

# SM812 (HI controllers)

## ABB Ability™ System 800xA® hardware selector



The prime function of SM812, is to provide intelligent supervision of a controller during non-SIL and SIL1-2 operations, and together with a PM867 form a 1oo2 diverse structure for SIL3 applications.

For high availability applications it is possible to have redundant SM812's that work together with any of the two redundant CPUs. SM812 has a dedicated synchronization link to synchronize active and redundant SM for hot-insert and online upgrade. It is needed during hot-insert and online upgrade situations to copy data between two SM812s in a redundant setup.

The SM812 has a connector with three digital inputs and two digital outputs that can be used for safety-related digital I/O (not process I/O).

## Features and benefits

- MPC866 Microprocessor running at 133 Mhz
- 64 MB RAM
- Provides supervision of the PM857, PM863 and PM867 controller during SIL1-2 operations and together with the PM857, PM863 and PM867 forms a 1oo2 diverse architecture for SIL3 applications
- Over voltage monitoring
- Internal voltage monitoring
- Supports hot swap
- Supports redundancy
- SM Link for synchronization of redundant pair

General info	
Article number	3BSE072270R1
Redundancy	Yes
High Integrity	Yes
Clock Frequency	133 Mhz
Performance	-
Memory	64 MB
RAM available for application	-
Flash memory for storage	No

Detailed data	
Processor type	MPC866
Switch over time in red. conf.	Max 10 ms
Flash PROM for firmware storage	4 MB
Power supply	24 V DC (19.2-30 V DC)
Power consumption +24 V typ/max	160 / 250 mA
Power dissipation	3.8 W

Environment and certification	
Temperature, Operating	0 to +55 °C (+32 to +131 °F)
Temperature, Storage	-40 to +70 °C (-40 to +158 °F)
Temperature changes	3 °C/minutes according to IEC/EN 61131-2
Pollution degree	Degree 2 according to IEC/EN 61131-2
Corrosion protection	G3 compliant to ISA 71.04
Relative humidity	5 to 95 %, non-condensing
Emitted noise	< 55 dB (A)
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
Rated Isolation Voltage	500 V a.c.
Dielectric test voltage	50 V
Protection class	IP20 according to EN 60529, IEC 529
Altitude	2000 m according to IEC/EN 61131-2
Emission & Immunity	EN 61000-6-4, EN 61000-6-2
Environmental conditions	Industrial
CE Mark	Yes
Electrical Safety	EN 50178, IEC 61131-2, UL 61010-1, UL 61010-2-201
Hazardous location	cULus Class 1, Zone 2, AEx nA IIC T4, ExnA IIC T4Gc X
Marine certificates	ABS, BV, DNV-GL (LR, Lloyd (Pending)
TUV Approval	Yes
RoHS compliance	EU RoHS, UAE RoHS, CN RoHS
WEEE compliance	DIRECTIVE/2012/19/EU

Dimensions	
Width	59 mm (2.9 in.)
Height	186 mm (7.3 in.)
Depth	127.5 (5.0 in.)
Weight (including base)	0.7 kg (1.5 lbs)

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