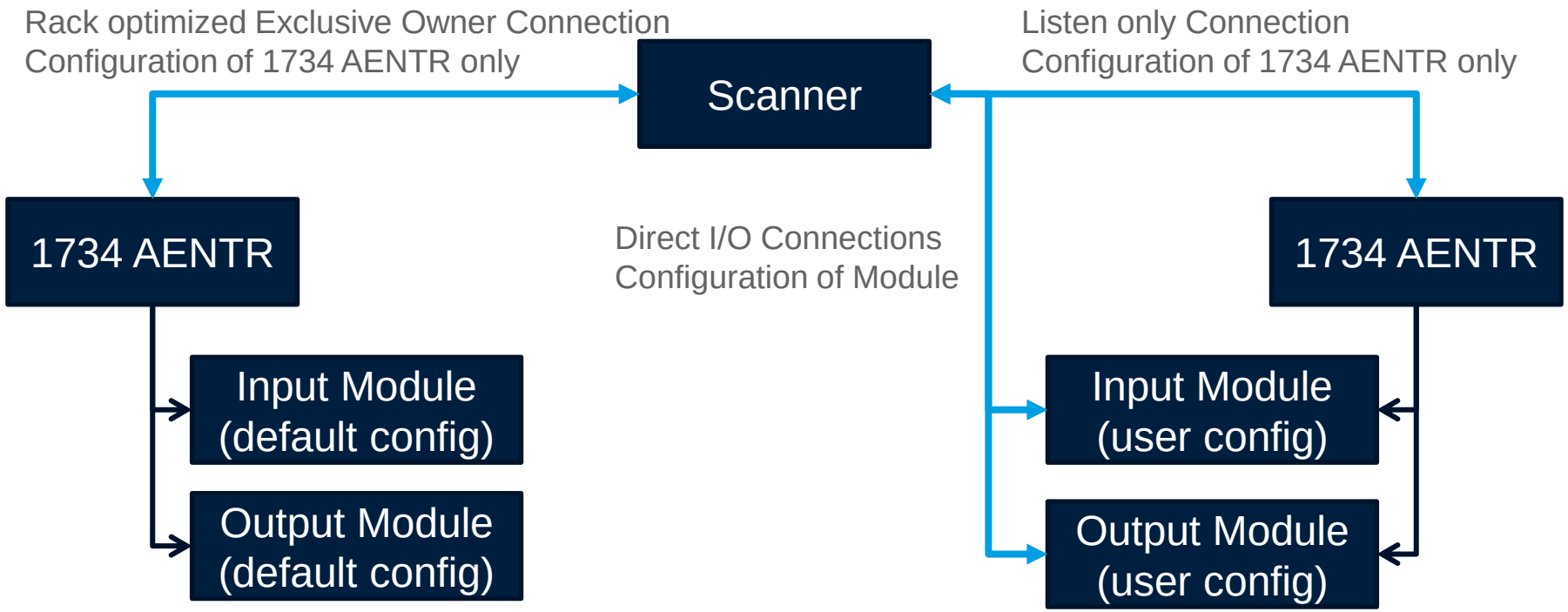
Configuration of Rockwell EtherNet/IP Adapter with CODESYS

