Examples for the `scalebars` Package

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Usage:

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

where:

`length`	the desired length of the scalebar e.g. 10cm or 4in
`minordivs`	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)
`majordivs`	number of major divisions e.g. 5
`starting No.`	the number that the scalebar text will start from e.g. 0 or -0.5
`ending No.`	the number that the scalebar text will end with e.g. 2.5 or 25
`units`	the units for the scalebar text e.g. μm or km

Examples

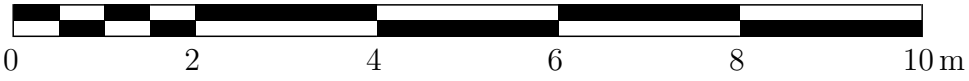
```
\scalebar{10cm}{4}{5}{0}{10}{m}
```

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}
```



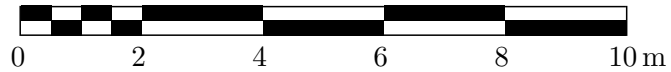
In the following three examples notice how I have scaled the total length of the scalebar by roughly the same scale as the font change to maintain a nice aspect ratio.

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
```

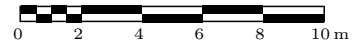
Make a smaller scalebar:
Here I scale down the length by an amount similar to the font change.

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



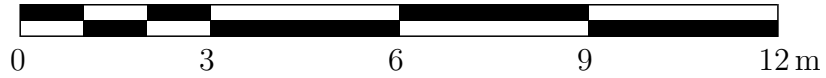
Make a tiny scalebar:
Here I have to really reduce the length so I don't get a long, skinny and ugly looking scalebar.

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



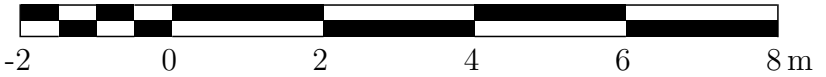
Change the number of minor and major divisions in the scalebar:

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



Change the starting and ending numbers:

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

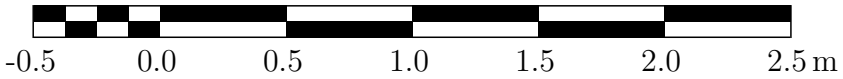


Change the units of the scalebar:

```
\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:

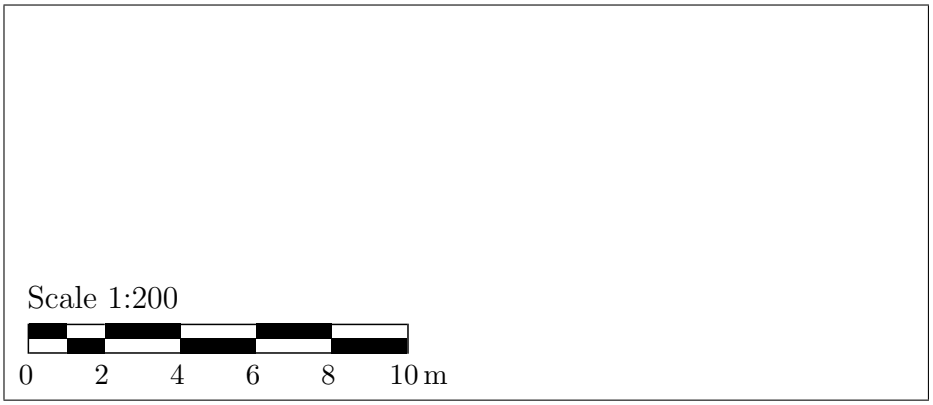
```
\scalebar{10cm}{1}{5}{0}{10}{m}
```

Invert the black/white bars:

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

Position a scalebar within a picture environment:

```
\setlength{\unitlength}{1mm}
\fbox{\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 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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