MANUFACTURER DOCUMENT PACKAGE

# Manufacturer's Manual

Reference package for procurement and maintenance review

ABB

## PM867K01

**PROCESSOR UNIT KIT**

Used with the applicable AC 800M High Integrity configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: ABB Compact Product Suite Catalog 3BSE062980; exact-model ABB hardware selector technical tables

# AC 800M Controllers selection guide

| Features / CPUs | PM866A | PM867 | SM812 | PM891 |
|---|---|---|---|---|
| Processor Unit | **PM866AK01 incl:** 1 PM866A CPU and required optional items **PM866AK02 incl:** 2 PM866AK01 | **PM867K01 incl:** 1 PM867 CPU and required optional items **PM867K02 incl:** 2 PM867K01 | **SM812K01 incl:** 1 SM812 | **PM891K01 incl:** 1 PM891 CPU and required optional items **PM891K02 incl:** 2 PM891K01 |
| Optional items (partly included in Processor Units, see Price List) | TP830 Baseplate, TP850 CEX-bus term., TK850 CEX-bus cable, TB807, Modulebus term, Battery RAM backup, TB852/ TB853 RCU-link term, TB851/TB855/TB856 RCU-link cable, SB822 External Battery Unit, TK212A Tool cable, TC562 Short Distance Modem, TK853V020 Modem cable, BC810K02, BC820K02, CEX-bus Interconnection unit; TK851V010 Connection cable, SD831/SD832/SD833, SD853/SD854 Power Supply, SS832 Voting Unit, Mains Breaker Kit, SM811 Supervisory Module and SM812 Supervisory Module. | | | |
| High Integrity Controller | No | Yes | Yes | No |
| Clock frequency | 133 MHz | 133 MHz | 133 MHz | 450 MHz |
| Memory (RAM) From 5.1 FP4 | 64 MB | 64 MB | 64 MB | 256 MB |
| RAM available for application | 51.389 MB | 46.559 MB | - | 208.985 MB |
| Processor type | MPC866 | MPC866 | MPC866 | MPC8270 |
| Flash memory for storage of application and data | Yes | No | No | Yes |
| CPU redundancy support | Yes | Yes | Yes | Yes |
| Switch over time in red. conf. | Max 10 ms | Max 10 ms | Max 10 ms | Max 10 ms |
| Performance, 1000 boolean operations (a:=b and c) | 0.09 ms | 0.09 ms | - | 0.043 ms |
| No. controllers per control projects | 32 | | | |
| No. of applications per control project | 1024 | | | |
| No. of applications per controller | 32 | | | |
| No. of programs per application | 64 | | | |
| No. of tasks per controller | 32 | | | |
| Number of different cycle times | 32 | | | |
| Cycle time per application programs | Down to 1 ms (HI Integrity controllers 10 ms) | | | |
| Flash PROM for firmware storage | 4 MB | 18 MB | 4 MB | 16 MB |
| Power supply | 24 V DC (19.2-30 V DC) max 5 % ripple acc. to IEC 61131-2 | | | |
| Power consumption +24 V (typ/max) | 210/360 mA | 210/360 mA | 160/250 mA | 660/750 mA |
| Power dissipation typ. | 5.1 W | 5.1 W | 3.8 W | 15.8 W |
| Power Reservoir | Internal 5 ms power reservoir, sufficient for the CPU to make a controlled power down | | | |
| Power supply connector | Detachable 4-pole screw terminal block | | | |
| Redundant power supply status inputs | Yes: 2 inputs designated SA, SB (Max 30 V, high level >15 V, low level < 8 V) | | | |
| Built-in back-up battery | Type: Lithium, 3.6 V, 0.95 Ah, size 1/2 AA, 0.3 g Lithium content | | No | No |
| Real-time clock stability | 100 ppm (approx. 1 h/year) | | | 50 ppm |
| Clock synchronization | 1 ms between AC 800M controllers by CNCP protocol | | | |
| Comm. modules on CEX bus | 12 | | 12 | 12 | | 12 |
| Supply current on CEX bus | Supply current: Max 24 V - 2.4 A (fuse 3.15 A fast, PM891 has an embedded auto fuse) | | | |
| I/O clusters on Modulebus with non-redundant CPU | 1 el. + 7 opt. | N/A | 1 el. + 7 opt. | 1 el. + 7 opt. | N/A | 0 el. + 7 opt. |
| I/O clusters on Modulebus with redundant CPU | 0 el. + 7 opt. | N/A | 0 el. + 7 opt. | 0 el. + 7 opt. | N/A | 0 el. + 7 opt. |

