Overview

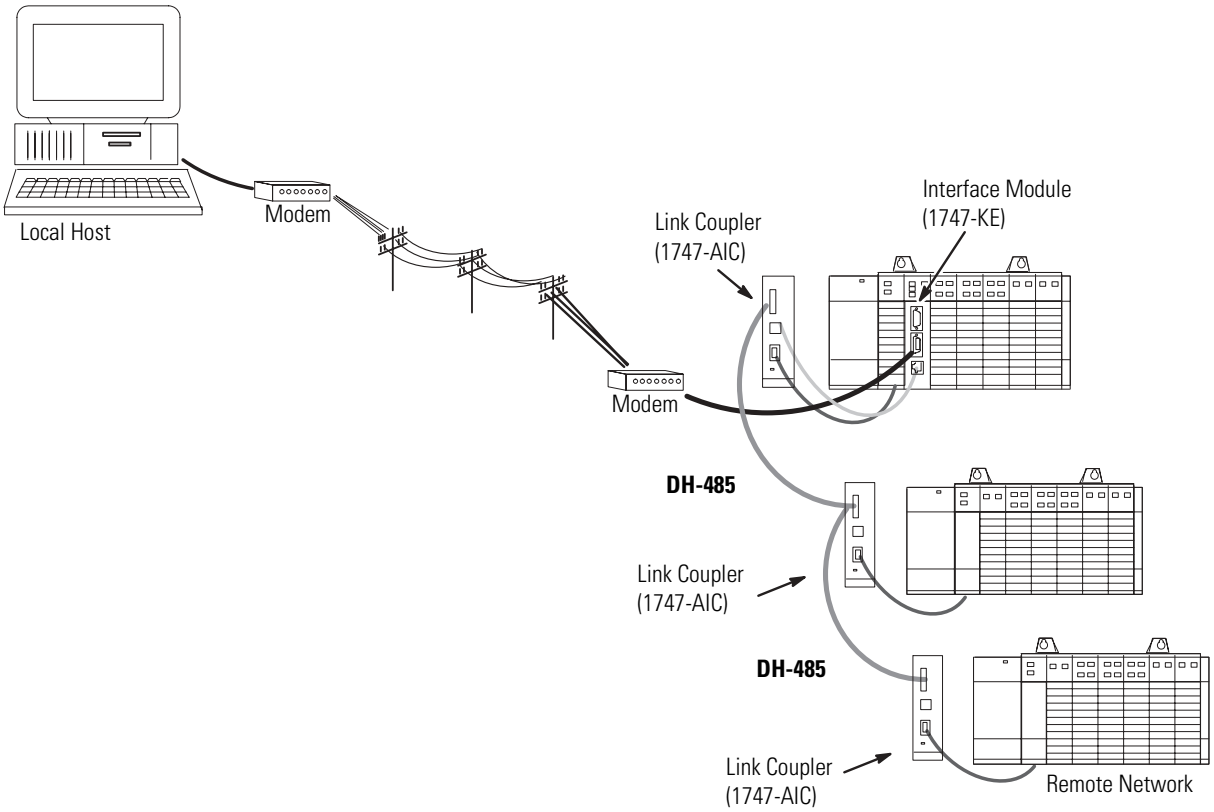
This chapter provides:

- an overview of the interface module.
- features (communication ports, LED indicators, and jumpers).
- guidelines outlining the type of modems you can use with the module.
- a brief discussion on using RSLinx software with your module.
- typical configurations.

Interface Module Overview

The DH-485/RS-232C Interface Module, catalog number 1747-KE, is a communications interface module that acts as a bridge between DH-485 networks and devices requiring DF1 protocol. The DF1 port on the interface module can be configured for RS-232/423, RS-422, or RS-485 devices. Residing in an SLC 500 chassis, the module is ideally used as an interface module, linking remote DH-485 networks via a modem to a central host.

