

# Syntax highlighting definitions for Vensim™

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## Vensim model files (.mdl)

Comment: the definitions should be created with and without underscores in keywords. For a better overview, only identifiers without an underscore are listed here.

### ► Stocks

Identifier	INTEG (
Style	<b>bold bright red</b>

### ► Units

Identifier	~ unit \n ~
Style	green

### ► Comments

Identifier	~ comment \n   \n
Style	green

### ► Math operators

Identifier	+ - * / < > <= >= , ^
Style	orange

Difficulty: A “=” within a formula should be colored differently than one that separates left and right side of the equation

### ► Subscripts

Identifier	[ ]
Style	<b>bold italic</b>

Currently, this also styles the scale of lookups the same way, as this also used square brackets. This could be differentiated as the scale of lookups always has a preceding parenthesis with a carriage return in between.

### ► Lookups

Identifier	WITH LOOKUP
Style	dark blue

Currently with same Style than built-in functions. Could be made to look different.

► Built-in Functions with colons around

Identifiers	:MACRO: :END OF MACRO: :HOLD BACKWARD: :IMPLIES: :INTERPOLATE: :LOOK FORWARD: :NA: :RAW: :TEST INPUT: :THE CONDITION: :AND: :OR: :NOT:
Style	light coral

Could have different color than other built-in-functions?

► Built-in functions with subsequent parenthesis

Identifier	ABS() ACTIVE INITIAL() ALLOCATE AVAILABLE() ALLOCATE BY PRIORITY() ALLOC P() ARCCOS() ARCSIN() ARCTAN() COS() COSH() CUMULATE() CUMULATEF() DELAY BATCH() DELAY CONVEYOR() DELAY FIXED() DELAY INFORMATION() DELAY MATERIAL() DELAY N() DELAY PROFILE() DELAY1() DELAY3() DELAY3I() DELAYP() DEMAND AT PRICE() DEPRECIATE BY SCHEDULE() DEPRECIATE STRAIGHTLINE() ELMCOUNT() EXP() FIND ZERO() FORECAST() GAME() GAMMA LN()
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GET 123 CONSTANTS ()
GET 123 DATA ()
GET DATA AT TIME ()
GET DATA BETWEEN TIMES ()
GET DATA FIRST TIME ()
GET DATA LAST TIME ()
GET DATA TOTAL POINTS ()
GET XLS CONSTANTS ()
GET XLS DATA ()
IF THEN ELSE ()
INITIAL ()
INTEGER ()
INTERNAL RATE OF RETURN ()
INVERT MATRIX ()
LN ()
LOG ()
LOOKUP AREA ()
LOOKUP BACKWARD ()
LOOKUP EXTRAPOLATE ()
LOOKUP FORWARD ()
LOOKUP INVERT ()
LOOKUP SLOPE ()
MARKETP ()
MAX ()
MESSAGE ()
MIN ()
MODULO ()
NPV ()
NPVE ()
NET PRESENT VALUE ()
POWER ()
PROD ()
PULSE ()
PULSE TRAIN ()
QUANTUM ()
QUEUE AGE AVERAGE ()
QUEUE AGE IN RANGE ()
QUEUE AGE OLDEST ()
QUEUE ATTRIB AVERAGE ()
QUEUE ATTRIB IN RANGE ()
QUEUE ATTRIB MAX ()
QUEUE ATTRIB MIN ()
QUEUE ATTRIB QUANTITY ()
QUEUE FIFO ()
QUEUE FIFO ATTRIB ()
RAMP ()
RANDOM BETA ()
RANDOM BINOMIAL ()
RANDOM EXPONENTIAL ()
RANDOM GAMMA ()
RANDOM LOOKUP ()
RANDOM NEGATIVE BINOMIAL ()

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	RANDOM NORMAL() RANDOM POISSON() RANDOM TRIANGULAR() RANDOM UNIFORM() RANDOM WEIBULL() RC COMPARE() RC COMPARE CHECK() RC DECAY() RC DECAY CHECK() RC GROW() RC GROW CHECK() RC RAMP() RC RAMP CHECK() RC STEP() RC STEP CHECK() REINITIAL() SAMPLE IF TRUE() SHIFT IF TRUE() SIN() SINH() SINTEG() SMOOTH() SMOOTH I() SMOOTH N() SMOOTH3() SMOOTH3 I() SQRT() STEP() SUM() SUPPLY AT PRICE() TABBED ARRAY() TAN() TANH() TIME BASE() TIME SHIFT() TREND() VECTOR ELM MAP() VECTOR RANK() VECTOR REORDER() VECTOR SELECT() VECTOR SORT ORDER() VMAX() VMIN() WITH LOOKUP() X IF MISSING() XIDZ() ZIDZ()
Style	dark blue

Some newer functions of the more recent versions of Vensim may be missing here. Built-in function itself only, not parenthesis nor its content. Ideally, parenthesis would also be colored.

