List of software versions

Pluto Safety PLC and Pluto Manager

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1 Introduction

This document describes the date and the changes made for each released version of the Pluto system software and for Pluto Manager.

2 Pluto system software versions

Pluto system software versions		
Ver	**Release date**	
1.0	2003-03-26	First official release
1.1	2003-04-04	Bug fix: Monitoring of remote timers and sequence steps incorrectly showed local Bug fix: Execute instructions after accepted jump in step
1.2	2003-04-23	Improved calibration of analog functions Bug fixed: Static IQ interfere with self test of dynamic IQ signals
1.3	2003-04-30	Bug fixed: Q3 output selftest sometimes indicated error when correct Bug fixed: Monitoring of remote registers incorrectly showed local
1.4	2003-05-22	
1.5	2003-06-17	SM16..SM23 for interprocessor communication
1.6	2003-07-21	IR communication on/off to reduce risk of crosstalk between Plutos
1.7	2003-08-06	More filtering of IR communication
1.8	2003-09-26	Bug fixed: I IQ errors was erroneously resported
2.0	2003-12-03	Program download over CAN bus Self programming of empty Plutos Exchange of checksum over the CAN bus to ensure same project version Bus status monitoring Programmable IDFix
2.1	2003-12-29	Monitoring of local variables in remote Plutos
2.1.1	2003-12-13	Quicker short circuit detection for Q2/Q3
2.1.2	2004-01-28	Support for Pluto S20
2.1.3	2004-03-22	Expansion relay BT50 compatible (don't test Q2/Q3 150us after positive edge)
2.1.4	2004-03-23	Twin I/O via internal serial port instead of CAN bus
2.1.5	2004-05-24	Bug fix, (Error code E12 sometimes gave E50 instead)
2.2	2004-06-04	New version number with latest changes
2.2.1	2004-08-26	Double display support
2.2.2	2004-09-28	Bug fix (E18 was impossible to reset sometimes) Sequence print in monitor was repeated Function block for Pluto version No clock signal to top board if double display
2.2.3	2005-02-22	Support for write seal over CAN bus Bug fix. When CAN bus messages wasn't transmitted the Pluto was sometimes blocked.
2.2.4	2005-04-04	Bug fix. Sometimes it was not possible to erase program even though correct password was given. Sync signals between processors changed to increase EMC immunity. Upoad binary application program in object form.
2.2.5	2005-06-08	Modbus ASCII communication. Bug fix: E18 (CAN bus fault) was sometimes not possible to reset. Bug fix: Upload of application program sometimes failed. Bug fix: Q10..Q17 and flags were not reset at Error E50 and higher Bug fix: Analog values sometimes differed between processors

Pluto system software versions

Ver	Release date	

2.4	2005-08-24	Gateway functions
		  *) Possible for gateway to read variables noncyclic
		  *) Possible for Pluto to enquire status info about gateway
		  *) Possible for gateway to write data to Pluto
		Reception of data via modbus/from gateway can be filtered and timeout specified
		Parameters directly readable via serial interface (for Pluto Manager).
		Verification that twin processor has correct OS version and date.

2.4.1	2005-10-25	Bugfix for IR Pluto Boot command to monitor
2.4.2	2005-12-13	E51 bug fixed (processors own data is delayed 10ms to compensate for delay in internal serial communication).
2.4.3	2006-01-16	Variable response filtering bug corrected for oolean variables.

2.4.4	2006-06-27	New routines for encoder status and parameter setting.
		Support for multiturn encoders.
		Er15, Er16 and Er18 are automatically reset after 3 min.
		Sr12, sr13 and sr14 contains last error codes.
		
		Bug fixes:
		  Encoder status sent Sync msgs even if there were other sync master on the bus.
		  Encoder sync telegram timing corrected.
		  Encoder evaluation timing corrected.

