

System Constants

System constants

In mathematical expressions, there may be used constants implemented in D2000 system. When writing a system constant, it is important to place the symbol "@" before its name. The list of system constants is listed in the following table.

Name	Value type	Meaning
Normal	Integer	State (value) of Alarm type object.
Alarm	Integer	State (value) of Alarm type object.
Kvit	Integer	State (value) of Alarm type object.
Block	Integer	State (value) of Alarm type object.
UnBlock	Integer	State (value) of Alarm type object.
NoKvit	Integer	State (value) of Alarm type object.
Run	Integer	Value of Process type object.
Crash	Integer	Value of Process type object.
Stop	Integer	Value of Process type object.
WDErr	Integer	Value of Process type object.
StON	Integer	Value of Station type object.
StOFF	Integer	Value of Station type object.
StCOMERR	Integer	Value of Station type object.
StHARDERR	Integer	Value of Station type object.
StSIMUL	Integer	Value of Station type object.
TRUE	Boolean	Logical true.
FALSE	Boolean	Logical false.
HodInt	Integer	Hour interval length.
MinInt	Integer	Minute interval length.
SecInt	Integer	Second interval length.
ZV	Boolean (TRUE)	Closing output.
OV	Boolean (FALSE)	Opening output.
OK	Integer	Value in limits.
HL	Integer	High Limit - value above the high limit.
LL	Integer	Low Limit - value below the high limit.
VLL	Integer	Very Low Limit - value below the lowest limit.
VHL	Integer	Very High Limit - value above the highest limit.
L_ERR	Integer	Limits Problem - overrunning the dynamic limits (violation of the condition $VLL < LL < HL < VHL$).
A, B, C, ... P, X	Integer	Value flag.
MyValue		<p>Internal variable of an object of Eval tag type. The value of the variable is current value of given eval tag. It is important in case of eval tag, which "internal" value could be different than the value in target structured variable.</p> <p><i>Warning:</i> the value of the variable @MyValue is invalid before the first calculation. For correct functionality, either the parameter Replace invalid values with 0 of the eval tag must be checked or the value of @MyValue/VLD must be tested before use.</p> <p>Note: The constant always has invalid value in ESL.</p>

EvalTime	Absolute time	<p>Time for which the value of archive object (historical value) is to be calculated. Note: the constant can only be used in the statement determines the value of object of Historical value or Eval tag type.</p> <p>The values of constant related to Eval tag:</p> <ol style="list-style-type: none"> 1. Saving of the object - SysTime. 2. First calculation - SysTime. 3. Periodical calculation - a time which retrieves the calculation. 4. Response to a change - a time when an object is being changed.
QTRANS	Integer	Value of object I/O tag (quaternary).
QOFF	Integer	Value of object I/O tag (quaternary).
QON	Integer	Value of object I/O tag (quaternary).
QERR	Integer	Value of object I/O tag (quaternary).
QOSC	Integer	Value of object I/O tag (quaternary).
OTYPE_SYSTEM	Integer	System
OTYPE_PROCESSES	Integer	Process
OTYPE_LINE	Integer	Line
OTYPE_STATION	Integer	Station
OTYPE_POINT	Integer	I/O Tag
OTYPE_PICTURE	Integer	Picture
OTYPE_GRAPH	Integer	Graph
OTYPE_CLC_VAL	Integer	Eval Tag
OTYPE_EVENT	Integer	Event
OTYPE_LIST	Integer	List
OTYPE_UNUSED	Integer	Do not use!
OTYPE_STATUS_TEXT	Integer	Status Text
OTYPE_USER	Integer	User
OTYPE_BITMAP	Integer	Bitmap
OTYPE_PALETTE	Integer	Display Palette
OTYPE_L_BITMAP	Integer	Background Bitmap
OTYPE_COMPOSITION	Integer	Composition
OTYPE_ALARM	Integer	Alarm
OTYPE_FONTSTYLE	Integer	Text Font
OTYPE_CTRL_DIALOG	Integer	Dialog
OTYPE_ARCHIVE	Integer	Archive
OTYPE_TM_CHANNEL	Integer	Time Channel

