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1 Overview

Huawei WatchFace Designer is a computer software independently developed by Huawei with a simple and elegant human-computer interaction environment. It can be used to quickly edit and output the designs of Huawei watch and band dials. Currently, it supports design specifications V1.0, V1.1, and V2.0 for HUAWEI WATCH GT, GT2 series sports watches and Band series.

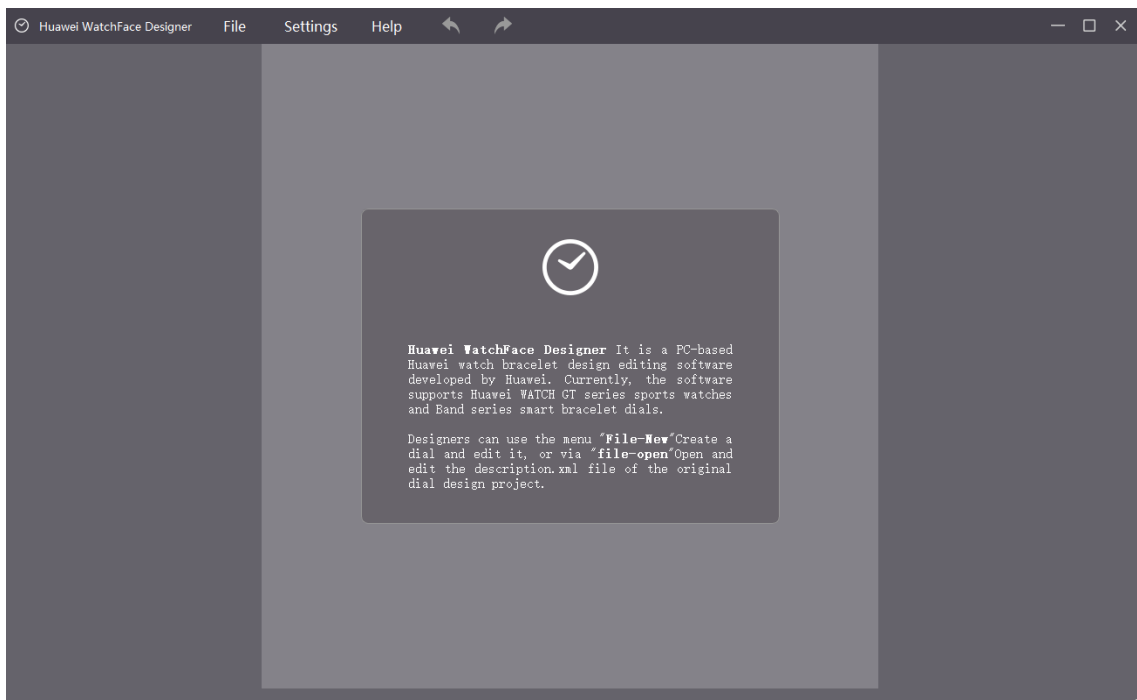
2 Software Installation

The software is currently using the green installation free method, directly unzip and then double-click to open. Exe file can run..

3 Function

3.1 Menu

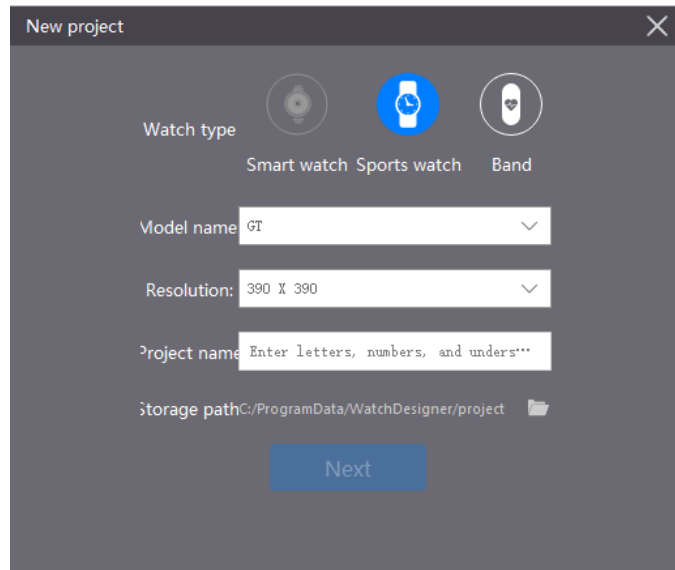
The menu bar contains two menu options: The **File** drop-down list includes project operation options. The **Help** drop-down list includes the user guide and information about the software.



3.2 Watch Face Project Management

3.2.1 Creating a Project

Select **New** from the **File** drop-down list. The **New project** dialog box is displayed.



New project

Watch type

Smart watch Sports watch Band

Model name GT

Resolution: 390 X 390

Project name Enter letters, numbers, and underscores...

Storage path C:/ProgramData/WatchDesigner/project

Next

Specify the watch type, series name, resolution, project name, and save path.



NOTE

The following series and resolutions are supported:

HONOR and HUAWEI WATCH GT (Elegant): 390 x 390

HUAWEI WATCH GT, HUAWEI WATCH GT (Sport): 454 x 454

Band series: 120 x 240

The project name field only allows letters, digits, and underlines (_) and cannot start with an underline.

Do not select a save path that contains special characters. Otherwise, the watch face resource package will fail to be exported.

Click the next step button to display the **Watch face information** dialog box.

×

Watch face information

Name (EN): 24hours *

Name (CH): Enter the Chinese name. A maxim... *

Version No.: Enter the Version No. (1-9000) *

Developer: Enter the developer's name. A ma... *

Developer: Enter the designer's name. A maxi... *

Watch face example:

+

960*960 JPG

+

390*390 JPG

+

250*250 PNG

Intro:

+

Add an intro

New

Back

The **Watch face English name** field is automatically populated. Specify the other fields as instructed on the screen.

All the three pictures will be displayed in the Watch Face Store. Click the first plus sign to add the details page for your watch face, the second plus sign to add the list page, and the third plus sign to add the watch face switching page. Make sure the pictures meet the following dimensions and formats requirements:

First picture:

Sports Watch: 960 x 960, jpg

Band: 480 x 960, jpg

Second picture:

Sports Watch: 390 x 390, jpg

Band: 195 x 390, jpg

Third picture:

Sports Watch (390 x 390): 216 x 216, PNG

Sports Watch (454 x 454): 250x250, PNG

Band (120 x 240): 120 x 240, BMP

Description: Enter an introduction to your watch face in any of the following languages, depending on the markets where you want to release your watch face:

English

Danish
German (Germany)
Greek (Greece)
English (UK)
Spanish (Europe)
Spanish (Latin America)
Finnish
French (Europe)
French (Canada)
Hindi
Croatian
Hungarian
Indonesian
Italian
Japanese
Korean
Norwegian (Written)
Dutch
Polish
Portuguese (Brazil)
Russian
Swedish
Thai
Turkish
Vietnamese
Simplified Chinese (China)
Traditional Chinese (Hong Kong, China)
Traditional Chinese (Taiwan, China)

3.2.2 Opening a Project

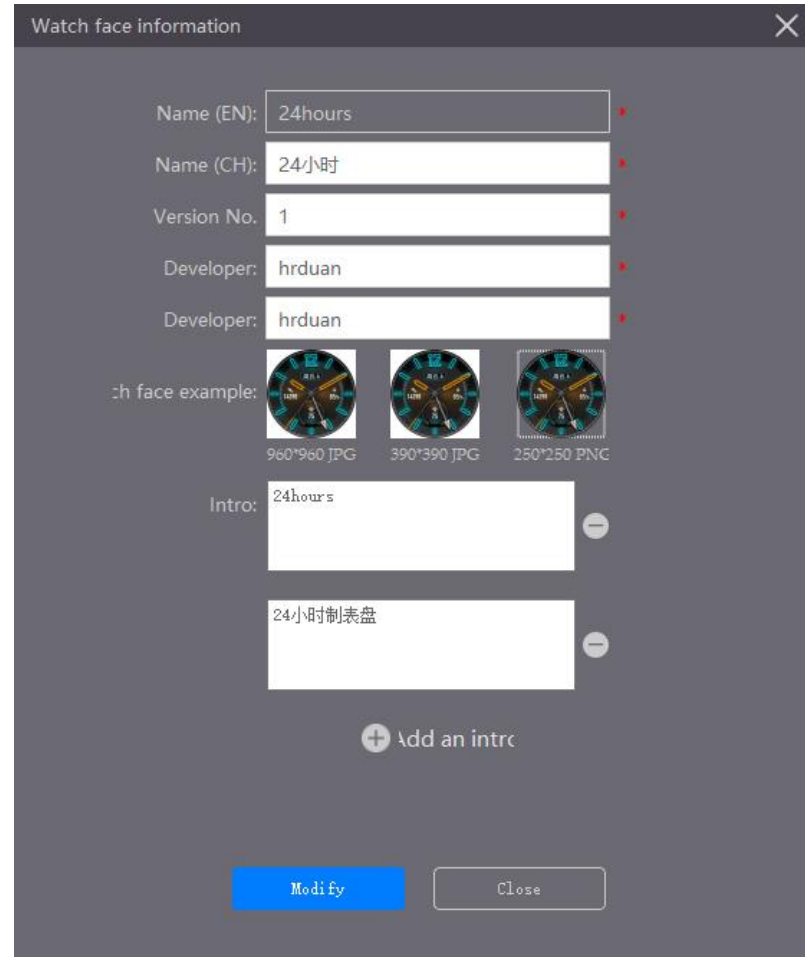
Select **Open** from the **File** drop-down list. In the displayed dialog box, select the description.xml file to edit your project.

3.2.3 Saving a Project

Select **Save** from the **File** drop-down list to save the current project progress.

3.2.4 Viewing and Editing Watch Face Information

Select **Watch face information** from the **File** drop-down list to view and edit the information about the current watch face.



The screenshot shows a 'Watch face information' dialog box with a close button (X) in the top right corner. The dialog contains several input fields and a section for watch face examples.

- Name (EN):** 24hours
- Name (CH):** 24小时
- Version No.:** 1
- Developer:** hrduan
- Developer:** hrduan

Below the input fields, there is a section labeled 'Watch face example:' with three small images of watch faces. The first image is labeled '960*960 JPG', the second '390*390 JPG', and the third '250*250 PNG'.

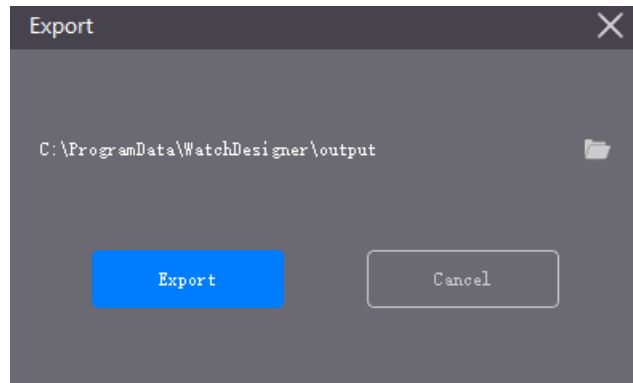
Below the images, there is an 'Intro:' section with two text boxes. The first text box contains '24hours' and the second contains '24小时制表盘'. Each text box has a minus sign button to its right.

Below the text boxes, there is a button labeled '+ Add an intro'.

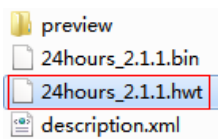
At the bottom of the dialog, there are two buttons: 'Modify' (in blue) and 'Close' (in white).

3.2.5 Exporting a Watch Face

Ensure that the watch face information and control properties meet the requirements before exporting the file. Select **Export** from the **File** drop-down list to export the file in hwt format for uploading to the Watch Face Store. Specify where you want to export the file.

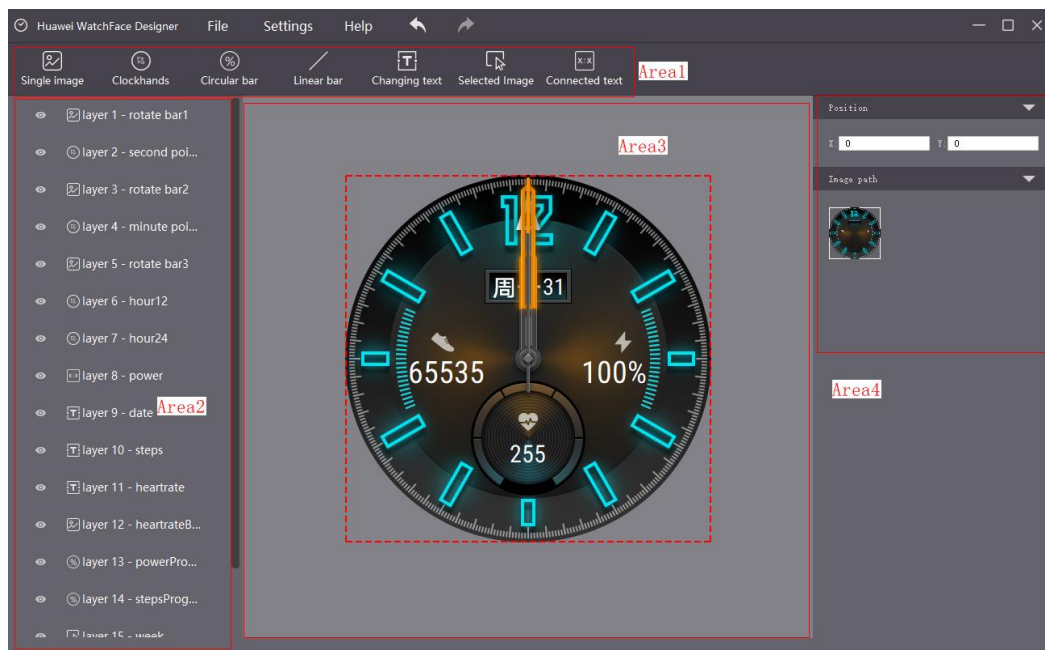


The following picture shows an exported file.



3.3 Editing Features


3.3.1 Editing Areas



As shown in the preceding picture, the editing area has four parts:

Toolbar (Area 1): You can add a control by clicking a control button in this area and dragging it to Area 2.

Layer management area (Area 2):

Click  to make a layer visible or invisible in Area 3.

Double-click a layer to rename it.

Drag a layer to adjust its sequence.

Right-click a layer to access more options.

NOTE

The control layer at the bottom in Area 2 will also be displayed at the bottom in Area 3.

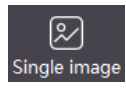
Preview area (Area 3): This area gives you a preview of the current watch face and also allows you to adjust positions of controls.

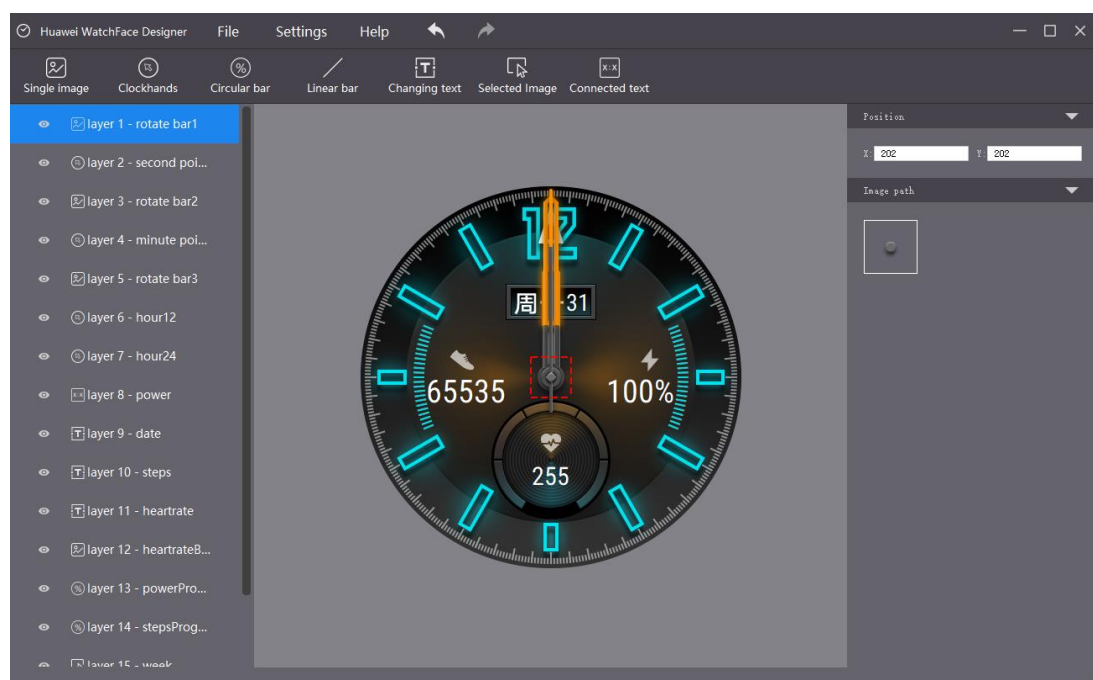
Property editing area (Area 4): This area allows you to edit the properties of the currently selected control.

3.3.2 Controls

3.3.2.1 1. Controls for Huawei Sports Watch GT

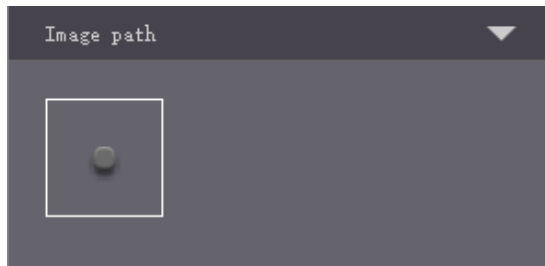
3.3.2.1.1 Single Image

 **Single image** is used to display a still picture, which is usually used as the background or app icon.



Operations:

1. Click the + sign to add a picture.



NOTE

The picture cannot be larger than the watch face DPI. For example, if the watch face is 390 x 390, then the picture width and height cannot be larger than 390 px.

2. Enter in the **X** and **Y** fields the coordinates of the picture upper left corner in the watch face coordinate system.



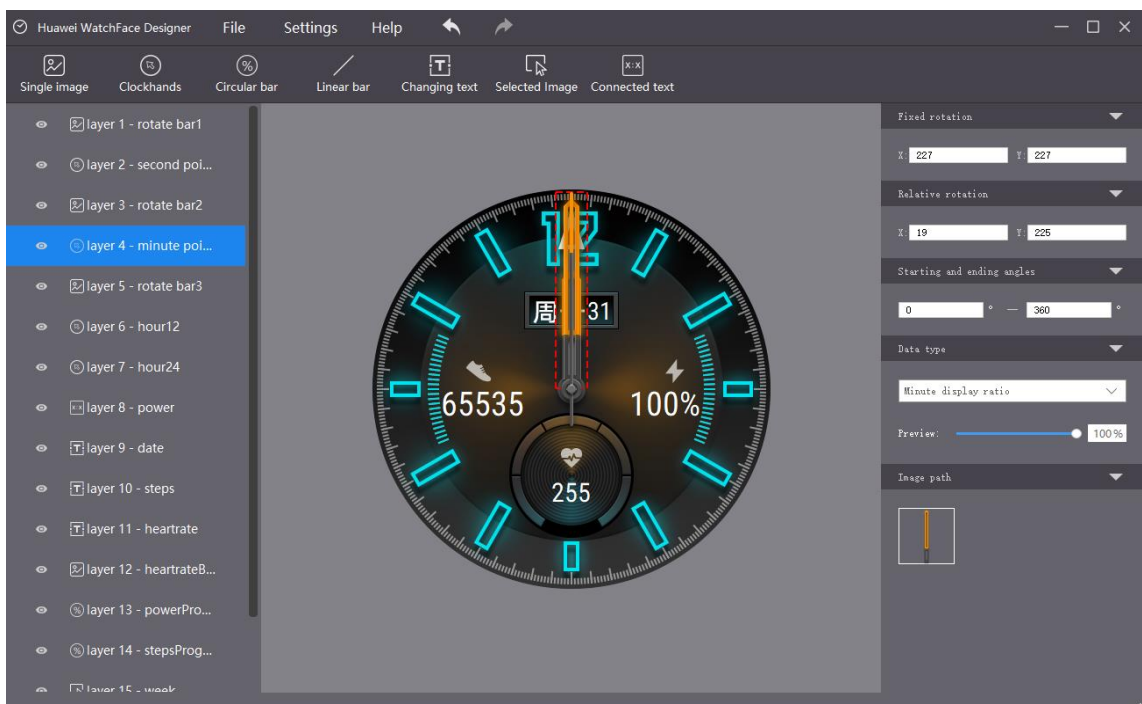
NOTE

The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X and Y values cannot exceed the watch face DPI. For example, if the watch face is 390 x 390, the values have to be 0–390.

3.3.2.1.2 Clockhands

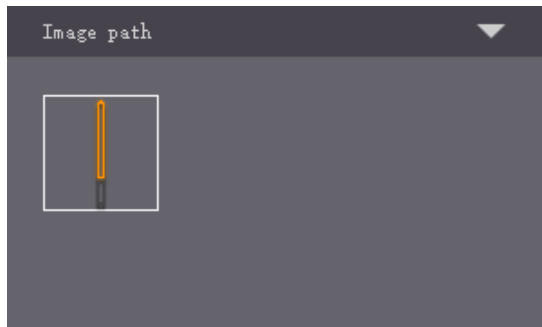


is used as the mobile pointer, normally the hour hand, minute hand, or second pointer. It changes along with its bound data.



Operations:

1. Click the + sign to add a picture.



NOTE

The picture cannot be larger than the watch face DPI. For example, if the watch face is 390 x 390, then the picture width and height cannot be larger than 390 px.

2. Enter in the **X** and **Y** fields the coordinates of the pointer rotation center in the watch face coordinate system. The rotation center of a pointer is normally the watch face center. For example, if the watch face is 390 x 390, the X and Y values are (195, 195).

NOTE

- The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X and Y values cannot exceed the watch face DPI. For example, if the watch face is 390 x 390, the values have to be 0–390.
 - The pointer rotates around the rotation center.
3. Enter in the **X** and **Y** fields the coordinates of the pointer rotation center in the pointer coordinate system. For example, if the pointer rotates around the point (14, 280) in the pointer coordinate system, enter (14, 280).

NOTE

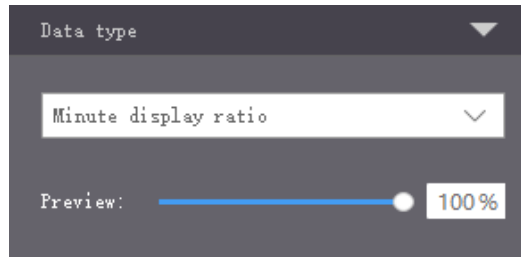
The origin (0, 0) of the pointer coordinate system is the upper left corner of the pointer picture. The X and Y values cannot exceed the picture width and height. For example, if the pointer is 50 x 300, the X value must be 0–50 and the Y value must be 0–300.

4. Enter in the **Starting and ending angle** field the rotation angle of the pointer. When the **Starting angle** is smaller than the **Ending angle**, the pointer rotates clockwise. When the **Starting angle** is larger than the **Ending angle**, the pointer rotates anti-clockwise.

NOTE

The angle values must be –360 to +360 and can have a maximum of four digits after the decimal point.

5. Select the type of data to which the pointer is bound.



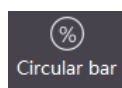
Adjust the **Preview data** to gain a preview of the pointer when the data change. The 0%–100% corresponds to the gap between the **Starting angle** and the **Ending angle**. The preview data percentage is the ratio of the gap between the **Starting angle** and the **Ending angle** in 360 degrees (100%).

The following table describes the data types supported by the pointer control.

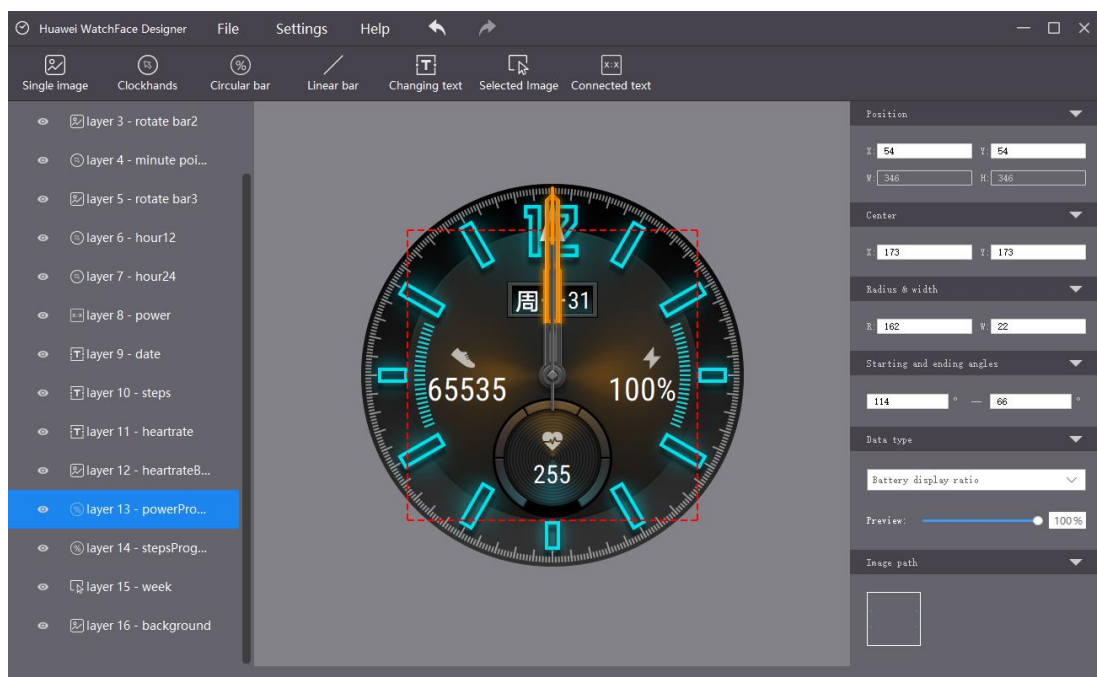
Data Type	Value	Description
Hour ratio 12	[00.00%-100.00%]	Percentage of the current hour to 12. If the current hour is 12, the percentage is 100%.
Hour ratio 24	[00.00%-100.00%]	Percentage of the current hour to 24. If the current hour is 24, the percentage is 100%.
Minute ratio	[00.00%-100.00%]	Percentage of the current minute to 60. If the current minute is 60, the percentage is 100%.
Second ratio	[00.00%-100.00%]	Percentage of the current second to 60. If the current second is 60, the percentage is 100%.
Date ratio	[00.00%-100.00%]	Percentage of current date to 31. If the current date is 31, the percentage is 100%.
Week ratio	[00.00%-100.00%]	Percentage of current week day to 7. If the current week day is 7, the percentage is 100%.
Power ratio	[00.00%-100.00%]	Percentage of current power to the full capacity. If the battery is full, the percentage is 100%.
Heart rate ratio	[00.00%-100.00%]	Percentage of the current heart rate to the maximum heart rate (for example, 255). If the current heart rate is 255, the percentage is 100%.
Calorie ratio	[00.00%-100.00%]	Percentage of the current calorie to the target calorie calculated based on the step target obtained from the app. If the current calorie equals to or exceeds the target calorie, the percentage is 100%.
Stand-up time ratio	[00.00%-100.00%]	Percentage of the current stand-up times to the target stand-up times (for example, 12). If the current stand-up times equal to or exceed the target stand-up times, the percentage is 100%.

Data Type	Value	Description
Ratio of moderate and high intensity exercise	[00.00%-100.00%]	Percentage of the current time spent on moderate and high intensity exercise to the target time (for example, 30). If the current time spent on moderate and high intensity exercise equals to or exceeds 30, the percentage is 100%.
Step count ratio	[00.00%-100.00%]	Percentage of the current step count to the target step count obtained from the app. If the current step count equals to or exceeds the target step count, the percentage is 100%.
Maximum oxygen uptake ratio	[00.00%-100.00%]	Percentage of the current maximum oxygen uptake to the maximum allowed. If the maximum oxygen uptake allowed is 80, and the actual maximum oxygen uptake is 80, the percentage is 100%.

3.3.2.1.3 Circular Bar

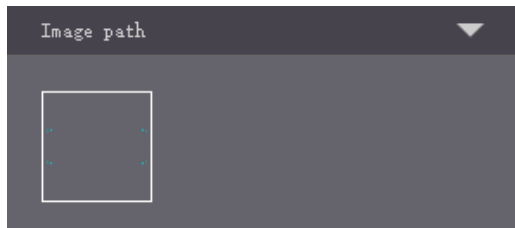


is used to show the current progress, normally of step count or calorie targets. It changes along with its bound data.



Operations:

1. Click the + sign to add a picture or Click the image modify a picture.



NOTE

The picture cannot be larger than the watch face DPI. For example, if the watch face is 390 x 390, then the picture width and height cannot be larger than 390 px. Square-shaped pictures are recommended.

2. Enter in the **X** and **Y** fields the coordinates of the picture upper left corner in the watch face coordinate system.

NOTE

The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X and Y values cannot exceed the watch face DPI. For example, if the watch face is 390 x 390, the values have to be 0–390.

3. Enter in the **X** and **Y** fields the coordinates of the circle center of the progress bar in the picture coordinate system.

NOTE

The origin (0, 0) of the picture coordinate system is the upper left corner of the picture. You are advised to enter the coordinates of the picture center point in the fields. For example, if the picture is 100 x 100, enter (50, 50) in the fields.

4. Enter in the **R** and **W** fields the radius (distance between the circle center and the progress bar middle line) and the width of the progress bar respectively.

NOTE

You are advised to set an R value not more than (picture length-bar width)/2 and a W value less than the R value.

5. Enter in the **(Starting and ending angle)** fields where the progress bar starts and ends. The **Starting angle** is where the progress bar starts and the **Ending angle** is where it ends.

 **NOTE**

- The angle values must be -360–360. The gap between the **Starting angle** and the **Ending angle** cannot be less than 5.
- The angles are bound to the data.

6. Select the type of data to which the progress bar is bound.

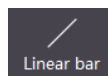
Adjust the **Preview data** to gain a preview of the progress bar when the data change. The 0%–100% corresponds to the range between the **Starting angle** and the **Ending angle**.

The following table describes the data types supported by the circular progress bar:

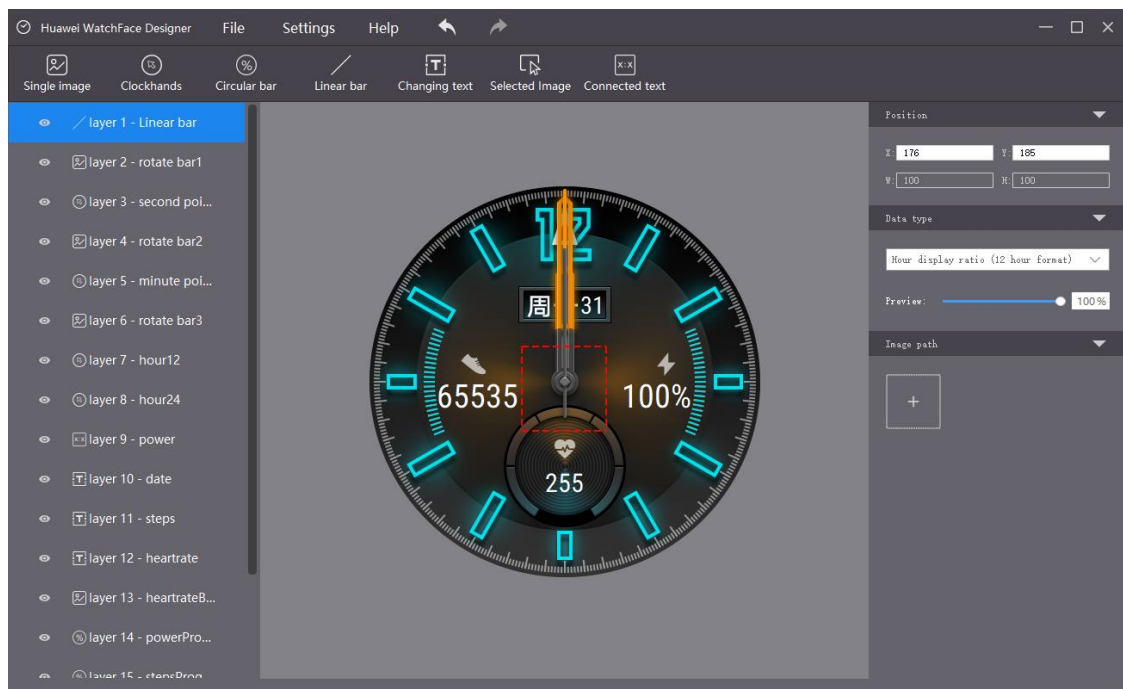
Data Type	Value	Description
Hour Ratio 12	[00.00%-100.00%]	Percentage of the current hour to 12. If the current hour is 12, the percentage is 100%.
Hour Ratio 24	[00.00%-100.00%]	Percentage of the current hour to 24. If the current hour is 24, the percentage is 100%.
Minute Ratio	[00.00%-100.00%]	Percentage of the current minute to 60. If the current minute is 60, the percentage is 100%.
Second Ratio	[00.00%-100.00%]	Percentage of the current second to 60. If the current second is 60, the percentage is 100%.
Date Ratio	[00.00%-100.00%]	Percentage of current date to 31. If the current date is 31, the percentage is 100%.
Week Ratio	[00.00%-100.00%]	Percentage of current week day to 7. If the current week day is 7, the percentage is 100%.
Power Ratio	[00.00%-100.00%]	Percentage of current power to the full capacity. If the battery is full, the percentage is 100%.
Heart rate Ratio	[00.00%-100.00%]	Percentage of the current heart rate to the maximum heart rate (for example, 255). If the current heart rate is 255, the percentage is 100%.
Calorie Ratio	[00.00%-100.00%]	Percentage of the current calorie to the target calorie calculated based on the step target obtained from the app. If the current calorie equals to or exceeds the target calorie, the percentage is 100%.

Data Type	Value	Description
Stand-up time Ratio	[00.00%-100.00%]	Percentage of the current stand-up times to the target stand-up times (for example, 12). If the current stand-up times equal to or exceed the target stand-up times, the percentage is 100%.
Ratio of moderate and high intensity exercise	[00.00%-100.00%]	Percentage of the current time spent in moderate and high intensity exercise to the target time (for example, 30). If the current time spent in moderate and high intensity exercise equals to or exceeds 30, the percentage is 100%.
Step count Ratio	[00.00%-100.00%]	Percentage of the current step count to the target step count obtained from the app. If the current step count equals to or exceeds the target step count, the percentage is 100%.
Maximum oxygen uptake Ratio	[00.00%-100.00%]	Percentage of the current maximum oxygen uptake to the maximum allowed (for example, 80). If the current maximum oxygen uptake is 80, the percentage is 100%.

3.3.2.1.4 Line bar



Linear bar is used to show the current progress, normally of step count or calorie targets. It changes along with its bound data.



Operations:

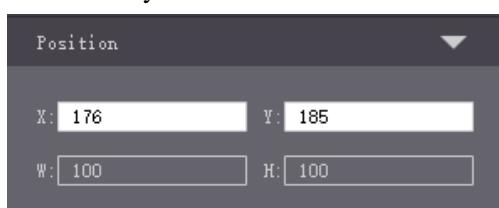
1. Click the + sign to add a picture.



NOTE

The picture cannot be larger than the watch face DPI. For example, if the watch face is 390 x 390, then the picture width and height cannot be larger than 390 px.

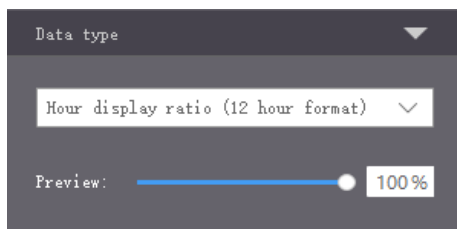
2. Enter in the **X** and **Y** fields the coordinates of the picture upper left corner in the watch face coordinate system.



NOTE

The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X and Y values cannot exceed the watch face DPI. For example, if the watch face is 390 x 390, the values have to be 0–390.

3. Select the type of data to which the progress bar is bound.



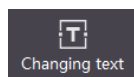
Adjust the **Preview data** to gain a preview of the progress bar when the data change. The 0%–100% corresponds to the range between the **Starting angle** and the **Ending angle**.

The following table describes the data types supported by the line progress bar:

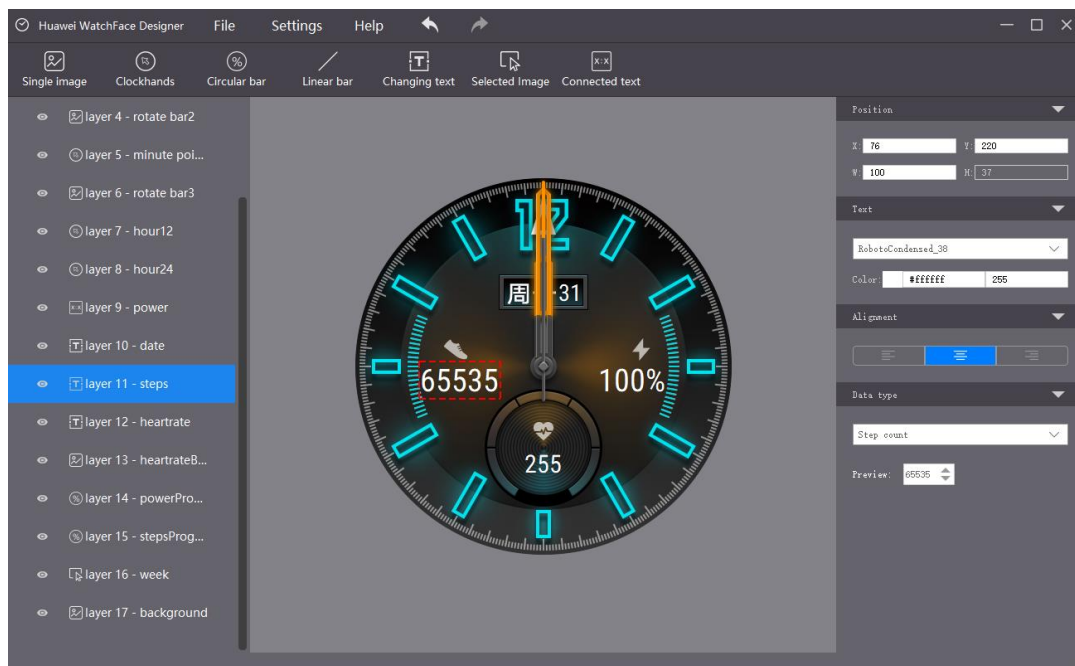
Data Type	Value	Description
Hour Ratio 12	[00.00%-100.00%]	Percentage of the current hour to 12. If the current hour is 12, the percentage is 100%.
Hour Ratio 24	[00.00%-100.00%]	Percentage of the current hour to 24. If the current hour is 24, the percentage is 100%.
Minute Ratio	[00.00%-100.00%]	Percentage of the current minute to 60. If the current minute is 60, the percentage is 100%.
Second Ratio	[00.00%-100.00%]	Percentage of the current second to 60. If the current second is 60, the percentage is 100%.

