

# eqexpl v. 1.1

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The package use semantic versioning.

## 1 The aim of the package

The package was developed as an answer to the question on [tex.stackexchange.com](http://tex.stackexchange.com)

Package was developed to give the tool to make «perfect» explanation for formulas, not just the enumeration.

This package allows to describe formula's variables in unified through the document manner.

## 2 Similar packages

Nomencl: <http://ctan.org/pkg/nomencl>

## 3 Contributors

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The package currently hosted on GitHub: <https://github.com/konstantin-morenko/latex-equation-explanation>

## 4 Architecture

The list consist of few lengths:

- width of «intro» section (default is empty, 0pt);
- width of spaces between elements (default is 2mm);
- width of item block (default is 5mm);
- width of separator (default is '—');
- the rest of the width of a text (used to align left side of the explanation text).

## 5 Usage

First, include package into preamble with

```
\usepackage{eqexpl}
```

Then write a formula and describe the parameters

$$E = mc^2 \tag{1}$$

$E$  — equivalent energy

$m$  — mass

$c$  — speed of light ( $c \approx 3 \times 10^8 m/s$ )

using

```
\begin{equation}
E = m c^2
\end{equation}
\begin{eqexpl}
\item{\$E\$} equivalent energy
\item{\$m\$} mass
\item{\$c\$} speed of light ( $c \approx 3 \times 10^8 m/s$ )
\end{eqexpl}
```

## 6 Configure and examples

### 6.1 Test list

This list is used for next examples:

U — voltage at the section, V;

Rs — total section resistance, Ohm.

*Very*<sup>46</sup> — very long line;

### 6.2 Setting eqexplSetSpace

```
Set \eqexplSetSpace{0mm}
```

U—voltage at the section, V;

Rs—total section resistance, Ohm.

*Very*<sup>46</sup>—very long line;

```
Set \eqexplSetSpace{} (default 2mm)
```

U — voltage at the section, V;  
Rs — total section resistance, Ohm.  
*Very*<sup>46</sup> — very very very very very very very very very very very very very very very  
very very very very very very very very very very very very very very very  
very very very very very very very very very very very very very very very  
very very very very long line;

Set `\eqexplSetSpace{10mm}`

U — voltage at the section, V;  
Rs — total section resistance, Ohm.  
*Very*<sup>46</sup> — very very very very very very very very very very very very very very very  
very very very very very very very very very very very very very very very  
very very very very very very very very very very very very very very very  
very very very very long line;

### 6.3 Setting `eqexplSetIntro`

Set `\eqexplSetIntro{where}`

where U — voltage at the section, V;  
Rs — total section resistance, Ohm.  
*Very*<sup>46</sup> — very very very very very very very very very very very very very very very  
very very very very very very very very very very very very very very very  
very very very very very very very very very very very very very very very  
very very very very long line;

Set `\eqexplSetIntro{in this equation}`

in this equation U — voltage at the section, V;  
Rs — total section resistance, Ohm.  
*Very*<sup>46</sup> — very very very very very very very very very very very very very very very  
very very very very very very very very very very very very very very very  
very very very very very very very very very very very very very very very  
very very long line;

### 6.4 Setting `eqexplSetDelim`

Set `\eqexplSetDelim{---}` (default)

U — voltage at the section, V;  
Rs — total section resistance, Ohm.  
*Very*<sup>46</sup> — very very very very very very very very very very very very very very very  
very very very very very very very very very very very very very very very  
very very very very very very very very very very very very very very very  
very very very very long line;

Set `\eqexplSetDelim{=}`

U = voltage at the section, V;  
 Rs = total section resistance, Ohm.  
*Very*<sup>46</sup> = very long line;

Set `\eqexplSetDelim{\to$}`  
 U → voltage at the section, V;  
 Rs → total section resistance, Ohm.  
*Very*<sup>46</sup> → very long line;

### 6.5 Setting eqexplSetItemWidth

Set `\eqexplSetItemWidth{5mm}` (default)  
 U — voltage at the section, V;  
 Rs — total section resistance, Ohm.  
*Very*<sup>46</sup> — very long line;

Set `\eqexplSetItemWidth{10mm}`  
 U — voltage at the section, V;  
 Rs — total section resistance, Ohm.  
*Very*<sup>46</sup> — very long line;

### 6.6 Setting item width for 'begin-end' block

When we have a long variable name (for example `very-very-long`), it could lead us to overwhelming the variable name as in example below

*long* — just variable  
*very – long* — just variable  
*very – very – long* — just variable

User could set a parameter to environment to use custom item width for current block in opposition to setting it before block to new value and unsetting it to default after the end of the block. For this purpose use `\begin{eqexpl}[width]`.  
 Set `\begin{eqexpl}[10mm]`

*long* — just variable  
*very – long* — just variable  
*very – very – long* — just variable

Test for backing to default in next block

*long* — just variable  
*very – long* — just variable  
*very – very – long* — just variable

Set `\begin{eqexpl}[20mm]`

*long* — just variable  
*very – long* — just variable  
*very – very – long* — just variable

Test for backing to default in next block

*long* — just variable  
*very – long* — just variable  
*very – very – long* — just variable

## 6.7 Setting eqexplItemAlign

Set `\eqexplSetItemAlign{r}` (default)

*U* — voltage at the section, V;

*Rs* — total section resistance, Ohm.

*Very*<sup>46</sup> — very long line;

Set `\eqexplSetItemAlign{l}`

*U* — voltage at the section, V;

*Rs* — total section resistance, Ohm.

*Very*<sup>46</sup> very long line;

Set `\eqexplSetItemAlign{c}`

*U* — voltage at the section, V;

*Rs* — total section resistance, Ohm.

*Very*<sup>46</sup> — very long line;

## 6.8 Setting custom delimiter for individual items

Setting `\item{U}[=]`... and `\item[ $\to$ ]{Rs}`....

U = voltage at the section, V;

Rs  $\rightarrow$  total section resistance, Ohm.

*Very*<sup>46</sup>  $\propto$  very very very very very very very very very very very very very very very  
very very very very very very very very very very very very very very very  
very very very very very very very very very very very very very very very  
very very very very long line;