Product Research Report: ABB 3BSE008508R1 (DI810)

1. Product Name

ABB S800 I/O DI810 Digital Input Module (3BSE008508R1)

2. SEO Keywords

- ABB 3BSE008508R1
- ABB DI810
- ABB S800 I/O module
- ABB digital input module
- ABB AC 800M I/O
- ABB S800 16-channel DI
- ABB 24V DC input module

3. Category

Module -> ABB

4. Product Introduction

Series#: Module -> ABB
- ABB 3BSE008508R1 S800 I/O DI810 Digital Input Module
- We have large inventory for ABB S800 I/O Modules, DI810 digital input modules and related accessories.
- 100% Original and new, In stock by Eaton Company.
- Delivery time: Ready in stock and 1 days for ship out
- MOQ: 1pcs

5. Brand & Model

model：3BSE008508R1
brand：ABB

6. Service & Applications

The ABB 3BSE008508R1 (DI810) is a 16-channel digital input module for the ABB S800 I/O system, compatible with AC 800M controllers. It accepts 24V DC sinking or sourcing input signals with individually galvanically isolated channel groups (2 groups of 8 channels). The DI810 features software-programmable input filtering (from <1 ms to 128 ms) via Control Builder M, allowing precise adjustment for mechanical switch debouncing or electrical noise suppression. With a compact footprint of 102 x 45 x 86 mm, IP20 protection (enclosed), and operating range of 0°C to +55°C, it is designed for demanding industrial automation environments including process control, manufacturing lines, power generation, and water treatment facilities. The module provides front-panel LED status indicators per channel and comprehensive diagnostic reporting to the controller.

7. Specifications Table

Feature	Specification
Manufacturer	ABB
Product Type	Digital Input Module
System	ABB AC 800M / S800 I/O
Part Number	3BSE008508R1
Model Name	DI810
Number of Channels	16
Signal Type	24 V DC (Sinking/Sourcing)
Signal Voltage (Nominal)	24 V DC
Voltage Range (Logic 0)	< 10 V DC
Voltage Range (Logic 1)	> 15 V DC
Voltage Range (Operation)	18.0 - 31.2 V DC
Input Current (at 24V)	2.5 - 3.2 mA
Input Filter (Programmable)	< 1 ms, 2, 4, 8, 16, 32, 64, 128 ms
Channel Grouping	2 groups (Ch 1-8, Ch 9-16)
Isolation (Channel to System)	Galvanically isolated (via optocouplers)
Isolation Voltage (Ch to System)	500 V DC / 350 V AC (rms)
Rated Insulation Voltage	50 V
Dielectric Test Voltage	500 V AC
Power Dissipation	1.8 W typical, 2.5 W max
Current Consumption (24V ModuleBus)	~50 mA
Current Consumption (5V Internal)	~110 mA
Dimensions (H x W x D)	102 x 45 x 86 mm
Weight	~0.2 kg
Degree of Protection	IP20 (enclosed)
Operating Temperature	0°C to +55°C
Storage Temperature	-40°C to +70°C
Humidity	5% to 95% RH (non-condensing)
Mounting	DIN rail
Recommended Cable	Shielded twisted pair
Diagnostics	Supply voltage monitoring, process error reporting, per-channel LED

8. FAQ

Q: What is the ABB 3BSE008508R1?
A: It is the DI810, a 16-channel 24V DC digital input module for the ABB S800 I/O system, used with AC 800M controllers.

Q: How many channels does the DI810 have and how are they grouped?
A: 16 channels total, divided into 2 galvanically isolated groups of 8 channels each (Ch 1-8 and Ch 9-16).

Q: What input signal types does the DI810 support?
A: Both sinking (NPN) and sourcing (PNP) 24V DC input signals. Logic 1 is >15V DC, Logic 0 is <10V DC.

Q: Can the input filtering be configured?
A: Yes, the input delay is software-programmable via Control Builder M, with 8 selectable filter times from <1 ms to 128 ms.

Q: What are the physical dimensions?
A: 102 mm (H) x 45 mm (W) x 86 mm (D), weighing approximately 0.2 kg. DIN rail mounted with IP20 protection.

Q: What is the isolation voltage rating?
A: 500V DC / 350V AC (rms) between channels and system, with individual galvanic isolation per channel group via optocouplers.

Q: What diagnostic features does the DI810 provide?
A: Front-panel LED indicators per channel (green = ON), module health LED (red = error), supply voltage monitoring, and process error reporting to the controller.

Q: What is the operating temperature range?
A: 0°C to +55°C for operation, -40°C to +70°C for storage, with 5% to 95% RH non-condensing humidity tolerance.