Data Type	Value	Description
Date Ratio	[00.00%-100.00%]	Percentage of current date to 31. If the current date is 31, the percentage is 100%.
Week Ratio	[00.00%-100.00%]	Percentage of current week day to 7. If the current week day is 7, the percentage is 100%.
Power Ratio	[00.00%-100.00%]	Percentage of current power to the full capacity. If the battery is full, the percentage is 100%.
Heart rate Ratio	[00.00%-100.00%]	Percentage of the current heart rate to the maximum heart rate (for example, 255). If the current heart rate is 255, the percentage is 100%.
Calorie Ratio	[00.00%-100.00%]	Percentage of the current calorie to the target calorie calculated based on the step target obtained from the app. If the current calorie equals to or exceeds the target calorie, the percentage is 100%.
Stand-up time Ratio	[00.00%-100.00%]	Percentage of the current stand-up times to the target stand-up times (for example, 12). If the current stand-up times equal to or exceed the target stand-up times, the percentage is 100%.
Ratio of moderate and high intensity exercise	[00.00%-100.00%]	Percentage of the current time spent in moderate and high intensity exercise to the target time (for example, 30). If the current time spent in moderate and high intensity exercise equals to or exceeds 30, the percentage is 100%.
Step count Ratio	[00.00%-100.00%]	Percentage of the current step count to the target step count obtained from the app. If the current step count equals to or exceeds the target step count, the percentage is 100%.
Maximum oxygen uptake Ratio	[00.00%-100.00%]	Percentage of the current maximum oxygen uptake to the maximum allowed (for example, 80). If the current maximum oxygen uptake is 80, the percentage is 100%.

3.3.2.1.5 Changing text



is used to show values such as the step count, hear rate, and date. It changes along with its bound data.



Operations:

1. Enter in the **X** and **Y** fields the coordinates of the upper left corner of the text box in the watch face coordinate system. Enter in the **W** and **H** fields respectively the text box width and the distance between the Y coordinate and the text baseline (The H value is calculated automatically according to the text size).

NOTE

The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X, Y, and W values cannot exceed the watch face DPI. For example, if the watch face is 390 x 390, the values have to be 0–390.

2. Select in the **Text** drop-down list the text font, select the text color in the color selector, and enter the transparency value in the field.

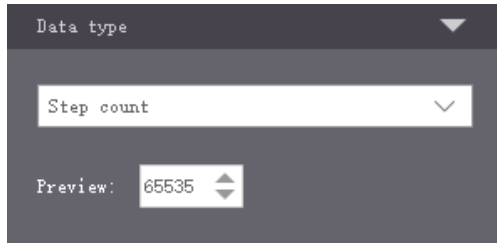
NOTE

Click the color block to enter the color selector. Enter a transparency value between 0–255.

3. Select a text alignment mode among align left, align center, and align right.



4. Select the type of data to which the dynamic text is bound.

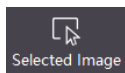


Adjust the **Preview** to gain a preview of the dynamic text when the data change.

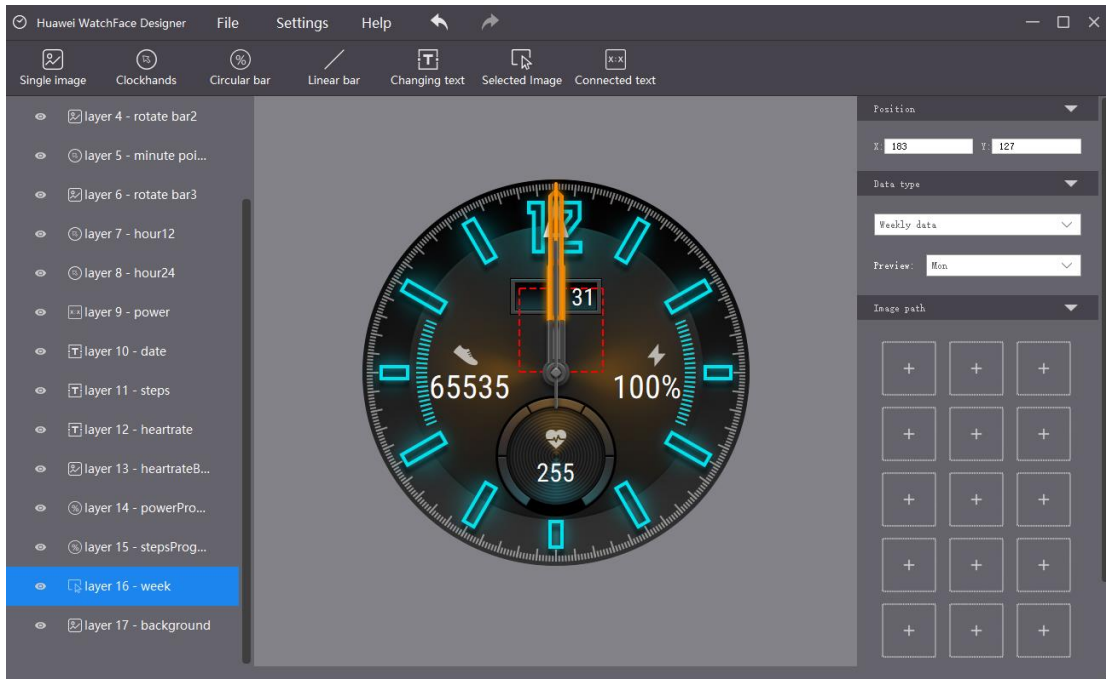
The following table describes the data types supported by the dynamic text control.

Data Type	Value	Description
Steps	[0–65535]	Steps
Calories	[0–65535]	Calories
Heart rate	[0–255]	Heart rate
Moderate and high intensity exercise time	[0–65535]	Moderate and high intensity exercise time
Temperature	[-32678–32678]	Temperature, automatically displayed in Celsius or Fahrenheit.
PM2.5	[0–500]	PM2.5
Atmospheric pressure	[0–65535]	Atmospheric pressure
Altitude	[-32678–32678]	Altitude
Power	[0–100]	Power
Standing times	[0–255]	Standing times
Maximum oxygen uptake	[0–80]	Maximum oxygen uptake
Date	[1–31]	Date
Maximum heart rate	[0–255]	Maximum heart rate
Minimum heart rate	[0–255]	Minimum heart rate
Month	[1–12]	Month

3.3.2.1.6 Selected Image

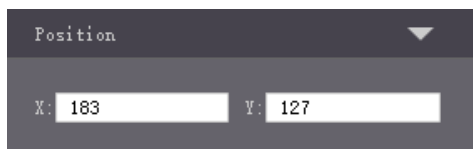


is used to show values such as the weather, week or date. It changes along with its bound data.



Operations:

1. Enter in the **X** and **Y** fields the coordinates of the picture upper left corner in the watch face coordinate system.



NOTE

The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X and Y values cannot exceed the watch face DPI. For example, if the watch face is 390 x 390, the values have to be 0–390.

2. Select the type of data to which the picture selection control is bound.



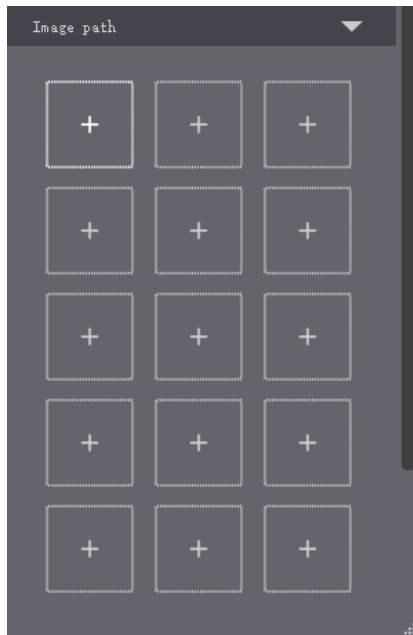
Adjust the **Preview** to gain a preview of the **Picture selection** control when the data change.

The following table describes the data types supported by the picture selection control.

Data Type	Value	Picture Quantity	Description and Picture Sequence
AMPM	[0–2]	3	0: AM 1: PM 2: Transparent blank picture to allow this data to be invisible in 24-hour clock.
Month	[0–12]	13	0: Random picture of no use 1: January 2: February 3: March 4: April 5: May 6: June 7: July 8: August 9: September 10: October 11: November 12: December
Week	[0–7]	8	0: Random picture of no use 1: Monday 2: Tuesday 3: Wednesday 4: Thursday 5: Friday 6: Saturday 7: Sunday
Weather type	[0–10]	11	0: Unknown due to exceptions such as network disconnection 1: Sunny_day: Sunny during the day 2: Sunny_night: Sunny during night 3: Overcast 4: Cloudy 5: Rain 6: Thunder 7: Snow 8: Dust_storm 9: Hazy 10: Frog
Power	[0–10]	11	Numbers 0 to 10, which indicate the battery levels 0%, 10%, 20%, 30%, ..., and 100%, respectively.
Tens place of the hour	[0–2]	3	The tens place of the hour, which varies according to the clock system.
Ones place of the hour	[0–9]	10	The ones place of the hour, which varies according to the clock system.
Tens place of the minute	[0–5]	6	The tens place of the minute.

Data Type	Value	Picture Quantity	Description and Picture Sequence
Ones place of the minute	[0–9]	10	The ones place of the minute.
Tens place of the second	[0–5]	6	The tens place of the second.
Ones place of the second	[0–9]	10	The ones place of the second.
Ones place of step count	[0–9]	10	The ones place of step count.
Tens place of step count	[0–9]	10	The tens place of step count.
Hundreds place of step count	[0–9]	10	The hundreds place of step count.
Thousands place of step count	[0–9]	10	The thousands place of step count.
Ten thousands place of step count	[0–9]	10	The ten thousands place of step count.
Most significant place of date	[0–3]	4	Most significant place of date
Least significant place of date	[0–9]	10	Least significant place of date
Unread message	[0–1]	2	0: There is no unread message. 1: There is/are unread message(s).
Temperature type	[0–1]	2	0: Celsius 1: Fahrenheit

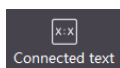
- Click the + sign to add a picture. Add the pictures according to their sequence and delete the picture, if any, from the last one. Add the pictures by strictly following the required data type, number, and sequence.



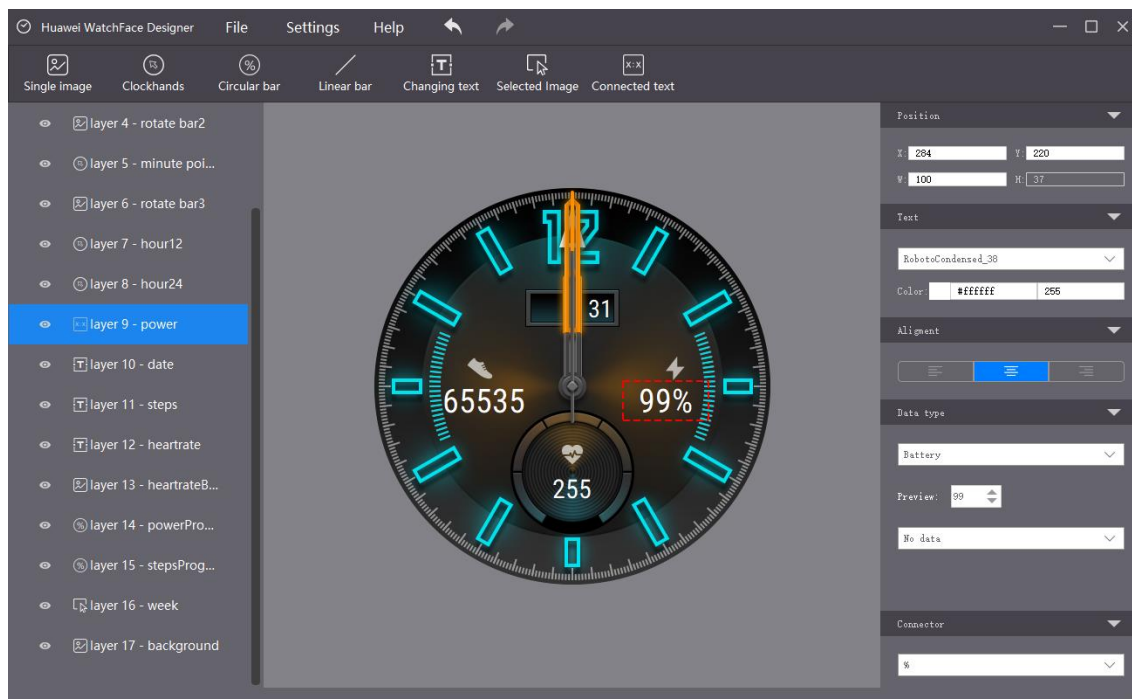
NOTE

- The picture cannot be larger than the watch face DPI. For example, if the watch face is 390 x 390, then the picture width and height cannot be larger than 390 px.
- When the data type is AM/PM, add the AM and PM pictures in the first two boxes respectively, and add a third transparent blank picture (to allow this data to be invisible in the 24-hour clock).
- When the data type is week, the first picture is a mandatory random one of no use, and the pictures starting from the second one correspond to Monday, Tuesday ... Saturday, and Sunday in sequence.
- When the data type is month, the first picture is a mandatory random one of no use, and the pictures starting from the second one correspond to January, February ... November, and December.

3.3.2.1.7 Connected text



is used to show two values connected by a connection sign, such as date in XX/XX format. It changes along with its bound data.



Operations:

1. Enter in the **X** and **Y** fields the coordinates of the upper left corner of the text box in the watch face coordinate system. Enter in the **W** and **H** fields respectively the text box width and the distance between the Y coordinate and the text baseline (The H value is calculated automatically according to the text size).

NOTE

The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X, Y, and W values cannot exceed the watch face DPI. For example, if the watch face is 390 x 390, the values have to be 0–390.

2. Select in the **Text** drop-down list the text font, select the text color in the color selector, and enter the transparency value in the field.

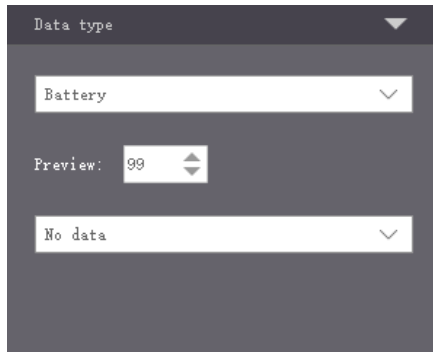
NOTE

Click the color block to enter the color selector. Enter a transparency value between 0–255.

3. Select a text alignment mode among align left, align center, and align right.



4. Select the type of data to which the connected texts are bound.



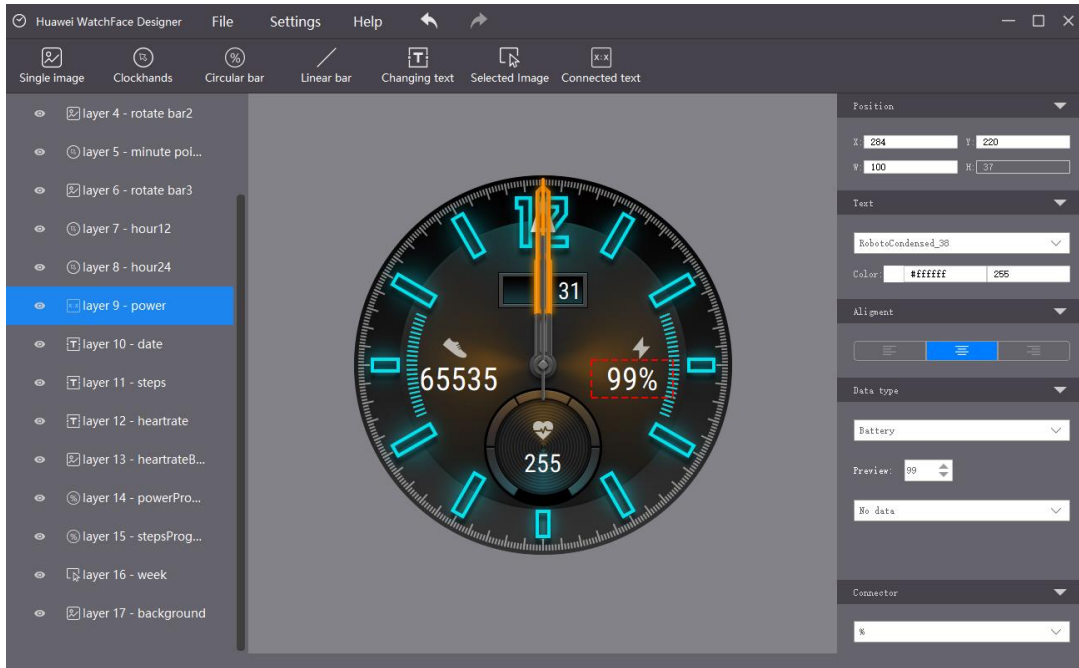
Adjust the **Preview** to gain a preview of the **Connected text** when the data change.

The following table describes the data types supported by the connected texts control.

Data Type	Value	Description
Steps	[0–65535]	Steps
Calories	[0–65535]	Calories
Heart rate	[0–255]	Heart rate
Moderate and high intensity exercise time	[0–65535]	Moderate and high intensity exercise time
Temperature	[-32678–32678]	Temperature, automatically displayed in Celsius or Fahrenheit.
PM2.5	[0–500]	PM2.5
Atmospheric pressure	[0–65535]	Atmospheric pressure
Altitude	[-32678–32678]	Altitude
Power	[0–100]	Power
Standing times	[0–255]	Standing times
Maximum oxygen uptake	[0–80]	Maximum oxygen uptake
Date	[1–31]	Date
Maximum heart rate	[0–255]	Maximum heart rate
Minimum heart rate	[0–255]	Minimum heart rate
Month	[1–12]	Month

The second text also supports no data.

Data Type	Value	Description
No data	N/A	The xx% effect can be achieved by setting the second text to no data.



5. Connection sign: Used to separate the two texts.



The following are the supported connection signs:

Colon: ":"

En dash: "-"

Slash: "/"

Backslash: "\"

Dot: "."

Percentage: "%"

Space: " "

3.3.2.1.8 Maximum and Minimum Controls on One Watch Face

1. Maximum controls on one watch face:

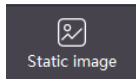
All configurations of watch face controls are recorded in the watch_face_config.xml file. The maximum number of controls on one watch face is 25.

