MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

ABB

PM857K01

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	**PM851A**	**PM856A**	**PM857**	**PM858**	**PM860A**	**PM862**	**PM863**
Processor Unit	**PM851AK01 incl:** 1 PM851A CPU and required optional items	**PM856AK01 incl:** 1 PM856A CPU and required optional items	**PM857K01** incl: 1 PM857 CPU and required optional items **PM857K02** incl: 2 PM857K01	**PM858K01 incl:** 1 PM858 CPU and required optional items **PM858K02 incl:** 2 PM858K01	**PM860AK01 incl:** 1 PM860A CPU and required optional items	**PM862K01 incl:** 1 PM862 CPU and required optional items. **PM862K02 incl:** 2 PM862K01	**PM863K01 incl:** 1 PM863 CPU and required optional items **PM863K02** incl: 2 PM863K01
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	No	Yes	No	No	No	Yes
Clock frequency	24 MHz	24 MHz	96 Mhz	33 MHz	48 MHz	67 MHz	96 Mhz
Memory (RAM)	8 MB	8 MB	32 MB	16 MB	8 MB	32 MB	32 MB
From 5.1 FP4	12 MB	16 MB			16 MB		
RAM available for application	2.282 MB	2.282 MB	22.184 MB	7.147 MB	2.282 MB	23.521 MB	22.184 MB
From 5.1 FP4	6.253 MB	10.337 MB			10.346 MB		
Processor type	MPC860	MPC860	MPC866	MPC866	MPC860	MPC866	MPC866
Flash memory for storage of application and data	Yes	Yes	No	Yes	Yes	Yes	No
CPU redundancy support	No	No	Yes	Yes	No	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)	0.46 ms	0.46 ms	0.17 ms	0.36 ms	0.23 ms	0.18 ms	0.17 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	2 MB	2 MB	18 MB	4 MB	2 MB	4 MB	18 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 180/300 mA	typ/max 180/300 mA	typ/max 210/360 mA	typ/max 210/360 mA	typ/max 180/300 mA	typ/max 210/360 mA	typ/max 210/360 mA
Power dissipation typ.	4.32 W	4.32 W	5.1 W	5.1 W	4.32 W	5.1 W	5.1 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						
Real-time clock stability	100 ppm (approx. 1 h/year)						
Clock synchronization	1 ms between AC 800M controllers by CNCP protocol						
Comm. modules on CEX bus	1	12 single CEX bus modules	12	12	12 single CEX bus modules	12	12

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** 96 MHz and 32 MB. Max 128 I/O signals. Package including: • PM857, Safety CPU • TP830, Baseplate • TB850, CEX-bus terminator • TB807, ModuleBus terminator • TB852, RCU-Link terminator • Battery for memory backup (4943013-6) • No license included. Only compatible with 800xA 6.1, Control Builder Safe 3 and onwards. Please see Product Update for more info.	3BSE088385R1
	**PM857K02 Redundant Processor Unit HI** 96 MHz and 32 MB. Max 128 I/O signals. Package including: • 2 pcs PM857K01, Safety Processor unit. • TK850, CEX-bus expansion cable. • TK851, RCU-Link cable. • No license included. Only compatible with 800xA 6.1, Control Builder Safe 3 and onwards. Please see Product Update for more info.	3BSE088386R1
	PM863K01 Processor Unit HI 96 MHz and 32 MB. Package including: • PM863, Safety CPU • TP830, Baseplate • TB850, CEX-bus terminator • TB807, ModuleBus terminator • TB852, RCU-Link terminator • Battery for memory backup (4943013-6) • No license included. Only compatible with 800xA 6.1, Control Builder Safe 3 and onwards. Please see Product Update for more info.	3BSE088381R1
	PM863K02 Redundant Processor Unit HI 96 MHz and 32 MB. Package including: • 2 pcs PM863K01, Safety Processor unit. • TK850, CEX-bus expansion cable. • TK851, RCU-Link cable. • No license included. Only compatible with 800xA 6.1, Control Builder Safe 3 and onwards. Please see Product Update for more info.	3BSE088382R1
	PM867K01 Processor Unit HI 133 MHz and 64 MB Package including: • PM867, CPU • TP830, Baseplate, width = 115 mm • TB850, CEX-bus terminator • TB807, ModuleBus terminator • TB852, RCU-Link terminator • Battery for memory backup (4943013-6) • No license included Only compatible for 800xA 6.0.2 and onwards. Please see Product Update for more information.	3BSE076355R1
	PM867K02 Red. Processor Units HI 133 MHz and 64 MB Package including: • 2 pcs PM867, CPU • 2 pcs TP830, Baseplate, width = 115 mm • 2 pcs TB807, ModuleBus terminator • 1 pcs TK850, CEX-bus expansion cable • 1 pcs TK851, RCU-Link cable • 2 pcs Battery for memory backup (4943013-6) • No license included Only compatible for 800xA 6.0.2 and onwards. Please see Product Update for more information.	3BSE081638R1