PM8xx Unit (Except PM891)

The base plate of PM8xx unit (except PM891) has two RJ45 Ethernet ports (CN1, CN2) for connection to the Control Network, and two RJ45 serial ports (COM3, COM4). One of the serial ports (COM3) is an RS-232C port with modem control signals, whereas the other port (COM4) is isolated and used for the connection of a configuration tool.

Note that a PM851/PM851A is restricted to one Ethernet (CN1) port, thus redundant Ethernet is not available.

Both the electrical ModuleBus and the communication expansion bus (CEX-Bus) connectors are mounted on the base plate. The built-in electrical ModuleBus can be used in single CPU configuration for connecting one cluster of S800 I/O units directly to the base plate (maximum number of units per cluster is 12). However, an additional seven clusters (each comprising up to 12 units) can be added to the optical ModuleBus.

Note that no redundant modules are supported on the built-in electrical ModuleBus.

The CEX-Bus is used for extending the on-board communication ports with communication interface units. It is also possible to use redundant communication interfaces on the CEX-Bus. The CEX-Bus Interconnection unit BC810 is used to increase the availability on the CEX-Bus by dividing it into separate segments.

All base plates are provided with a unique Ethernet address which provides every CPU with a hardware identity. The address can be found on the Ethernet address label attached to the TP830 base plate, as shown in Figure 3 on page 25.

CEX-Bus Interconnection Unit - BC810 and TP857

The BC810 CEX-Bus Interconnection Unit, shown in Figure 22 on page 65, offers a way to section the CEX-Bus into two independent segments. This improves availability in systems with redundant communication interfaces. Figure 21 on page 64 shows a configuration example. The base plate has a preset, two letter Alpha code lock to prevent the installation of an incorrect type of unit onto the TP857 base plate.



It is not allowed to manipulate CEX bus base plates in a powered and running system. Before changing or removing a base plate, all CEX modules on that segment must be removed.

The BC810 is powered from the processor unit via the CEX-Bus and can also support the CEX-Bus with redundant power through its external connector for power supply.