2. Maximum size of one watch face file:

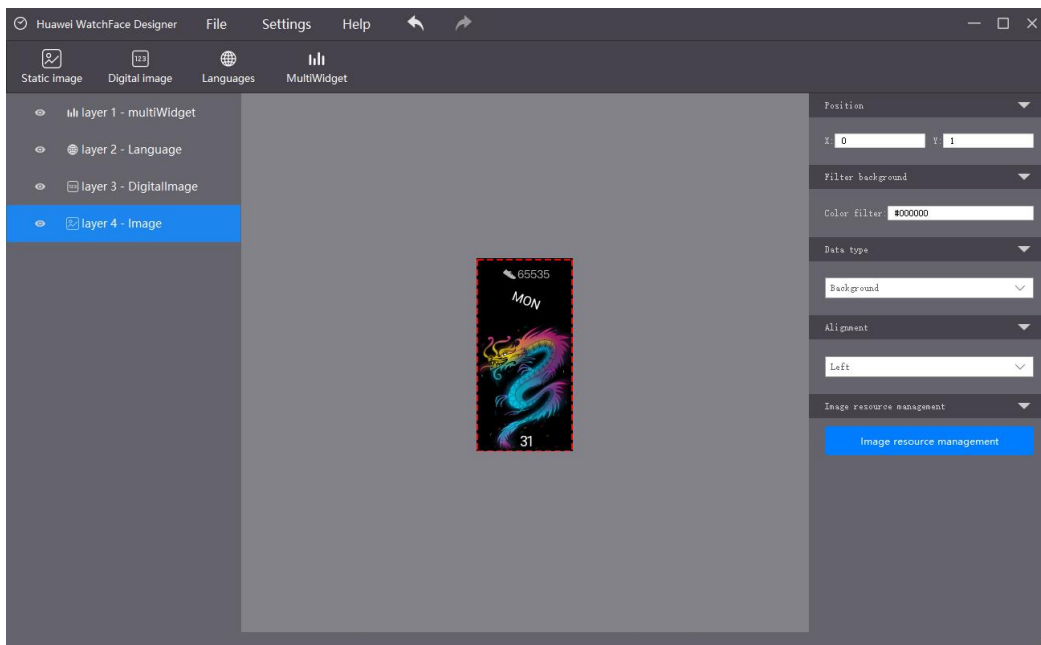
For current sports watches, the bin file should not be more than 1.4 MB and the entire hwt package not more than 5 MB.

3.3.2.2 2 Controls for HUAWEI Band

3.3.2.2.1 Static picture

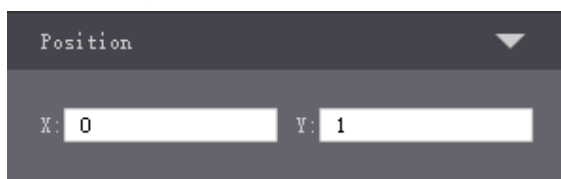


is used to display a still picture, such as the background, icon or mark pictures.



Operations:

1. Enter in the **X** and **Y** fields the coordinates of the picture upper left corner in the watch face coordinate system.



NOTE

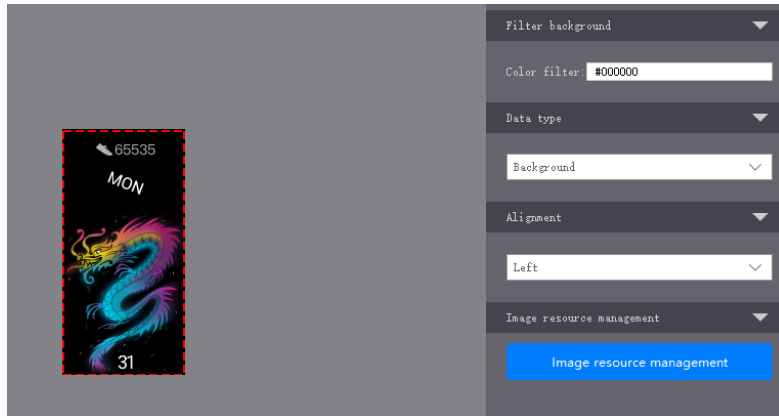
The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X and Y values cannot exceed the watch face DPI. The X value must be 0–120 and the Y value must be 0–240.

2. Enter a color value in the **Color filter** field to filter the specified color from the still picture.

Filter background ▾

Color filter: #000000

For example, enter **#FFFFFF** in the **Color filter** field to filter the white color from the still picture. The effect is shown in the following picture.



3. Select the type of data to which the still picture control is bound.

The following table describes the data types supported by the still picture control.

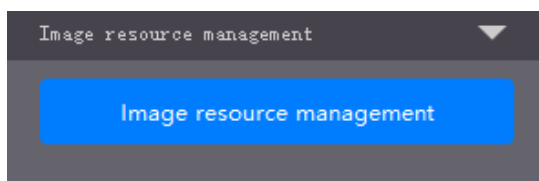
Data Type	Picture Quantity	Description and Picture Sequence
Background	2	1: Upper part of the picture 2: Lower part of the picture
Constellation background	12	1: Aquarius 2: Pisces 3: Aries 4: Taurus 5: Gemini 6: Cancer 7: Leo 8: Virgo 9: Libra 10: Scorpio 11: Sagittarius 12: Capricorn
Background animation	N	Automatic loop playing of N pieces of pictures (N>=2)
Separator /	1	
Separator :	1	
AMPM	2	1: AM 2: PM
Power percent sign%	1	

Data Type	Picture Quantity	Description and Picture Sequence
Battery	11	Pictures of different power levels from 0%, 10% to 100%
Charging	11	Pictures of different power levels from 0%, 10% to 100%
Weather	26	1: Sunny 2: Cloudy 3: Overcast 4: Shower 5: Thunder shower 6: Thunder shower and hail 7: Sleet 8: Light rain 9: Moderate rain 10: Heavy rain 11: Rainstorm 12: Heavy rainstorm 13: Extraordinary heavy rainstorm 14: Snow shower 15: Light snow 16: Moderate snow 17: Heavy snow 18: Blizzard 19: Foggy 20: Freezing rain 21: Sandstorm 22: Floating dust 23: Floating sand 24: Heavy sandstorm 25: Haze 26: Unknown
Unknown temperature	1	

4. Take the X coordinate as the reference, select a text alignment mode among align left, align center, and align right.



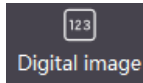
5. Click the **Image resource management** button to select a picture.



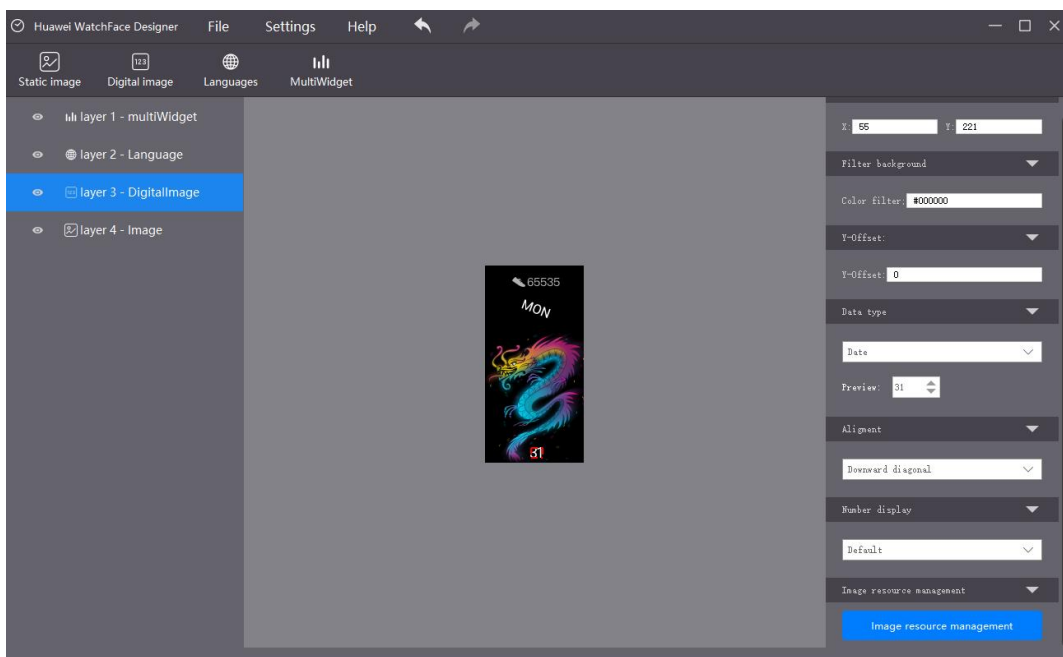
NOTE

- The picture cannot be larger than the watch face DPI.
- Upload pictures by strictly following the requirements for different data types. For example, if the data type is constellation background, upload 12 pictures in the following sequence: 1: Aquarius; 2: Pisces; 3: Aries; 4: Taurus; 5: Gemini; 6: Cancer; 7: Leo; 8: Virgo; 9: Libra; 10: Scorpio; 11: Sagittarius; 12: Capricorn
- If the data type is background animation, upload at least two pictures.
- If the data type is weather, upload 26 pictures with the same DPI in the sequence shown in the table above.

3.3.2.2.2 Digital Image

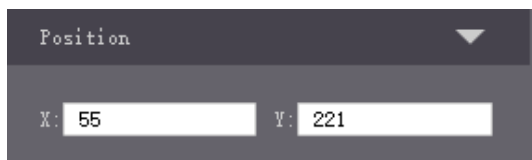


is used to display pictures, such as time, date and step count. It changes along with its bound data.



Operations:

1. Enter in the **X** and **Y** fields the coordinates of the picture upper left corner in the watch face coordinate system.



NOTE

The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X and Y values cannot exceed the watch face DPI. The X value must be 0–120 and the Y value must be 0–240.

2. Enter a color value in the **Color filter** field to filter the specified color.

- When the alignment mode is to align upward or downward sloping, set the **Y-Offset** value to adjust the offset in the Y-axis.

- Select the type of data to which the digital picture selection control is bound.

The following table describes the data types supported by the number picture selection control.

Data Type	Value	Picture Quantity	Description
Month	1–12	10	The picture sequence is 0–9.
Day	1–31	10	The picture sequence is 0–9.
Tens place of the hour	0–9	10	The picture sequence is 0–9.
Ones place of the hour	0–9	10	The picture sequence is 0–9.
Tens place of the minute	0–9	10	The picture sequence is 0–9.
Ones place of the minute	0–9	10	The picture sequence is 0–9.
Power value	0–100	10	The picture sequence is 0–9.
Step value	0–99999	10	The picture sequence is 0–9.

Adjust the **Preview** to gain a preview of the **Number picture selectio** control when the data change.

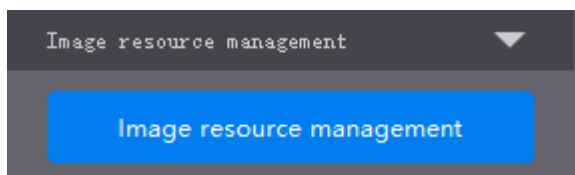
5. Take the X coordinate as the reference, select an alignment mode among align upward sloping, align downward sloping, align left, align center, and align right.



6. Select the **Number display** for the number. When the **Default** option is selected, the number digits displayed will not be altered. If the set **Number display** is more than the actual digit number, the excessive place will be filled with zero.



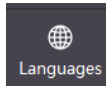
7. Click the **Image resource management** button to select a picture.



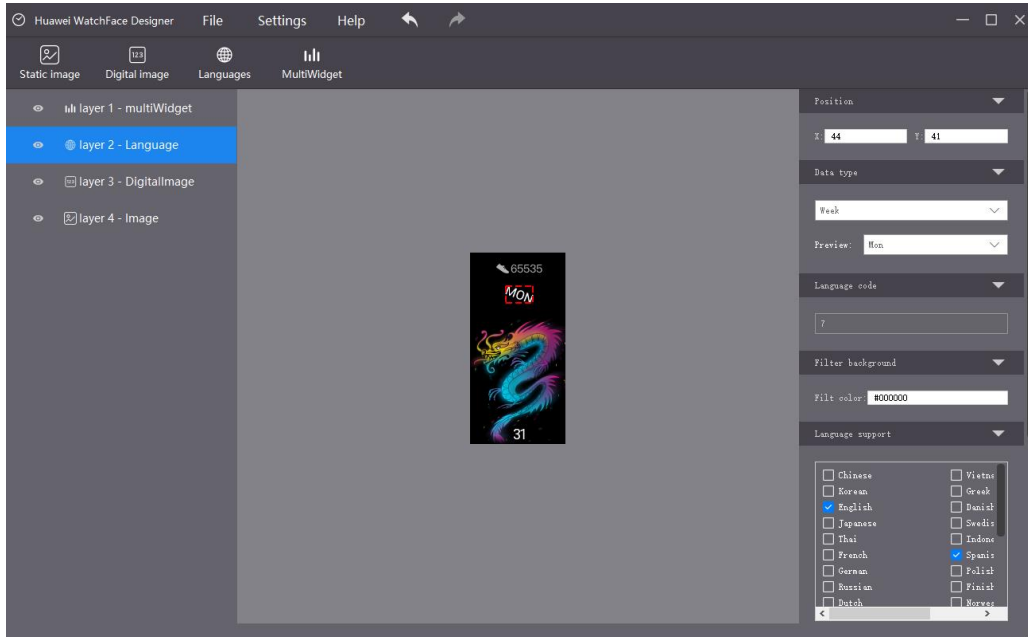
NOTE

- The picture cannot be larger than the watch face DPI.
- Ten pictures are required in the sequence of 0–9.

3.3.2.2.3 Languages

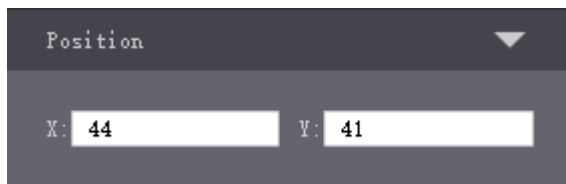


is used to display month and week texts in multiple languages.



Operations:

1. Enter in the **X** and **Y** fields the coordinates of the upper left corner of the picture in the watch face coordinate system.



NOTE

The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X and Y values cannot exceed the watch face DPI. The X value must be 0–120 and the Y value must be 0–240.

2. Select the type of data to which the multiple languages control is bound. Currently Week and Month-whole picture are supported.

The following table describes the data types supported by the control.

Data Type	Picture Quantity	Description
Month-whole picture	N*12	N indicates the number of supported languages. The sequence is from January to December pictures in one language, and then January to December pictures in another language.
Week	N*7	N indicates the number of supported languages. The sequence is from Monday to Sunday pictures in one language, and then Monday to Sunday pictures in another language.

NOTE

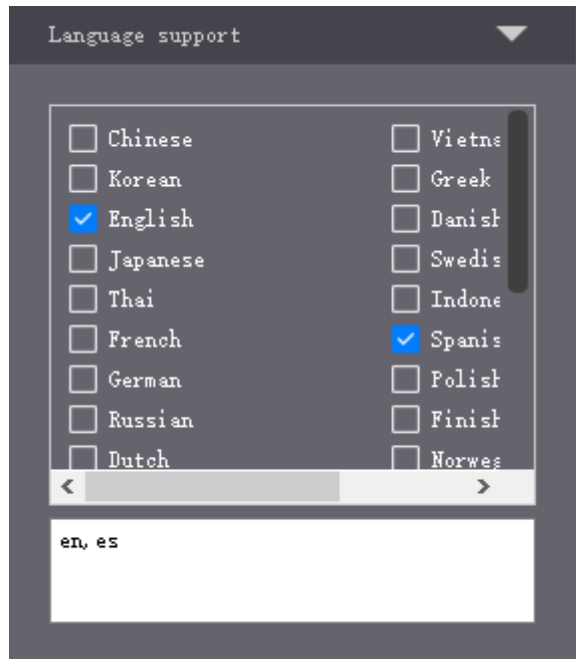
If the selected languages are Chinese, English and Korean, 21 pictures are required in the sequence of Monday to Sunday pictures in Chinese, Monday to Sunday pictures in English, and Monday to Sunday pictures in Korean. This rule also applies for more languages.

Adjust the **Preview** to gain a preview of the data displayed in multiple languages. When the data type is month-whole picture, the **Preview** options are from January to December. Adjust the default language in the property setting to gain a preview in the selected language. When the data type is week, the **Preview** options are from Monday to Sunday. Adjust the default language in the property setting to gain a preview in the selected language.

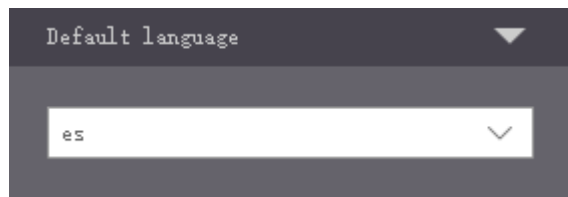
- Enter in the **Language code** field the required number of pictures for each language. When the data type is week, enter 7. When the data type is month-whole picture, enter 12.

- Enter a color value in the **Color filter** field to filter the specified color.

- In the **Supported language** area, select supported languages. Tick the desired languages or manually add any other languages. When a language is ticked or added, its abbreviation is displayed in the box at the bottom.



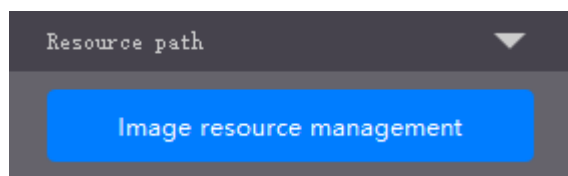
6. Select in the **Default language** drop-down list the default language.



7. Take the X coordinate as the reference, select an alignment mode among align left, align center, and align right.



8. In the **Resource path** area, click the **Image resource management** button to select a picture.

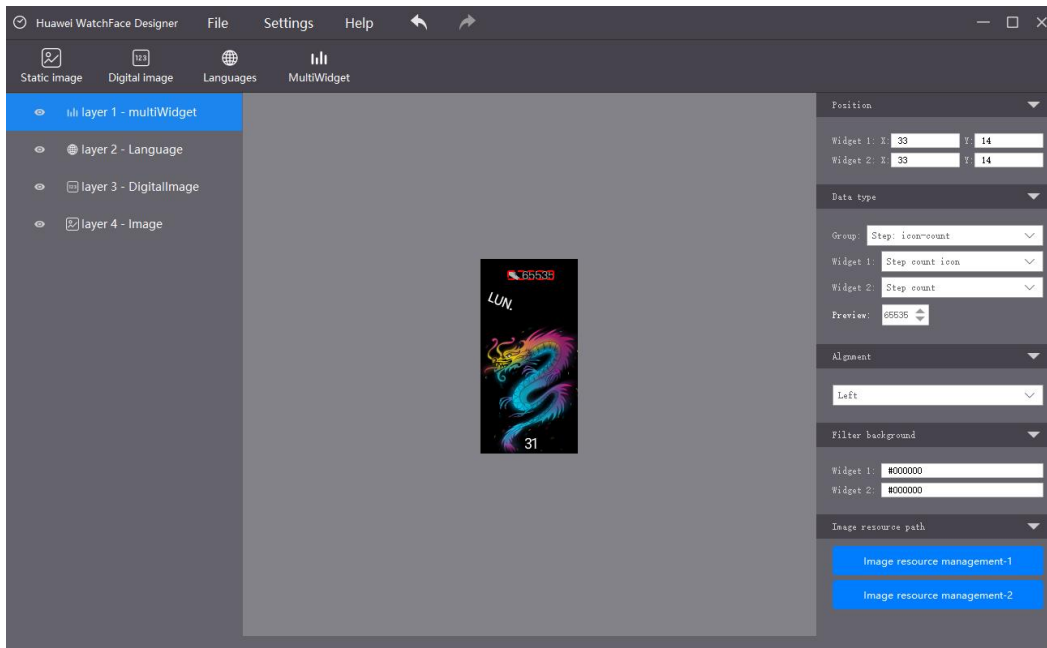


- The picture cannot be larger than the watch face DPI.
- If the data type is month-whole picture, N*12 pictures are required (N indicates the number of supported languages.)
- If the data type is week, N*7 pictures are required (N indicates the number of supported languages.)