Constraints of Connections defined in the EDS File

Rack optimized vs. direct Connections

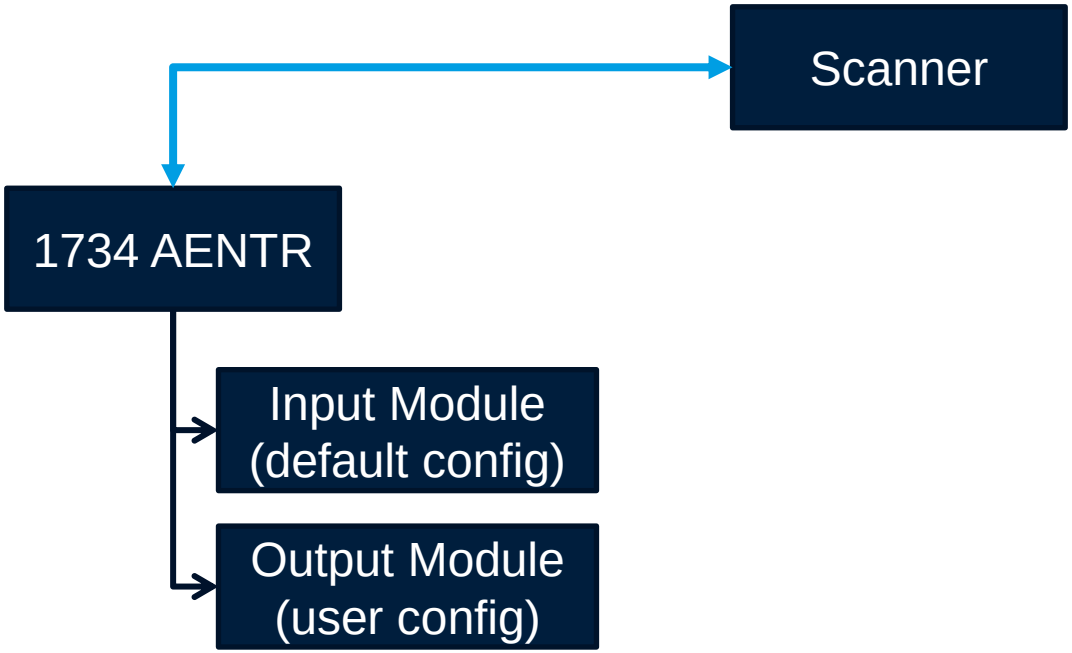


Assembly Connection

Publication 1734-UM016A-EN-P (October 2010)

- Properties of the Assembly Connection
  - Configuration of head station
  - Selective configuration of Modules
  - All I/O through one connection

  → Combined best of rack optimized and direct Connections



Manual configuration of an Assembly Connection

Connection Path Settings

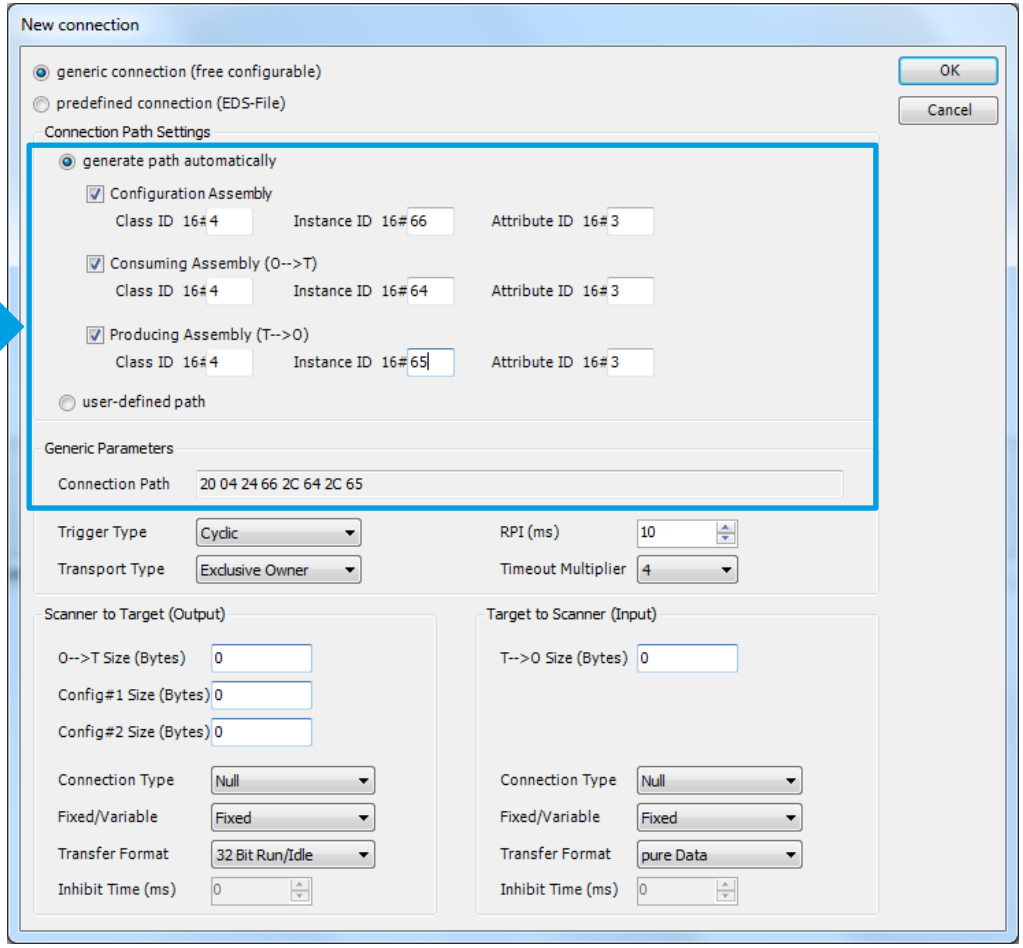
Connection Type	Configuration Assembly	Consumed Assembly	Produced Assembly
Exclusive Owner	102	100	101
Listen Only	102	191	101
Input Only	102	190	101
Excl. Owner no Status Header	102	100	103
Listen Only no Status Header	102	191	103
Input Only no Status Header	102	190	103

