

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

ABB ADVANT AC800M

PM864AK02 3BSE018164R1

REDUNDANT PROCESSOR UNIT KIT

Used with the applicable AC 800M controller systems configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: ABB official manufacturer documentation

Features / CPUs	PM851A	PM856A	PM857	PM858	PM860A
Certificates and Standards ⁽¹⁾	CE- marking: Meets EMC directive 2004/108/EC acc. to EN 61000-6-4, EN 61000-6-2 and Low Voltage Directive acc. to EN 61131-2 Electrical Safety: EN 50178, IEC 61131-2, UL 508 (Note! UL 508 not valid for PM858, PM862) Hazardous location: UL 60079-15 (Note! UL 60079-15 not valid for PM858, PM862) RoHS compliance: DIRECTIVE/2011/65/EU (EN 50581:2012) WEEE compliance: DIRECTIVE/2012/19/EU				
Dimensions	Width 119 x Height 186 x Depth 135 mm (4.7 x 7.3 x 5.3 in.)				
Weight (including base)	1100 g (2.4 lbs)	1100 g (2.4 lbs)	1200 g (2.6 lbs)	1200 g (2.6 lbs)	1100 g (2.4 lbs)

(1) For detailed information on each module, please visit: www.800xAHardwareselector.com

Features / CPUs	PM861A (Classic)	PM862	PM863	PM864A (Classic)
Article number	3BSE018157R1 (PM861K01) 3BSE018160R1 (PM861K02)	3BSE076940R1 (PM862K01) 3BSE081636R1 (PM862K02)	3BSE088381R1 (PM863K01) 3BSE088382R1 (PM863K02)	3BSE018161R1 (PM864K01) 3BSE018164R1 (PM864K02)
Processor Unit	PM861AK01 incl: 1 PM861A CPU and required optional items PM861AK02 incl: 2 PM861AK01	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	PM864AK01 incl: 1 PM864A CPU and required optional items PM864AK02 incl: 2 PM864AK01
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
Clock frequency	48MHz	67 MHz	96 Mhz	96 MHz
Memory (RAM)	16 MB	32 MB	32 MB	32 MB
From 5.1 FP4				
RAM available for application	7.155 MB	23.521 MB	22.184 MB	23.522 MB
From 5.1 FP4				
Processor type	MPC860	MPC866	MPC866	MPC862
Flash memory for storage of appli-cation and data	Yes	Yes	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)	0.23 ms	0.18 ms	0.17 ms	0.15 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	4 MB	18 MB	2 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)	250/430 mA	210/360 mA	210/360 mA	287/487 mA
Power dissipation typ.	6.0 W	5.1 W	5.1 W	6.9 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	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.	1 el. + 7 opt.	1 el. + 7 opt.	1 el. + 7 opt.
I/O clusters on Modulebus with redundant CPU	0 el. + 7 opt.	7 optical	7 optical	0 el. + 7 opt.

Features / CPUs	PM861A (Classic)	PM862	PM863	PM864A (Classic)
I/O capacity on Modulebus with non-redundant/redundant CPU	Max 96/84 I/O modules	Max 96/84 I/O modules	Max 96/84 I/O modules	Max 96/84 I/O modules
Modulebus scan rate	0 - 100 ms (actual time depending on number of I/O modules)			
Supply current on Electrical Modulebus	Supply current: Max 24 V - 1.0 A (short circuit proof, fuse 2.0 A), Max 5 V - 1.5 A (short circuit proof)			
I/O capacity on PROFIBUS (remote I/O)	Max 99 I/O stations (max 62 redundant I/O stations), max 24 I/O modules per I/O station (max 12 redundant I/O pairs)			
Ethernet channels	2	2	2	2
Ethernet interface	Ethernet (IEEE 802.3), 10 Mbit/s, RJ-45, female (8-pole)			
Control Network protocol	MMS (Manufacturing Message Service) and IAC (Inter Application Communication)			
Recommended Control Network backbone	100 Mbit/s switched Ethernet			
No. of controllers on Control Network	Max 50			
RS-232C interface	2 (one general, 1 for service tool)			
RS-232C interface (COM3) (non red.conf. only)	RS-232C, 75-19 200 baud, RJ-45 female (8-pole), not opto isolated, full RTS-CTS support			
RS-232C interface (COM4) (non red.conf. only)	RS-232C, 9 600 baud, RJ-45 female (8-pole), opto isolated, no RTS-CTS support			
Temperature				
• Operating	+5 to +55 °C (+41 to +131 °F)			
• Storage	-40 to +70 °C (-40 to +158 °F)			
Temperature changes	3 °C/minutes according to IEC/EN 61131-2			
Altitude	2000 m according to IEC/EN 61131-2			
Pollution degree	Degree 2 according to IEC/EN 61131-2			
Corrosion protection	G3 compliant to ISA 71.04			
Vibration	10 < f < 50 Hz: 0.0375 mm amplitude, 50 < f < 150 Hz: 0.5 g acceleration, 5 < f < 500 Hz: 0.2 g acceleration			
Emitted noise	< 55 dB (A)			
Shock, no package	150 m/s ² in 11 ms, 20 g in 3 ms			
Relative humidity	5 to 95 %, non-condensing			
Isolation voltage	Type test voltage: 500 V AC (corresponding to 700 V DC)			
Environmental conditions	Industrial			
Protection class	IP20 according to EN 60529, IEC 529			
TÜV Approval	No	No	IEC 61508 SIL3	No
Emission	Tested according to EN 61000-6-4 EMC – Generic Emission Standard, Part 2 – Industrial Environment			
Immunity	Tested according to EN 61000-6-2 EMC – Generic Immunity Standard, Part 2 – Industrial Environment			
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