3.3.2.2.4 MultiWidget

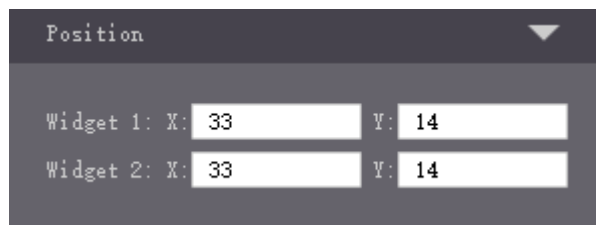


is used to display data and units such as sports data, temperature, and distance.



Operations:

1. In the **Reference position** area, X1, X2, and X3 are the coordinates of the upper left corner of the whole control picture in the watch face coordinate system. Y1 is the coordinate of the upper left corner of the first component picture of the multiple components control in the watch face coordinate system. Y2 is the coordinate of the upper left corner of the second component picture of the multiple components control in the watch face coordinate system. Y3 is the coordinate of the upper left corner of the third component picture of the multiple components control in the watch face coordinate system.



NOTE

X1, X2, and X3 can have the same value but Y1, Y2, and Y3 cannot. The X and Y values cannot exceed the watch face DPI. The X value must be 0–120 and the Y value must be 0–240.

2. Select the type of data to which the multiple components control is bound. Seven types of controls are supported: Month-Separator-Day, Bluetooth-Message-Do not disturb, Below zero-Temperature

value-Temperature unit, Energy icon-Energy value-Energy unit, Distance icon-Distance value-Distance unit, and Step icon-Step value.

The screenshot shows a configuration window titled 'Data type'. It contains several settings: a 'Data type' dropdown menu, a 'Group' dropdown set to 'Step: icon-count', 'Widget 1' set to 'Step count icon', 'Widget 2' set to 'Step count', and a 'Preview' field displaying the value '65535' with up and down arrow controls.

Adjust the **Preview** to gain a preview of the multiple components control when the data change.

The following table describes the data types supported by the multiple components control.

Data Type	Picture Quantity	Description	Value
Month	10	The picture sequence is 0–9.	1–12
Separator /	1		
Day	10	The picture sequence is 0–9.	1–31
Bluetooth	2	1: Connected 2: Unconnected	
Message	1		
Do not disturb	1		
Temperature	10	The picture sequence is 0–9.	
Below zero	1		
Temperature unit	2	1: Celsius 2: Fahrenheit	
Energy icon	1		
Energy value	10	The picture sequence is 0–9.	0–9999
Energy unit	1		
Step icon	1		
Step value	10	The picture sequence is 0–9.	0–99999
Distance icon	1		
Distance value	11	The picture sequence is 0–9. Add a decimal point picture in the end (with the same picture size as the other pictures and the decimal point displayed at the lower left corner of the picture).	0.00–99.99

Data Type	Picture Quantity	Description	Value
Distance unit	1	The unit is kilometer.	

 **NOTE**

The multiple components control is composed of two or three sub-controls.

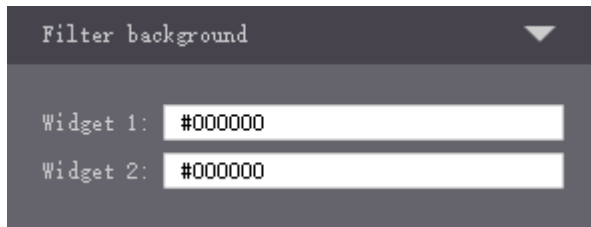
3. Select an alignment mode among align left, align center, and align right.

 **NOTE**

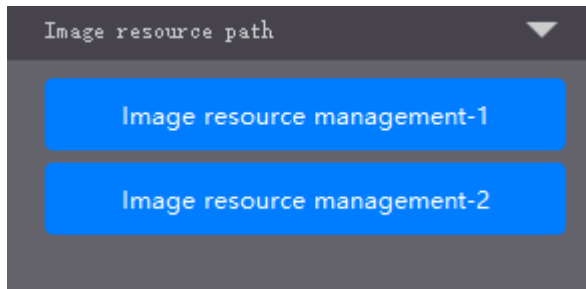
The align center option takes the X coordinate 60 as the reference.



4. Enter color values in the **Color filter** fields to filter the specified colors from the control.



5. In the **Image resource path** area, click the **Image resource management** buttons to select the pictures.



 **NOTE**

- The picture cannot be larger than the watch face DPI.
- When the data type is month, day, temperature, calorie value, or step value, 10 pictures are required for each of them and the picture sequence is 0–9.
- When the data type is distance value, 11 pictures are required and the picture sequence is 0–9. After other pictures are added, add a decimal point picture (with the same picture size as the other pictures and the decimal point displayed at the lower left corner of the picture).
- When the data type is Bluetooth, two pictures are required (as shown in the table above).
- When the data type is temperature unit, two pictures are required (as shown in the table above).
- Add pictures of different data types according to the table above.

3.3.2.2.5 Control Sequence and Requirements

1. Add the controls in the sequence shown in the following table.

No.	Data Type	Picture Quantity	Description	Value
1	Background	2	1: Upper part of the picture 2: Lower part of the picture	
2	Constellation background	12	1: Constellation background	1: Aquarius 2: Pisces 3: Aries 4: Taurus 5: Gemini 6: Cancer 7: Leo 8: Virgo 9: Libra 10: Scorpio 11: Sagittarius 12: Capricorn
3	Background animation	N	Automatic loop playing of N pieces of pictures	$N \geq 2$
4	Month	10	The picture sequence is 0–9.	1–12
5	Month-whole picture	$N \times 12$	月份 1-12, The sequence is from January to December pictures in one language, and then January to December pictures in another language.	
6	Separator /	1		
7	Day	10	The picture sequence is 0–9.	1–31

No.	Data Type	Picture Quantity	Description	Value
8	Week	N*7	The sequence is from Monday to Sunday pictures in one language, and then Monday to Sunday pictures in another language.	
9	Tens place of the hour	10	The picture sequence is 0–9.	0–9
10	Ones place of the hour	10	The picture sequence is 0–9.	0–9
11	Separator :	1		
12	Tens place of the minute	10	The picture sequence is 0–9.	0–9
13	Ones place of the minute	10	The picture sequence is 0–9.	0–9
14	AMPM	2	1: AM 2: PM	
15	Bluetooth	2	1: Connected 2: Unconnected	
16	Power value	10	The picture sequence is 0–9.	0–100
17	Power percent sign	1		
18	Battery	11	Pictures of different power levels from 0%, 10% to 100%	
19	Charging	11	Pictures of different power levels from 0%, 10% to 100%	
20	Message	1		
21	Do not disturb	1		

No.	Data Type	Picture Quantity	Description	Value
22	Weather	26	1: Sunny 2: Cloudy 3: Overcast 4: Shower 5: Thunder shower 6: Thunder shower and hail 7: Sleet 8: Light rain 9: Moderate rain 10: Heavy rain 11: Rainstorm 12: Heavy rainstorm 13: Extraordinary heavy rainstorm 14: Snow shower 15: Light snow 16: Moderate snow 17: Heavy snow 18: Blizzard 19: Foggy 20: Freezing rain 21: Sandstorm 22: Floating dust 23: Floating sand 24: Heavy sandstorm 25: Haze 26: Unknown	
23	Temperature value	10	The picture sequence is 0–9.	
24	Unknown temperature	1		
25	Below zero	1		
26	Temperature unit	1		
27	Energy icon	1		
28	Energy value	10	The picture sequence is 0–9.	0–9999
29	Energy unit	1		
30	Step icon	1		
31	Step value	10	The picture sequence is 0–9.	0–99999
32	Distance icon	1		
33	Distance value	11	The picture sequence is 0–9.	0–99.99

No.	Data Type	Picture Quantity	Description	Value
36	Distance unit	1		

2. The pictures of different data type must meet the requirements in the following table.

Data type	Width	Height	W = 120 H = 240
Background	W	$\leq 1/2 * H$	120*120
Watch face switching preview	W	$\leq 1/2 * H$	120*120
Digital clock and Separator	$\leq 1/2 * W$	$\leq 1/2 * H$	60*120
AMPM	$\leq 1/4 * W$	$\leq 1/8 * H$	30*30
Date, Number and Separator	$\leq 1/4 * W$	$\leq 1/8 * H$	30*30
Battery icon	$\leq 1/4 * W$	$\leq 1/8 * H$	30*30
Weather icon	$\leq 1/4 * W$	$\leq 1/8 * H$	30*30
Temperature value, Temperature unit, Below zero, Invalid temperature	$\leq 1/4 * W$	$\leq 1/8 * H$	30*30
Bluetooth icon	$\leq 1/4 * W$	$\leq 1/8 * H$	30*30
Unread message and Do not disturb	$\leq 1/4 * W$	$\leq 1/8 * H$	30*30
Step value, Distance value, Calorie value	$\leq 1/3 * W$	$\leq 1/6 * H$	40*40
Week picture	$\leq 1/3 * W$	$\leq 1/6 * H$	40*40
Month picture	$\leq 1/3 * W$	$\leq 1/6 * H$	40*40
Step icon, Distance icon, Calorie icon	$\leq 1/3 * W$	$\leq 1/6 * H$	40*40

All configurations of watch face controls are recorded in the watch_face_config.xml file. The maximum number of controls on one watch face is 35.

3. Maximum size of one watch face file:

The com.huawei.watchface file must not exceed 600 KB and the entire hwt package must not exceed 5 MB.

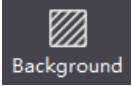
4. Naming rule:

Name the imported pictures in the sequence of 000–255.

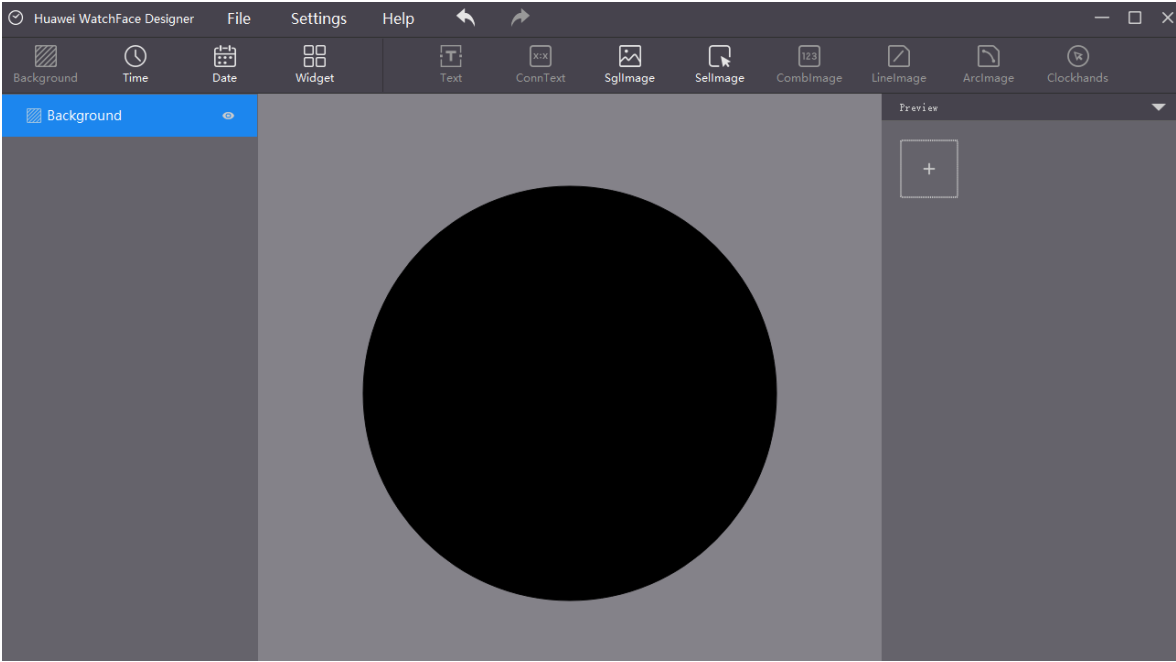
3.3.2.3 3. Controls for HUAWEI Sports Watch GT2

3.3.2.3.1 Introduction

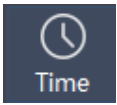
Background



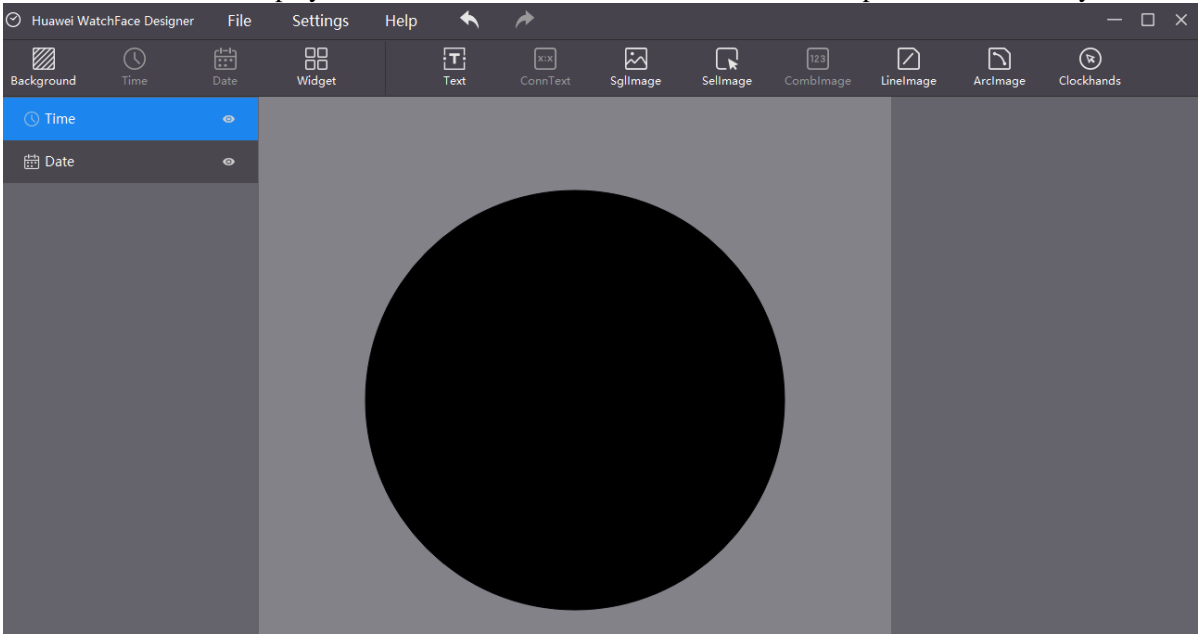
Background is used as the watch face background. This picture is mandatory and normally has the same size as the screen.



Time



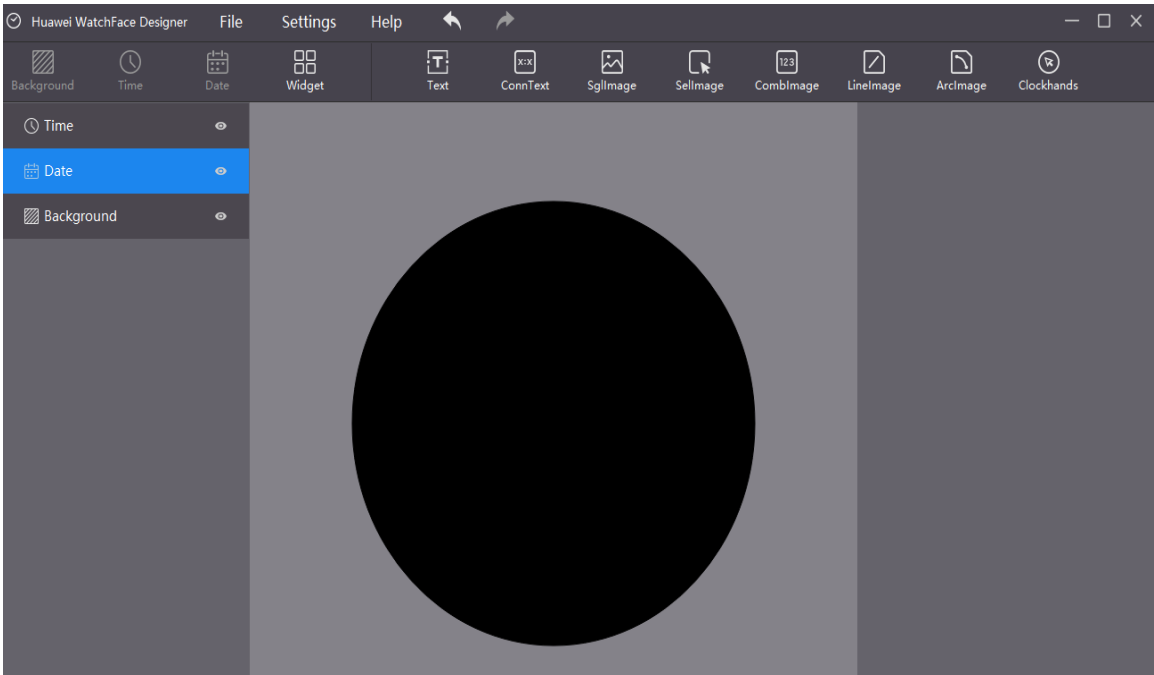
is used to display the hour, minute, and second information. This picture is mandatory.



Date



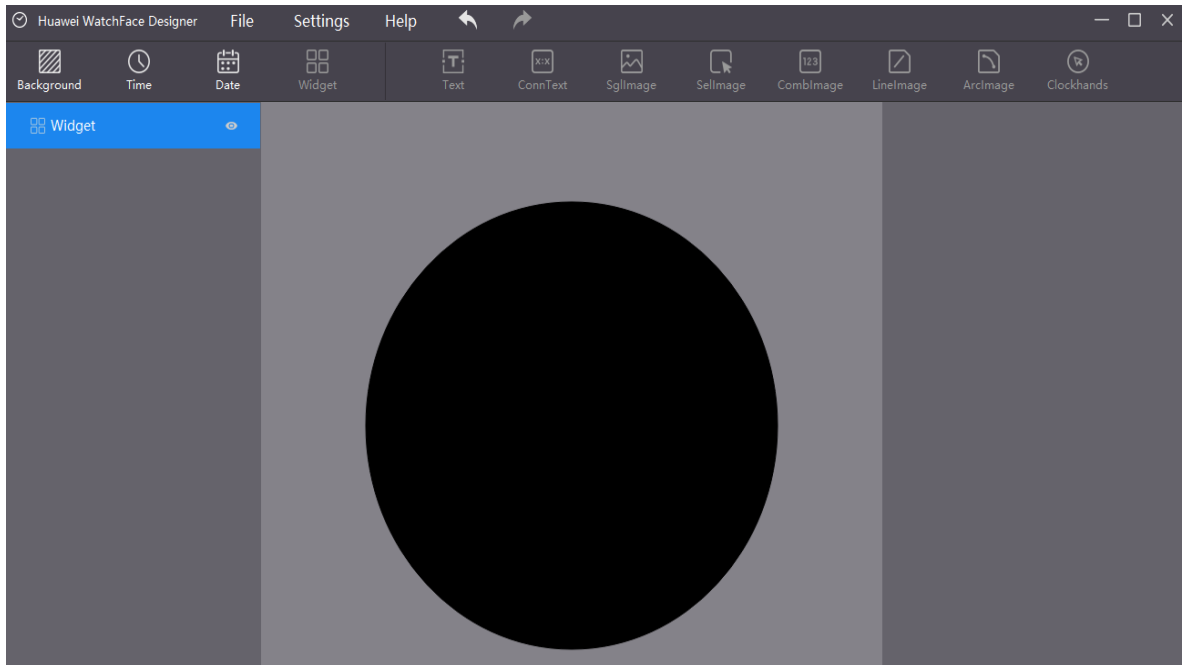
is used to display month, day, and week information, which can be put in different layers.