Manual configuration of an Assembly Connection

Connection Path Settings

Configuration of an Assembly Connection with Status Header

Create Connection Path



Manual configuration of an Assembly Connection

Minimal Configuration Assembly (Config#2)

Field	Description
Byte 0	Reserved
Byte 1	Reserved
Byte 2	Reserved
Byte 3	Reserved
Byte 4	Chassis Size (Low Byte)
Byte 5	Chassis Size (High Byte)
Byte 6	Alignment for Produced Assembly (T→O)
Byte 7	Size per slot (T→O) (in Bytes)
Byte 8	Alignment for Consumed Assembly (O→T)
Byte 9	Size per slot (O→T) (in Bytes)

Manual configuration of an Assembly Connection

Add Module Configuration

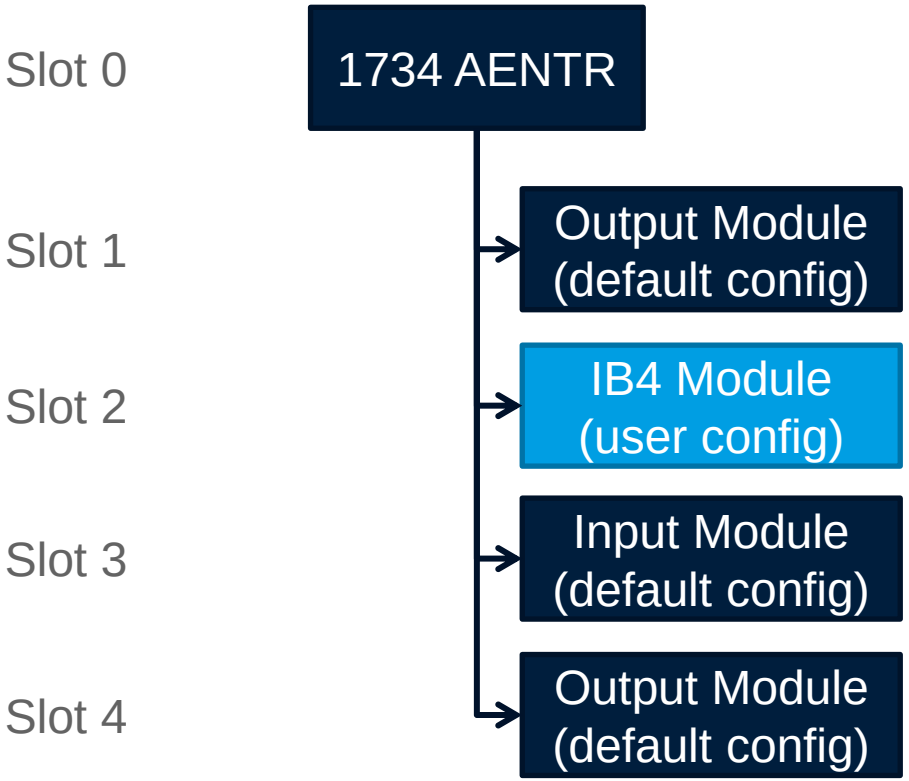
- Append to the minimal configuration described above.

