Fig. 10.10), and select the desired template (Fig. 10.11).

ENTER PROJECT INFORMATION AND START MEASURING

The template can now be filled with relevant details (customer data, object specifications, etc.). Measurement values can be transmitted directly from the measuring device (RX5 or LX40) into the table's measurement fields (Fig. 10.12) or onto the integrated sketch (Fig. 10.13).

Step 3 (optional):

ADD IMAGES, HAND SKETCHES, AND NOTES

Important images, sketches, and notes can be added directly in the app. This ensures all critical information regarding the project is securely stored and accessible at any time. (Fig. 10.14)

Schritt 4:

EXPORT THE MEASUREMENT SHEET

Export as pdf, csv, or json. (Fig. 10.15)


The Digital
Measurement System
by Solaflex
PLANO 3D

COMPONENTS

To take a digital measurement, the following equipment is required:

DIGITAL MEASURING DEVICE

With the RX5 digital tape measure and/or the LX40 laser distance meter, measurement values can be captured
and transferred directly to the measurement app via Bluetooth.

LINE LASER (FOR COORDINATE MODE MEASUREMENTS)

The line laser serves as the zero point during measurement. From this reference point, all contour points are measured.

SOFTWARE

The measurement app can be downloaded for free from the App Store and Google Play Store.

DIGITAL TAPE MEASURE RX5

OPERATION

1) Front Stop

2) Tape Retraction Button (Stop Button)
When held down, the tape can be extended or retracted.

3) Control Panel

4) Charging Port
Charging time: approx. 3 hours
Battery life: approx. 8 hours

5) Rear Stop
For inward-facing measurements

CONTROL PANEL

1) Send Button
+ Press for 2 seconds: Power on/off
+ Short press: Send measured value

2) Arrow Buttons
+ Use to switch between measurement points or to change the measuring direction

+ Press both arrows simultaneously to toggle between front and rear stop positions

3) Display
+ Battery level (top right)
+ Unit of measurement (center)
+ Current measurement (bottom)
+ Selected stop position (top left)

LASER DISTANCE METER LX40

OPERATION

1) Front reference point

2) Display

3) Control panel

4) Rear reference point
For inward-facing measurements

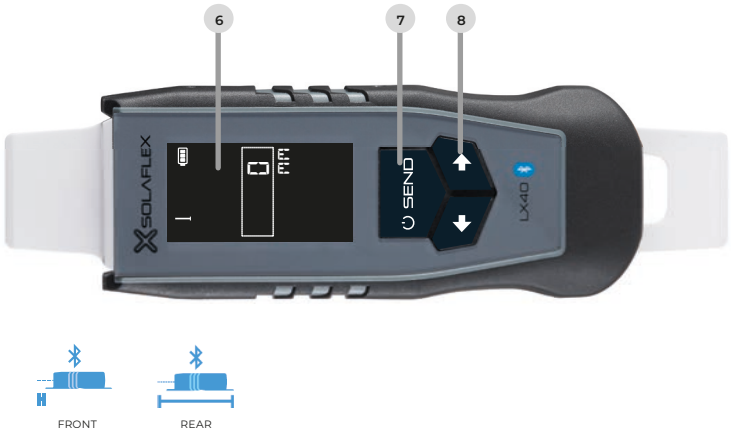
5) Battery compartment for 2 AAA batteries

CONTROL PANEL

1) Display
+ Battery level (top right)
+ Current measurement (center)
+ Unit (bottom)
+ Selected reference point (top left)

2) Arrow Buttons
+ Use to switch between measurement points or to change the measuring direction

+ Press both arrows simultaneously to toggle between front and rear stop positions



3) SEND
+ Press and hold for 2 seconds: power on/off
+ Short press: send measurement value

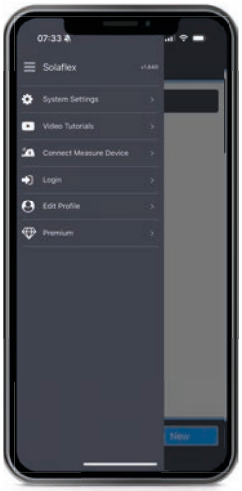
MAIN FEATURES

MAIN MENU

This is where all projects, drawings, and tables are listed. At the bottom, new project folders, drawings, or tables can be created.

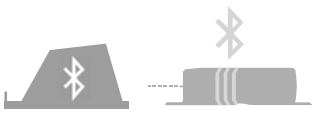
TAB MENU

This menu includes: System settings, Video tutorials, Connect measuring device, Log-in, Edit profile, and Premium.
The „Premium“ section allows the activation of the licence.
The app-version-number is displayed at the top right.



