Modicon M580 BMEx58x0x0 firmware history

Note : Firmware version 2.30 is available only for processors level 40 and above, with a potential impact on performances under specific operating conditions (up tp +30% of scan time measured) due to enhancements concerning cybersecurity in operating system. After updating the processor version from an existing application, check if this impact appears and study the potential consequences in the system.

Note : Firmware version 2.12 is no more available and must not be used.

Note : Firmware version 2.10 must not be used on M580 Hot Standby CPUs (BME H 58xxxx)

Version	Date of publication	Enhancement		
		Internal reference	Customer Case	Description
2.30	April 2017	NEW FEATURE		Support the Quantum S908 Adapter ("QSA") reference 140CRA31908. This allows the M580 to connect to the Modicon S908 Bus and drive the Modicon 800 series IO, SquareD SyMax IO and Quantum IO with 140CRA93x00
		PEP0348778R	31071508	Improve the robustness of the redundant system to avoid a very seldom case where the RIO bumped on 1 cycle after a CPU switchover triggered by a complete loss of visibility the RIO network by the primary (both the 2 CPU ETH ports disconnected)
		PEP0348925R	N.A	Prevent any RIO drop disconnection in rare cases of a misformed DHCP telegram
		PEP0333697R	N.A.	Change the behavior of the NTP management in order to avoid the system time to shift one hour less when BMXNOR0200H is set as NTP client.
		PEP0337384R	N.A.	Improve robustness on proprietary FC90 modbus server in CPU
		PEP0339111R	N.A.	Implement a new algorithm against TCP sequence number vulnerability giving now unpredictable random TCP sequence numbers
		PEP0348361R	N.A.	change the behavior of the SCHEDULE function block to be aligned with the user documentation : Sunday was assign to bit 7 in WEEK instead of 0
		PEP0350099R	N.A.	Improve SYSLOG system where some events described in user manual were not recorded (Application and configuration upload / download)
		UNITY00081595	N.A	Increase robustness of the system when sending communication FC90 requests via WRITE_CMD_MX that could lead to a controlled stop unexpectedly
		UNITY00083596	N.A.	Increase the robustness of the web server (rack viewer part) to avoid, in very seldom case, to trigger a controlled stop of the CPU unexpectedly
		UNITY00084328	N.A.	Increase the robustness of the redundant system related to Ethernet IP scanner & adapter services that might stop after intensive CPU swaps

		UNITY00084413	N.A.	Fix a seldom behavior in the firmware download processing that could lead to the following error message "Flash upgrade error: S_False"
		UNITY00084448	N.A.	Fix a very seldom case of system controlled stop (managed exception state EC10) when downloading a new firmware in the CPU
		UNITY00084826	N.A.	Fix a seldom issue that lead to a unexpected state in the module re-configuration after a hot swap due to high frequency of explicit communication EF activation (READ_VAR, WRITE_VAR…) – typically less than 50ms.
SV2.20		NEW FEATURE		Support of the function block "HSBY_BUILD_OFFLINE" allowing to change the application of the HSBY CPU while Unity Pro disconnected, then connect and transfer without stopping the process
		N.A.	N.A.	Fix a communication server issue when many communication EFs are started at the same time, could lead to error code 7.
		N.A.	N.A.	Fix a communication EF operating mode issue in redundant configuration : CPU waits now until its IP address is correctly set after a CPU swap (HSBY) before executing communication EF. Wrong Ip address could previously be used by modbus EF during first Mast cycle after a swap that lead to communication errors.
		N.A.	N.A.	Improvement: Enhance diagnostic for redundant system: %SW61.5 support to get access by program to the information of PLC A and PLC B
		N.A.	N.A.	Fix a real time issue on Ethernet IP system when processing arpResolv request: task could be interrupted during up to 600ms, that could lead to a bump on CRA.
		N.A.	N.A.	Fix a seldom issue that lead to a CPU stop (error code EC04) after around 20 000 swaps on redundant system. (robustness of tDiagMgrPoll system task).
		N.A.	N.A.	Fix a seldom issue that lead to a CPU stop (error code EC04) after application swaps on redundant system. (robustness of tLLDP system task).
		N.A.	N.A.	Improvement: Enhance diagnostic in case of unexpected system stop thank to a new file /usr/diag/crash.txt generated. It includes the complete VxWorks callstack of the faulty task.
		N.A.	N.A.	Fix an issue on software upload when password activated.
		PEP0342179R	27468755	Fix a robustness issue that could lead to a controlled stop of the CPU after receiving PTP ethernet packets.