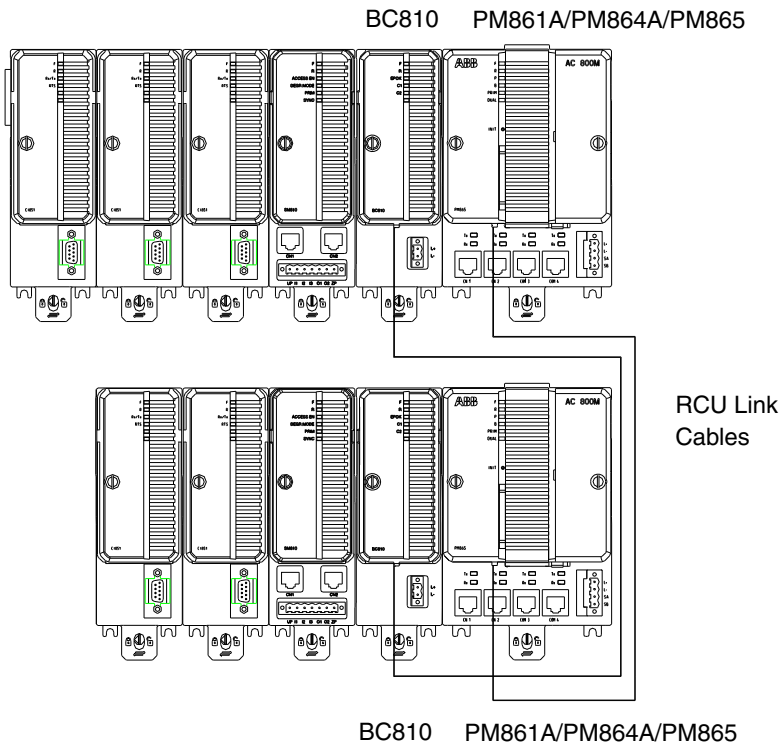


Figure 21. Redundant Communication Interface Units and Controllers

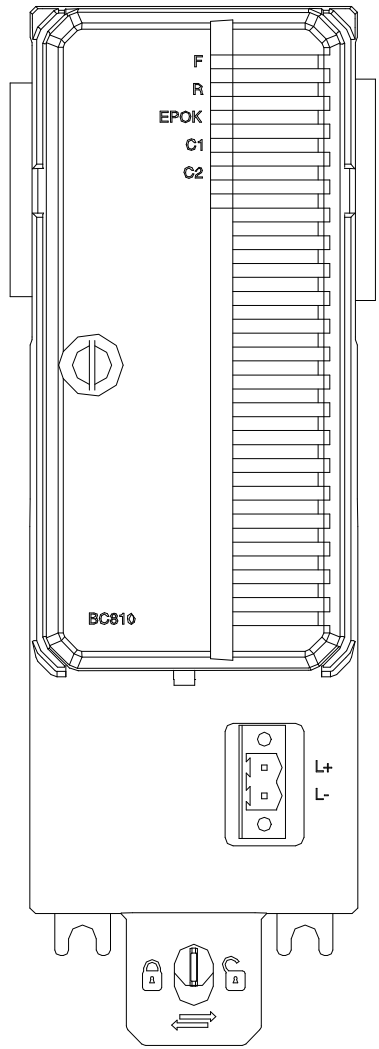


Figure 22. CEX-Bus Interconnection Unit

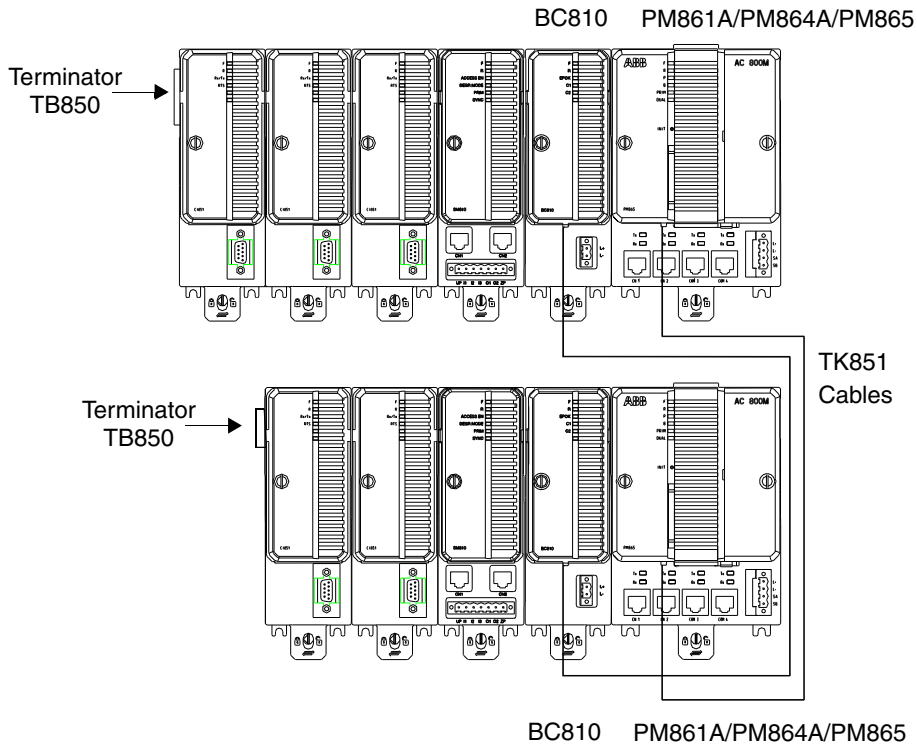


Figure 47. CEX-Bus Terminator when using Redundant Communication Interface Units (with BC810) and Controllers

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, as shown in Figure 48 on page 109. However, only one TK850 CEX-Bus extension cable may be used in any one CEX-Bus.

The CEX-Bus extension cable, TK850, is also used in redundant CPU configuration, see Figure 19 on page 61. The cable length is 0.7m (2.3 feet).

CEX-Bus Interconnection Unit - BC810 and TP857

Table 5. CEX-Bus Interconnection Unit - BC810

Item	Value
Status Indicators	Red LED for error Green LED for run Green LED for external power OK Two yellow LEDs for traffic
Power Input Connector	Two pin, screw connector L+, L–.
Power Supply Requirements	Inputs designated L+ and L– 24 V nominal, variation between 19.2 V DC and 30 V DC.
Current consumption	50 mA typical (70 mA max)
Power dissipation	1.2 W typical
Protection Rating	IP20 according to EN60529, IEC 529
Weight	700 g (1.5 lb) (package BC810K01)
Dimensions	W 59 x H 185 x D 127.5 mm (W 2.9 x H 7.3 x D 5.0 in)
Certification	UL508 and UL60079-15 Hazardous location Class 1 Zone 2
Hot swap	Supported