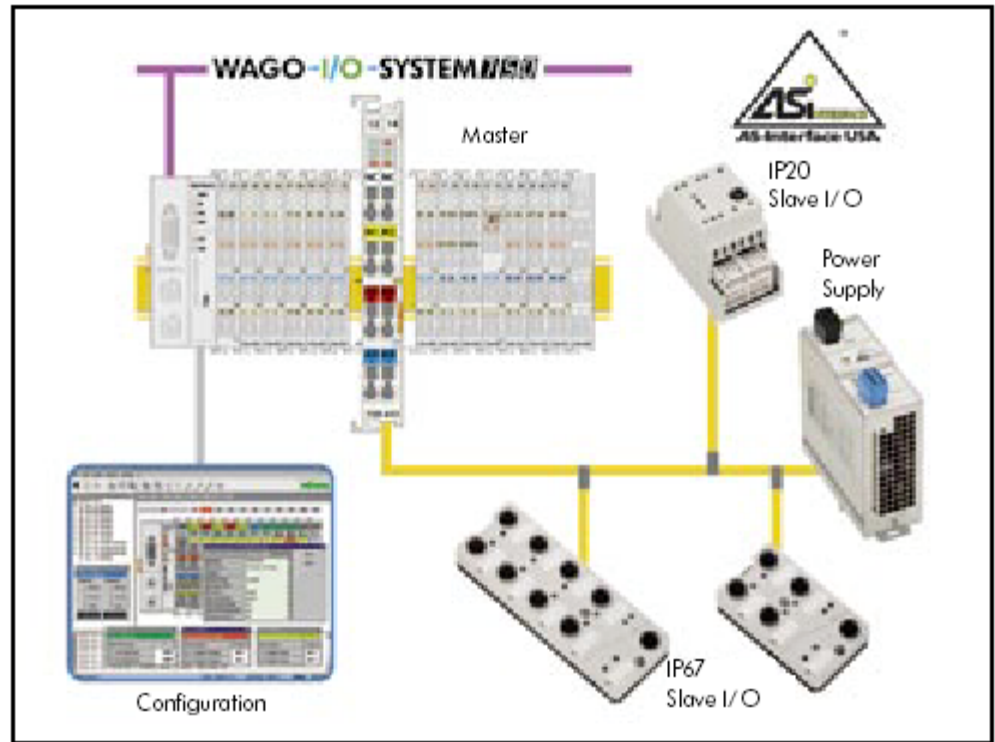


Using the WAGO 750-655 AS-i Module with the SMLC



www.wago.us/as-interface.htm

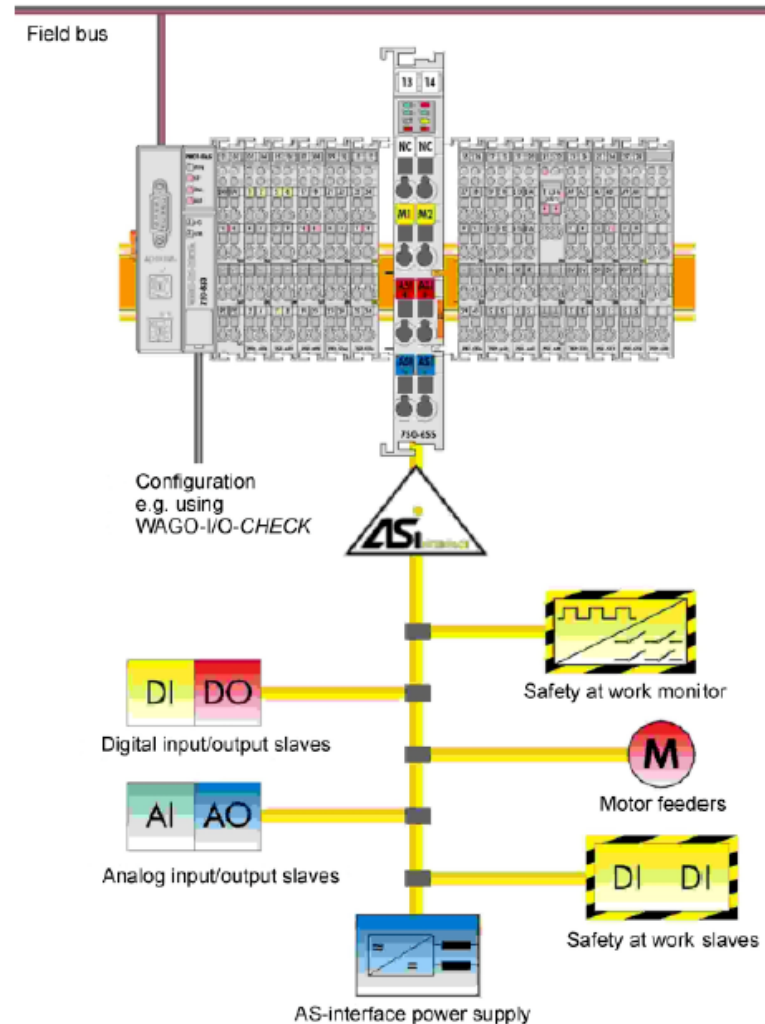
Introduction

The AS-interface master module 750-655 is used to integrate the AS-interface network into the WAGO-I/O-SYSTEM 750.

The AS-interface master module 750-655 behaves as a master for the AS-interface and as a slave for the field bus. It complies with the new AS-interface specification 2.1. This means that:

- up to 62 AS-interface slaves can be connected to the master
- the transmission of analog values is integrated within the masters
- all other functions of the new specification, such as the evaluation of peripheral errors, are also implemented

The SMLC's PLC Configuration supports using the 750-655 with any of the 750 Series Ethernet bus couplers.



2.1.2.1 Grouping of AS-interface Master Modules

From the WAGO manual for the 750-655.



Note

A maximum of three AS-interface master modules can be incorporated into one fieldbus node!