Control

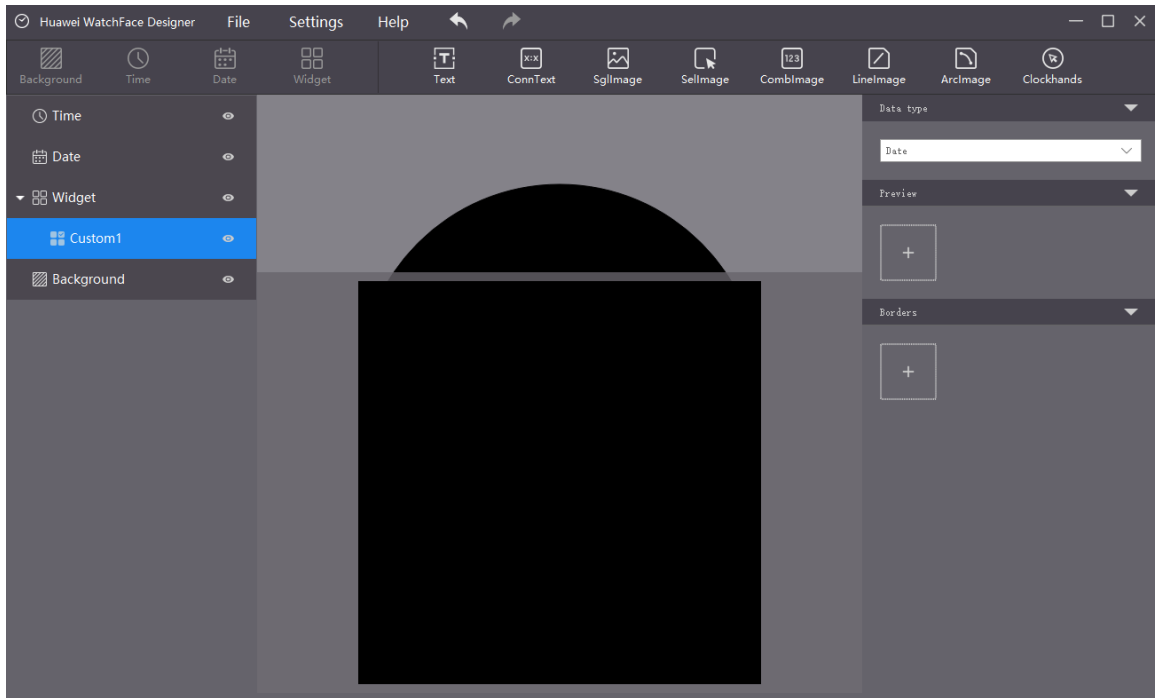


is used to display information except for the time and date, such as the step count and weather.



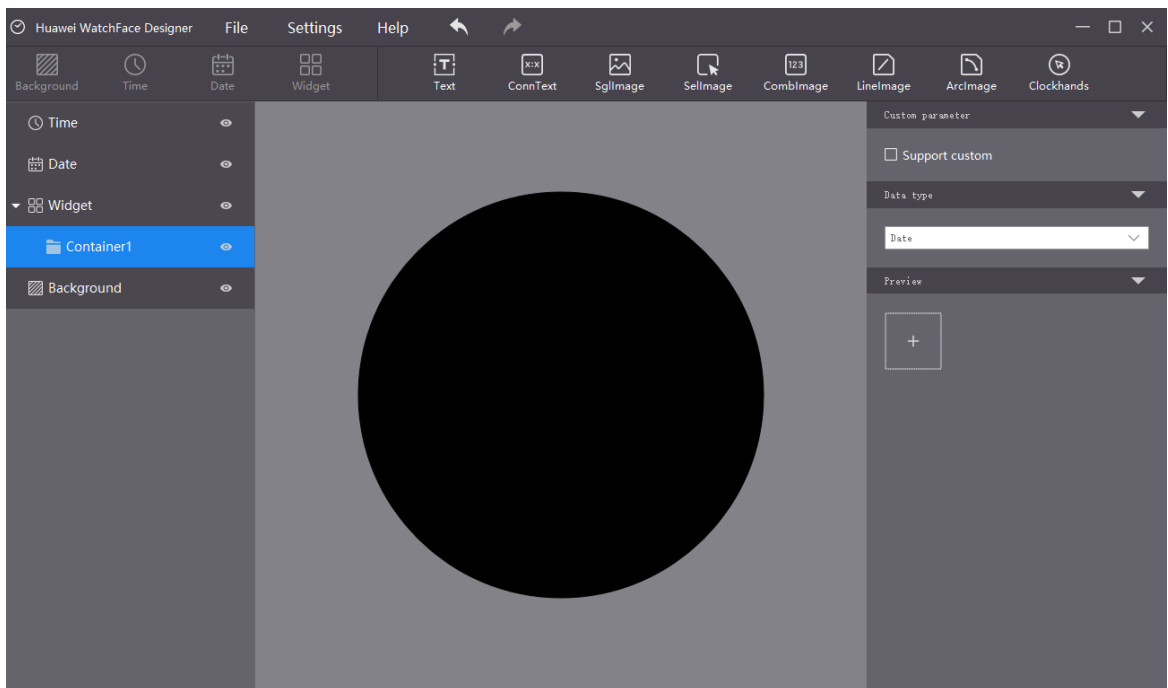
3.3.2.3.2 Custom

When the **Support custom** in the **Custom property** area is ticked, or a control is added by right-clicking on the page and selecting the custom option, all components of the control support adding custom options. When custom options are supported, you can select from the custom options to form a component. When custom options are not supported, one component is composed of several editable units.



3.3.2.3.3 Container

Add a **Container** by right-clicking on the component in the layer management area, or by the method shown in the following picture. Custom options are supported.

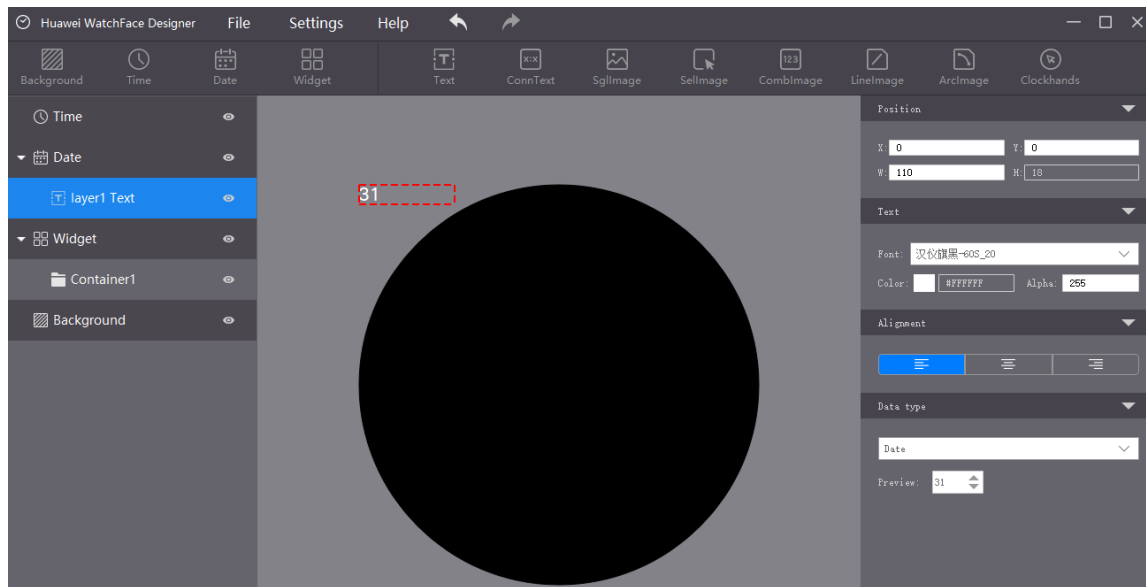


3.3.2.3.4 Editable Units

Text

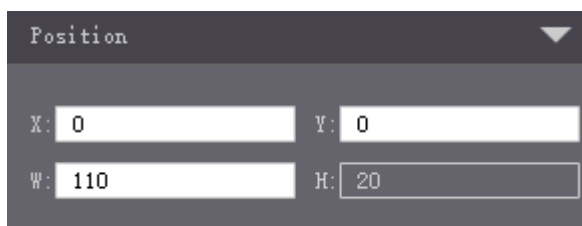


is used to add number and texts, such as time, month, and step count.



Operations:

1. Enter in the **X** and **Y** fields the coordinates of the upper left corner of the text box in the watch face coordinate system. Enter in the **W** and **H** fields respectively the text box width and the distance between the Y coordinate and the text baseline (The H value is calculated automatically according to the text size).



NOTE

The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X, Y, and W values cannot exceed the watch face DPI. For example, if the watch face is 390 x 390, the values have to be 0–390.

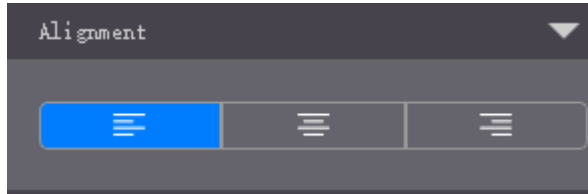
2. Select in the **Text** drop-down list the text font, select the text color in the color selector, and enter the transparency value in the field.



 **NOTE**

Click the color block to enter the color selector. Enter a transparency value between 0–255.

3. Select a text alignment mode among align left, align center, and align right.



4. Select the type of data to which the text is bound. Supported data type for the text control varies according to that of its upper layer.



Adjust the **Preview data** to gain a preview of the **Text** control when the data change.

The following table describes the data types supported by the control.

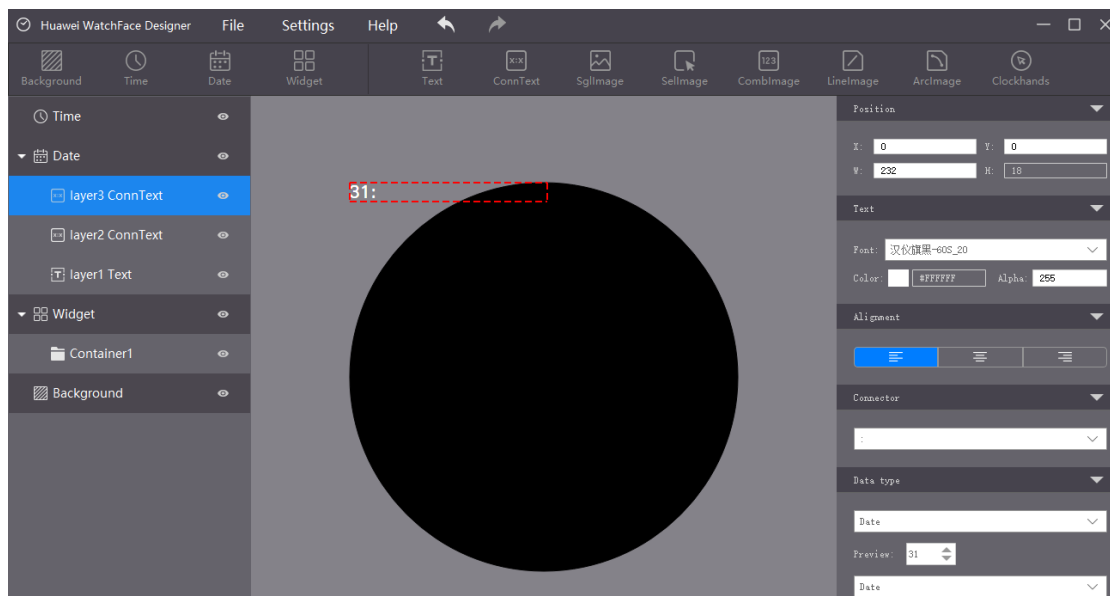
Data Type	Value	Description
Step	[0–999999]	Step
Calorie	[0–65535]	Calorie
Heart rate	[0–255]	Heart rate
Moderate and high intensity exercise time (中高强度时间)	[0–65535]	Moderate and high intensity exercise time
Temperature	[-32678–32678]	Temperature, automatically displayed in Celsius or Fahrenheit.
PM2.5	[0–500]	PM2.5
AQI	[0–500]	Air quality index
Atmospheric pressure	[0–65535]	Atmospheric pressure
Altitude	[-32678–32678]	Altitude
Power	[0–100]	Power
Standing times	[0–255]	Standing times
Date	[1–31]	Date

Data Type	Value	Description
Maximum heart rate	[0–255]	Maximum heart rate
Minimum heart rate	[0–255]	Minimum heart rate
Maximum temperature	[-32678–32678]	Maximum temperature
Minimum temperature	[-32678–32678]	Minimum temperature
Pressure	[0-100]	Pressure
Lower critical temperature	(-126, 126)	Lower critical temperature
Upper critical temperature	(-128, 128)	Upper critical temperature
Dual time zone abbreviation text	NZDT, IDLE, NZST, AESST, ACSST, EAST, GST, SAT, WDT, JST, KST, MT, WST, CCT, JT, IT, BT, EETDST, CETDST, EET, FWT, MEST, BST, CET, FST, SWT, WETDST, GMT, WET, WAT, NDT, ADT, NFT, AST, EDT, CDT, EST, CST, MDT, MST, PDT, PST, HDT, AHST, NT, IDLW	Adjustment of Preview data is not supported.
Week text	Sunday (SUN), Monday (MON), Tuesday (TUE), Wednesday (WED), Thursday (THU), Friday (FRI), Saturday (SAT)	
Month text	JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC	
AMPM text	AM, PM	
Dual time zone time text	For example, NZDT 10:12	Adjustment of Preview data is not supported.
Dual time zone month text	For example, Monday, March, 29	Adjustment of Preview data is not supported.

Connected text

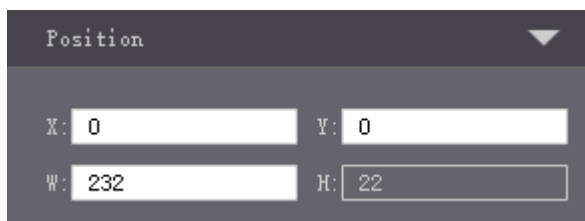


is used to show two texts connected by a connection sign. It changes along with its bound data.



Operations:

1. Enter in the **X** and **Y** fields the coordinates of the upper left corner of the text box in the watch face coordinate system. Enter in the **W** and **H** fields respectively the text box width and the distance between the Y coordinate and the text baseline (The H value is calculated automatically according to the text size).



NOTE

The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X, Y, and W values cannot exceed the watch face DPI. For example, if the watch face is 390 x 390, the values have to be 0–390.

2. Select in the **Text** drop-down list the text font, select the text color in the color selector, and enter the transparency value in the field.



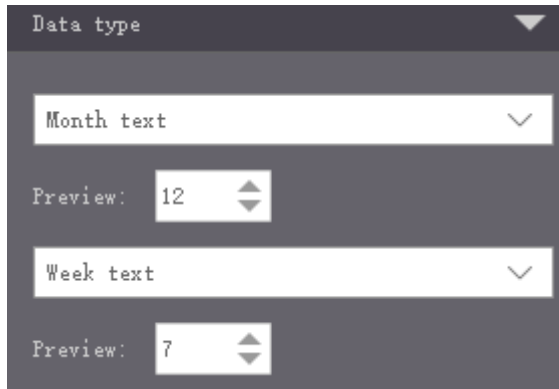
NOTE

Click the color block to enter the color selector. Enter a transparency value between 0–255.

3. Select a text alignment mode among align left, align center, and align right.



4. Select the type of data to which the connected texts are bound.



Adjust the **Preview data** to gain a preview of the **Connected text** when the data change.

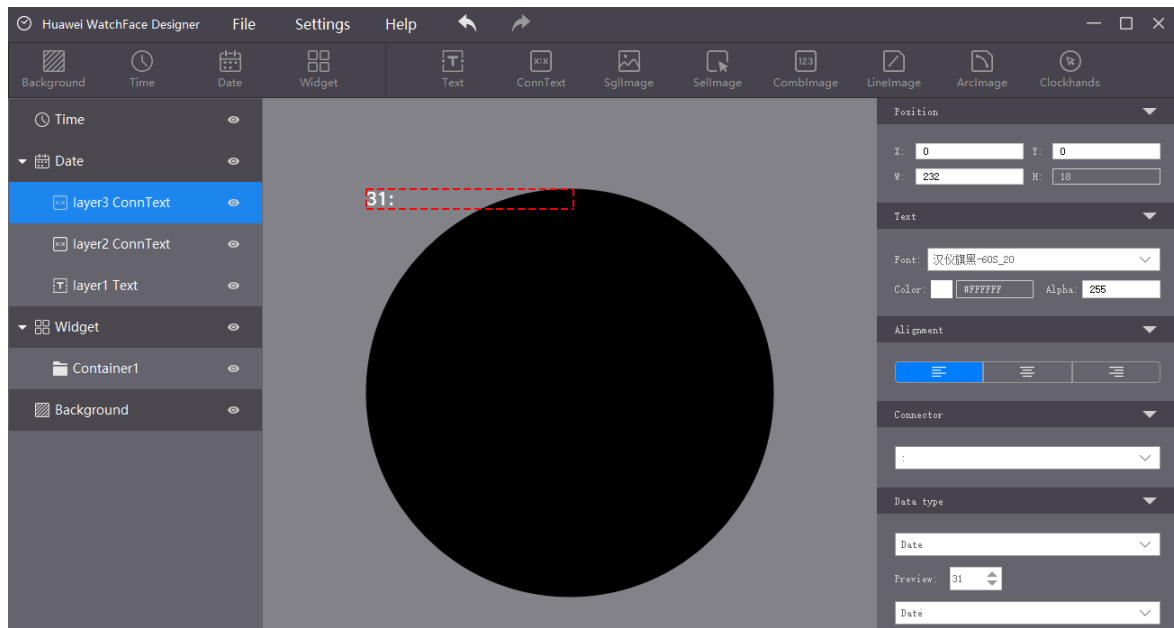
The following table describes the data types supported by the control.

