

Terminology

I. Types of terms

II. Notes on terms consisting of more than one word

III. Common mistakes

A typical feature of scientific and technical communication is **terminology**, i.e. words or sets of words that have an exact meaning and are used in a particular scientific or technical context, e.g. *photovoltaics, electronics, printed circuit board*. Besides **terms**, scientific and technical communication uses **subtechnical words**, which are common to many disciplines and are also used in general, non-scientific and non-technical communication, e.g. *consider, concern, draw conclusions, take into account*.

I. Types of terms

1. Terms formed by **one** word: *converter* = měnič

lathe = soustruh

nucleus = jádro atomu

2. Terms consisting of **two or more words (compounds)**

Noun(s) + noun(s) and adjective(s) + noun(s) are the most common types.

Noun(s) + noun(s):

induction current = indukční proud

power engineering = energetika

power density spectrum = spektrální rozložení hustoty energie

vapour jet refrigeration system = systém paroproudového chlazení

Adjective(s) + noun(s):

milling cutter = fréza

binding energy = vazbová energie

variable function generator = generátor proměnné funkce

electric melting furnace = elektrická tavicí pec

basic sequential access method = základní metoda postupného přístupu

3. Other types (including prepositions and conjunctions):

line of force = siločára

out-of-order signal = signál poruchy

state-of-the-art lecture = přednáška o stavu bádání v oboru

trial and error method = metoda pokusu a omylu

Very long terms, i.e. terms consisting of four or more words, are sometimes difficult to decipher as there is no universal model for expressing the relations between the components.

Example:

electric field displacement optical isolator = optický izolátor na principu posuvu pole

II. Notes on terms consisting of more than one word

1. The most important word of the term is **the last one**. It is qualified/specified by all the preceding words. Look at the examples below to see how the different ordering of the words changes the meaning of the term.

a battery car = a car driven by a battery

a car battery = a battery for a car

satellite communication = communication using satellites

communication satellite = a satellite used for communication

2. Some terms are written as **one word**:

spacecraft = kosmická loď

flowchart = vývojový diagram

pipeline = potrubí; ropovod

3. Some are written as **two or more separate words**:

humidity insulation = izolace proti vlhkosti

corrosion resistance = odolnost proti korozi

circuit breaker = přerušovč; jistič

open loop = otevřená smyčka

impulse current generator = rázový generátor proudu

differential pulse code modulation = diferenciální pulzní kódová modulace

4. Some are **hyphenated**:

explosion-proof = odolný proti výbuchu

high-pressure turbine = vysokotlaká turbína

open-loop control = řízení v otevřené smyčce

- **A hyphen** is highly **recommended**:

- where **the qualifying element includes a participle form**

(-ed or -ing) or an **adjective**:

man-made fibres = umělá vlákna

slow-acting relay = pomalu přitahující relé

open-circuit test = zkouška/měření naprázdno

- or where it makes it **easier to understand a term** by signalling a close relationship between words in a compound consisting of more than two components:

exhaust-heat storage = akumulace odpadního tepla

dot-and-dash code = Morseova abeceda

- **A hyphenated or one-word compound is common with nouns** directly related with **phrasal verbs**:

drop-out = odpad (u relé)

But: *to drop out* = odpadnout (o relé)

cut-off = vypnutí

But: *to cut off* = vypnout

slowdown = zpomalení

But: *to slow down* = zpomalit

There are, however, **no strict rules** for the use of hyphens. As **usage may vary**, the best advice is to follow the practice of well-written sources.

5. Nouns preceding the final noun are not used in the plural.

voltage variation immunity test = test imunity na změny napětí

branch matrix = matice větví

shock absorber = tlumič nárazů

There are, however, exceptions when the nouns express real plurality that can be interpreted as various kinds.

Compare:

material consumption (referring to how much material has been used)

materials science (referring to various materials this science studies)

system software (referring to the operating system used to operate
a computer system)

systems analysis (referring to computer systems a project needs)

6. Proper nouns forming parts of a term are predominantly used

a) in the possessive ('s) form before e.g. the following words: law, theory, formula, theorem, rule, constant, principle.

Euler's formula/constant/theorem, Planck's law, Ampere's law/rule/theory

b) in their basic form (without or with the definite article)

with e.g. the following words: effect, equation, analysis, number, series, transform

Doppler effect, Riccatti equation, Fourier analysis/number/series/transform

with terms denoting objects:

*Schottky diode, Schrage motor, Northrup furnace, Rutherford atom,
Petersen coil, Kalman filter*

with terms including two proper nouns:

Serret-Frenet formulae

But: *Frenet's formula*

When deciding whether or not to use the definite article, follow the established practice.

7. If the noun is specified by a proper noun, a trademark or a configuration of letters or figures, this specifying part is, contrary to Czech, placed before the noun.

*iRobot Corporation, MobIR thermal camera, 5/50 ns EFT generator,
Minolta CL-200 colorimeter, ASTM standards, M 36 C3 coated steel,
RS – 232 I/O port.*

8. If there are two or more terms with the same meaning (e.g. *thermoelement, thermocouple, thermocell, thermojunction*), choose the one you find in well-written sources and stick to it through the text. Skipping from one term to another only confuses the reader.

9. Terms can also be expressed by a prepositional phrase.

noise immunity test = test of noise immunity = test of immunity to noise

The short version (without prepositions) is preferable when the term is easy to understand. With very long terms it is recommended to use the prepositional phrase.

Example: *insulation system degradation level determination*
determination of the insulation system degradation level

III. Common mistakes:

1. wrong word order/leaving out the preposition.

Example: rychlost šíření

Wrong: *velocity propagation*

Right: *propagation velocity*

Or: *velocity of propagation*

2. Placing the specifying noun, configuration of letters or figures after the name they specify.

Wrong: standard 380-V DC
the company Texas Instruments

the Company New York Times

Right: 380-V DC standard
the Texas Instruments company
or (commonly) Texas Instruments
the New York Times Co.

EXERCISES

I. Translate the following terms into Czech.

1. a) error identification
- b) identification error
2. a) source language
- b) language source
3. a) control computer
- b) computer control
4. a) pressure control
- b) control pressure
5. a) expert system
- b) system expert
6. a) side road
- b) roadside
7. a) sign language
- b) language sign

II. Reformulate the compound terms using prepositional phrases to show that you understand the relationship between the words forming the compound.

Example:

electric discharge effect elimination
elimination of the effects of electric discharge

1. voltage variation immunity tests
.....
2. lighting system operation optimization
.....
3. railway vehicle electromagnetic compatibility tests
.....

4. solid body magnetic levitation computation
.....
5. substance melting temperature measurement
.....
6. electrostatic discharge immunity test
.....
7. heat resistance tests
.....
8. vector controlled induction motor drives
.....
9. image processing applications
.....
10. digital data processing unit
.....

III. Reformulate the prepositional phrases into compounds to show that you understand the relationships between the words.

Example:

- a small factory for making cars**
- a small car factory**

1. the surface of the moon
.....
2. a factory for making small cars
.....
3. a station for observing weather both by day and night
.....
4. a ruler for measuring up to twelve inches
.....
5. nails 10 cm long
.....
6. the gravitational field of the earth
.....
7. reduction in weight and cost
.....
8. the period of the next five years
.....
9. insulation which is made of polystyrene
.....
10. the maximum speed of the car
.....

IV. In your home reading find examples of

- a) term types (five of each group – one-word, including two or more separate words, hyphenated)**
- b) terms including a proper noun (two of each group)**