Up to three 750-655 modules can be connected to one bus coupler.

IMPORTANT: You must have SMLC firmware version 2.4.2 or later to use the 750-655 module!

A single AS-interface master module 750-655 can be placed at any position in the node. However, if two or three modules are to be placed in direct vicinity to each other in one node, they must be placed at the end of the node since in that case power for the field supply should not be derived from the power jumper contacts of the AS-interface master modules. Also, the power for the AS-interface module must not be supplied via the CAGE CLAMP® connections of the modules but must be fed in either between AS-interface master module and the slaves or between the slaves.

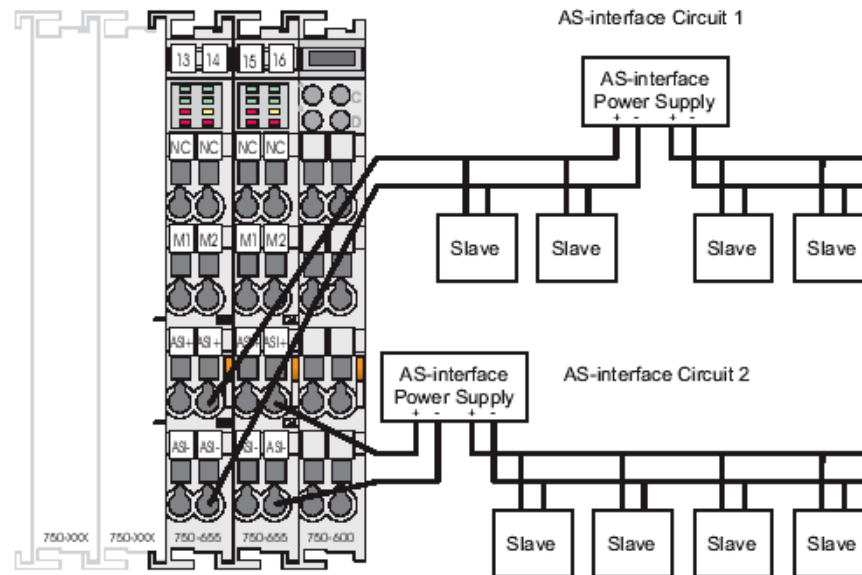


Fig. 2.1.2-7: Node design with 2 AS-interface modules

g065510e

The 750-655 can be configured in several different operating modes. In each of these modes various process image sizes can be selected, allowing access to increasing numbers of AS-i slaves.