Data Type	Value	Description
Step	[0–999999]	Step
Calorie	[0–65535]	Calorie
Heart rate	[0–255]	Heart rate
Moderate and high intensity exercise time	[0–65535]	Moderate and high intensity exercise time
Temperature	[-32678–32678]	Temperature, automatically displayed in Celsius or Fahrenheit.
PM2.5	[0–500]	PM2.5
AQI	[0–500]	Air quality index
Atmospheric pressure	[0–65535]	Atmospheric pressure
Altitude	[-32678–32678]	Altitude
Power	[0–100]	Power
Standing times	[0–255]	Standing times
Date	[1–31]	Date
Maximum heart rate	[0–255]	Maximum heart rate
Minimum heart rate	[0–255]	Minimum heart rate

Data Type	Value	Description
Maximum temperature	[-32678–32678]	Highest temperature
Minimum temperature	[-32678–32678]	Lowest temperature
Pressure	[0–100]	Pressure
Lower critical temperature	(-126, 126)	Lower critical temperature
Upper critical temperature	(-128, 128)	Upper critical temperature
Dual time zone abbreviation text	NZDT, IDLE, NZST, AESST, ACSST, EAST, GST, SAT, WDT, JST, KST, MT, WST, CCT, JT, IT, BT, EETDST, CETDST, EET, FWT, MEST, BST, CET, FST, SWT, WETDST, GMT, WET, WAT, NDT, ADT, NFT, AST, EDT, CDT, EST, CST, MDT, MST, PDT, PST, HDT, AHST, NT, IDLW	Adjustment of Preview data is not supported.
Week text	Sunday (SUN), Monday (MON), Tuesday (TUE), Wednesday (WED), Thursday (THU), Friday (FRI), Saturday (SAT)	
Month text	JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC	
AMPM text	AM, PM	
Dual time zone time text	For example, NZDT 10:12	Adjustment of Preview data is not supported.
Dual time zone month text	For example, Monday, March, 29	Adjustment of Preview data is not supported.

The second text also supports no data.

Data Type	Value	Description
No data	N/A	The XX effect can be achieved by setting the second text to no data.



5. Connection sign: Used to separate the two texts.



The following are the connection signs:

Colon: ":"

En dash: "-"

Slash: "/"

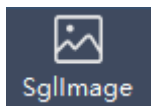
Backslash: "\"

Dot: "."

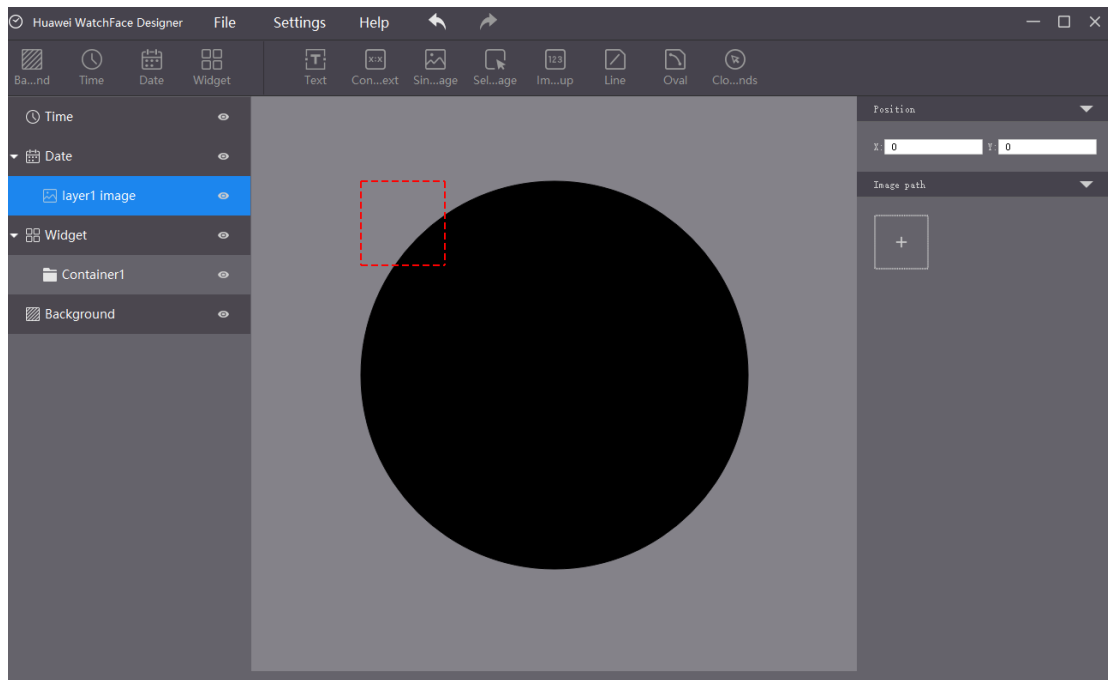
Percentage: "%" "

Space: " "

Single picture



is used to draw a still picture, such as a still background or step count icon.



Operations:

1. Click the + sign to add a picture.



NOTE

The picture cannot be larger than the watch face DPI. For example, if the watch face is 390 x 390, then the picture width and height cannot be larger than 390 px.

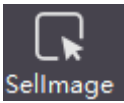
2. Enter in the **X** and **Y** fields the coordinates of the picture upper left corner in the watch face coordinate system.



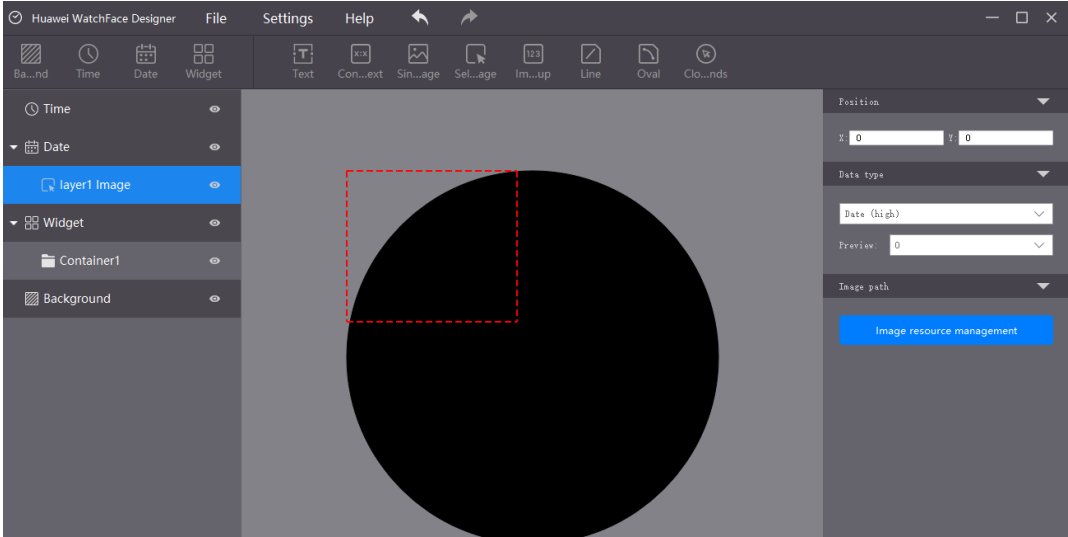
NOTE

The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X and Y values cannot exceed the watch face DPI. For example, if the watch face is 390 x 390, the values have to be 0–390.

Picture selection



is used to display information such as weather, week, or date. It changes along with its bound data.



Operations:

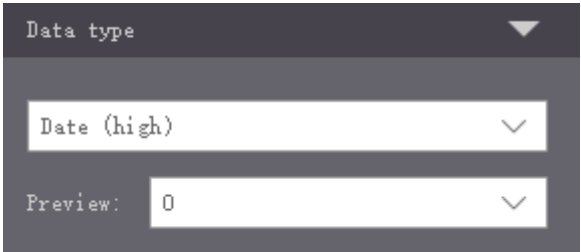
1. Enter in the **X** and **Y** fields the coordinates of the picture upper left corner in the watch face coordinate system.



NOTE

The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X and Y values cannot exceed the watch face DPI. For example, if the watch face is 390 x 390, the values have to be 0–390.

2. Select the type of data to which the picture selection control is bound.



Adjust the **Preview data** to gain a preview of the **Picture selection** when the data change.

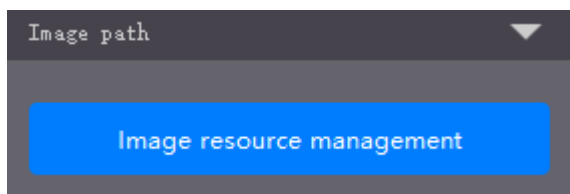
The following table describes the data types supported by the control.

Data Type	Value	Picture Quantity	Description
AMPM	[0–2]	3	0: AM 1: PM 2: Transparent blank picture (required in 1.0 and 2.0)
Month		12	1: January 2: February 3: March 4: April 5: May 6: June 7: July 8: August 9: September 10: October 11: November 12: December
Week		7	1: Monday 2: Tuesday 3: Wednesday 4: Thursday 5: Friday 6: Saturday 7: Sunday
Weather type	[0–10]	11	0: Unknown due to exceptions such as network disconnection 1: Sunny_day: Sunny during the day 2: Sunny_night: Sunny during night 3: Overcast 4: Cloudy 5: Rain 6: Thunder 7: Snow 8: Dust_storm 9: Hazy 10: Frog
Power level	[0–10]	11	Numbers 0 to 10, which indicate the battery levels 0%, 10%, 20%, 30%, ..., and 100%, respectively.
Tens place of the hour 12	[0–1]	2	Tens place of the hour (12-hour clock)
Ones place of the hour 12	[0–9]	10	Ones place of the hour (12-hour clock)
Tens place of the hour	[0–2]	3	Tens place of the hour, which varies according to the clock system.

Data Type	Value	Picture Quantity	Description
Ones place of the hour	[0–9]	10	Ones place of the hour, which varies according to the clock system.
Tens place of the minute	[0–5]	6	Tens place of the minute
Ones place of the minute	[0–9]	10	Ones place of the minute
Tens place of the second	[0–5]	6	Tens place of the second
Ones place of the second	[0–9]	10	Ones place of the second
Most significant place of date	[0–3]	4	Most significant place of date
Least significant place of date	[0–9]	10	Least significant place of date
Unread message	[0–1]	2	0: There is no unread text message. 1: There is/are unread text message(s).
Temperature type	[0–1]	2	0: Celsius 1: Fahrenheit
Heart rate level	[0–4]	5	Five levels
Dual time zone tens place of the hour 12	[0–1]	2	Tens place of the hour (dual time zone 12-hour clock)
Dual time zone ones place of the hour 12	[0–9]	10	Ones place of the hour (dual time zone 12-hour clock)
Dual time zone tens place of the hour 24	[0–2]	3	Tens place of the hour (dual time zone 24-hour clock)
Dual time zone ones place of the hour 24	[0–9]	10	Ones place of the hour (dual time zone 24-hour clock)
Dual time zone tens place of the hour	[0–2]	3	Tens place of the hour, which varies according to the clock system.
Dual time zone ones place of the hour	[0–9]	10	Ones place of the hour, which varies according to the clock system.
Dual time zone AM/PM	[0–2]	3	0: AM 1: PM 2: Transparent blank picture (required in 1.0 and 2.0)
Dual time zone tens place of the minute	[0–5]	6	
Dual time zone ones place of the minute	[0–9]	10	

Data Type	Value	Picture Quantity	Description
Random background	[0–4]	5	Random switching between five background pictures
Altitude unit	[0–1]	2	0: Meter 1: Foot

3. In the **Picture path** area, click the **Picture management** button to select a picture. Add the pictures by strictly following the required data type, number, and sequence.

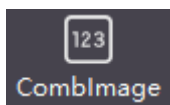


NOTE

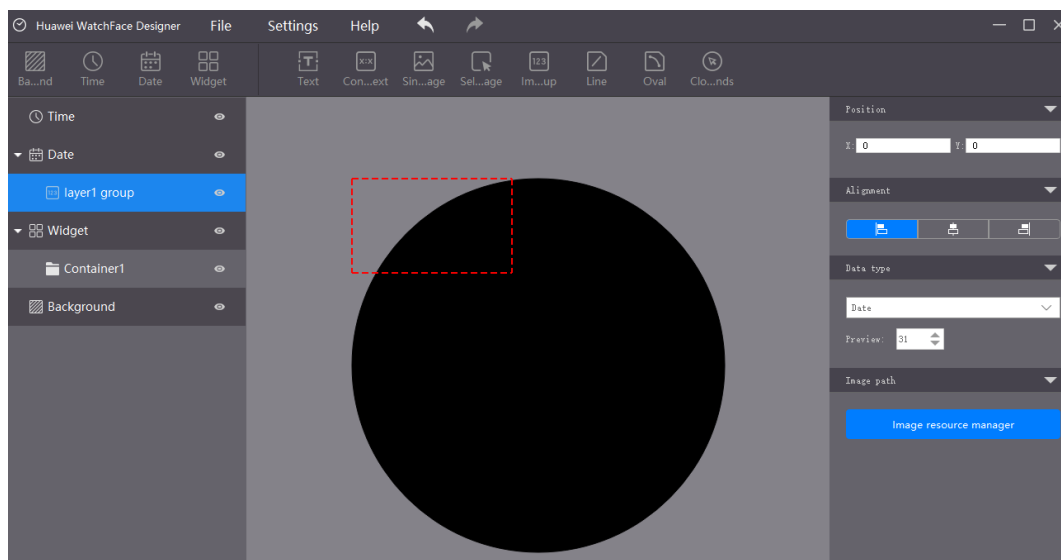
The picture cannot be larger than the watch face DPI. For example, if the watch face is 390 x 390, then the picture width and height cannot be larger than 390 px.

When the data type is AM/PM or AM/PM in dual time zone, the first two pictures are morning and afternoon in sequence, and add a third transparent blank picture to allow this data to be invisible in the 24-hour clock.

Combination Image



is one picture formed by multiple number (0–9) pictures, such as the step count.



Operations:

1. Enter in the **X** and **Y** fields the coordinates of the picture upper left corner in the watch face coordinate system.

 **NOTE**

The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X and Y values cannot exceed the watch face DPI. For example, if the watch face is 390 x 390, the values have to be 0–390.

2. Select a text alignment mode among align left, align center, and align right.

3. Select the type of data to which the picture combination control is bound.

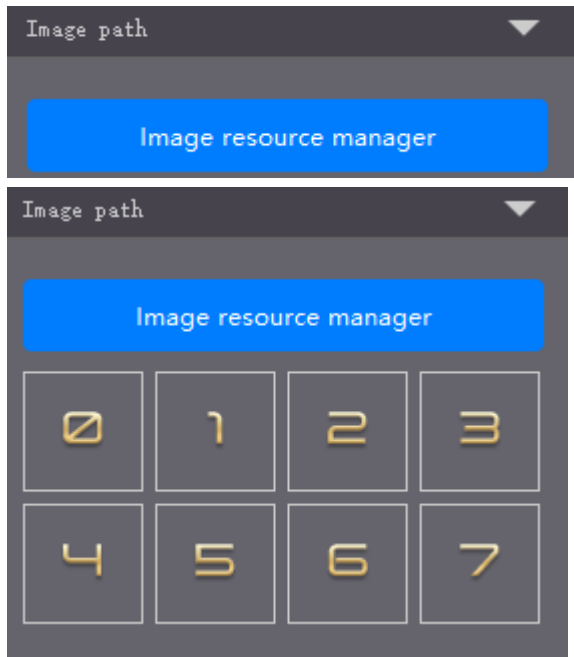
Adjust the **Preview data** to gain a preview of the **Combination picture** when the data change.

The following table describes the data types supported by the control.

Data Type	Value	Description
Step	[0–999999]	Steps
Calories	[0–65535]	Calories
Heart rate	[0–255]	Heart rate
Moderate and high intensity exercise time	[0–65535]	Moderate and high intensity exercise time
PM2.5	[0–500]	PM2.5
AQI	[0–500]	Air quality index
Atmospheric pressure	[0–65535]	Atmospheric pressure
Power	[0–100]	Power
Standing times	[0–255]	Standing times
Date	[1–31]	Date
Maximum heart rate	[0–255]	Maximum heart rate

Data Type	Value	Description
Minimum heart rate	[0–255]	Minimum heart rate
Pressure	[0–100]	Pressure

4. In the **Picture path** area, click the **Picture management** button to select a picture. Add the pictures by strictly following the required data type, number, and sequence.



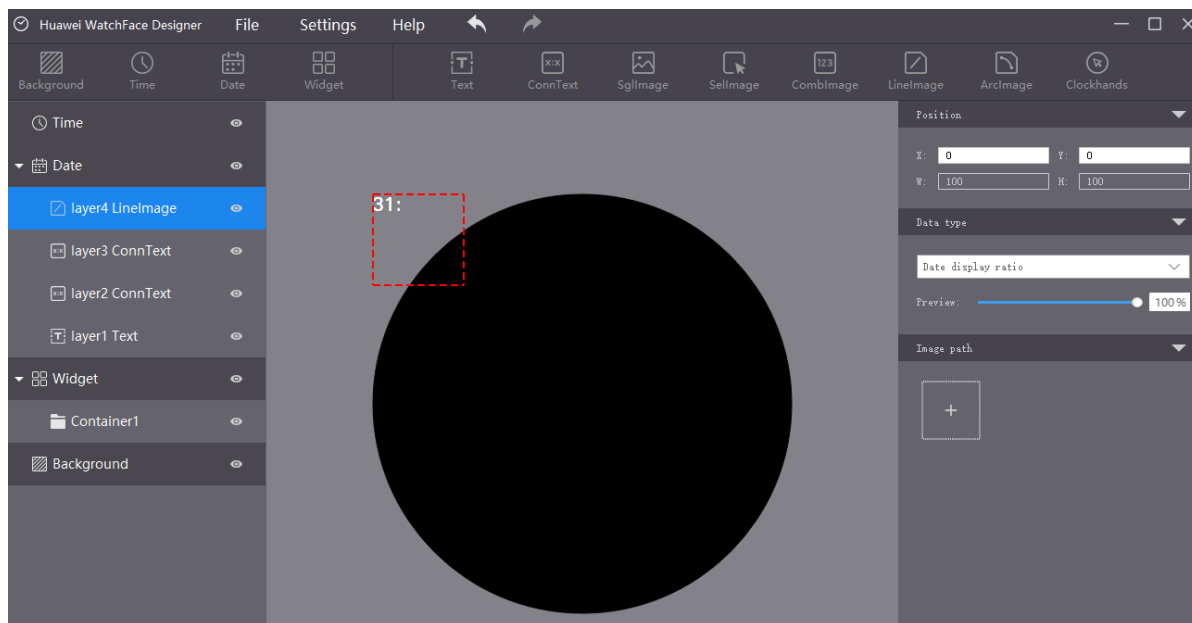
NOTE

The picture cannot be larger than the watch face DPI. For example, if the watch face is 390 x 390, then the picture width and height cannot be larger than 390 px.

Line picture

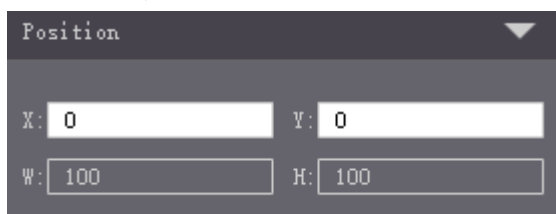


is used to draw from left to right a horizontal progress bar, for example, a progress bar of a step goal.



Operations:

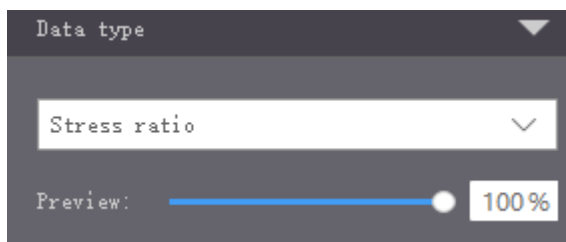
1. Enter in the **X** and **Y** fields the coordinates of the upper left corner of the picture in the watch face coordinate system.



NOTE

The origin (0, 0) of the watch face coordinate system is the upper left corner of the circumscribed square of the watch face. The X value ranges from 0 to the watch face's width, while the Y value ranges from 0 to the watch face's height. For example, if the watch face resolution is 390 x 390, both X and Y values have to be 0–390.