Field	Data Type	Description
Slot Number	USINT	The slot number to identify modules that require configuration data.
Configuration Size	USINT	The size, in bytes, of the Configuration Data for the given module. It does not include the size of the first three fields shown here.
Configuration Assembly Instance	UINT	The adapter reads this field to access the module configuration assembly's instance number.
Configuration data	ARRAY OF BYTE	The configuration assembly data as defined by the module's EDS file.

Manual configuration of an Assembly Connection

Add Module Configuration

- Example Configuration for an IB4 connected to Slot #2



Manual configuration of an Assembly Connection

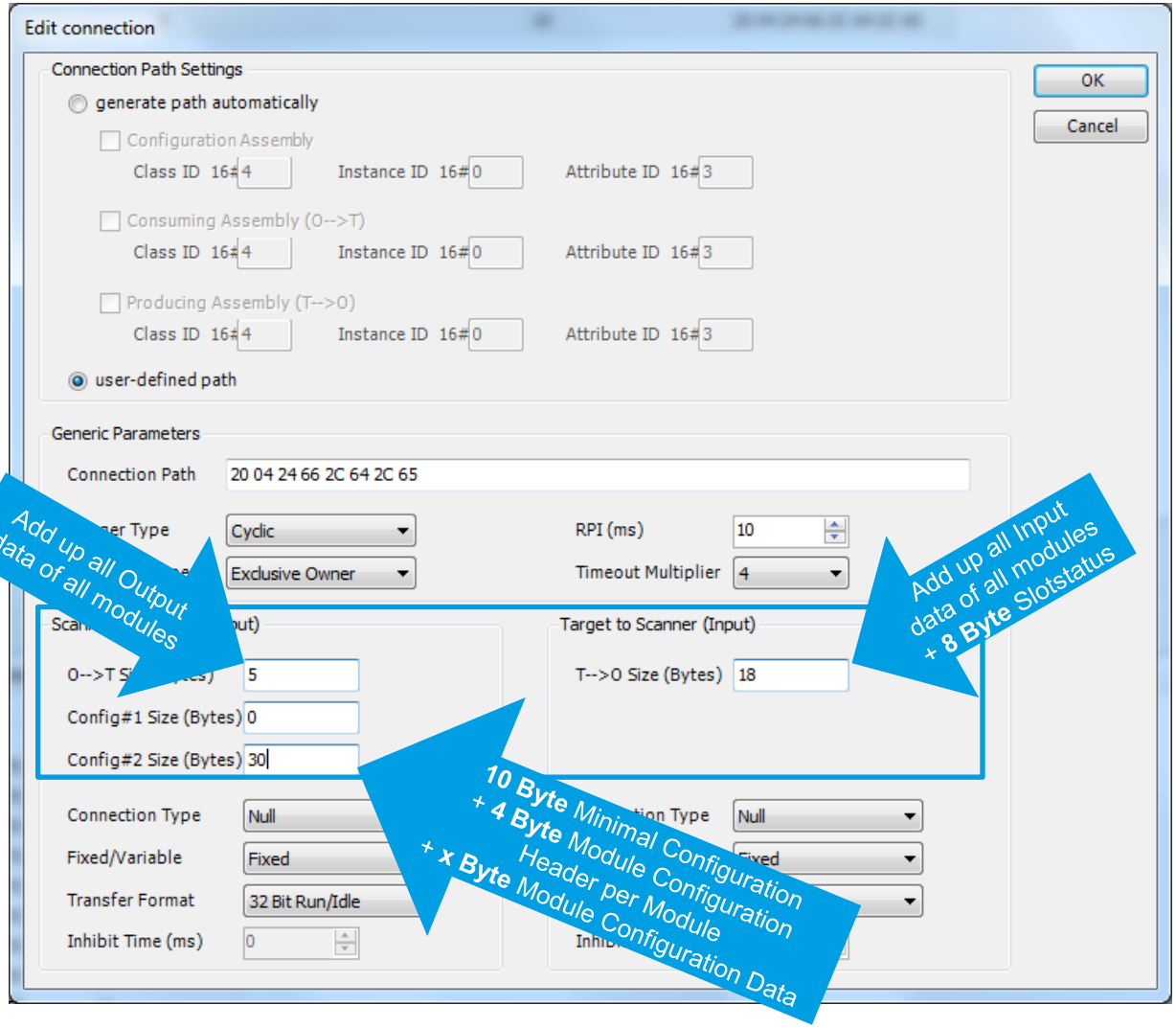
Add Module Configuration

- Example Configuration for an IB4 connected to Slot #2

	Field	Data Type	Value
Minimal Configuration	Reserved	UDINT	0
	Chassis Size	UINT	5
	Alignment T→O	BYTE	0
	Slot Size T→O	Byte	0
	Alignment O→T	BYTE	0
	Slot Size O→T	BYTE	0
Module Configuration #1	Slot Number	USINT	2
	Configuration Size	USINT	16
	Configuration Assembly Instance	UINT	0x67
	Config Data	ARRAY [0..15] OF BYTE	
Module Configuration #2	…	…	…

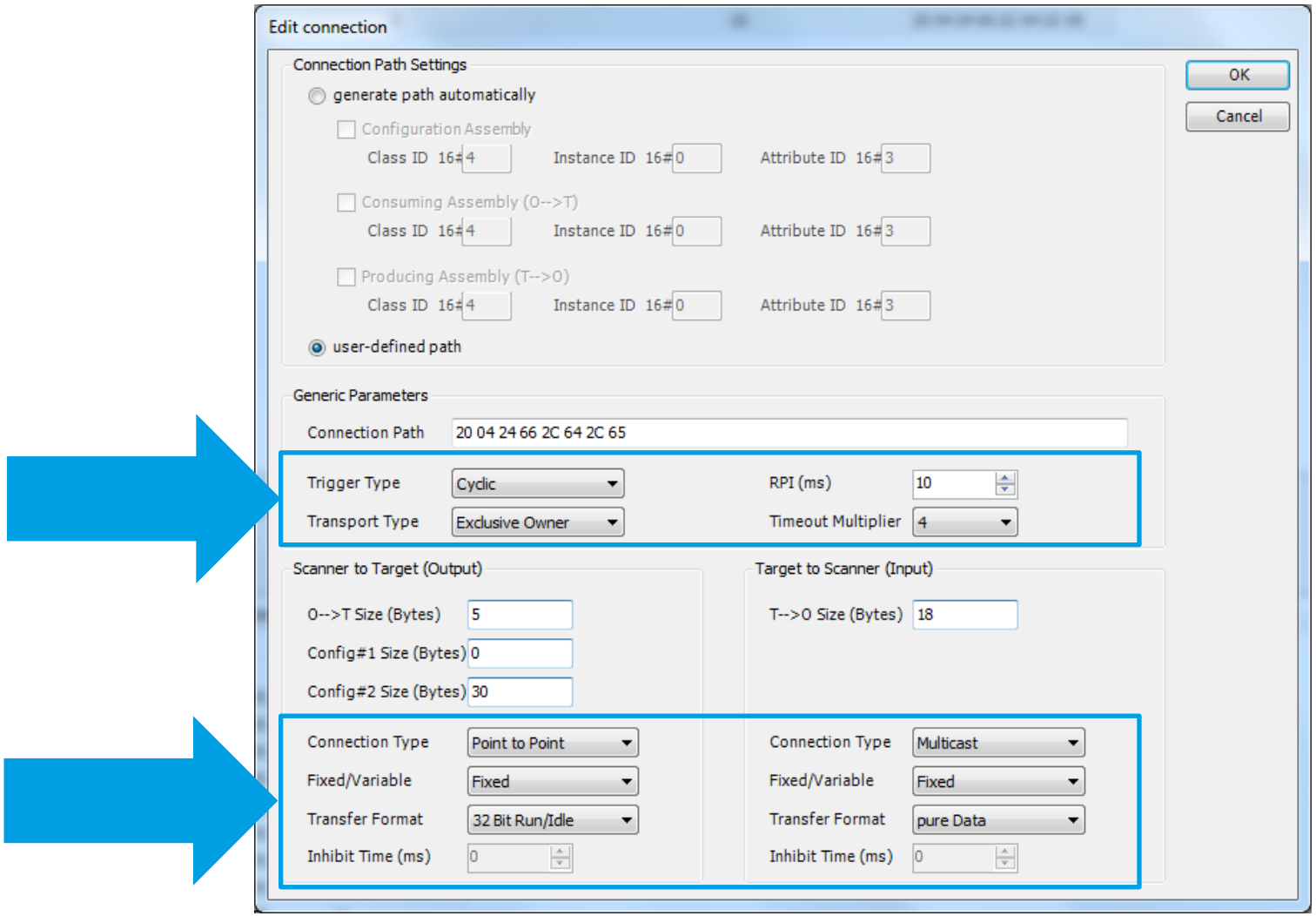
Manual configuration of an Assembly Connection