# System Units

## AC 800M High Integrity Processor Units

| AC 800M High Integrity Units | | Article no. |
|---|---|---|
| High integrity, certified for SIL3. Requires configuration according to Safety Manual. Local organizations must comply with the Qualifications to secure successful sales of ABB safety systems, to order safety equipment. | | |
|  | **PM857K01 Processor Unit HI**<br>96 MHz and 32 MB. Max 128 I/O signals.<br>Package including:<br>• PM857, Safety CPU<br>• TP830, Baseplate<br>• TB850, CEX-bus terminator<br>• TB807, ModuleBus terminator<br>• TB852, RCU-Link terminator<br>• Battery for memory backup (4943013-6)<br>• No license included.<br>Only compatible with 800xA 6.1, Control Builder Safe 3 and onwards.<br>Please see Product Update for more info. | 3BSE088385R1 |
|  | **PM857K02 Redundant Processor Unit HI**<br>96 MHz and 32 MB. Max 128 I/O signals.<br>Package including:<br>• 2 pcs PM857K01, Safety Processor unit.<br>• TK850, CEX-bus expansion cable.<br>• TK851, RCU-Link cable.<br>• No license included.<br>Only compatible with 800xA 6.1, Control Builder Safe 3 and onwards.<br>Please see Product Update for more info. | 3BSE088386R1 |
| | **PM863K01 Processor Unit HI**<br>96 MHz and 32 MB.<br>Package including:<br>• PM863, Safety CPU<br>• TP830, Baseplate<br>• TB850, CEX-bus terminator<br>• TB807, ModuleBus terminator<br>• TB852, RCU-Link terminator<br>• Battery for memory backup (4943013-6)<br>• No license included.<br>Only compatible with 800xA 6.1, Control Builder Safe 3 and onwards.<br>Please see Product Update for more info. | 3BSE088381R1 |
| | **PM863K02 Redundant Processor Unit HI**<br>96 MHz and 32 MB.<br>Package including:<br>• 2 pcs PM863K01, Safety Processor unit.<br>• TK850, CEX-bus expansion cable.<br>• TK851, RCU-Link cable.<br>• No license included.<br>Only compatible with 800xA 6.1, Control Builder Safe 3 and onwards.<br>Please see Product Update for more info. | 3BSE088382R1 |
| | **PM867K01 Processor Unit HI**<br>133 MHz and 64 MB<br>Package including:<br>• PM867, CPU<br>• TP830, Baseplate, width = 115 mm<br>• TB850, CEX-bus terminator<br>• TB807, ModuleBus terminator<br>• TB852, RCU-Link terminator<br>• Battery for memory backup (4943013-6)<br>• No license included<br>Only compatible for 800xA 6.0.2 and onwards. Please see Product Update for more information. | 3BSE076355R1 |
| | **PM867K02 Red. Processor Units HI**<br>133 MHz and 64 MB<br>Package including:<br>• 2 pcs PM867, CPU<br>• 2 pcs TP830, Baseplate, width = 115 mm<br>• 2 pcs TB807, ModuleBus terminator<br>• 1 pcs TK850, CEX-bus expansion cable<br>• 1 pcs TK851, RCU-Link cable<br>• 2 pcs Battery for memory backup (4943013-6)<br>• No license included<br>Only compatible for 800xA 6.0.2 and onwards. Please see Product Update for more information. | 3BSE081638R1 |