The SMLC requires that the 750-655 be configured in operating Mode 1 - permanently configured mailbox.

The SMLC requires the use of Mode 1



Mode 1	Mode 2.1	Mode 2.2	Mode 3
permanently configured mailbox (normal mode)	overlapping mailbox activated	overlapping mailbox deactivated	register communication
Control/Status (1 byte, byte 0)	Control/Status (1 byte, byte 0)	Control/Status (1 byte, byte 0)	Control/Status (1 byte, byte 0)
Internal use (1 byte, byte 1)	Internal use (1 byte, byte 1)	Internal use (1 byte, byte 1)	Internal use (1 byte, byte 1)
Mailbox (acyclical data, 0-18 bytes long, bytes 2 to n)	Mailbox (acyclical data, 6-18 bytes long, bytes 2 to n)	Process data (cyclical data, 0-32 bytes long, bytes 2 to m)	Register data (2 bytes, bytes 2 to 3)
Process data (cyclical data, 0-32 bytes long, bytes n+1 to m)	Process data (cyclical data, 0-32 bytes long, bytes n+1 to m) (take validity of data into account!)		Invalid data (bytes 4 to m)

While the 750-655 can be configured for many different process image sizes the SMLC supports a limited number of these.

In the SMLC's PLC Configuration you can select from the following Mode 1 possible configurations:

- 24 byte process image, 6 byte mailbox**
- 12 byte process image, 6 byte mailbox**
- 12 byte process image, 0 byte mailbox**
- 40 byte process image, 0 byte mailbox**
- 48 byte process image, 12 byte mailbox**

The 0 byte mailbox configurations only support digital slaves. If you intend to use analog slaves you need to select a configuration with a non-zero length mailbox.

The table at the right shows all of the possible Mode 1 configurations. The SMLC only supports those listed above!

Mode 1		Mailbox length (permanently configured)											
Process image length	PI offset in bytes	0 byte		6 byte		10 byte		12 byte		18 byte			
	0	Control or status byte											
	1	Internal use											
Register data (bit 2 ⁷ in control byte = TRUE)	2	Flags	1/1A										
	3	2/2A	3/3A										
12 byte	4	4/4A	5/5A	Mailbox									
	5	6/6A	7/7A										
	6	8/8A	9/9A	Mailbox									
	7	10/10A	11/11A										
	8	12/12A	13/13A	Flags	1/1A	Mailbox							
	9	14/14A	15/15A	2/2A	3/3A								
	10	16/16A	17/17A	4/4A	5/5A								
11	18/18A	19/19A	6/6A	7/7A									
20 byte	12	20/20A	21/21A	8/8A	9/9A	Flags	1/1A	Mailbox					
	13	22/22A	23/23A	10/10A	11/11A	2/2A	3/3A						
	14	24/24A	25/25A	12/12A	13/13A	4/4A	5/5A	Flags	1/1A	Mailbox			
	15	26/26A	27/27A	14/14A	15/15A	6/6A	7/7A	2/2A	3/3A				
	16	28/28A	29/29A	16/16A	17/17A	8/8A	9/9A	4/4A	5/5A				
	17	30/30A	31/31A	18/18A	19/19A	10/10A	11/11A	6/6A	7/7A				
	18	Flags	1B	20/20A	21/21A	12/12A	13/13A	8/8A	9/9A				
	19	2B	3B	22/22A	23/23A	14/14A	15/15A	10/10A	11/11A				
	24 byte	20	4B	5B	24/24A	25/25A	16/16A	17/17A	12/12A			13/13A	Flags
21		6B	7B	26/26A	27/27A	18/18A	19/19A	14/14A	15/15A	2/2A	3/3A		
22		8B	9B	28/28A	29/29A	20/20A	21/21A	16/16A	17/17A	4/4A	5/5A		
23		10B	11B	30/30A	31/31A	22/22A	23/23A	18/18A	19/19A	6/6A	7/7A		
24		12B	13B	Flags	1B	24/24A	25/25A	20/20A	21/21A	8/8A	9/9A		
25		14B	15B	2B	3B	26/26A	27/27A	22/22A	23/23A	10/10A	11/11A		
26		16B	17B	4B	5B	28/28A	29/29A	24/24A	25/25A	12/12A	13/13A		
32 byte	27	18B	19B	6B	7B	30/30A	31/31A	26/26A	27/27A	14/14A	15/15A		
	28	20B	21B	8B	9B	Flags	1B	28/28A	29/29A	16/16A	17/17A		
	29	22B	23B	10B	11B	2B	3B	30/30A	31/31A	18/18A	19/19A		
	30	24B	25B	12B	13B	4B	5B	Flags	1B	20/20A	21/21A		
	31	26B	27B	14B	15B	6B	7B	2B	3B	22/22A	23/23A		
	32	28B	29B	16B	17B	8B	9B	4B	5B	24/24A	25/25A		
	33	30B	31B	18B	19B	10B	11B	6B	7B	26/26A	27/27A		
40 byte	34	-	-	20B	21B	12B	13B	8B	9B	28/28A	29/29A		
	35	-	-	22B	23B	14B	15B	10B	11B	30/30A	31/31A		
	36	-	-	24B	25B	16B	17B	12B	13B	Flags	1B		
	37	-	-	26B	27B	18B	19B	14B	15B	2B	3B		
	38	-	-	28B	29B	20B	21B	16B	17B	4B	5B		
	39	-	-	30B	31B	22B	23B	18B	19B	6B	7B		
	40	-	-	-	-	24B	25B	20B	21B	8B	9B		
48 byte	41	-	-	-	-	26B	27B	22B	23B	10B	11B		
	42	-	-	-	-	28B	29B	24B	25B	12B	13B		
	43	-	-	-	-	30B	31B	26B	27B	14B	15B		
	44	-	-	-	-	-	-	28B	29B	16B	17B		
	45	-	-	-	-	-	-	30B	31B	18B	19B		
	46	-	-	-	-	-	-	-	-	20B	21B		
	47	-	-	-	-	-	-	-	-	22B	23B		

