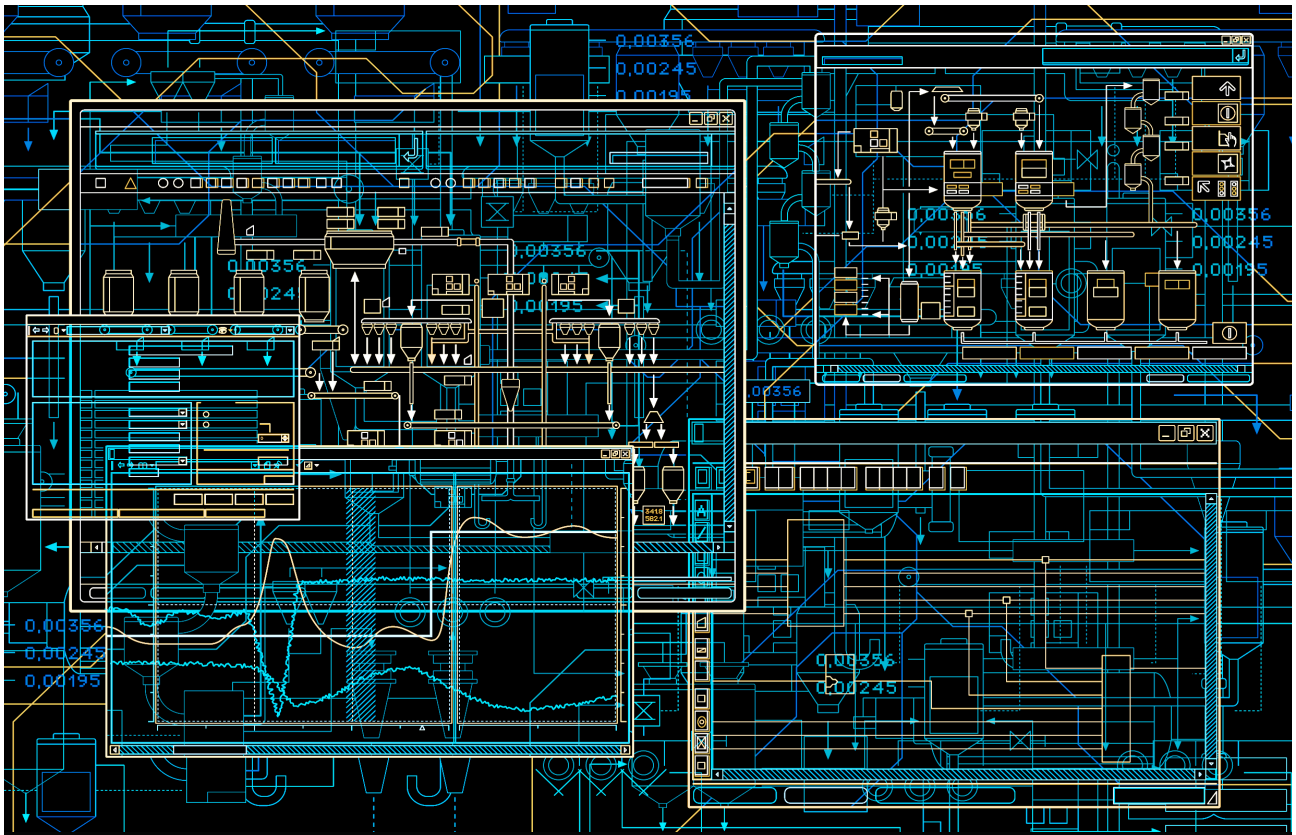


AC 800M

Controller Hardware
Product Guide

System Version 5.1

Power and productivity
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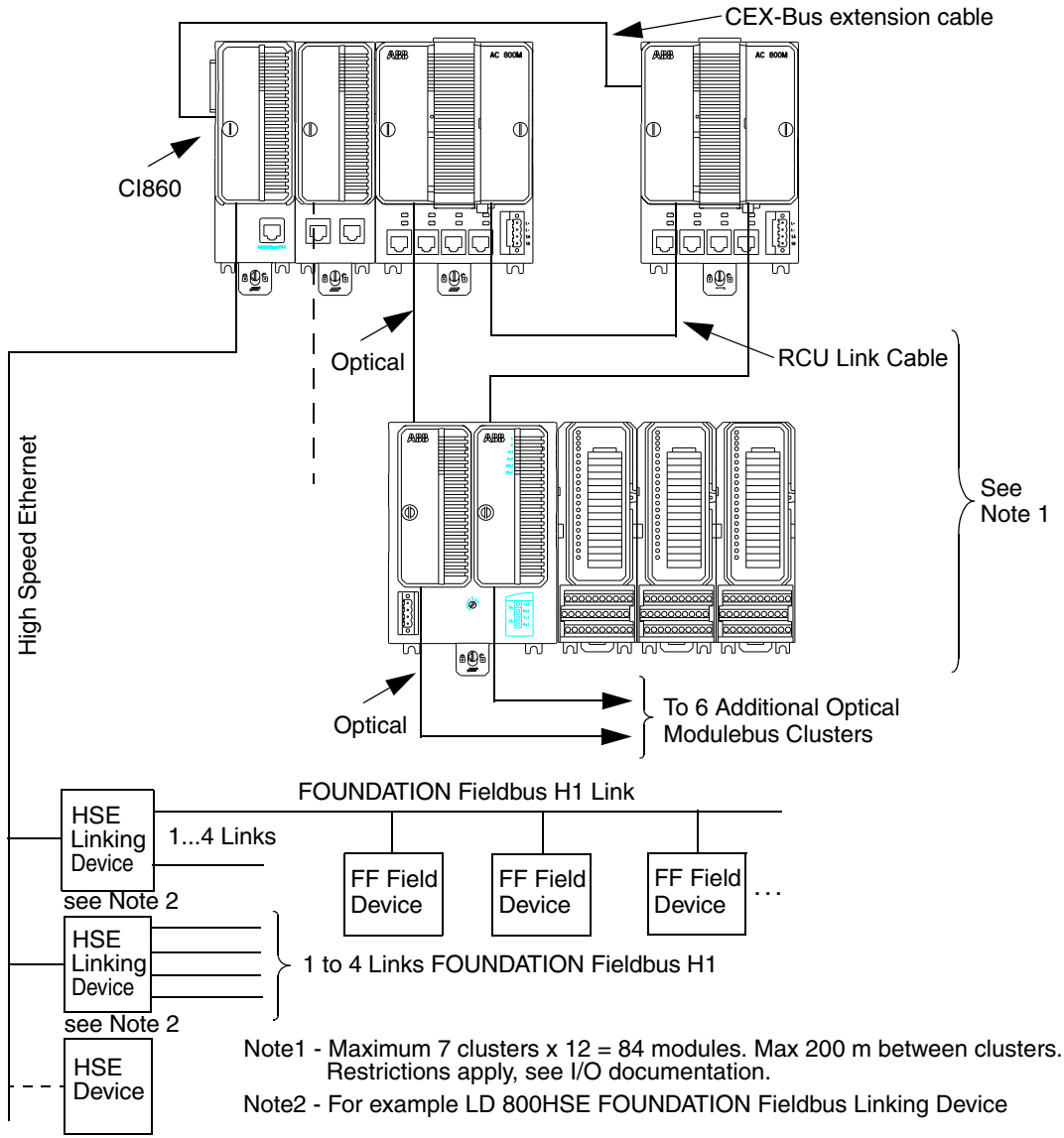


Figure 11. Example of AC 800M / S800 I/O and FOUNDATION Fieldbus High Speed Ethernet Interconnection in Redundant CPU Configuration

Drive System

ABB Standard (Std) and Engineered (Eng) Drives can be connected to AC 800M through any of the following:

- The optical ModuleBus
- CI801 and PROFIBUS DP
- NPBA-12, RPBA-01, or FPBA-01 PROFIBUS DP Adaptor modules along with CI854
- RETA-02 or FENA-01/-11 Ethernet Adapter modules along with CI871 (PROFINET IO)
- CI858 DriveBus Interface.



CI858 cannot be used in an AC 800M High Integrity controller.

ModuleBus

In single CPU configuration, ABB Drives can be connected to the processor unit via the optical ModuleBus. See Figure 12 on page 47. The number of ABB Drives which can be connected to the optical ModuleBus, can be described by the following equation:

(No. of ABB Drives) ≤ 84 - (12 x (No. of TB820s))

that is, each Drive uses one ModuleBus cluster.

PROFIBUS

In single and redundant CPU configuration, ABB Drives can be connected via PROFIBUS DP and CI801. See Figure 12 on page 47. Only Standard Drives can be connected to CI801. Fourteen (14) Standard Drives can be connected to each CI801 if there are no I/O units connected. For the number of Drives that can be connected to the same CI801, when both I/O units (TB820) and Standard Drives are connected, refer to documentation about FCI for PROFIBUS DP.

For more information about ABB Drives and its types (Std and Eng) refer to S800 I/O documentation.

For information about Branching Unit (See Figure 12 on page 47) see ABB Drive System documentation.