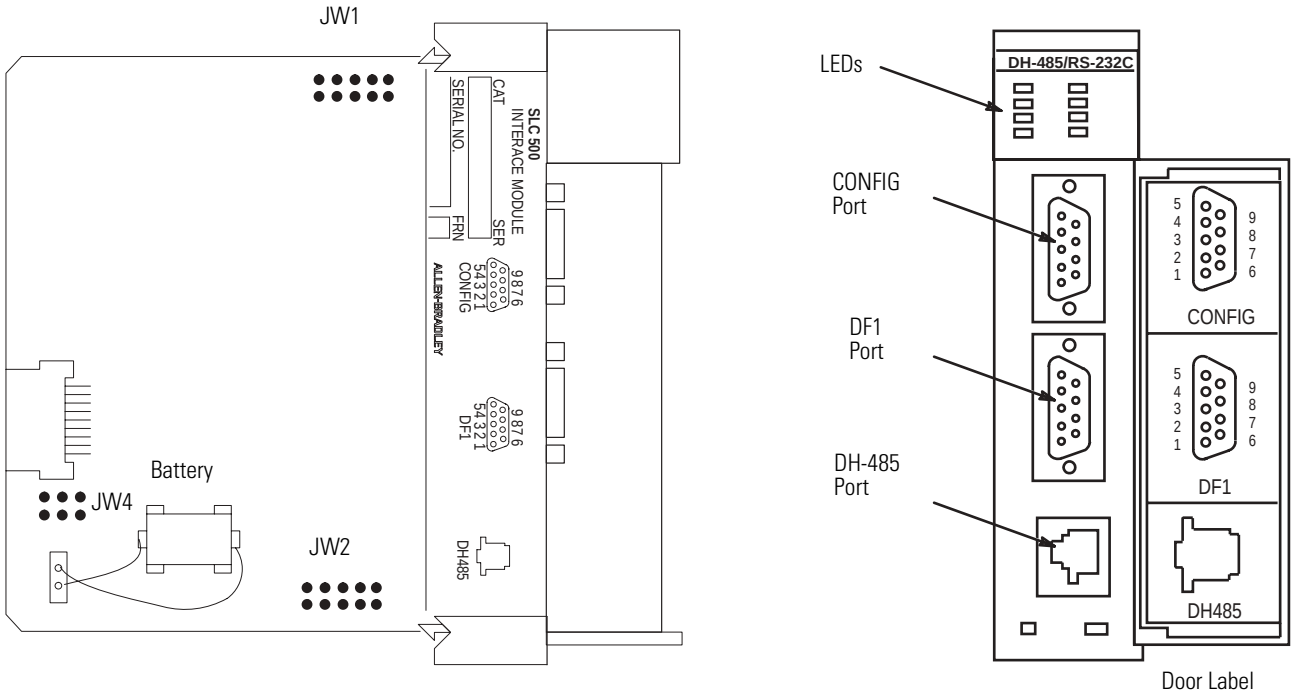
Interface Module Overview



Features

The features of the module are shown below.

1747-KE Module Features



There are three communication ports on the front of the module. They are:

- CONFIG - used to configure the module with an ASCII terminal. This serial port accommodates RS-232/423, RS-422, and RS-485 communication interfaces. The CONFIG port is capable of operating at 300, 600, 1200, 2400, 4800, 9600, and 19200 Kbps. It is electrically isolated to 500V dc.
- DF1 - used to interface the module to a modem or other user devices using DF1 protocol. This serial port accommodates RS-232/423, RS-422, and RS-485 communication interfaces. The DF1 port is capable of operating at 300, 600, 1200, 2400, 4800, 9600, and 19200 Kbps. It is electrically isolated to 500V dc.
- DH485 - used to interface the module with the DH-485 network. This port is not isolated and cannot directly drive a multi-node DH-485 network. You must use a 1747-AIC link coupler to connect this port to a DH-485 network that includes multiple SLC 500 processors.

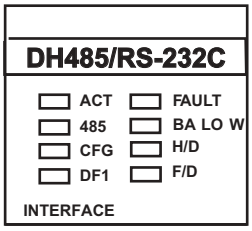
The 1747-C11 or 1747-C13 cables can connect the interface module's DH-485 port to a 1747-AIC link coupler. The 1747-C13 cable can also connect the module's DH-485 port directly to a single SLC processor.

See page 4-11 for cable connections.

LED Indicators

There are eight LED indicators on the front of the module. These LED indicators are used for module diagnostics and operator interface. The LED indicators and their descriptions are provided below.