		PEP0343987R	30031382	Fix an issue on %S94 operating mode that caused the BMENOC falling in "No Conf" state.
		PEP0328060R		Improvement: Enhance application upload operating mode to block the upload when CPU is not reserved to increase the security.
		UNITY00079914	N.A.	Fix an issue on SET_FILE_ATTRIBUTES EF that didn't change the file attributes successfully on M580.
		UNITY00080213	N.A.	Fix a diagnostic issue on RIO DDT heartbeat (trigger too sensible)
		UNITY00081354	N.A.	Fix an issue on the redundant M580 CPU to make the redundant link more robust to avoid seldom cases of PLC B in "Wait" state after several power cuts
		UNITY00082078	N.A.	Fix an issue regarding auto-negociation feature of the wired HSBY high speed link.
		UNITY00082487	N.A.	Fix an issue that leads to system stop (error code EC10) of redundant M580 CPU when performing operating modes on both %S94 and %S66
		UNITY00082337	N.A.	Fix an issue that leads to a CPU stop (root cause was a watchdog overflow on EIP) when disconnecting the Ethernet link connected with many scanned devices
		UNITY00082350	N.A.	Fix an issue that leads to a CPU stop (root cause was a watchdog overflow on EIP - %SW124=0x001F) when CPU alternative power cycles
		N.A.	N.A.	Fix an issue on the SFP after restarting the system that could lead to have a HSBY Link Down.
		N.A.	N.A.	Improvement of robustness on hardware watchdog by changing internal system timeout values of MAC2.
V2.13		PEP0333578R	28018449 28024152	Fix the issue introduced with v2.12 where the CPU does not boot after power cycle
V2.12 (not to be used)		PEP0314608R	23737662	Improvement: change the management of closing TCP connection (to be aligned as M340)
		N.A.	N.A.	Improvement: miscellaneous robustness improvements
		N.A.	N.A.	Improvement: support BMENOC IO Scanning upgrade (from 1.8KW to 3.7 KW)
		N.A.	N.A.	Improvement: support of the Redundant Power Supplies (BMXCPS4002) advanced diagnostic function blocks
		N.A.	N.A.	Improvement: support of the Global Data Module (NGD)

		PEP0309455R	22786747	Fix the 10 years offset issue if time reference for NTP is coming from BMXNOR0200
		PEP0286728R	17150997	Fix the wrong display in millisec of value coming from R_NTPC() function.
		PEP0286728R	17150997	Fix the arithmetic error wrongly generated when using FFB R_N NTPC function block
		PEP0328302R		Fix the offset issue when M580 answering to Modbus FC02 and FC04 requests from Scada (same mapping than Quantum now)
		PRB 192406		(HSBY only) : Fix the wrong behaviour of remote IO frozen if remaining HSBY CPU goes into HALT state
		PEP0322001R	25478484	Fix the wrong behaviour of the %S9 not working properly at first PLC cycle
V2.10 (see notes)		PEP0299575R	20570287	Fixed an alignment issue in IO Scanner when a sequence of specific manipulations is done related to adding / modifying and removing line upon several build
		PEP0287801R	17306463	Fixed potential loss of signature of an SD Card upon power cycle
		PEP0311101R	N.A.	Improvement: animation enabled on function REF_TO_ANYBOOL when mapped on extracted bit
		UNITY00079055	N.A.	Improvement of data_exch CIP address input parameter in order to avoid having to write it in the DFB at each cycle.
		UNITY00078119 UNITY00078306 UNITY00076741 UNITY00076742	N.A.	Improvement of cybersecurity robustness against: - Periodic configuration change at each cycle using ETH_PORT_CTRL block (ex: enable / disable FTP) - FTP session still active when FTP disable using ETH_PORT_CTRL block - CPU syslog events recording improvement in case of FW update or CPU reboot
		UNITY00078670	N.A.	Fixed EIP communication issues between M580 and M340 BMXNOC0401 in EtherNet / IP (it was ok for Modbus TCP)
		N.A.	N.A.	Improvement: support of State RAM for BMEP584040
		N.A.	N.A.	Improvement: support of Quantum Ethernet drops (140CRA31200) for BMEP584040
		N.A.	N.A.	Improvement: support of some Quantum function blocks for BMEP584040
		N.A.	N.A.	Improvement: support of Rack Viewer for BMEP584040
		N.A.	N.A.	Improvement: All CPUs: support of Redundant Power Supplies BXCPS4002 (status and function blocks)