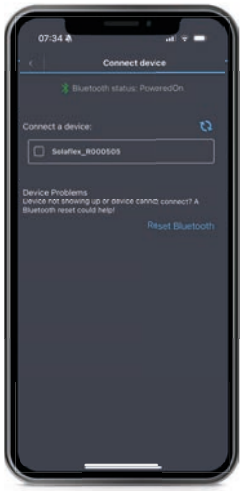
CONNECT MEASURING DEVICE

In this section, the measuring device can be connected to the app.
To establish a connection, the measuring device must be switched on and Bluetooth must be enabled on the smartphone.



NOT CONNECTED

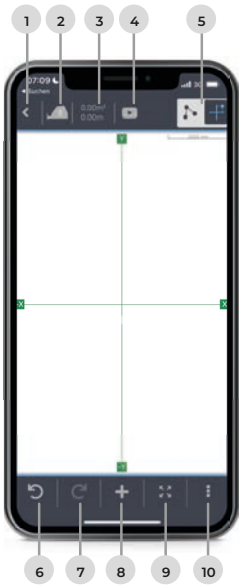
CONNECTED



DRAWING INTERFACE

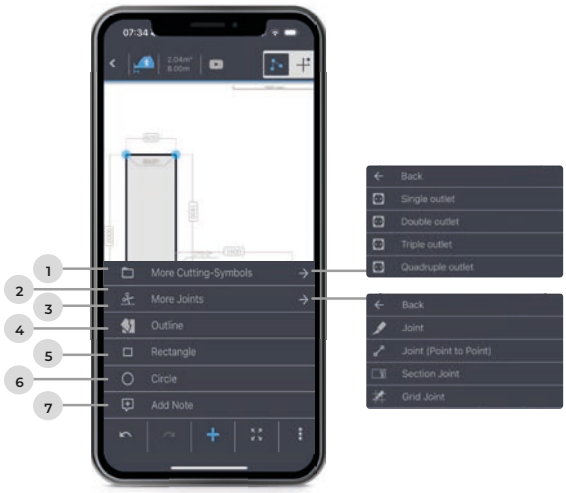
Tap point (1) to return to the main menu. Point (2) indicates whether the measuring device is connected. The area and perimeter of the contour are displayed at (3). Video tutorials can be accessed via (4). At the top right (5), you can switch between freeform mode and coordinate mode.

Use the buttons at (6) and (7) to undo or redo an action. The plus symbol (8) allows various objects to be inserted. To center the drawing, use the button at (9). Further settings and functions can be accessed at the bottom right (10).



INSERT OBJECTS

This menu allows you to select and insert various objects into the drawing, including cutouts like power outlets (1), rectangles (5), or circles (6). The “Contour” tool (4) enables you to draw any custom shape. You can also insert and configure joints (2) and tile grids (3). Notes can be added to the drawing under (7).



EXPORT

Here you can enhance finished drawings with images, hand sketches, and notes (1). Completed drawings can be exported as PDF files or sent via email (2). The premium feature “Generate DXF” allows you to export a DXF file for use in CAD software or transfer to NC machines.

ADDITIONAL FEATURES

The “Move crosshair” function (3) is used, for example, when the laser is repositioned during the measurement process (see p. 11). The “Freeze contour” feature (4) allows for adjustments such as overhangs or installation gaps (see p. 19). If the contour is divided into multiple segments by a joint or tile grid, the “Parts list resolution” (5) displays each individual piece in detail (see p. 23).

PREMIUM FEATURES
These are unlocked via license activation.

JOINTS & TILE GRID

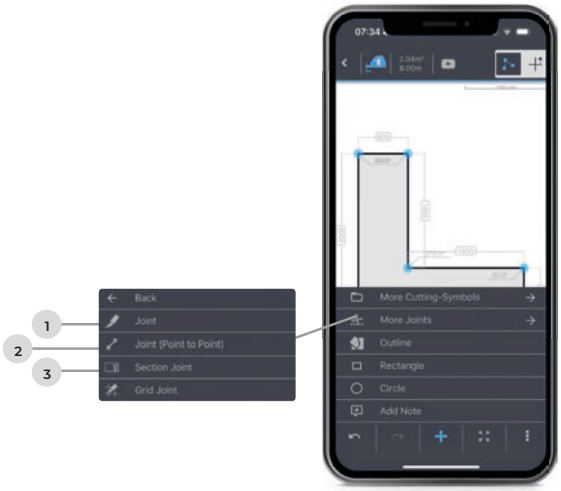
The Solaflex app allows you to insert different types of joints or a tile grid.