ABB drives can also be connected via PROFIBUS DP (CI854/CI854A), with direct connection to PROFIBUS DP slave modules NPBA-12, RPBA-01, and FPBA-01.

PROFINET IO and CI871

The RETA-02 Ethernet Adapter module and FENA-01/-11 Ethernet Adapter module are optional devices for ABB drives, which enables the connection of the drive to a PROFINET IO (PNIO) network. The drive is considered as a PNIO device on the PROFINET IO network, and it is compatible with all PNIO controller stations that support PROFINET IO and sub-slots.

DriveBus Interface

ABB drives can be connected to the AC 800M via the CI858 unit, see Figure 12 on page 47 and Figure 13 on page 48. The drive interface can be used for controlling up to 24 drives or inverter units.

Main communication functions of the drive connection are:

- dataset communication
- broadcast system time
- supervision and diagnostics functions

The data exchange between the AC 800M and the CI858 consists of eight datasets. The drive connection is able to transfer at the maximum 8 datasets / 1 ms.

Connection of multiple drives requires the use of a branching unit, which enables the construction of a logical bus with physical star topology, see Figure 13 on page 48. The branching units can be chained.

The following drives are supported by the drive connection:

- ACS 600 single drive
- ACS 600 multi drive
- ACS 600 thyristor supply units
- ACS 600 IGBT supply units
- ACS 800 product family
- ACS 140-AC S400

- DCS 600 and DCS 400
- ACS 6000 product family / large drives
- ACS 1000 product family

For more information about ABB Drives and its types (Std and Eng) refer to S800 I/O documentation, see Released User Manuals and Release Notes on page 16.

For information about Branching Unit (Figure 13 on page 48) see ABB Drive System documentation.

The following schematic figures, with examples of I/O interconnections, do not show the placement of the connectors.