► Parenthesis (content of built-in functions, and Stock functions)

Identifier	( , )
Style	<i>italic</i>

Improvement potential: differentiate between built-in functions and stock functions

► Groups

Identifier	***** .Grouptitle *****~
Style	<b>bold</b>

Note that the subsequent comment gets colored green because of the identifier there being the same as for equation comments

► Sketch Information

Identifier	\\\---///
Style	grey

The sketch information is always ending the mdl file, so anything following the identifier can be included.

► Not yet implemented: Left side of equation

Identifier	\n Variable name =
Style	not yet implemented

► Not yet implemented: Numbers

Identifier	1, 2, 3, 4, 5, 6, 7, 8, 9, 0
Style	not yet implemented

(Without the commas, incl. Decimal separator". E.g. 3.45)

► Not yet implemented: Vector function subscript identifier

Identifier	!
Style	not yet implemented

Extra Emphasis could be helpful for this, e.g. yellow background.

► Not yet implemented: Vector mapping

Identifier	->
Style	not yet implemented

Maybe give another color to this mapping arrow?

Difficulty: How to prevent it from being colored as if it was a “minus” and a “greater than”?

► Not yet implemented: Undefined function

Identifier	A FUNCTION OF()
Style	not yet implemented

E.g.: Red and bold with black background?

► Not yet implemented: Built-in Variables

Identifier	Time Time Step Initial Time Final Time SAVEPER
Style	not yet implemented

.Other variables that should have a special color?

► Not yet implemented: Variable names with special characters in them

Identifier	""
Style	not yet implemented

Vensim uses these, when Umlauts or other special characters primarily in languages other than English are used. Maybe the "" should have a different color?

First and foremost, special characters should be avoided in any form of computer aided data processing!

## Vensim Graph Definition file (.vgd)

Identifier	: GRAPH
Style	<b>text bold black, background bright green until EOL</b>

Identifier	: DATASET
Style	dark grey until EOL

Identifier	: VAR
Style	bright turquoise until EOL

## Vensim Change Input files (.cin)

### ► Comment

Identifier	:
Style	green

### ► Values, parentheses around numbers

Identifier	() <numbers>
Style	bright red

### ► Subscripts

Identifier	[]
Style	<b><i>bold italic</i></b>

### ► Auxiliary variables with lookup

Identifier	#variable_name#
Style	dark blue

# Vensim Command files (.cmd)

## ► Load new, unload old model

Identifier	SPECIAL>LOADMODEL
Style	text bold white with background in light coral

Idea: This is typically the beginning of a new part of a script since a new model is loaded and the previous model is unloaded by this command. Hence the background. The combination of colors is purposefully supposed to look distinct.

## ► Load and unload runs

Identifiers	SPECIAL>CLEARRUNS   SPECIAL>LOADRUN
Style	bright purple

## ► Comment

Identifier	{ }
Style	green

## ► File export

Identifiers	FILE>MDL2VMF   FILE>VCD2VCF   FILE>VGF2VGF   FILE>VMG2MDL   MENU>DAT2VDF   MENU>SENS2TAB   MENU>TAB2VDF   MENU>VDF2CSV   MENU>VDF2DAT   MENU>VDF2DLIST   MENU>VDF2TAB   MENU>VDF2WK1   MENU>VDF2XLS   MENU>WK12VDF   MENU>XLS2VDF
Style	text dark blue



## ► Simulation settings manually or from cin files

Identifier	SIMULATE>READCIN
Style	<b>text bold orange</b>

READCIN is bold because it overwrites previously loaded cin files.

Identifier	SIMULATE>ADDCIN
Style	<b>text orange</b>

Identifier	SIMULATE>SETVAL
Style	<b>text orange</b>

## ► Set run name and start

Identifier	SIMULATE>RUNNAME   MENU>RUN   MENU>RUN1   MENU>RUN_OPTIMIZE   MENU>RUN_SENSITIVITY
Style	<b>bold bright red</b>

## ► Quit/Exit Vensim

Identifier	MENU>EXIT
Style	<b>text bold bright green, background dark red</b>

As this completely exits the software it should be distinct.

## ► Not yet implemented: other commands

Identifier	FILE>COPY   FILE>CREATE   FILE>DELETE   FILE>RENAME   FILE>ENCRYPT   FILE>DECRYPT   SETTING>EXTERNALFUNCTION   SETTING>SHOWWARNING   SIMULATE>ADDDATA   SIMULATE>BASED   SIMULATE>CHGFILE   SIMULATE>DATA   SIMULATE>KALMAN   SIMULATE>MINMEN   SIMULATE>OPTPARM   SIMULATE>PAYOFF   SIMULATE>READRUNCHG   SIMULATE>RESUME   SIMULATE>SAVELIST   SIMULATE>SENSITIVITY   SIMULATE>SENSSAVELIST   SIMULATE>WRITECIN   SPECIAL>LOADTOOLSET   SPECIAL>NOINTERACTION
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	SPECIAL>READCSTOM   SPECIAL>READINI   TIMEAXIS>RESET   TIMEAXIS>SPECIALTIME   TIMEAXIS>STARTTIME   TIMEAXIS>STOPTIME
Style	not yet implemented