JOINT (1)

This joint cuts through the entire contour area.

JOINT (POINT TO POINT) (2)

This type of joint can be placed between any two points of a contour.

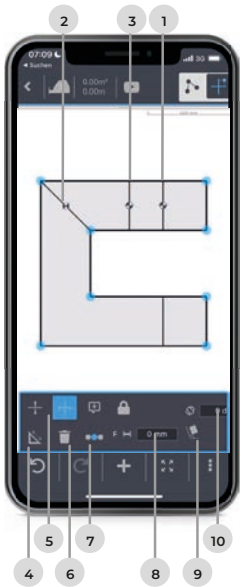


SECTION JOINT (3)

The section joint cuts the outer contour from one line to the next — but not beyond..

SETTINGS

This section allows you to define additional settings for the joint. The distance of the joint from a reference point or edge can be measured and adjusted using symbol (4). The direction of the joint (5) — vertical or horizontal — can be selected. You can also define the joint/gap width (8) and choose a reference point (7). Joints and gaps can be aligned parallel to edges (9) or rotated at a custom angle (10).



PREMIUM FEATURE

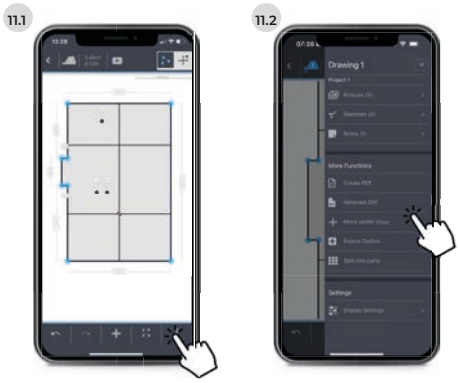
BILL OF MATERIALS

This premium feature displays the generated contour in detail, enabling a step-by-step transfer onto the selected raw material. Even if the contour is divided into multiple parts by a tile grid or joint, each piece can be displayed and transferred in detail.

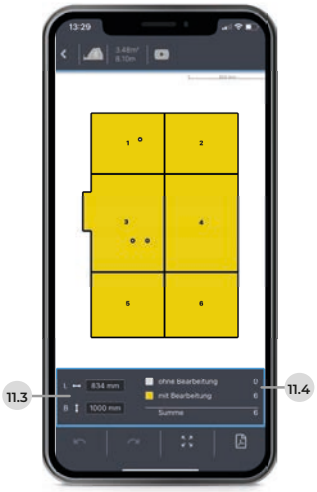
Step 1:

CREATE BILL OF MATERIALS BREAKDOWN

Once the drawing is finalized, the “Bill of Materials Breakdown” function can be selected. (Fig. 11.1 and 11.2) The subsequent view numbers and color-codes each part of the contour. The menu then displays the minimum length and width of the raw material required to produce the largest piece of the contour (see Fig. 11.3).“



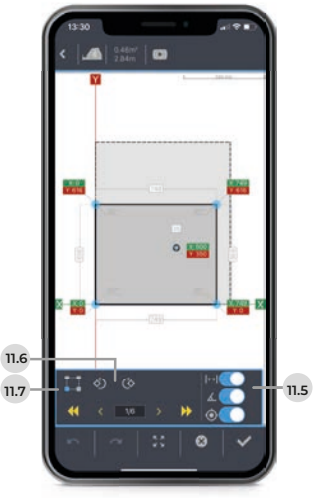
If the contour includes a tile grid, the right side shows how many parts require adjusting (yellow) and how many parts can be used without further adjustment (grey) (see Fig. 11.4). For contours without a tile grid, all parts are automatically shown in yellow.



Step 2:

DETAIL VIEW

In this view, each piece can be examined in detail. Lengths, angles, and coordinates of the respective piece can be displayed (Fig. 11.5). „Additionally, the piece can be rotated if needed (Fig. 11.6) or the zero point can be moved to a different location (Fig. 11.7). By default, the zero point is located at the bottom-left corner.“

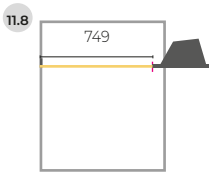


Step 3:

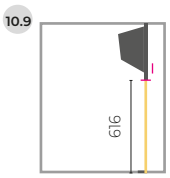
TRANSFER CONTOUR USING COORDINATES

(Requirement: rectangular raw material)

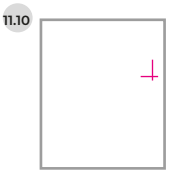
Hook the tape measure onto the left edge of the raw material and mark the X-distance (Fig. 11.8).



