

The KITletter package^{*}

Karlsruhe Institute of Technology

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1 Introduction

The **KITletter** package assists in preparing letters for Karlsruhe Institute of Technology with \LaTeX . It adapts the **scr1ttr2-KOMA** class to meet some requirements for letters, loads some packages, necessary for typical letter components and provides the layout.

The package consists of the following files:

- **KITletter.pdf** this documentation
- **KITletter.lco** the \LaTeX style file with the layout adaptations and additional functionalities
- **letter.tex** the \LaTeX master file (to be used as a template or starting point for a letter project)
- logo files **kitlogo_*_rgb.eps/.pdf**.

This documentation is not intended to give an introduction to \LaTeX . For questions concerning \TeX systems/installations or the \LaTeX mark-up language in

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general please visit www.tug.org, www.dante.de, uk.tug.org or any other TeX user group worldwide. The essential reference for LaTeX is *Mittelbach F., Fischer U. (2023) The LaTeX Companion. 3rd edn.*, but there are many other good books delivering insight into LaTeX.

2 Package strategy and general usage

We suggest to employ a recent TeX installation: the most important distributions, TeX Live, MiKTeX/proTeXt and MacTeX, all provide at least 2024 versions. But older versions should (in principle) work as well.

KITletter tries to benefit as far as possible from the widely-used KOMA class `scr1ttr2`, the related letter-class option `DIN5008B` and L^AT_EX standard packages.¹ To learn more about the underlying class and packages we refer to their documentations (try e.g. `texdoc scrguide` or `texdoc [package name]` at your shell prompt or visit <http://tug.ctan.org>).

KITletter can be used under the nowadays widely-used engines pdfTeX, LuaTeX and XeTeX. The output will be in PDF format, under pdfTeX optionally as DVI.

KITletter is designed to be used with the font *Arial*/*Helvetica* accepted by KIT's corporate design. Which font is applied also depends on the TeX engine in use. The well-established pdfTeX requires TeX-installed fonts, and under these one normally has *Helvetica* (though the `arial` package provided by MiKTeX is not taken into account). The engines LuaTeX and XeTeX usually access OpenType fonts directly, and here, KITletter expects *Arial* or *Helvetica* OTF files to be available. In case that KITletter cannot find the required fonts, it automatically falls back to *TeX Gyre Heros*, an always available standard font in TeX systems, akin to *Helvetica*. For more information, cf. Section 3.4, *Fonts*.

To use the KITletter package, put the above listed files in your working directory, edit `letter.tex` in your preferred text editor and run LaTeX as usual. (See the following section for more detailed advises.)

3 Main settings and package functionalities

3.1 Options for the document class

The `scr1ttr2` document class knows a set of options, that may in general be used together with the KITletter package. But please do not use the font size options 10pt, 12pt or any option changing the letter design.

3.2 Language

Because KITletter already loads the `babel` package, it is recommended to provide language option(s) together with `\documentclass`. Suitable language options

¹If you use only a light installation of your TeX distribution, please make sure that the following packages are installed: `cmmap`, `ragged2e`, `footmisc`, `amsmath`, `sansmathfonts`, `mathastext`, `xcolor`, `booktabs`, `colortbl`, `pgfcore`, `hyperref`.

are, e.g., `ngerman`, `UKenglish` or `USenglish`. (Note that `KITletter` itself passes `ngerman` as fallback language to the `babel` package anyway.)

3.3 Input encoding

Since 2018, the common TeX distributions select the nowadays wide-spread UTF-8 encoding as the standard encoding for `pdf latex` (what was already the case for `lua latex` and `x e latex`). An alternative input encoding can be declared in `letter.tex` by engaging the `inputenc` package with a respective option.

3.4 Fonts

Arial or *Helvetica* is used as the main font. With `pdf TeX` , the *Helvetica* variant is taken by default (`helvet` package).

When using one of the engines `Lua TeX` or `X e TeX` , the `fontspec` package is pre-loaded by `KITletter` in order to employ OpenType fonts. With the help of the `fontspec` package, it is firstly searched for a font with name “Arial”, then for one with name “Helvetica”.²

If the `helvet` package is not found or if the respective OTF font files are not found, then the TeX font *TeX Gyre Heros* is called as fallback; *TeX Gyre Heros* is a free variant of Helvetica that is TeX-installed on every recent TeX system as well as available as OTF.

The fallback font *TeX Gyre Heros* can also be selected directly via package option `heros` “`heros`”. In addition, when using OpenType fonts, one can avoid searching for `helvet` *Arial* with the package option “`helvet`”.

Please note that no serif font is used; therefore `KITletter` does not make a difference between `\rmfamily` and `\sffamily` (or between `\textrm{...}` and `\textsf{...}`).

As typewriter font, *Courier* is selected; fallback is the similar TeX font *TeX Gyre cursor* *Cursor*. Package option “`cursor`” forces the use of *TeX Gyre Cursor*.

Concerning mathematical formulas, `KITletter` uses *Fira Math* under `Lua TeX` or `X e TeX` , where more or less glyphs are taken from *Arial*/*Helvetica* or *TeX Gyre Heros*, respectively.

Under `pdf TeX` , the commonly installed sans-serif maths fonts of the TeX system will be used; but with the help of the `mathastext` package, as many as possible glyphs will be taken from the text font (*Helvetica* or *TeX Gyre Heros*). – Due to pre-loading the `amssymb` package, more mathematical symbols are provided. Further packages, like `stmaryrd`, can be loaded in the document preamble, of course. By the way: Under the present set-up, upright Greek uppercase letters are accessible with `\upDelta`, ...