2.6	2006-09-28	Support for B46
2.6.1	2006-11-15	Dynamic length of test pulses Q2/Q3 Correct get_model_code for "S46-S"
2.6.2	2007-05-31	Delay tx/rx for PC port removed for non-IR models Double Esc sequence removed for non-IR models
2.8	2007-09-18	AS-I support IDFIX-DATA support Send additional I/O to gateway Status pos for encoder if only one encoder connected Check of PLC crc between processors osload command modified, no reports for Plutos sr12,sr13, sr14 for error history (missing in 2.6.x)
2.8.0.1	2007-09-20	Updated gateway code (AS-I gateway)
2.8.1	2007-10-03	Correct clear inputs/outputs/flags in AS-I process image Command acknowledge timeout -> Er72 Corrected safety code sync between A/B processors Additional I/O to gateway modified, (always broadcast)
2.8.1.1	2007-10-23	AS-I gateway processor: Er72 by no connection to AS-I bus in master mode.
2.8.2	2007-11-22	At AS-i version mismatch, printout of required version at Asi|s command
2.8.3	2007-12-12	Capacitive load on Q2/Q3 (e.g. BT50/BT51) improved S model CAN reception bug fixed False ER72 errors prevention
2.8.4	2008-01-17	AS-i single B slaves now work (no A slave on same address)
2.8.6	2008-08-07	Er42 detection algorithm changed
2.8.7	2008-10-17	Bug fix: Er18 could sometimes occur when monitoring a system with additional gateway communication. Bug fix: Single missed B I/O telegram do not lead to Er18 anymore
2.8.8	2008-10-28	Bug fix: Baudrate detection sometimes failed in ver. 2.8.7

Pluto system software versions

Ver	Release date	
2.10	2008-10-28	First released OS for version 2 of Pluto B46 and Pluto AS-i. (See document STH0363) For A20 family and old version of B46 and AS-I, 2.10 has equal function as 2.8.8
2.10.1	2009-02-12	- Double registers monitoring over CAN bus (support for cooperation with future Extended arithmetic Plutos in same project) - Bug fix: Boot with single encoder, Ok signal was set - AS-I B slave 16-31 was not working correctly
2.10.2	2009-02-27	For Double v2: Reduced current drive for proc B SPI clock
2.10.3	2009-03-05	- Bug fix: Baudrate detection failed sometimes - Bug fix: Empty PLC program -> detect baudrate (not fixed) - Dummy system function 2001 for Lindauer Dornier compability
2.10.4	2009-05-12	- B46 v2: High/low current drive for proc B SPI clock depending on FRAM monitor bit - AS-i: sr15 for missing slave, sr16 for channel fault
2.10.5	2009-06-02	Bug fix: Function block for rebooting S Plutos as B Plutos, local Pluto (Only a matter for production test and calibration)
2.10.6	2009-06-04	Bug fix: Outputs were sometimes cleared in process image when Er18. (Could lead to Er51 by CAN bus disturbances)
2.10.7	2009-08-05	Bug fix: Edge detection for S model Plutos didn't work (since 2.10) Bug fix: Edge detection when CAN bus is in off state didn't work
2.10.8	2009-10-08	A20 family: Reading of I7 had incorrect timing (2.10-2.10.7)
2.10.9	2009-12-09	URAX detection Support for Vital 2/3
2.10.10	2010-01-11	Support for Encoder preset and config blocks
2.10.11	2010-02-04	Support for manual AS-I safety code setting Code teach needs code 4 times instead of 2 times
2.10.12	2010-02-21	Bug fix: Er27 when Pluto with unspec/wrong family gets updated
2.10.13	2010-04-16	Bug fix: External communication failed
2.10.14	2010-05-11	Double I/O telegrams accepted also when A20 specified Bug fix: Er19 was not generated if the conflicting Plutos were of different families
2.50	2010-09-21	Version corresponding to 3.0, but for V1 processors. Without instruction set 3
3.0	2010-09-21	Instruction set 3, including 32 bit arithmetic, multiplication, division, register bits, on-delay timer etc Remanent variables (for Plutos with hardware supports for it) Support for IDFIX-PROG 2K5 AS-I debounce filtering Support for B42 AS-i Support for AS-I combined transaction slave extended 4 in/4 out (S7.A.7)
3.0.1 2.50.1	2010-10-11	Bug fix: External communication (data from gateway) didn't work Bug fix: Noscan (An##) didn't work for analog slaves
3.0.2	2010-11-19	Bug fix: Global communication fault (AE05) at AS-I code teach/read slaves when only few slaves present Bug fix: AS-I help signals to output slaves gave wrong code when slaves were activated
3.0.3 2.50.3	2011-10-06	SR6 = PLC application CRC Bug fix: Updated LED display for Double/B42 Bug fix: Improved levels for IDFIX (AS-I v2)