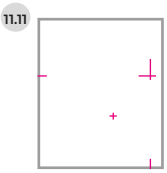
Hook the tape measure onto the bottom edge and mark the Y-distance (Fig. 11.9).



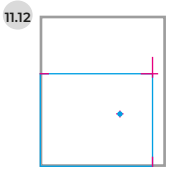
Extend both points until they intersect.
The intersection marks the exact position of the contour point (see Fig. 11.10).



Repeat this process for all contour points and cutouts (Fig. 11.11).



The marked contour points can then be connected, resulting in the precise contour on the raw material (see Fig. 11.12).

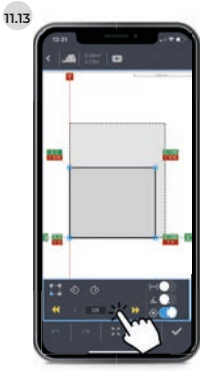


LINK TO TUTORIAL VIDEO

Step 4:

FINALIZE AND EXPORT CONTOUR

Use the arrow keys to switch back and forth between parts (Fig. 11.13). Pieces that have been viewed or edited are highlighted in blue in the overall overview.



The parts list can be sent as a PDF via email (Fig. 11.14). The document contains an overview plan of the drawings and detailed pages for each individual part.

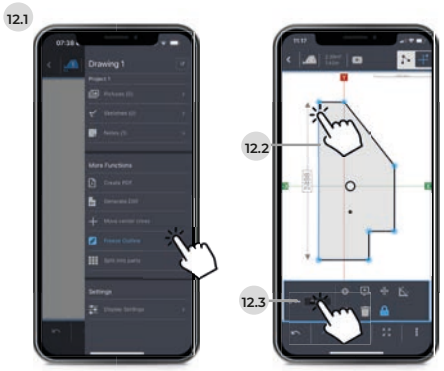
FREEZE OUTLINE

To ensure optimal installation of the measured object, allowances for installation clearance or overlaps are usually taken into account. The ‘Freeze Contour’ function was developed specifically for this purpose.

Step 1:

FREEZE CONTOUR

Select the ‘Freeze Contour’ function in the app. (Fig. 12.1) Once the contour is frozen, the function will be highlighted in blue. You can then move edges in parallel, to accommodate installation clearance or overlaps.



Step 2:

MOVE EDGE OR CONTOUR POINT

Select the desired edge (Fig. 12.2) and adjust its position in the designated window (Fig. 12.3). The edge can be moved either via keyboard input or using the virtual tape measure (Fig. 12.4). The original (frozen) contour is displayed as a thin blue line (Fig. 12.5). Using the ‘Transfer Offset Value’ function (Fig. 12.6), this process can be repeated for additional or all edges. If needed, the new contour can be frozen in place.“

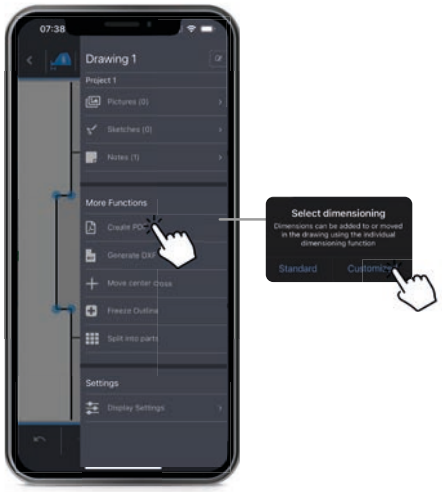
PREMIUM FEATURE

CUSTOM PDF DIMENSIONING

When exporting drawings as PDFs, you can choose between standard or custom dimensioning (Fig. 13.1).

The custom dimensioning feature allows you to insert, modify, and delete dimensions directly on the drawing.

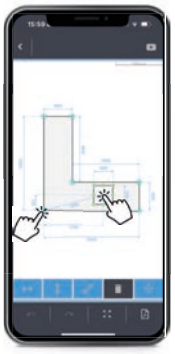
13.1



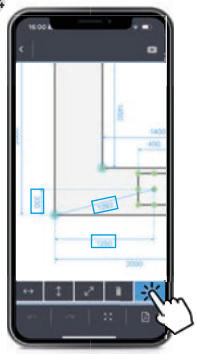
Additional dimensions can be added horizontally, vertically, and diagonally between two points (Fig. 13.3). Inserted dimensions can be adjusted (Fig. 13.4) or deleted (Fig. 13.5). The dimensioned drawing can then be exported as a PDF.

13.2

13.3



13.4



13.5

MANY MORE FEATURES & USEFUL TIPS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