

# 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,<br>50 < f < 150 Hz: 0.5 g acceleration,<br>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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