2. Select the type of data to which the progress bar is bound.



To check how the progress bar looks at different progress levels, enter a progress value in the preview field.

The following table describes the data types supported by the horizontal progress bar.

Data Type	Value	Description
Hour percentage 12	[00%-100%]	Percentage of the current hour to 12. If the current hour is 12, the percentage is 100%.

Data Type	Value	Description
Hour percentage 24	[00%-100%]	Percentage of the current hour to 24. If the current hour is 24, the percentage is 100%.
Minute percentage	[00%-100%]	Percentage of the current minute to 60. If the current minute is 60, the percentage is 100%.
Second percentage	[00%-100%]	Percentage of the current second to 60. If the current second is 60, the percentage is 100%.
Date percentage	[00%-100%]	Percentage of current date to 31. If the current date is 31, the percentage is 100%.
Week percentage	[00%-100%]	Percentage of current week day to 7. If the current week day is 7, the percentage is 100%.
Heart rate percentage	[00%-100%]	Percentage of the current heart rate to the maximum heart rate (for example, 255). If the current heart rate is 255, the percentage is 100%.
Calorie percentage	[00%-100%]	Percentage of the current calorie to the target calorie that is calculated based on the step count obtained from the app. If the current calorie equals or exceeds the target calorie, the percentage is 100%.
Stand-up time percentage	[00%-100%]	Percentage of the current stand-up times to the target stand-up times (for example, 12). If the current stand-up times equal or exceed the target stand-up times, the percentage is 100%.
Percentage of moderate and high intensity exercise	[00%-100%]	Percentage of the current time spent in moderate and high intensity exercise to the target time (for example, 30). If the current time spent in moderate and high intensity exercise equals or exceeds 30, the percentage is 100%.
Step count percentage	[00%-100%]	Percentage of the current step count to the target step count obtained from the app. If the current step count equals or exceeds the target step count, the percentage is 100%.
Power percentage	[00%-100%]	Percentage of the current battery level.
Dual time zone hour percentage 12	[00%-100%]	Percentage of the current hour to 12. If the current hour is 12, the percentage is 100%.
Dual time zone hour percentage 24	[00%-100%]	Percentage of the current hour to 24. If the current hour is 24, the percentage is 100%.
Temperature percentage	[00%-100%]	$(\text{Current temperature} - \text{Highest temperature of the day}) / (\text{Current temperature} - \text{Lowest temperature of the day})$
AQI percentage	[00%-100%]	Air Quality Index (AQI) value/500
Pressure percentage	[00%-100%]	$(\text{Pressure} - 300) / 800$

Data Type	Value	Description
Altitude percentage	[00%-100%]	[Current altitude – (-800)]/[8848 – (-800)]
Dual time zone minute percentage	[00%-100%]	Minute/60

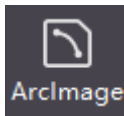
- Click the + sign in the picture path area to select a picture for the progress bar.



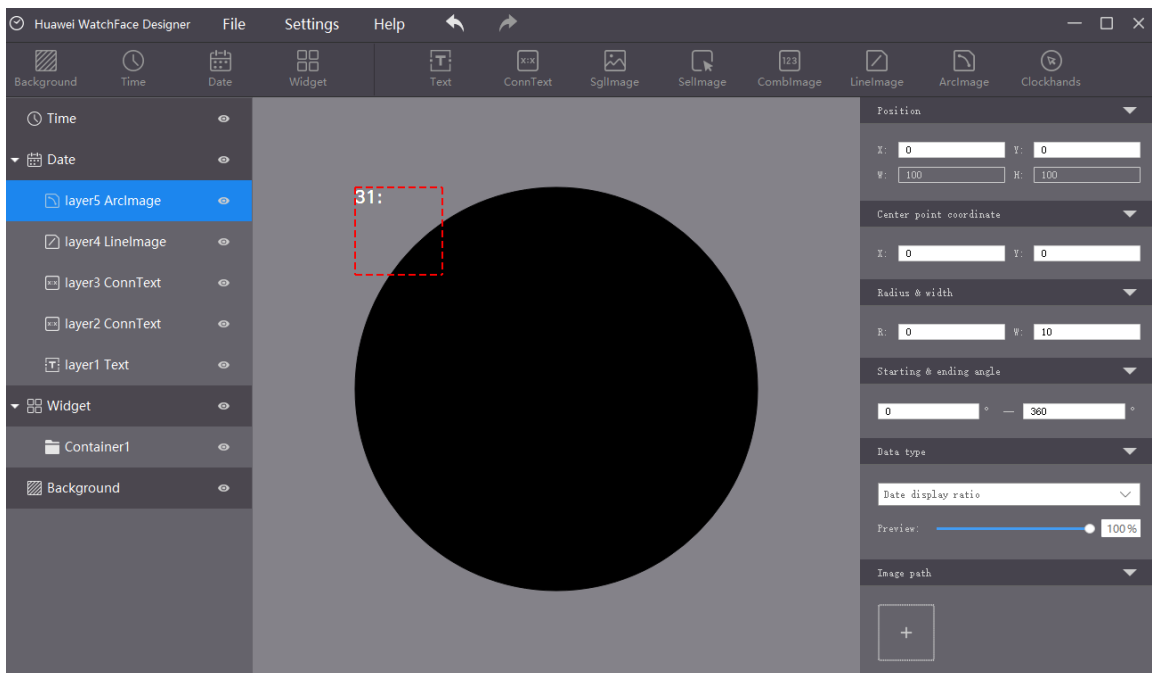
NOTE

The picture cannot be larger than the watch face. For example, if the watch face is 390 x 390 px, neither the watch face's width and height can exceed 390 px.

Arc image

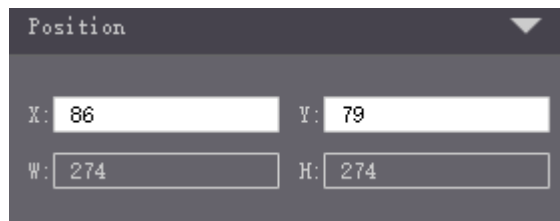


is used to draw an arc-shaped progress bar, for example, a progress bar of a step goal or battery charging.



Operations:

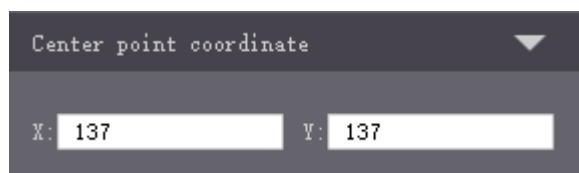
1. Enter in the **X** and **Y** fields the coordinates of the picture upper left corner in the dial coordinate system.



 **NOTE**

The origin (0, 0) of the dial coordinate system is the upper left corner of the circumscribed square of the dial. The X and Y values cannot exceed the dial DPI. For example, if the dial is 390 x 390, the values have to be 0–390.

2. Enter in the **X** and **Y** fields the coordinates of the arc's center in the arc picture coordinate system.



 **NOTE**

The origin (0, 0) of the picture coordinate system is the upper left corner of the picture. You are advised to enter the coordinates of the picture center point in the fields. For example, if the picture is 100 x 100, enter (50, 50) in the fields.

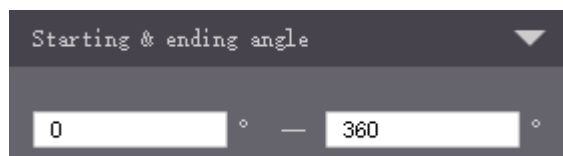
3. Enter in the **R** and **W** fields the radius (distance between the circle center and the progress bar middle line) and the width of the progress bar respectively.



 **NOTE**

You are advised to set an R value not more than (picture length-bar width)/2 and a W value less than the R value.

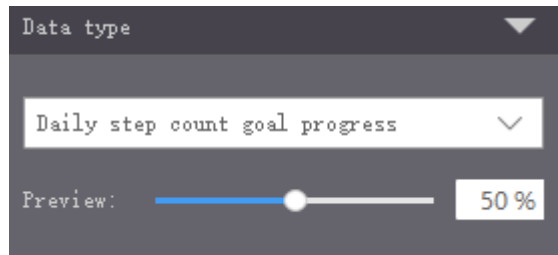
4. Enter in the **Starting and ending angle** fields where the progress bar starts and ends. The **Starting angle** is where the progress bar starts and the **Ending angle** is where it ends.



 **NOTE**

- The angle values must be 0–360.
- The angles are bound to the data.

5. Select a **Data type** to determine to which type of data is the progress bar bound.



To check how the progress bar looks at different progress levels, enter a progress value in the preview field.

The following table describes the data types supported by the arc-shaped progress bar.

Data Type	Value	Description
Hour percentage 12	[00%-100%]	Percentage of the current hour to 12. If the current hour is 12, the percentage is 100%.
Hour percentage 24	[00%-100%]	Percentage of the current hour to 24. If the current hour is 24, the percentage is 100%.
Minute percentage	[00%-100%]	Percentage of the current minute to 60. If the current minute is 60, the percentage is 100%.
Second percentage	[00%-100%]	Percentage of the current second to 60. If the current second is 60, the percentage is 100%.
Date percentage	[00%-100%]	Percentage of current date to 31. If the current date is 31, the percentage is 100%.
Week percentage	[00%-100%]	Percentage of current week day to 7. If the current week day is 7, the percentage is 100%.
Heart rate percentage	[00%-100%]	Percentage of the current heart rate to the maximum heart rate (for example, 255). If the current heart rate is 255, the percentage is 100%.
Calorie percentage	[00%-100%]	Percentage of the current calorie to the target calorie that is calculated based on the step count obtained from the app. If the current calorie equals or exceeds the target calorie, the percentage is 100%.
Stand-up time percentage	[00%-100%]	Percentage of the current stand-up times to the target stand-up times (for example, 12). If the current stand-up times equal or exceed the target stand-up times, the percentage is 100%.
Percentage of moderate and high intensity exercise	[00%-100%]	Percentage of the current time spent in moderate and high intensity exercise to the target time (for example, 30). If the current time spent in moderate and high intensity exercise equals or exceeds 30, the percentage is 100%.

Data Type	Value	Description
Step count percentage	[00%-100%]	Percentage of the current step count to the target step count obtained from the app. If the current step count equals or exceeds the target step count, the percentage is 100%.
Power percentage	[00%-100%]	Percentage of the current battery level to 100.
Dual time zone hour percentage 12	[00%-100%]	Percentage of the current hour to 12. If the current hour is 12, the percentage is 100%.
Dual time zone hour percentage 24	[00%-100%]	Percentage of the current hour to 24. If the current hour is 24, the percentage is 100%.
Temperature percentage	[00%-100%]	$(\text{Current temperature} - \text{The high of the day}) / (\text{Current temperature} - \text{The low of the day})$
AQI percentage	[00%-100%]	Air Quality Index (AQI) value/500
Pressure percentage	[00%-100%]	$(\text{Pressure} - 300) / 800$
Altitude percentage	[00%-100%]	$[\text{Current altitude} - (-800)] / [8848 - (-800)]$
Dual time zone minute percentage	[00%-100%]	Minute/60

6. Click the + sign in the picture path area to select a picture for the arc-shaped progress bar.



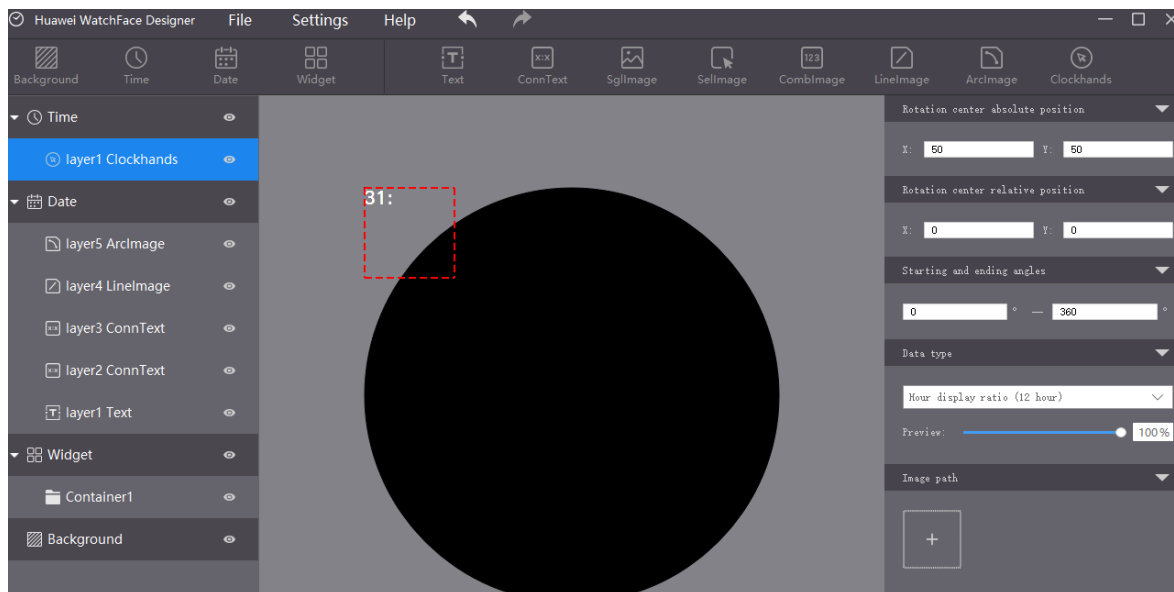
NOTE

The picture cannot be larger than the watch face. For example, if the watch face is 390 x 390 px, neither the watch face's width and height can exceed 390 px. A square picture is recommended.

Clockhands 指针

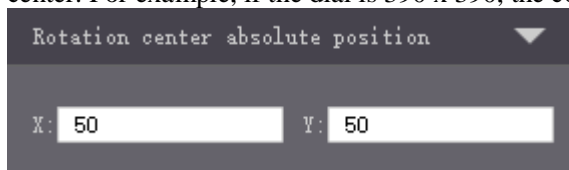


is used to draw a pointer to serve as the second, minute, or hour hand, or to indicate the battery level.



Operations:

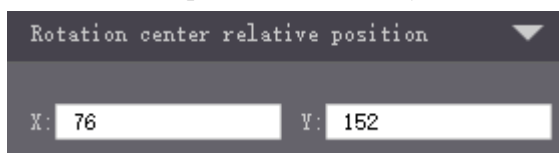
1. Enter in the **Rotation center absolute position X** and **Y** fields the coordinates of the pointer rotation center in the dial coordinate system. The rotation center of a pointer is normally the dial center. For example, if the dial is 390 x 390, the coordinates are (50, 50).



NOTE

- The origin (0, 0) of the dial coordinate system is the upper left corner of the circumscribed square of the dial. The X and Y values cannot exceed the dial DPI. For example, if the dial is 390 x 390, the values have to be 0–390.
- The pointer rotates around the rotation center.

2. Enter in the **Rotation center relative position X** and **Y** fields the coordinates of the pointer rotation center in the pointer coordinate system. For example, if the pointer rotates around the point (76, 152) in the pointer coordinate system, enter (76, 152).



NOTE

The origin (0, 0) of the pointer coordinate system is the upper left corner of the pointer picture. The X and Y values cannot exceed the picture width and height. For example, if the pointer is 50 x 300, the X value must be 0–50 and the Y value must be 0–300.

3. Enter in the **Starting and ending angle** field the rotation angle of the pointer. When the **Starting angle** is smaller than the **Ending angle**, the pointer rotates in the clockwise direction. When the **Starting angle** is larger than the **Ending angle**, the pointer rotates in the anti-clockwise direction.

 **NOTE**

- The angle values must be -360–360. Four digits after the decimal point is supported.
- The angles are bound to the data.

4. Select a **Data type** to determine to which type of data is the pointer bound.

Adjust the **Preview data** to gain a preview of the pointer when the data change. The 0%–100% corresponds to the range between the **Starting angle** and the **Ending angle**.

The following table describes the data types supported by the pointer control.

Data Type	Value	Description
Hour percentage 12	[00%-100%]	Percentage of the current hour to 12. If the current hour is 12, the percentage is 100%.
Hour percentage 24	[00%-100%]	Percentage of the current hour to 24. If the current hour is 24, the percentage is 100%.
Minute percentage	[00%-100%]	Percentage of the current minute to 60. If the current minute is 60, the percentage is 100%.
Second percentage	[00%-100%]	Percentage of the current second to 60. If the current second is 60, the percentage is 100%.
Date percentage	[00%-100%]	Percentage of current date to 31. If the current date is 31, the percentage is 100%.
Week percentage	[00%-100%]	Percentage of current week day to 7. If the current week day is 7, the percentage is 100%.
Heart rate percentage	[00%-100%]	Percentage of the current heart rate to the maximum heart rate (for example, 255). If the current heart rate is 255, the percentage is 100%.
Calorie percentage	[00%-100%]	Percentage of the current calorie to the target calorie that is calculated based on the step count obtained from the app. If the current calorie equals or exceeds the target calorie, the percentage is 100%.

Data Type	Value	Description
Stand-up time percentage	[00%-100%]	Percentage of the current stand-up times to the target stand-up times (for example, 12). If the current stand-up times equal or exceed the target stand-up times, the percentage is 100%.
Percentage of moderate and high intensity exercise	[00%-100%]	Percentage of the current time spent in moderate and high intensity exercise to the target time (for example, 30). If the current time spent in moderate and high intensity exercise equals or exceeds 30, the percentage is 100%.
Step count percentage	[00%-100%]	Percentage of the current step count to the target step count obtained from the app. If the current step count equals or exceeds the target step count, the percentage is 100%.
Power percentage	[00%-100%]	Percentage of the current battery level to 100.
Dual time zone hour percentage 12	[00%-100%]	Percentage of the current hour to 12. If the current hour is 12, the percentage is 100%.
Dual time zone hour percentage 24	[00%-100%]	Percentage of the current hour to 24. If the current hour is 24, the percentage is 100%.
Temperature percentage	[00%-100%]	$(\text{Current temperature} - \text{The high of the day}) / (\text{Current temperature} - \text{The low of the day})$
AQI percentage	[00%-100%]	Air Quality Index (AQI) value/500
Pressure percentage	[00%-100%]	$(\text{Pressure} - 300) / 800$
Altitude percentage	[00%-100%]	$[\text{Current altitude} - (-800)] / [8848 - (-800)]$
Dual time zone minute percentage	[00%-100%]	Minute/60

5. Click the + sign in the picture path area to select a picture for the pointer.



NOTE

The picture cannot be larger than the watch face. For example, if the watch face is 390 x 390 px, neither the watch face's width and height can exceed 390 px.

4 Watch Face Creation Procedure

- Step 1** Design a watch face and prepare the pictures and rendering images for your controls. For detailed requirements, see section 3.2.1 and 3.3.2 .
- Step 2** Use Huawei WatchFace Designer to prepare a resource package for your watch face.
- Step 3** Start Huawei WatchFace Designer and create a watch face project. For details, see section 3.2.1 .
- Step 4** Add controls and edit the control properties. For details, see section 3.3 .
- Step 5** Export the resource package in hwt format. For details, see section 3.2.5 .
- Step 6** Verify the resource package of your watch face.
- Step 7** Copy the resource package to a Huawei phone that has Huawei Health installed. Pair the phone with the watch using Huawei Health, then import the resource package into the watch. For details, see the Huawei Health user guide.
- Step 8** Upload the resource package of your watch face to the Watch Face Store. For details, visit the Huawei Developer

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