PTQ-PDPMV1 - Hot Standby Edition Announcement

The PTQ-PDPMV1 module is a powerful communication interface for Quantum/Unity platform processors. Developed under license from Schneider Electric, the module incorporates proprietary backplane technology that enables powerful data exchange with Quantum processors.

The PTQ-PDPMV1 PROFIBUS DPV0/DPV1 Master module supports complete Master specifications according to IEC 61158. Acyclic parameter data can be transferred with Class 1 or Class 2 DPV1 services, allowing processors to easily communicate with slave devices supporting the PROFIBUS DPV0/V1 protocol.

The module now includes new features and functionalities supporting the Quantum 140CPU67160 Hot Standby processor in the Unity Pro XL programming environment.

The new (HSBY) Hot Standby features will be included with the current product offering, part number PTQ-PDPMV1.

Most PTQ-PDPMV1 modules firmware installed in the field can be flash upgraded, following the below guidelines and restrictions.

The module will operate identical to the stand-alone version with the following exceptions:

1. **Module Setup:** Once the module's firmware is updated, the module will automatically recognize the 140CPU67160 processor and activate the HSBY functions.

2. **PCB:** A new HSBY icon is displayed within PCB (ProSoft Configuration Builder) to identify the module as a HSBY unit.

   

   Note: For specific HSBY instructions, pay attention to and follow the new HSBY  icon for special instructions and guidance through out manual.

3. **Important Module Upgrade Note on Flashing Firmware in the Field:** All modules having a serial number ≥ (greater than or equal to) 1451, having been shipped after 10/20/2005 can be field firmware upgraded. These modules have received a new hardware version 1.3 supporting the Hot Standby features. All other modules **must be** returned to the factory for firmware upgrades.

   Caution: An attempt to field flash units with serial number 1450 or less will result in corrupting the firmware image and will require the unit to be returned to the factory.

4. **Existing PROFIBUS networks:** PROFIBUS network baud rates greater than or equal to 500K baud are recommended to obtain a < 300ms switchover time, based on an average processor scan time of 100ms. For example, the switchover time for a network running 8 slaves utilizing 700 words input cyclic data and 700 words output cyclic data running at 500K baud with a processor scan time of 100ms is around 218ms. Please note Hot Standby units will increase the network token time as much as double because of two masters communicating on the network.

5. **Module configuration network:** The module requires Ethernet connectivity to operate properly. The modules use UDP messaging between each other to backup data in status

registers used by the processor logic files to determine switchover conditions in the event PROFIBUS FDL ping messages fail (cut-cable).

6. **PROFIBUS Operate States:** The user should be aware not to use the 'STOP' state when using the module in HSBY mode. The module will return automatically to 'Operate' State after a switchover.

7. **Download Configuration Files:** PCB now allows for downloading to the module while the Quantum processor is in the RUN mode. Caution should be used when downloading configuration files to the PTQ-PDPMV1 module. The modules will be reset and warm booted after a configuration download occurs. This may cause a switchover if the user logic validates a switchover based on the master status data. It is recommended to set the Quantum processors to 'STOP' mode or create specific user logic to evaluate the proper status state of the module.

8. **Functional Module Support:** The PCB will now export an 'xfm' file to import into Unity creating a Functional Module for the PDPMV1 module and hyperlink for PCB.

9. **New Unity Function Blocks**: PCB now creates new function block for status, mailbox input and output module data. Earlier PCB function block was a single function block containing all data types. With the design the user can select the type of data and control easier with the new FB design.