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 (\texttt{\normalfont} to \texttt{\large}) to maintain a nice ratio of the length to its height.
\begin{verbatim}
\large\scalebar{12cm}{4}{5}{0}{10}{m}\normalsize
\end{verbatim}

Make a smaller scalebar:
Here I scale down the length by an amount similar to the font change.
\begin{verbatim}
\small\scalebar{8cm}{4}{5}{0}{10}{m}\normalsize
\end{verbatim}

Make a tiny scalebar:
Here I have to really reduce the length so I don’t get a long, skinny and ugly looking scalebar.
\begin{verbatim}
\tiny\scalebar{4cm}{4}{5}{0}{10}{m}\normalsize
\end{verbatim}

Change the number of minor and major divisions in the scalebar:
\begin{verbatim}
\scalebar{10cm}{3}{4}{0}{10}{m}
\end{verbatim}

Change the starting and ending numbers:
\begin{verbatim}
\scalebar{10cm}{4}{5}{-2}{8}{m}
\end{verbatim}

Change the units of the scalebar:
\begin{verbatim}
\scalebar{10cm}{4}{5}{0}{10}{$\mu$m}
\end{verbatim}
Use fractional values for starting and ending numbers:
\scalebar{10cm}{4}{6}{-0.5}{2.5}{m}

-0.5  0.0  0.5  1.0  1.5  2.0  2.5 m

 Suppress the minor divisions:
\scalebar{10cm}{1}{5}{0}{10}{m}

0  2  4  6  8  10 m

Invert the black/white bars:
\scalebar[inverse]{10cm}{4}{5}{0}{10}{m}

0  2  4  6  8  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}
8 10 m

Several mathematical operations are performed and silly use of zero in some
parameters will result in a mathematical error. Consult the package docu-
mentation 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.

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