SV 2.01		N.A.	N.A.	Scanner CPU DDDT evolution to simplify user interface (new health bit and control bit per device...)
		N.A.	N.A.	Numbering schema change: Device ID, Connection ID, Object ID, Compatibility to simplify user interface
		N.A.	N.A.	ANYBOOL support for on line animation
		N.A.	N.A.	Time stamping support for local variables of the CPU
		N.A.	N.A.	Enhance cybersecurity features: Enable/Disable unused services, support EIP/DHCP/BOOTP services, Hardening Access Control (ACL), Disable FTP on Ethernet when in NOCONF mode, Event Logging
		N.A.	N.A.	Device Integration: support of 'R' Ready devices
		N.A.	N.A.	Support of CCOTF on Local IO
		PEP0293564R	N.A.	Fix a potential issue where an undesirable output was one during the first PLC cycle after startup
		PEP0291328R	17928491	When the CPU is HALTed, the DIO outputs keep the last values -> the fix is to stop the ioscanner to activate the fallback values
		PEP0281260R	15020418	No Ethernet IP connection (with drive Danfoss FC102)
		PEP0250301R	07708387	Enhance DIO management for class 1 CIP connections (CPU DIO connection internal timeouts)
		PEP0275023R	N.A.	FTP password for firmware upload must be configurable
		PEP0280264R	15386494	DEVICE_CNX_CTRL bits management is not correct on M580 CPU Device DDT for STB
		PEP0250299R	07708387	M580 data Freshness bits management do not behave as described in the documentation
		PEP0275021R	N.A.	Enhance FTP robustness against too long login names
		PEP0275017R	N.A.	Increase the reliability of the firmware integrity self test
		PEP0261831R	08028661	Regression vs M340 : implement NOR0200 NTP Client feature to update the CPU RTC
		PEP0267189R	N.A.	Enhance existing password protection mechanism to reserve PLC
SV1.13		N.A.	N.A.	Unity loader being connected to a BMXEHCxxx via a CPU, the CPU may go in "NO CONF" state OR Module leds blinking (RUN, ERR, I/O, DL) OR "system stop" state (%SW124=EC00) during the upgrade of the EHC.
		N.A.	N.A.	The webpage fails after a long period of time with the popup message : "communication timeout occured, please check the connection"

		N.A.	N.A.	During CNM Network discovery (Auto Topology using SNMP features) the CPU seems not being connected to the correct port
		N.A.	N.A.	In M580 CPU web page, the module name is followed by "Pr"
		PEP0267431R	11890918	CPU goes in "system stop" state when an unexpected CIP frame targets the CPU (this issue only occurs on BMEP58x020 CPU versions)
		PEP0266012R	11239205	When connected indirectly to the CPU (e.g. through a NOC), the communication to the CPU fails while performing heavy actions (like storing actual values in init values)
		PEP0250302R	7708387	The Control bits of the DIO scanner stops working after a while
		PEP0250296R	7708387	CPU may go in "system stop" state after an On Line Modification with High communication traffic
		PEP0273207R	13664174	Cyber-security : impossible to disable the ports 2 and 3 of the CPU whereas the option is checked in unitypro (only concerns BMEP58x020 CPU versions)
				Improves Ethernet backplane communication management for large configurations.
SV1.04				**Launch version**