²If no fonts with name “Arial” or “Helvetica” can be found, there will be an extra search in each case to find certain, `./fonts/`-locally stored font files. This can especially be useful when employing `X e TeX` on Overleaf. Please adapt file names and paths in `KITletter.lco`, if necessary.

3.5 Page format and design elements

Following the specification for DIN letters, `KITletter` uses the page format DIN A4.

`bwKITlogo` All letter pages have an outline frame, hold the KIT logo in the upper left corner and below the outline the mission statement and the URL of KIT. With the option “`bwKITlogo`” one can switch from the coloured KIT-Logo to its black-and-white version.

`officeprintableoutline` `KITletter` provides two layout variants: The standard version has a wide outline frame and therefore corresponds to the layout of KIT’s printed matter. With the option “`officeprintableoutline`” one can change to a layout with a narrower outline. This variant has nevertheless the same text width, but will probably be more adequate for printing on office printers.

`nooutlineframe` Furthermore, the option “`nooutlineframe`” allows to switch off the outline frame, so that the letter can be printed on the pre-printed form of KIT.

The letterhead page, i.e. the first page of the letter, is closed by the footer down on the page. This footer normally holds invariable information. But if you have to change it, it is possible by using `\setkomavar{firstfoot}{\tiny ...}` in the document preamble; or you can even suppress it with `\setkomavar{firstfoot}{}`.

The letter body is output as ragged-right text as default. If you prefer justified text, please use after `\begin{document}` the command `\justifying` (from the already loaded package `ragged2e`).

From page 2 onward of the letter, the page number is printed in the upper right corner, preceded by “Page”. To suppress this key word, add `\def\pagename{}` after `\begin{document}`.

3.6 Colour

You can use KIT’s layout colours within the letter body; the defined colour names are: `KITgreen`, `KITblue`, `KITlightgray` and `KITgray`.

3.7 Tables

Some standard packages for tables are already loaded: `array`, `multirow`, `bigstrut`, `tabularx`, `booktabs` and `colortbl`.

KIT’s corporate design suggests a certain layout for tables that `KITletter` provides with the new environments `{KITtabular}`, `{KITtabular*}` and `{KITtabularx}`. These environments can be used as their original counterparts `{tabular}`, `{tabular*}` and `{tabularx}`, and within their content one can add a `\midrule` command in order to determine where the table head finishes and the body begins; `\midrule` can also be placed directly after the tabular preamble what will produce a table without a head. For the mark-up of row-wise head cells, see the respective examples in the template document `slides.tex`.

3.8 Graphics and images

The standard interface for graphic inclusion is the `\includegraphics` command provided by the `graphicx` package (which is pre-loaded, too).

Remember that the `\graphicspath` command allows to declare one or more folders where the `graphicx` package looks for the image files; thus providing a path with each `\includegraphics` command is not necessary.

KIT-style documents display graphics and images in a “round-angular” style, i.e. they are surrounded by a light grey frame whose lower left and upper right corner are rounded. This is achieved by the new command `\KITincludegraphics` that has to be used as `\includegraphics` itself. But `\KITincludegraphics` provides also an additional `()`-optional argument. Example:

```
\KITincludegraphics(10 20 30 -10)[width=50mm]{testfig}
```

It is a “trim” argument that allows a value like the value of the `trim`-Option of `\includegraphics`, i.e. four space-separated numbers/lengths that determine how much less or more space the graphic/image requires, measured from left, from below, from right and from above.

3.9 Letter elements

With `KITletter` one can use the usual KOMA-`scrlttr2` letter elements and settings. They are described in the KOMA documentation (`texdoc scrguide`). Here, only two specialities should be mentioned:

- Following the underlying standard DIN 5008 Form B, there is no special letter head; rather the sender information is placed in the area besides the addressee, the sender field. This applies to the contents of the KOMA variables `fromname`, `fromaddress`, `fromemail`, `fromphone`, `frommobilephone`, `fromfax` and `fromurl`. Note that the output of `fromemail`, `fromphone`, `frommobilephone`, `fromfax` and `fromurl` must be activated by using respective class options.
- `KITletter` does not envisage a reference line. The contents that `scrlttr2` would normally output in the reference line (KOMA variables `yourref`, `yourmail`, `myref`, `customer`, `invoice`) are placed by `KITletter` in the sender field, too.

Typically, you won’t use all these indications at the same time; and the sender field has in fact not enough room to output all simultaneously. KOMA variables that are not used in a concrete letter, should therefore not be declared in the document preamble or should be declared as empty (e.g. `\setkomavar{yourref}[]{}{}`). On the other hand, you can easily add an empty line in the sender field by using for instance `\setkomavar{yourref}[]{}{~}` what might better structure your information. And even multi-line data is possible, e.g. with `\setkomavar{contact}{Forename\\hspace*{7.25em}Surname}`. Remember that you can always change the description of an indication by adding an optional argument to `\setkomavar`, e.g. `\setkomavar{fromphone}[Direct dial:]{xxxxx}`.

`KITletter` introduces two additional KOMA variables for the sender field:
`headofOU` (head of the organisational unit) it appears after the `fromname`,
`contact` it has the description “Contact person” and is output at the beginning
of the last block.

3.10 Hypertext additions

The `hyperref` package is loaded, too. Besides the already made settings in `KITletter`, one can activate or deactivate further features by using the `\hypersetup` interface in the document preamble.

Happy \TeX ing!

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