Pluto system software versions

Ver	Release date	
3.0.4 2.50.4	2012-03-22	Modbus function 6 (preset single register) Bug fix: B42 AS-i: M235 was set instead of reset at boot/halt Bug fix: V1 models could not monitor extended memories in B42 AS-i and AS-i via CAN bus
3.2 2.52	2012-06-21	Support for A20 v2, B20 v2, B22 v2, D20 v2 and S20 v2 Support for IDFIX-PROG 10K Export variables 32-bit encoder blocks Er47 for detection of positive voltage on Q2/Q3 Higher starting current for Q2/Q3 to better support electronically controlled contactors
3.2.1 2.52.1	2012-08-29	Bug fix: Automatic replacement of AS_i slave with debounce filter failed
3.2.2 2.52.2	2012-09-06	Bug fix II: Automatic replacement of AS_i slave with debounce filter failed
3.2.3 2.52.3	2012-11-06	Support for AS-i analog outputs Increased timeout for loading PLC program over bus (needed when loading some older Plutos) Bug fix: Modbus ASCII preset single reg (func 6) failed
3.4 2.54	2013-03-11	Support for Pluto D45 Support for IDFIX detection via K button Improved Er40 Bug fix: Bug fix: A slave, Profile 7A7 was not allowed
3.4.1 2.54.1	2013-05-28	Increased Er47 inhibit time after Q2/Q3 on-off Increased Er41 inhibit time after Q2/Q3 off-on Bug fix: Result from AS-i write parameter (read value) was incorrect
3.4.2 2.54.2	2013-08-22	Fixbaud command Bug fix: Init of networks with S(high memory) didn't work correctly (affected mostly AS-I and B42 AS-i).
3.4.3 2.54.3	2013-10-01	Support for Pluto O2
3.4.5 2.54.5	2014-04-17	Er40/Er41 detection algorithm improved. Earlier it could happen as a result of processor mismatch on Q2/Q3. Bug fix: Er60 could incorrectly happen for A20 v2/B20 v2/S20 v2/B22/D20 Bug fix: IDFIX PROG10K sometimes failed with AS-i safety codes Bug fix: Variable printout in terminal window sometimes failed in case of CAN bus errors
3.4.6 2.54.6	2014-11-24	Support for Smile 41 = Short connection detection between light button inputs.
3.4.7 2.54.7	2014-12-16	Bug fix: Timing problem for IDFIX-PROG
3.6 2.56	2015-04-30	- Long divisions, result and both operands can be 32 bit - Free ordering of arithmetic operands - 256 timers instead of 50 - Support for StatusBus - Bug fix: Edge detection for local Pluto sometimes failed at Er18
3.6.1 2.56.1	2015-10-05	- Increased Er50 timeout - Improved immunity for Er72 in AS-i v2 and B42 AS-i - Bug fix: B22 no_filt option for I20..I25 didn't work (affected for example some OSSD devices) - Bug fix: StatusBus together with big AS-i network sometimes failed
3.6.1.1	2015-10-08	Only for D45. Bug fix Er46.

ABB

Pluto system software versions		
Ver	Release date	
3.6.2 2.56.2	2016-04-19	- SR20 is set to step in sequence 1 - Pluto Manager online can see which input that generated Er50 - Better "time slot" calculation for when CAN telegrams are sent = slightly reduced risk for bus overload and Er18. - Improved tolerance for Er51 when more than one project on a disturbed/overloaded CAN bus - Improvements to decrease risk for some system errors (Er51,Er62, Er72) - Bug fix: LED didn't flash for Er50 in A20 v2,B20 v2, B22, D20, S20 v2,D45 - Bug fix: Sometimes self programming of PLC was not possible - Bug fix: Sometimes remanent variables were cleared at first reboot after program download
3.6.3	2016-06-23	- Bug fix: Memories with high numbers (usually used for function blocks) were not cleared properly in some remanent memory configurations after program halt/load.
3.6.4	2016-11-30	- Bug fix: System memory SM_Ditto was not set after executing some 16-bit multiplications.
3.8	2018-05-15	- Sequences in function blocks - CANopen function blocks - Support for AS-i CTT2 profiles - Improved Er42 immunity - Q2/Q3 max current temperature compensated for D20/D45 - Bug fixes
3.8.2 2.58.2	2019-08-14	- Update D45: Accumulation of speed values now gives correct position (function block HS_SpeedCount_Dir). - Bug fix O2: Calibration routine updated (only concerns production) - Bug fix: Old A20 and Double families: CAN encoders didn't work with 2.58
3.8.4 2.58.4	2021-09-21	- Bug fix D45: Max counting frequency corrected (was too low in 3.8.2) - Er18 automatically reset after 10 seconds instead of 3 min
3.8.6	2022-09-14	- Bug fix for production. Some serial numbers could not be registered.

