

# Examples for the **scalebars** Package

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Usage:

```
\scalebar[inverse]{length}{minordivs}{majordivs}  
                {starting No.}{ending No.}{units}
```

where:

<b>length</b>	the desired length of the scalebar e.g. 10cm or 4in
<b>minordivs</b>	number of minor divisions within the first major division e.g. 4 (the first major division will always be subdivided unless this value is set to 1)
<b>majordivs</b>	number of major divisions e.g. 5
<b>starting No.</b>	the number that the scalebar text will start from e.g. 0 or -0.5
<b>ending No.</b>	the number that the scalebar text will end with e.g. 2.5 or 25
<b>units</b>	the units for the scalebar text e.g. $\mu$ m or km

## Examples

```
\scalebar{10cm}{4}{5}{0}{10}{m}
```



This is how to indent a scalebar:

```
\hspace*{2cm}\scalebar{10cm}{4}{5}{0}{10}{m}
```



Change the length of the scalebar:

```
\scalebar{12cm}{4}{5}{0}{10}{m}
```



In the following three examples notice how I have scaled the total length of the scalebar by roughly the same scale as the font change to maintain a nice aspect ratio.

Make a larger scalebar:

I have scaled the length of the scalebar up (10cm to 12cm) by the same scale as the font change (`\normal` to `\large`) to maintain a nice ratio of the length to its height.

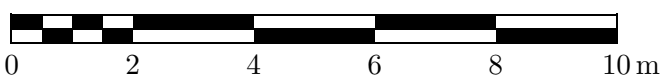
`\large\scalebar{12cm}{4}{5}{0}{10}{m}\normalsize`



Make a smaller scalebar:

Here I scale down the length by an amount similar to the font change.

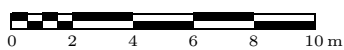
`\small\scalebar{8cm}{4}{5}{0}{10}{m}\normalsize`



Make a tiny scalebar:

Here I have to really reduce the length so I don't get a long, skinny and ugly looking scalebar.

`\tiny\scalebar{4cm}{4}{5}{0}{10}{m}\normalsize`



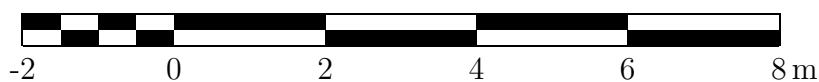
Change the number of minor and major divisions in the scalebar:

`\scalebar{10cm}{3}{4}{0}{10}{m}`



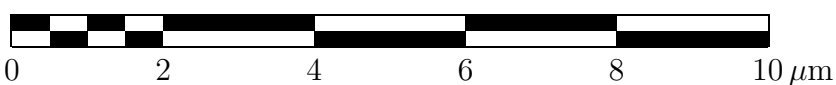
Change the starting and ending numbers:

`\scalebar{10cm}{4}{5}{-2}{8}{m}`



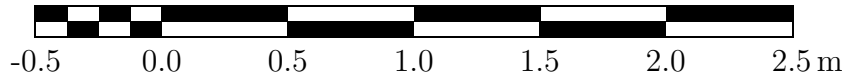
Change the units of the scalebar:

`\scalebar{10cm}{4}{5}{0}{10}{\mu m}`



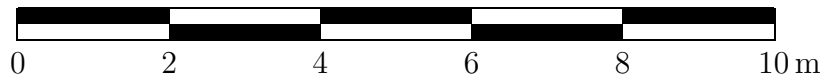
Use fractional values for starting and ending numbers:

```
\scalebar{10cm}{4}{6}{-0.5}{2.5}{m}
```



Supress the minor divisions:

```
\scalebar{10cm}{1}{5}{0}{10}{m}
```



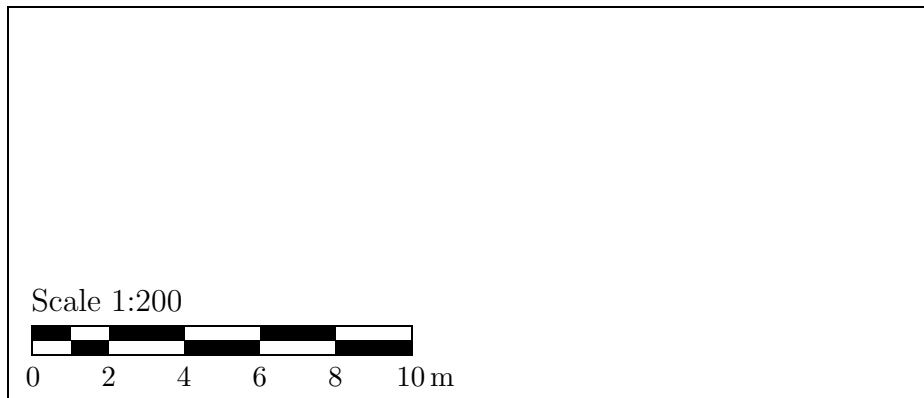
Invert the black/white bars:

```
\scalebar[inverse]{10cm}{4}{5}{0}{10}{m}
```



Position a scalebar within a picture environment:

```
\setlength{\unitlength}{1mm}
\fbbox{\begin{picture}(120,50)% create picture 120mm x 50mm
\put(2,11){Scale 1:200}
\put(2,7){\small\scalebar{5cm}{2}{5}{0}{10}{m}}
\end{picture}}
```



## Problems

If the length of the scalebar is longer than the page width it will break:  
(the page width here is: 390.0pt)

```
\scalebar{15cm}{4}{5}{0}{10}{m}
```



Several mathematical operations are performed and silly use of zero in some parameters will result in a mathematical error. Consult the package documentation for what is happening.

Also these math calculations do seem to take  $\text{\TeX}$  quite a while to perform – perhaps there is a way to do these calculations faster.

If you discover any serious problems please let me know.

Michael Lake  
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