LED Indicators



LED Indicator Status

LED	Color	Status	Indication
ACT	Green	ON[1]	The module is receiving power from the backplane, is configured properly, and is placed in Run mode.
		Flashing	The module requires configuration or is being configured.
		OFF	The module is not receiving power from the backplane. A fault condition exists.
485	Green	ON	The DH485 port is active on the network.
		OFF	The DH485 port is not active on the network or the module is in Configuration mode.
CFG	Green	Flashing	The CONFIG port is transmitting or receiving signals.
		OFF	The CONFIG port is not transmitting or receiving signals.
DF1	Green	Flashing	The DF1 port is transmitting or receiving signals. (The flashing may occur so rapidly that the LED indicator appears to be on.)
		OFF	The DF1 port is not transmitting or receiving signals or the module is in Configuration mode.
FAULT	Red	ON	A system problem was detected during diagnostics. Cycle power to reset. If it remains on, contact your Allen-Bradley representative.
		OFF	No system problems are detected during diagnostics.
BA LOW	Red	ON	The voltage of the battery that backs up configuration RAM is low. A new battery is needed.
		OFF	The voltage of the battery that backs up configuration RAM is at an acceptable level.
H/D	Amber	ON	The module is configured for half-duplex DF1 protocol (local or remote).
		OFF	The module is not configured for half-duplex DF1 protocol.
F/D	Amber	ON	The module is configured for full-duplex DF1 protocol.
		OFF	The module is not configured for full-duplex DF1 protocol.

[1] Indicates normal operation after the module has been configured.

Jumper JW1

JW1 lets you to select the communication interface for the CONFIG port.

Refer to page 4-5.

Jumper JW2

JW2 lets you to select the communication interface for the DF1 port.

Refer to page 4-6.

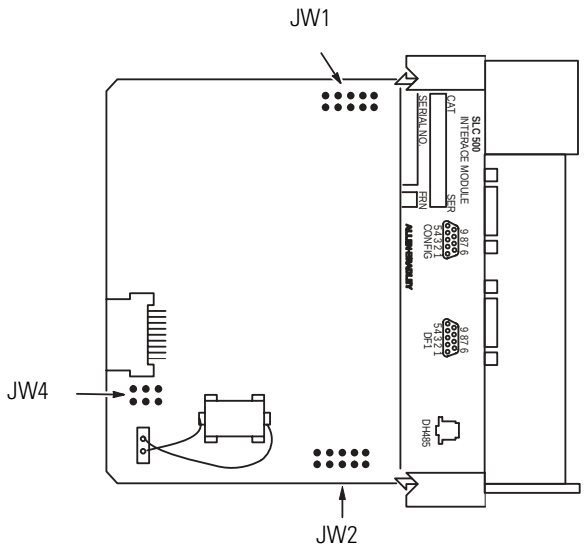
Jumper JW4

JW4 lets you to select the functionality and mode of the interface module. The orientation of the jumper determines the module's functionality. A horizontal orientation gives the module functionality equivalent to a series A module (module configuration ID=4209), while a vertical orientation of the jumper accesses the added functionality of a series B module (module configuration ID=3509).

The position of the jumper determines the module's mode (Configuration or Run), and thus, which method is used to configure the module (ASCII terminal or backplane communications).

Refer to Chapter 4.

Jumper Placement

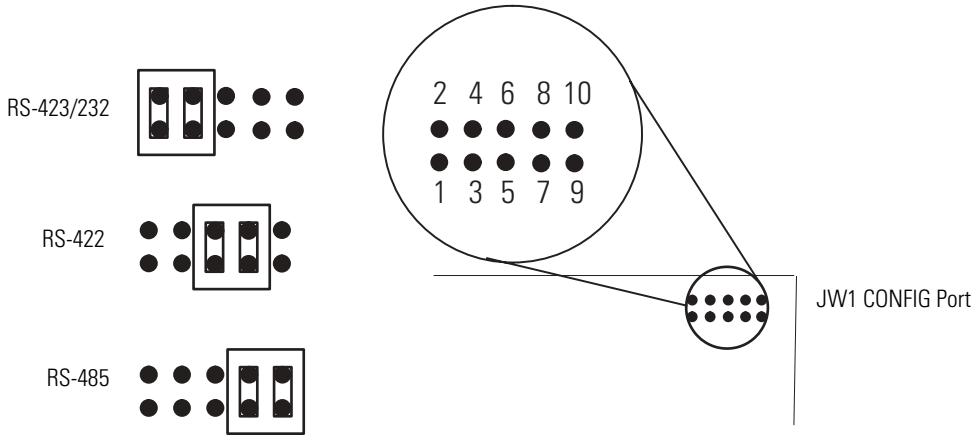


Verify CONFIG Port Configuration

Jumper JW1, located at the top of the module, selects the following electrical interface for the CONFIG port.