In order to decide which configuration you should insert into the SMLC's PLC Configuration consider how many slave devices you intend to use and whether they are all digital or if you will have some analog devices.

If you are going to use analog device you must use one of the configuration that supports the mailbox.

If you are going to use all digital devices you can pick one of the configurations with a 0 byte mailbox. The advantage of the 0 byte mailbox is that the AS-i module will take up less memory in the bus coupler's process image, allowing you to install more I/O modules. Remember that the bus coupler is limited to 255 bytes of inputs and 255 bytes of outputs and a maximum of 64 modules.

For example: if you know that you will have less then 20 digital AS-i devices and no analog devices then selecting the 12 byte process image with a 0 byte mailbox is sufficient.

The table below shows how many slave devices can be supported for a given configuration. 7A indicates 7 slaves on the A bus. 31A/31B indicates 31 slaves on the A bus and 31 slaves on the B bus, etc.

Process image size (bytes)	Mailbox length 0 bytes	Mailbox length 6 bytes	Mailbox length 12 bytes
12	19A	7A	-
24	-	31A	-
40	31A/31B	-	-
48	-	-	31A/31B

In order to configure the 750-655 AS-i module and to assign the slave device IDs you need to use the WAGO I/O Check software (759-302). Connect the WAGO programming cable (750-920) to the bus coupler and to a free serial port on your computer.

NOTE: If the Ethernet cable is plugged into the bus coupler, unplug it. WAGO I/O Check will not allow you to configure the bus coupler while the fieldbus is active!

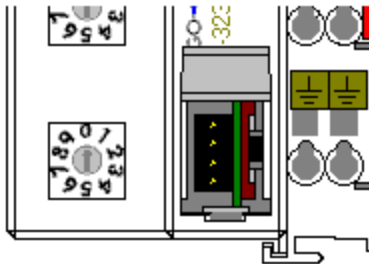
The following steps are necessary to prepare a communication connection:

- Switch off the voltage supply of the buscoupler / -controller.
- Open the cover of the configuration interface of the buscoupler / -controller.



