

CoreLink Network Connections

1. Overview

1.1. Introduction

1.1.1. CoreLink is a Hussmann case controller used in several Hussmann products. CoreLink is applied in display cases, unit coolers, walk-in boxes etc. It has multiple network options which are used for integrating with system managers and to enable some inter communication between controllers during some specific control schemes. This document outlines all the architectural options available for CoreLink.

1.2. Purpose

1.2.1. Main purpose of this document is to outline all the external network options, architecture, connections available on CoreLink. This is intended to be used by the field personnel and by the applications group when applying CoreLink for the stores.

1.2.2. This document does not include details about the integration registers and other information running in the system background. There is a separate document that covers that information which is intended for the development teams.

2. General Information

2.1. CoreLink has on board RS-485 communication which is used for all BAS/System manager Communication.

2.1.1. Modbus RTU communication protocol is available on this RS-485 port.

2.1.2. System Managers like E2, XWEB, XM880 could use this as a standard communication medium to integrate with CoreLink without requiring any additional hardware.

2.1.3. RS-485 pin numbers on CoreLink are the following

2.1.3.1. Pin 63 → RS 485 –

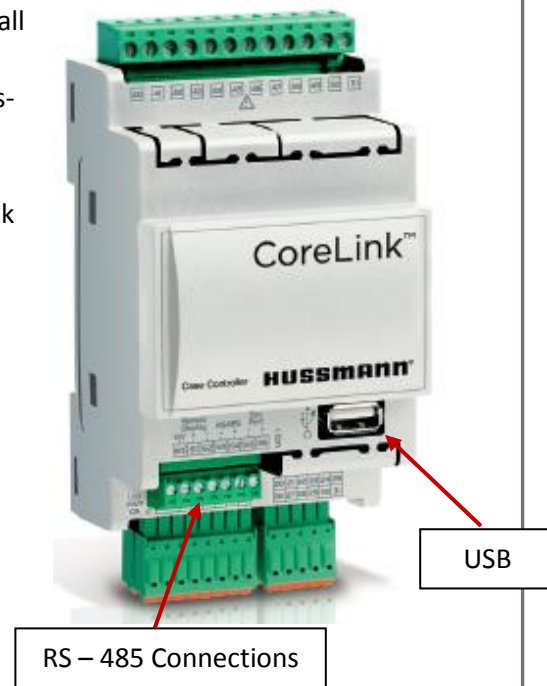
2.1.3.2. Pin 64 → RS 485 +

2.2. CoreLink also has on-device USB port with a built-in web-server. Using USB to Ethernet adapter TCP/IP communications can be enabled.

2.2.1. Modbus TCP/IP communication protocol is available on the CoreLink.

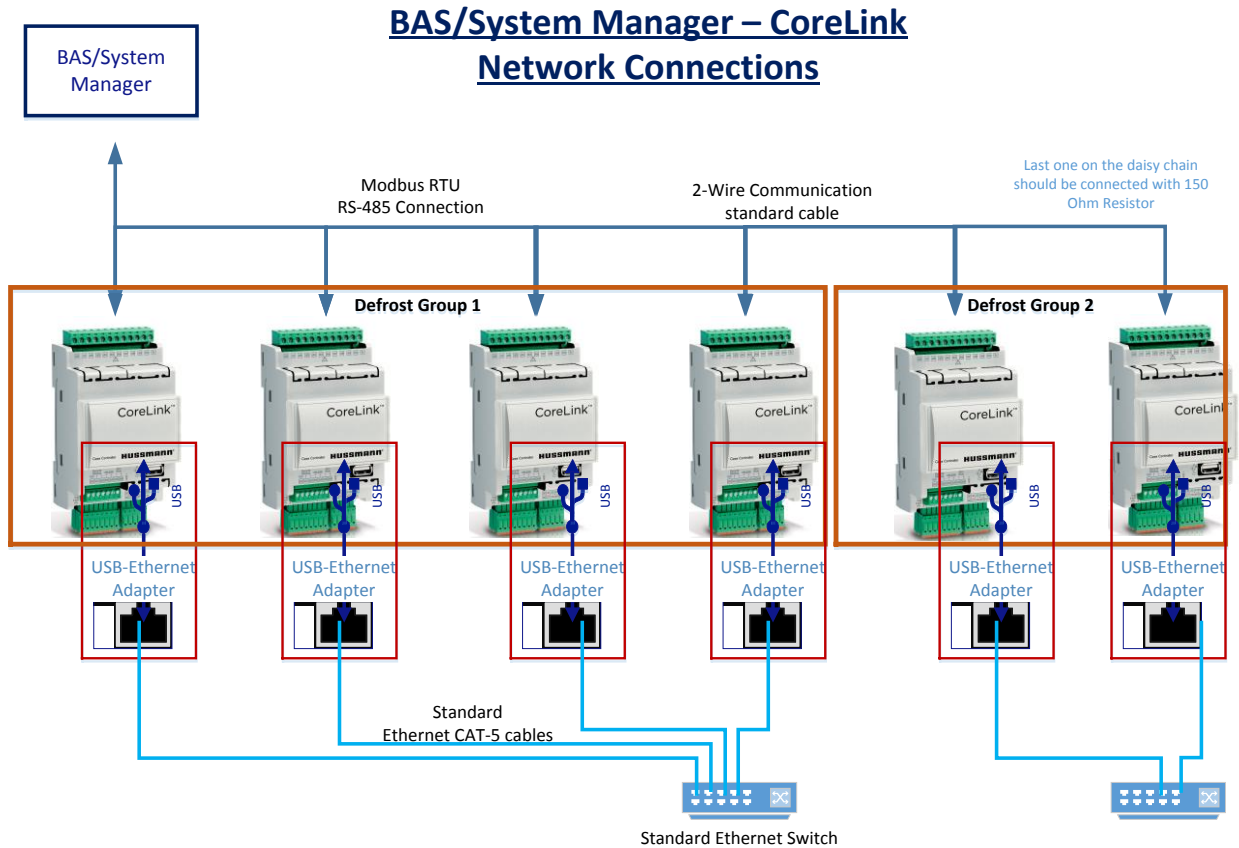
2.2.2. Use Hussmann recommended USB-Ethernet adapters to enable TCP/IP communications.

2.2.3. Some additional control functionalities are extended using this port.



4. Complete Architecture

4.1. Following is the Complete network architecture when BAS communication and CoreLink intercommunication is enabled.



5. Additional Control Functions

5.1. Defrost Synchronization

5.1.1. Synchronizing defrost among the cases in same lineup is critical for a smooth operation of display cases. This is much essential especially in low temperature units.

5.1.2. Defrost synchronization ensures that cases in the line up next to each other go into defrost at the same time and terminate the defrost at the same time.

5.1.3. CoreLink intercommunication could enable this feature on CoreLink controllers

5.1.4. Additional Equipment needed

5.1.4.1. USB to Ethernet adapters. Use Hussmann recommended adapters to ensure network dropouts and other network related issues.

5.1.4.2. Standard Ethernet CAT-5 cables to connect between CoreLink controller and Ethernet switch.

5.1.4.3. Standard Ethernet switch to connect the cables from CoreLink Controllers.

5.1.5. Configurations

5.1.5.1. CoreLink's should be configured to manage the defrost synchronization. Software Configuration of CoreLink for defrost synchronization is described in a different document.