3 Pluto Manager versions

Pluto Manager versions		
Ver	Release date	
1.15	2003-10-07	Copy online IDFix to clipboard New menu
1.16	2003-10-30	Bus status monitoring (for Pluto 2.0+) IDFix programming (for Pluto 2.0+)
1.17	2003-12-19	Search function IR communication works better with Windows XP
1.18	2004-06-09	Check that IDFix are used for all Plutos in multi-Pluto projects Pluto system software update available also for unauthorized users Bug fixed: Sometimes sequence step was incorrectly monitored Online info for non-local Pluto Get next free memory / Global memory
1.19	2004-11-03	Manuals in pdf format included in installation file and can be reached from 'Help' menu. PC100 version 1.35 (empty sequences bug fix) Bug fix: Big projects did get "reserved memory overflow" without compiling.

1.20	2005-02-02	Function block file protected by stronger encryption.
		Export of variable names to text file.
		Register arguments in blocks
		Backup only done once per file and session
		Support for multiple languages in block parameter names
		Timer value can be specified as a register
		Possible to keep global variable names when deleting Pluto
		Write seal now lists result in all Plutos in project
		Bug fixes:
		  Selection of networks above 32000 pixels in window
		  When changing include files and one file is missing all were removed
		  Arrow button on speed bar was not selected after cancel edit
		  Possible to copy block networks with bad references
		  Some dialog boxes were not wide enough
		  Seal date corrected
		  Its now possible to have a function name identical to a variable name

1.21	2005-10-14	Merge projects. Renumber Pluto Duplicate Pluto Add variable prefix Remove variable prefix Export of variables to external file (Excel csv). Import of variable names from text file (Excel cvs). New Undo/Redo function. Undo of program changes can be made in several steps backwards. By "New project": Question if standard function block library Func05 shall be included. In ladder diagram: By pointing with the mouse pointer on a component the full explanation is given according to the variable page. Standard library Func05 contains blocks for light curtains. Function block library Ext01 for external non safety communication is included in the program installation. (Non safety blocks are coloured white) Specifying external communication from Gateway, HMI etc. to Pluto Double compilers (pass 2). The program is compiled by two compilers. Support for compilation of PLC programs placed in libraries with path names containing spaces, dots etc. Compiler warnings for not configured I/Os. Compiler warning when a variable is controlled two times in the PLC code or in the same sequence step. Possibility for opening the program in text editor from Pluto Manager. Default editor is "Notepad" but other can be specification of other is also possible.

1.22	2006-05-04	Online display of register values in ladder diagram
		Online display of timer values in ladder diagram
		Online display of gateways in bus status picture
		New dialog boxes to select registers (browsing among regs possible)
		New dialog box for New Pluto
		Possible to select Analog input for I5 (supported in coming OS)
		Orange blocks (user crypted block)
		Hint text when cursor is hovered over component in ladder diagram
		Variable list below each network at printout (optionally)
		Onlineinfo all Plutos generate a list of versions etc
		New block ext_var
		Installation contains support files for gateways
		
		Bug fixes:
		  In ladder diagram timer, relation and function block now autoconnect
		  Sometimes online timer value (line) was showing incorrect value
		  Other minor bugs

1.23	2006-09-29	Official support of B46
		Reconnect automatically at communication timeout via serial port.
		Scrolling via mouse wheel (some mice might be unsupported)
		
		Bugs fixes:
		  In arithmetic properties incorrect options were selected if unnamed registers were used.
		  Sometimes the New Variable box were displayed outside screen area.
		  For some printer drivers printing of networks didn't fit, but were divided among many lines
		  Demo and service (mute) mode corrected.
		  Block description language change undid changes in networks.
		  -32768 was not possible to enter
		  Timer value was sometimes incorrectly displayed
		  Some of the I/O options were grayed after online/offline
		  Pluto 0 was displayed in the Find dialog also for Plutos

