
YASKAWA SIGMA II Indexer

Application Note

This document describes how to configure a Paradigm operator interface terminal to allow communications with a Yaskawa Sigma II Indexer . The communications protocol supports access to pertinent parameters. Please read this document carefully before attempting to configure communications with these devices.

Introduction

The EDICT-97 configuration software has been designed to allow the user to enter commands in a manner that should be familiar to the user of a Sigma II Indexer.

Addressing Axes

The default Axis Address, found in Comms Devices, is 0. Select an address of * to send commands to all axes. When * is selected, the interface will not expect any response on a Write Access, and will not attempt a Read Access. 0-F is the permitted range for Device Addresses.

Communications Mode

The default configuration for Edict97 is:

9600 baud
7 bits
Even Parity
1 Stop Bit

Communication Parameters in the Indexer, using the Digital Operator to change:

Pn800 must be changed to 0 (RS232/RS422) or must be changed to 2 (RS485).

Pn801 may remain at 0 for 9600 baud, or set to 1 for 19200.

Pn802 must be changed to 0.

Accessing Data

The programmer selects the desired command either via the drop down list, or by entering the name. If a function requires a parameter number, such as an alarm number, that parameter number is enclosed in ()'s. For example, ALMH(2) will perform an Alarm History Read of Alarm 2.

In order to be consistent with the Sigma II Indexer specification, parameter numbers for PRM and TRM are entered in Hexadecimal. All other parameter numbers are in decimal.

Custom Codes

The Indexer responses are not always numerical values. In order to eliminate the processing of text responses by the programmer, the driver returns numerical codes for certain responses. This allows actions to be taken by comparing numbers, rather than strings. Text can still be displayed using a Message Table, either Global or Local. In the following, hh is hexadecimal, nn is decimal.

Responses to **ALM** Read:

0 = No Status to report
1 = P-OT
2 = N-OT
3 = P-LS
4 = N-LS

5 = BB
 6 = HOLD
 7 = INPOS
 8 = NEAR
 9 = RUN
 0x1hh = A.hh (SGDH Alarm/Warning Code)
 0xEhhA = NS600 Alarm Code

Responses to **ALMH** Read:

0 = NONE
 hh = A.hh (SGDH Alarm)
 EhhA = Specific NS600 Alarm

Responses to **ARES** Command:

0 = Alarm Off
 hh = SGDH Alarm Code

Responses to **ERR** Read:

0 = NONE
 EhhE = Specific Error

Responses to **NEXTT** Read:

nn = Program Table Next Read
 -1 = END

The data for the following reads should be interpreted as individual bits.

IN1
IN2
OUT1
OUT2
MON6

Knowledge of Unit Operation Is Assumed

In all cases, the simple principle of 'pass-through' is maintained: there is no attempt to validate a value in terms of the end use of the unit: both familiarity with the Drive functions and knowledge of system operation are assumed.

RS232 Connection - CN6

Paradigm RS232 Port	Sigma II Indexer
Terminal 1	4
Terminal 2	2
Terminal 5	14

In addition, connect a jumper between 3 and 4 of the Paradigm.

RS232 Cable Part Number P895065Z, 3M long

RS232 Cable Part Number P899065Z, custom length

RS422 Connection - CN6

Paradigm RS485 Port	Sigma II Indexer
Terminal 6 (TxA)	3
Terminal 7 (TxB)	4
Terminal 8 (RxA)	1
Terminal 9 (RxB)	2
Terminal 10 (Comm.)	14

In addition, connect a 1K resistor between 9 and 10 of the Paradigm, and connect 6 and 7 on the Indexer.

RS485 Connection - CN6

Paradigm RS485 Port	Sigma II Indexer
Terminal 6 (TxA)	3
Terminal 7 (TxB)	4
Terminal 8 (RxA)	1
Terminal 9 (RxB)	2
Terminal 10 (Comm.)	14

In addition, connect a 1K resistor between 9 and 10 of the Paradigm.

RS485 Cable Part Number P895066Z, 3M long

RS485 Cable Part Number P899066Z, custom length