OTYPE_SYS_VAR	Integer	System Tag
OTYPE_USER_VAR	Integer	User Variable
OTYPE_REPORT	Integer	Text report
OTYPE_LOG_LIST	Integer	Unused
OTYPE_KALENDAR	Integer	Calendar
OTYPE_DAY_TYP	Integer	Day Type
OTYPE_ARR_VAL	Integer	Value Array
OTYPE_CMD_FILE	Integer	Command File
OTYPE_REM_OBJ	Integer	Remote Tag
OTYPE_ARCH_VAL	Integer	Historical Value
OTYPE_GRREPORT	Integer	Report
OTYPE_RES_GROUP	Integer	Object Group
OTYPE_EVENT_TRIGGER	Integer	EVENT_TRIGGER
OTYPE_ALARM_ALARM_COND	Integer	ALARM_ALARM_COND
OTYPE_ALARM_NORM_COND	Integer	ALARM_NORM_COND
OTYPE_ARCHIV_START_COND	Integer	ARCHIV_START_COND
OTYPE_ARCHIV_STOP_COND	Integer	ARCHIV_STOP_COND
OTYPE_SWITCH	Integer	Switch
OTYPE_BITMAP_PALETTE	Integer	Bitmap Palette
OTYPE_EXTENDED_PALETTE	Integer	Extended Palette
OTYPE_TOPOLOGY	Integer	Topology
OTYPE_TOPOLOGICAL_NODE	Integer	Topological Node
OTYPE_TOPOLOGICAL_LINK	Integer	Topological Line
OTYPE_STRUCTURE_DEFINITION	Integer	Structure Definition
OTYPE_D2RECORD	Integer	Structured Variable
OTYPE_DATABASE_TABLE	Integer	Database Table

OTYPE_LOG_GROUP	Integer	Logical Group
OTYPE_EXT_FNCT	Integer	External Function
OTYPE_DB_CONNECT	Integer	Database
OTYPE_HI_MENU	Integer	HI Menu
OTYPE_SHOW_MASK	Integer	Display Mask
OTYPE_ALL_TYPES	Integer	All types
OTYPE_ALLALARMS	Integer	All types with possible alarm state.
REL_NONE	Integer	Unspecified relation.
REL_NOTUSED	Integer	Unused objects.
REL_CHILDREN	Integer	List of children.
REL_PARENT	Integer	Parent of object.
REL_USEDIN	Integer	Used objects.
REL_USEDBY	Integer	Object used by objects.
SORT_LIST_NAME	Integer	Sort the list according to object name.
SORT_LIST_MODIFIED_TIME	Integer	Sort the list according to time of modification.
SORT_LIST_HOBJ	Integer	Sort the list according to unique identifier of object HOBJ.
SDM_KEEP_VALUE	Integer	Keep value of attribute as it was originally set in the configuration of object.
SDM_DELETE_VALUE	Integer	Delete value of attribute in the configuration of object.
SDM_SET_SOURCE	Integer	Set value of attribute as it is defined in the imported XML data.
Constants describing the attribute <i>Process alarm</i> type (the value attribute \ALV)		
PA_NoAlarm	Integer	No active process alarm .
PA_ToOn	Integer	Process alarm occurrence - change into the level ON (TRUE).
PA_ToOff	Integer	Process alarm occurrence - change into the level OFF (FALSE).
PA_On	Integer	Process alarm occurrence - the level ON (TRUE).
PA_Off	Integer	Process alarm occurrence - the level OFF (FALSE).
PA_Err	Integer	Error (invalid) value.
PA_Oscillate	Integer	Oscillating value.
PA_ErrCmdOn	Integer	Error during the execution of the command cm_SetSwitchOn (ON).
PA_ErrCmdOff	Integer	Error during the execution of the command cm_SetSwitchOff (OFF).
PA_SwToTrans	Integer	Process alarm occurrence - change of quaternary value into the value Q_Trans.
PA_SwToOff	Integer	Process alarm occurrence - change of quaternary value into Q_Off (FALSE).
PA_SwToOn	Integer	Process alarm occurrence - change of quaternary value into Q_On (TRUE).
PA_SwToErr	Integer	Process alarm occurrence - change of quaternary value into the value Q_Err.
PA_SwTrans	Integer	Process alarm occurrence - quaternary value is Q_Trans.

PA_SwOff	Integer	Process alarm occurrence - quaternary value is Q_Off.
PA_SwOn	Integer	Process alarm occurrence - quaternary value is Q_On.
PA_SwErr	Integer	Process alarm occurrence - quaternary value is Q_Err.
PA_ErrZalCmd Off	Integer	Error during the execution of the command cm_SetSwitchBkpOff (Backup Off).
PA_HL	Integer	Process alarm occurrence - HL limit state of the value.
PA_VHL	Integer	Process alarm occurrence - VHL limit state of the value.
PA_LL	Integer	Process alarm occurrence - LL limit state of the value.
PA_VLL	Integer	Process alarm occurrence - VLL limit state of the value.
PA_ToHL	Integer	Process alarm occurrence - change of value into the HL limit state.
PA_ToVHL	Integer	Process alarm occurrence - change of value into the VHL limit state.
PA_ToLL	Integer	Process alarm occurrence - change of value into the LL limit state.
PA_ToVLL	Integer	Process alarm occurrence - change of value into the VLL limit state.
PA_ErrWriteCmd	Integer	Error while setting the value of output tags.
PA_Change	Integer	Process alarm occurrence - change of integer or analog value.
PA_SysPrAI	Integer	Special type of process alarm used just for two objects of System variable type - SystemError and SystemWarning .