1.24	2006-11-10	New Icons for bus status overview; Wide icons for B46 Duplicate code at detection gives error message. Error/status messages for IDFIX-DATA Status display for Gateway Profibus-D Bug fixes: Bus status window now closed after code detection. Service mode didn't disable all window controls Sps files saved at download if changed. Now Download btn greyed. Bus status when connected to Er26 Pluto shoed duplicate PC connected
1.25	2007-01-18	Backspace in terminal window now works Improved serial port selection under preferences Big icons (B46) were not always displayed at bus status, only at update Change step 0 now possible (could happen at copy) Encryption of source code New manual installation
1.26	2007-04-16	Correct click area in Tree for renumbered Pluto Project/Pluto comments scrolled to top at open Mousewheel scrolling/pgUp/pgDn works also when last network in sequence is st top. Printing improved, very high/wide networks Bug corrected: "Can''t renumber network no" Bug fixes in Arithmetic boxes, Reg/Const select Delete Pluto, but keep variables now keeps Pluto type
1.27	2007-05-31	Vista installation. Project CRC displayed at compilation Project CRC at online hardware listing Project CRC at printout (if available)
1.28	2007-10-04	AS-I support IQ are now printed when "print all" options is checked Serial omm.. Via gateway (limited)
1.29	2007-10-22	PC communication bug fixed Option handling in PLC (opt_s/opt_r) Blocks in sequences Certain blocks in sequence steps Asi/Asq variables enabled according to profile corrected Edge detection of Asi/Asq variables
1.30	2008-02-22	- Bug corrected: Detection status page (detected codes/teach codes/change slave addr) wrongly showed slave 0 as B slave - system.vps changed – Q16/Q17 current measure on B46/CAN2/Asi removed - Bug fix: AS-I conf window, Slave address change update when "This Pluto" text is out of window - Bug fix: Properties for Const/Reg: Now "New Reg" button works - Bug fix: Config option could be changed when PM was online - Bug fix: Detection of B slaves - Bug fix: Pluto number printout online was wrong - Bug fix: Block not allowed in sequence was wrongly issued sometimes - Bug fix: Configuration in monitor mode, chan option was not displayed - Bug fix: Play button was not working" - Other minor bug fixes - Additional I/O to gateway - Text "Pluto nonsafe slave" instead of "This Pluto"
1.31	2008-06-17	- Bug fix: AS-I slave change address - Numeric sorting when selecting variables from combo boxes - Bug fix in encrypted projects - Printout of CRC and object format at compilation - Printout of PC100 version at compilation - New manuals

1.32	2009-02-13	- 32-bit PC100 compiler running in parallel with compiler PC200 for evaluation. - Possible to compile project without any Plutos (generated range error) - Quicker "Find first unused variable" - Correct place for popup menu when ladder graphics > 65535 pixels - New dialog boxes for variable properties - Function blocks in sequences - Steps in PlcCode - Online reload due to file change delayed until offline - Cross reference printout - AS-I parameter button/dialog instead of combo boxes - Bug fix: Online Info when already online - Bug fix: Duplicate Pluto generated numeric names - Bug fix: New memory can be Mx.0 - Bug fix: Online Info, serial no printout corrected for leading zeroes - Bug fix: Online Info, All Plutos, serial no printout for leading zeroes - Bug fix: New variable considers network in edit - Bug fix: Bus status/ AS-I status works for different screen DPI AS-I slave address change – suggest master Pluto of Project - Bug fix: Don't allow change address so Std/B slaves get same address - Bug fix: Compiler (PP100) memory overflow - Bug fix: Project tree view scrollbars - Bug fix: Minus in constant box of arithmetic dialog - Bug fix: Printout of options - Bug fix: Gateway package failed - Bug fix: Online with timer PT=0s00 made a dived by zero error - Bug fix: Used SM/SR was not printed - Bug fix: Function as argument to function failed sometimes (ladder to text)
1.33	2009-05-12	- Dots in path possible (since no 16 bit compiler anymore) - Support for remanent variables (not visible unless used) - Support for AS-I slave debounce (not visible unless used) - Redesign of variable window tabs; Globals marked with [G] in list - File timestamps up to 2108 instead of 2044 - Bug fix: Manual version 9 (also in installation program) - Bug fix: 16 AS-I output slaves possible (was 15) - Bug fix: Load of faulty library + cancel removed all libraries - Bug fix: Read AS-I slaves / teach codes handled safety outputs/Pluto as safe input incorrect - Bug fix: Symbolic names for Asi#.#.# didn't work - Bug fix: Upload with illegal characters in filenames failed
1.34	2009-12-09	- URAX awareness - Icons on AS-I Options page - New 3 dimensional icons - New Pluto has a guide style dialog - Change Pluto type - New splash screen - 16 gateways - Pluto online info via gateway now correctly handles IDFIX, compile/load/seal timestamps - Compile/download licence # in object file - Bug fix: A/B slave profile when monitor -> Error not 0..7 - Bug fix: Asi Pluto: I0 was missing on variable page - Bug fix: Single timer as input to block didn't work - Bug fix: Incorrect Pluto # in sequence # display in Find dialog - Bug fix: Show code table - Bug fix: Register bits dialog ('.' -> error) - Bug fix: Installation program: If only English manuals were present, a checkbox without text was displayed