- RS-423/232 (default)
- RS-422
- RS-485

CONFIG Port Configuration



ATTENTION

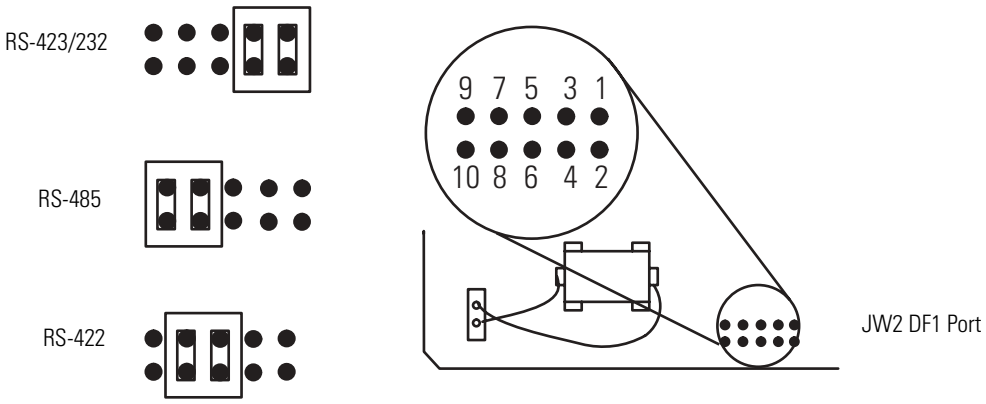
All other jumper settings are illegal and may cause damage to the module.

Verify DF1 Port Configuration

Jumper JW2 selects the following electrical interface for the DF1 port.

- RS-423/232 (default)
- RS-422
- RS-485

DF1 Port Configuration



ATTENTION

All other jumper settings are illegal and may cause damage to the module.

Specifications

This appendix contains information regarding hardware specifications for the DH-485/RS-232C Interface Module.

Hardware Specifications

The module hardware specifications are listed in the following tables.

Hardware Specifications

Attribute	Value
Power Supply Loading at 5V dc	0.150 A (module only)
	0.150 A (module with link coupler)
Power Supply Loading at 24V dc	0.070 A (module only)[2][3]
	0.125 A (module with link coupler)
Noise Immunity	NEMA Standard ICS 2-230
Vibration	Displacement: 0.015 in., peak-to-peak at 5...57 Hz
	Acceleration: 2.5 g at 57...2000 Hz
Shock (operating)	30 g
Port Isolation[1] CONFIG Port DF1 Port CONFIG and DF1 Port	 500V ac 500V ac 500V ac
Ambient Temperature Rating	Operating: 0...+60 °C (+32...+140 °F) Storage: -40...+85 °C (-40...+185 °F)
Humidity	5...95% without condensation
Clock/Calendar Accuracy	±1 minute/month at 25 °C (77 °F) +0, -6 minute/month at 60 °C (140 °F)

(1) Port DH485 is not isolated.

(2) If a 1747-AIC link coupler is connected to the 1747-KE module with a 1747-C11 cable, the link coupler draws its power (0.085 A @ 24V dc) through the module. Add this to the current listed for the link coupler requirements.

(3) If a 1747-AIC link coupler is connected to the 1747-KE module with a 1747-C13 cable, then the power for the link coupler comes from either an SLC 500 controller or an external power supply.

IMPORTANT The 1747-KE module requires both 5V dc and 24V dc power from the SLC backplane. The power consumption of the module must be taken into consideration when planning your SLC 500 system. Refer to the documentation supplied with your SLC 500 fixed or modular controller for additional information on power supplies and current requirements.

Certification

Product Certifications

Certification	Value
Certification	c-UL-us listed
	Class 1, Groups A, B, C, or D, Division 2
	CE compliant for all applicable directives
	C-Tick marked for all applicable acts

Port Isolation

Port Isolation

Port	Isolation	Isolation Voltage
CONFIG	Backplane to Port	500V dc
DF1	Backplane to Port	500V dc
CONFIG and DF1	CONFIG to DF1	500V dc

IMPORTANT The DH-485 Port is not isolated.