ABB BC810K01-3BSE031154R1

01 CEX Interconnection Unit / system role

Product function

ABB BC810K01-3BSE031154R1 reduces the dependency between CEX-Bus segments in redundant communication arrangements by providing a dedicated interconnection boundary.

Selected configuration

The BC810 operates with a TP857 baseplate and separates the CEX-Bus into two independent segments. The keyed baseplate helps prevent installation of an incorrect module type and must remain part of the intended assembly.

Functional path

AC 800M processor	CEX segment A	BC810 interconnection	CEX segment B

Segmentation	Two independent CEX-Bus segments
Power	CEX supply plus external redundant input
Indication	Separate power, run, error and traffic status

Power reaches the unit through the processor-side CEX-Bus, with an external connector available for redundant power support. The external supply rating is 24 V DC nominal, with an operating range of 19.2 to 30 V DC.

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02 Technical operating envelope

External supply	24 V DC nominal; 19.2–30 V DC
Current consumption	50 mA typical; 70 mA maximum
Power dissipation	1.2 W typical
CEX segments	2 independent segments
Baseplate	TP857, mechanically keyed

Power terminal	2-pin screw connector, L+ and L−
Status indication	Error, Run, external Power OK, 2 traffic LEDs
Protection	IP20
Unit hot swap	Supported under the applicable procedure
Baseplate servicing	Not permitted while powered and running

BC810/TP857 functions and ratings apply to the BC810K01 kit; the complete AC 800M topology determines the permitted redundancy arrangement.

Operating interpretation

BC810 is an interconnection and segmentation unit; it does not convert CEX-Bus communication into an unrelated fieldbus protocol.

Configuration boundary

A compatible replacement preserves the TP857 keying, CEX topology, external power arrangement and supported unit-service procedure.

What voltage range is permitted at L+ and L− on BC810K01-3BSE031154R1?

The nominal input is 24 V DC, with an allowed range of 19.2 to 30 V DC.

Can the baseplate of BC810K01-3BSE031154R1 be removed from a running CEX segment?

No. The hot-swap capability of the unit does not authorize powered baseplate removal. The CEX modules on the segment must be removed before a baseplate change.

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03 System integration and applications

Redundant CEX communication

Separate communication-interface segments in an engineered redundant AC 800M installation.

External power support

Provide the additional 24 V DC power path where required by the segment design.

Segment diagnostics

Use separate power, run, error and traffic indications to localize a connection problem.

Controlled module maintenance

Service the removable unit while respecting the stricter rules for baseplate replacement.

System and supply context

ABB BC810K01-3BSE031154R1 operates within the following defined system context. Check the BC810K01 identity, TP857 baseplate and segment arrangement.

Application boundary

The applications below describe its technical role. Select associated hardware and configuration for the actual installation.

Why is TP857 keying relevant to BC810K01-3BSE031154R1?

The baseplate has a preset two-letter mechanical code that helps prevent the wrong module type from being fitted.

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04 Engineering selection decisions

What does BC810K01-3BSE031154R1 divide into independent segments?

It divides the AC 800M CEX-Bus into two segments to support availability in a redundant communication arrangement.

Does BC810K01-3BSE031154R1 require its external supply for every power path?

The processor can power BC810 through the CEX-Bus. The external connector provides an additional power path for the designed redundant supply arrangement.

How can external power be distinguished from bus traffic on BC810K01-3BSE031154R1?

A green Power OK indicator reports external power, while two yellow indicators report traffic. They indicate different aspects of operation.

Does adding BC810K01-3BSE031154R1 automatically make all connected interfaces redundant?

No. It provides CEX segmentation; the processor, interface pairing, cabling and configuration must still implement a supported redundant architecture.

Interpret individual indicators	Check Run, Error, external Power OK and both traffic indicators separately. A lit power indication does not by itself confirm that communication is passing through both segments.
Record the serviced boundary	Retain the BC810/TP857 identities, segment topology, supply measurements and redundancy-test results. These records distinguish a module replacement from a change to the CEX architecture.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and factory-support phase of BC810K01-3BSE031154R1 is unconfirmed. Apter Power availability is assessed separately from manufacturer lifecycle status.

Replacement assessment

A compatible replacement preserves the TP857 keying, CEX topology, external power arrangement and supported unit-service procedure.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; use it together with the applicable manufacturer instructions.

Technical basis

ABB AC 800M 5.1 Controller Hardware Product Guide, 3BSE036352-510 A.

Related product navigation

ABB AO895 3BSC690087R1

ABB AI810 3BSE008516R1

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries