

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

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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	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.

Communication

Bus Accessories

Bus Accessories		Article no.
	TK850V007 CEX-Bus Extension Cable Length = 0.7 m Use of TK850V007 needs TK851 as CEX-bus terminator.	3BSC950192R1
	TB850 CEX-Bus Terminator With 25-pin DB25P male connector. With screw fixing. A TB850 CEX-Bus terminator must always be installed on the last unit on the CEX-Bus.	3BSC950193R1
	TB851 CEX-Bus Terminator When Communication Interface units are mounted on adjacent DIN rails, they are connected by means of a CEX-Bus extension cable (TK850) and terminated using a TB851 CEX-Bus terminator. With 25-pin DB25S female connector. With screw fixing.	3BSC950194R1
	BC810K02 CEX-Bus Interconnection Unit Including: • 2 pcs BC810, Interconnection Unit • 2 pcs TP857, Baseplate, width = 60 mm • TK851, Interconnection Cable • 2 pcs TB850, CEX-Bus Terminator	3BSE031155R1
	BC820K02 CEX-Bus Interconnection Unit Allows AC 800M redundant PM858, PM862, PM866 and PM866A pair to be up to 200 m apart, cables not included. Including: • 2 pcs BC820 CEX-Bus Interconnection Unit • 2 pcs TP850, Baseplate, width = 60 mm • 2 pcs TK857 RCU-Link Cable for BC820 • 2 pcs TB850, CEX-Bus Terminator	3BSE071500R1
	TK851V010 Connection Cable Length = 1.0 m. Used as: • RCU Link Cable • BC810 Interconnection Cable	3BSC950262R1
	TB852 RCU Link Terminator Terminator for RCU link.	3BSC950263R1
	TB853 RCU Control Link Terminator Terminator for RCU Control link.	3BSE057022R1
	TK855 RCU Data Link Cable Length = 1.0 m. Used as: RCU Data Link Cable with PM891.	3BSC950356R1
	TK856 RCU Control Link Cable Length = 1.0 m. Used as RCU Control Link Cable with PM891.	3BSE057021R1
	TK857V003 RCU Link Cable Length = 0.3 m. Used with BC820.	3BSC950375R1

AC 800M Processor Units

AC 800M Mounting Rails

AC 800M Mounting Rails		Article no.
	AI-profile with DIN Rail, C. Duct, 28,3" Mounting 719 mm (28,3") DIN rail length 683 mm (26,9")	3BSE022257R1
	AI-profile with DIN Rail, C. Duct, 24" Mounting 592 mm (24") DIN rail length 556 mm (21,9")	3BSE022256R1
	AI-profile with DIN Rail, C. Duct, 19" Mounting 465 mm (19") DIN rail length 429 mm (16,9")	3BSE022255R1