1.35	2010-02-03	- Source code in compile code - Bug fix: Licence keys with "-" - Bug fix: Printout of lamp blocks - Bug fix: Sometimes AS-I options page was not updated correct
1.36	2010-05-12	- Support for AS-I combined transaction slave extended 4 in/4 out (S7.A.7) - Online error message on status bar reffering to selected Pluto instead of connected one - Dynamic check of crc and project name during online monitoring - Control chars in comment paste is converted to '_' - AllowAllASq command line option allowing of all Asq variable set, even in monitor mode - Bug fix: AS-I addressing tool was sometimes not working - Bug fix: Upload project with $Name <FILENAME>xxxxxx - Bug fix: Local fps file, but with specified path: Now path is removed
1.37	2010-06-14	IDFIX-PROG EEEEEEEEEEEx, only one/project allowed Bug fix: IDFIX printout onlineinfo – All Plutos Bug fix: Printout made status line growing uncontrollable Bug fix: Gray Pluto monitoring was not possible Bug fix: Opening a network in ladder editor when input was set, caused PM to crash Bug fix: Online verification of crc/project name
1.38	2010-06-29	Bug fix: Sometimes Play button was not displayed online Bug fix: Search missed parameters to blocks (not expressions) Bug fix: Bad formatting at Show S_i safety codes
2.0	2010-09-03	Support for OS 2.0 (instruction set 3 etc) Variable names with dots forbidden in instruction 3 projects Mouse wheel now works for function guide Bug fix: Import illegal variable names was not handled correctly Bug fix: New sequence for gray Pluto was possible
2.2	2010-09-27	Er42 etc error messages Q00/Q01 -> Q0/Q1 or Q0/Q1/Q4/Q5 Bug fix: AS-I slave 31 could not be specified as std, analog, safe outp or Pluto as safe input Bug fix: Register in blocks gave Range Error at compilation Bug fix: Keep/not keep remanent variables sometimes malfunctioned at download Bug fix: Progress bar at remote load was not working correctly Bug fix: Controls for gray Pluto was enabled at offline Associate file type .sps moved to installation program to support Vista and Windows 7 (but faulty, see 2.4)
2.4	2010-10-06	Updated support for multi monitor computers Open .sps file from explorer changed according to new installation Bug fix: Installation program .sps extension registeration was faulty Bug fix: Download with PM license # > 255 hanged at the end Bug fix: Delphi and Windows bug. Locale (esp. short date format) got incorrect values on some Windows 7 systems Bug fix: PM displayed Er51 instead of Er50 (although message itself was correct)
2.6	2011-01-13	Number of bytes and percentage of available flash memory printed at compilation even when there is memory overflow Explicit Pluto model specification instead of Pluto family All forms changed to not scaled to better support non-standard font sizes in Windows Bug fix: 32-bit constant assigned to 16 bit register (compiler caught it) Bug fix: Real variable name in rightmost end of arithmetic dialog was not set when opening existent network Bug fix: Yellow in variable grid was not set correctly when new Pluto was selected Bug fix: The variable "%s" already exists in variable name edit gave wrong real variable name