Assembly Sizes



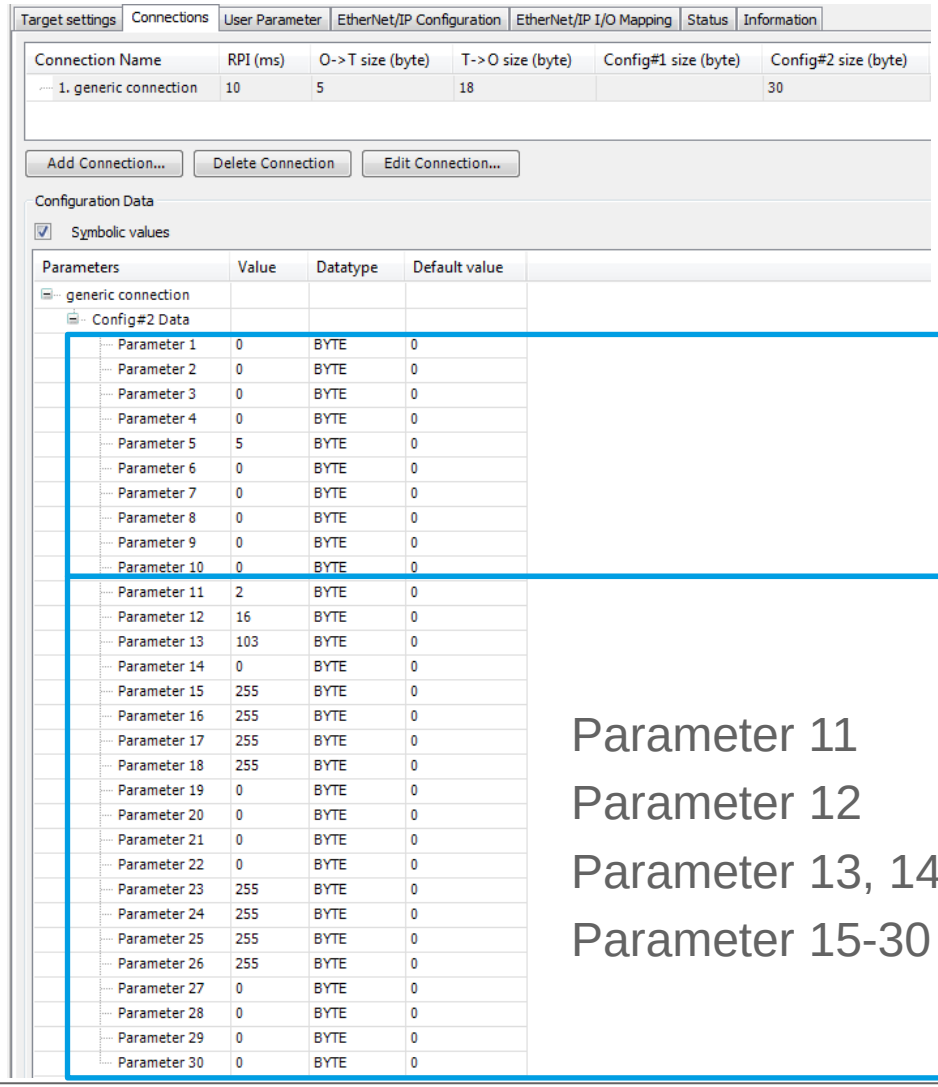
Manual configuration of an Assembly Connection

Complete the Connection Configuration



Manual configuration of an Assembly Connection

Set the Config#2 Data



Head Station Configuration

IB4 Configuration

Parameter 11 = Slot Number

Parameter 12 = Configuration Data Size

Parameter 13, 14 = Configuration Assembly Instance

Parameter 15-30 = IB4 Configuration Data

Literature

- Publication 1734-UM016A-EN-P - October 2010

Inspiring Automation Solutions

Thank you for your attention.