2.8	2011-03-09	Register bits in cross reference list
		Double register .Lo and .Hi in cross reference list
		Bug fix: Cross reference for expressions with parenthese/edge as input to blocks failed
		Bug fix: Search for variables outside visible area now was not displayed correctly
		Bug fix: "Warning multiple assignments" was sometimes not correct
		Bug fix: Sometimes "project name mismatch" error message displayed several times when connecting online
		Bug fix: Compilation error for A20 family Plutos with external communication specified
2.10	2011-10-06	Ladder editor: copy and paste components
		Ladder editor: drag components from other networks
		Find active sequence step online
		Bus load calculation at compilation
		sm_ditto not allowed as input to block
		sm_ditto gives warning if used directly after block
		No question if func05.fps should be included in a new project. Now it is always included.
		Double register value digits grouped 3 by 3 when online monitoring
		Bug fix: It was possible to select Static, Non_Invert
		Bug fix: "Pluto_" in file name or $Name gave message "project name mismatch" at online attempt
		Bug fix: Change Pluto type was incorrect when handling AS-I pages
		Bug fix: Change Pluto type erased light button declarations
		Bug fix: GPF at closedown of Pluto Manager
		Bug fix: GPF at Windows shutdown
2.12	2011-12-21	Gateway manuals ABB version also for Jokab installation
		Bug fix: Some PLC projects containing B46,S46 with I20..I24 declarations got different CRC
		Bug fix: GPF when inserting block with autoconnect
		Bug fix: GPF when updating block with incorrect parameter
2.14	2012-06-21	Support for A20 v2, B20 v2, B22, D20 and S20 v2
		Support for IDFIX-PROG 10K
		Export variables
		32-bit encoder blocks
		New blocks in func05: TC2RTI, Reset2T, TC2S and TC2T
2.16	2013-01-25	Unicode support
		Pluto Manager upgrade over internet
		Pluto OS download over internet
		Simplified function for selection of file and download of Pluto OS
		Naming of sequences
		Tabs in Project and Pluto descriptions
		Support for EDEN AS-i
		Support for analog AS-i output slaves
		New compiler message handling
		Button for copy online info to clipboard
		Bug fix: Comment was changed even if network assemble failed
		Bug fix: Long constant as input to double reg block didn't work
		Bug fix: New error msg: "Can't assign an in-variable to a block"
		Bug fix: fps line number when loading fps failed
		Bug fix: Sometimes compiler mismatch for B22 when Rem mem/Ext comm
		Bug fix: Variable names with dots for instruction set 3 accepted at New Variable
2.18	2013-04-09	Support for Pluto D45
		Possible to display function block description without open for edit (right click)
		Minor bug fixes

2.20	2013-10-31	Support for Pluto O2
		Updated handling with Next/Prev buttons in compile window
		Warning unused code
		Bug fix: Encrypt non-unicode sps file was not possible
		Bug fix: Online compare project names sometimes failed
		Bug fix: Paste sequence step didn't change sequence number
		Bug fix: AS-I teach button was not enabled for encrypted files
		Minor bug fixes
2.22	2014-03-27	- Warning for safety outputs affected by A/B mismatch system variable
		- Warnings for write read-only system register
		- Warnings for read of write-only system register (SR_PlutoDisplay)
		- Possibility to select separator character for csv export
		- Autodetect of separator character for csv import
		- Bug fix: Renumber Pluto failed if Pluto had prefix and non-prefix version of the same variable name
		- Bug fix: Access violation after variable search in combination with edit network (in some cases)
2.24	2015-04-30	- Cross reference for single variable
		- Export variable names to display CP600
		- PLC halt button disabled to avoid unintentionally stop of PLC program
		- Include source code default for new projects
		- New proxy alternative for internet connection
		- Connect to internet improved, no freeze when server not found
		- New safety blocks
		- New drivers for USB programming cable, Ver 2.12.0
		- Support for gateway GATE-EIP
		- Fonts and font sizes updated. Everything is now Tahoma.
		- Updated manuals
		- Bug fix: Edit of sequence step 0 comments removed sequence name
		- Bug fix: Sequence name cannot be copied anymore
		- Bug fix: If warnings were at compilation pass 1, but not pass2 the Info window title bar was not yellow.
		- Bug fix: Possible to print sequence with dots in name.
		- Bug fix: Variables were not write protected in a password protected project
2.26	2015-10-05	- StatusBus support
		- Possible to update FIXA system software
		- Bug fix: Cross reference of a variable sometimes gave incorrect result
		- Bug fix: Printout of project or Pluto descriptions handled tabs incorrectly
2.28	2015-10-27	- Compiler errors and warnings regarding i/o configuration or AS-i slave configuration are now indicated with red/yellow frames.
		- Function blocks in Analog01.fps updated, control for correct input configuration is checked
		- Bug fix: Blocks as input to another instance of the same block didn't compile.
		- Bug fix: The blocks RegisterValid and DregisterValid were sometimes compiled incorrectly.
		- Bug fix: Some project names were not compiled correctly, for example if a filename contains the "ü" character together with only latin characters.
		- Bug fix: Code page for non nicode sps files were not loaded according to configured code page when filename was specified on the command line (for example when the user double clicked on the filename in Windows Explorer).
		- Bug fix: Code page for non nicode sps files were not loaded according to configured code page when using history at File menu.
		- Bug fix: Code page for non nicode sps files were sometimes changed when projects were reloaded after change with text editor.
		- Bug fix: When exporting variables to CP600, registers had incorrect offsets (300000 instead of 300100).

2.30	2015-11-26	- Gateway monitoring (EIP/S3/EC/MT/PN) - Network connection to gateway - New OS download dialog - New Pluto Manager upgrade dialog - Bug fix: Reload encrypted nicode files failed. - Bug fix: Monitoring of networks with several timers and function blocks did sometimes display incorrect timer values

2.32	2016-09-30	- Function block programming
		- All system function blocks libraries merged to func06.fps
		- TC1S, TC2S, TC1T, TC2T and TC2RTI updated in func06. Short off glitches were not handled correctly. Older block version still available in func05 for compability.
		- Timing diagrams in function block descriptions
		- Archive project
		- New function block option: an output pin can be marked as NonSafe
		- New ini file location:
		    \Users\<User Name>\AppData\Roaming\PlutoManager\Settings
		- New downloaded OS location:
		    \Users\<User Name>\AppData\Roaming\PlutoManager\OS
		- New log file location:
		    \Users\<User Name>\AppData\Roaming\PlutoManager\Logs
		    Log files are stored there in case of compiler mismatch error
		- New default project location:
		    \Users\<User Name>\Documents\PlutoManager\Projects
		    Location can be changed under preferences
		- New location for user installed pdf's on help menu:
		    \Users\<User Name>\Documents\PlutoManager\UserPdf
		- Warning for write to read-only system memories
		- Export double register halves to CP600
		- Export system variables to CP600
		- Renumber sequence
		- Bug fix: Coil dialog box didn't work for jump instruction
		- Bug fix: Description texts not enabled if window opened when online
		- Bug fix: Fixed com port driver, sometimes PM locked up if serial port adapter was removed

2.32.1	2016-10-07	- Bug fix: Switch to Pluto Manager from other program when some dialog boxes open made Pluto Manager freeze - Bug fix: Print of function blocks - Bug fix: License key was not possible to enter for other user than the one that install Pluto Manager - Installation now creates version info in control panel uninstall page
2.34	2017-03-17	- German Pluto Manager language - Multiple assignment in same network - System software download to C1/D1/E1/P1/C2/D2/E2 and P2 gateways. - IFA validation tool (if German manuals are installed) - Bug fix: Some licence numbers gave incorrect "compile by" info. - Bug fix: Monitoring failed after download if station number was changed.
2.34.1	2017-03-27	- Bug fix: In rare cases network undo after cross ref didn't update correctly - Bug fix: After write IDFIX dialog box was not closed but hidden behind - Bug fix: Sometimes double click on ANSI sps file could show dialog box that couldn't be reached by mouse click - Bug fix: Some compiler warnings stopped compilation with message box
2.34.2	2017-06-13	- Print of function libraries - Autoconnect of additional coil in ladder - SR20 is named SR_Seq1Step - Bug fix: "Allow in sequence step" for blocks was not checked correctly - Bug fix: Undo command did not remove red marker in ladder diagram - Bug fix: Monitoring left power rail in function block sometimes failed - Bug fix: AS-i warnings could be generated for Pluto in other project

2.34.3	2017-12-08	- Compiler marks PLC object file with SM_Ditto bug.
		  Marked PLC programs will generate Er29 in OS prior to ver 3.6.4.
		  (OS 3.0 – 3.6.3 didn't set system memory SM_Ditto after some 16-bit
		  multiplications).
		- Bug fix: Teach AS-i codes could not keep old codes
		- Bug fix: StatusBus configuration was incorrectly printed

2.36	2018-06-07	- Sequences in function blocks (OS 3.8 needed) - CANopen function blocks - Support for AS-i CTT2 profiles - Improved how DLL files are loaded to prevent DLL Hijacking - Bug fixes
2.38	2020-05-11	- Function blocks for pressure sensitive devices - OSSD1 function block - Change of download server - Bug fixes
2.40	2021-10-25	- Certificate of second pass compiler, PC100.EXE had a certificate which some PC's would not accept. This is now corrected. - Microsoft certificate accepted for FTDI USB cable driver - Updated network communication - Bug fix: If an ASCII project file was converted to Unicode and the compiled without any further changes, the compilation failed. - Bug fix: Comport of FIXA tool was not automatically detected.
2.42	2022-06-15	- Updated communication with ABB library due to changes at ABB library servers. (Pluto Manager and firmware download did not work anymore) - Polish hardware and programming manuals