Warning!

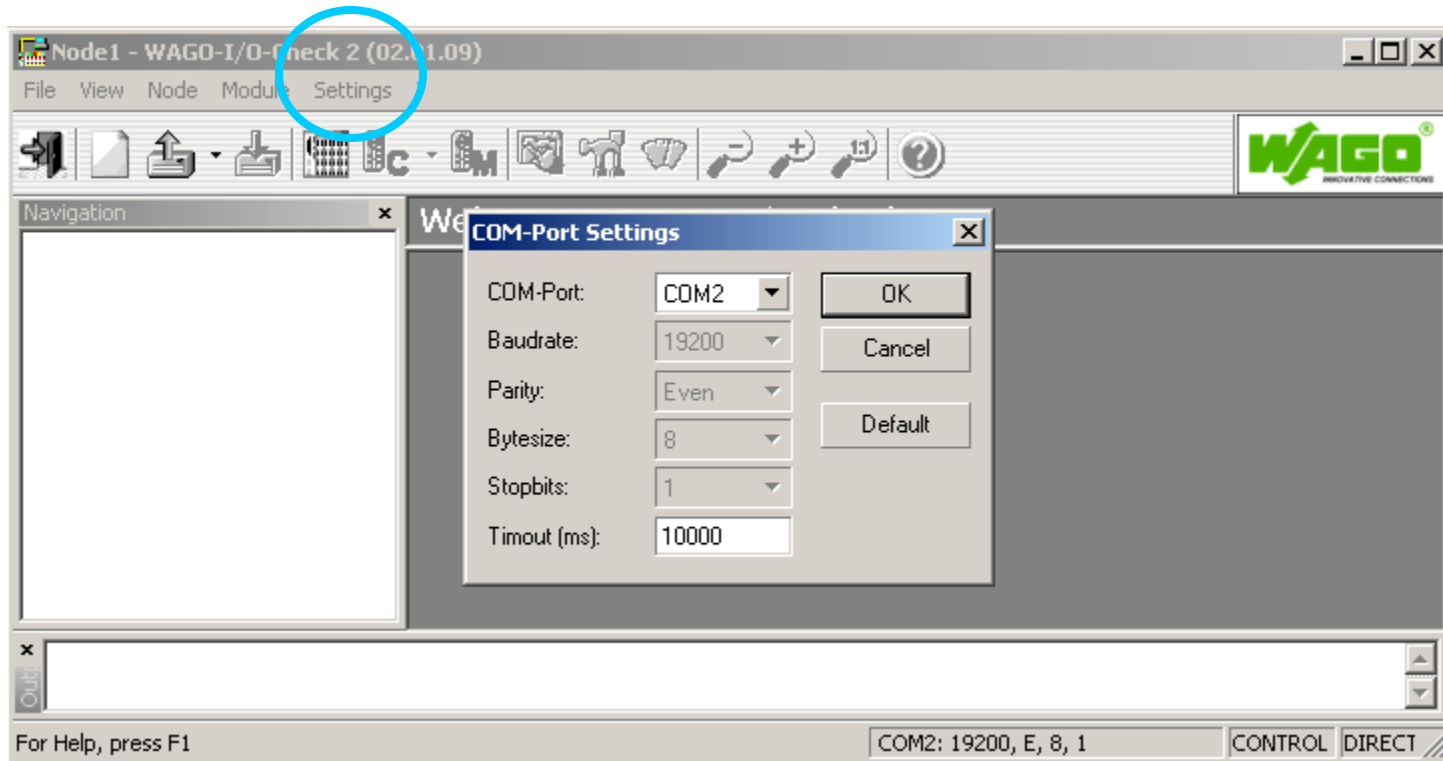
Do not touch the contacts of the configuration interface!



- Connect the configuration interface with the attendant plug of the communication cable 750-920.
- Connect the D-Sub plug of the communication cable to a free serial interface of the PC.
- Switch on the voltage supply of the buscoupler / -controller again.

Start WAGO-I/O-Check configure the I/O Check COM port using the Settings menu.

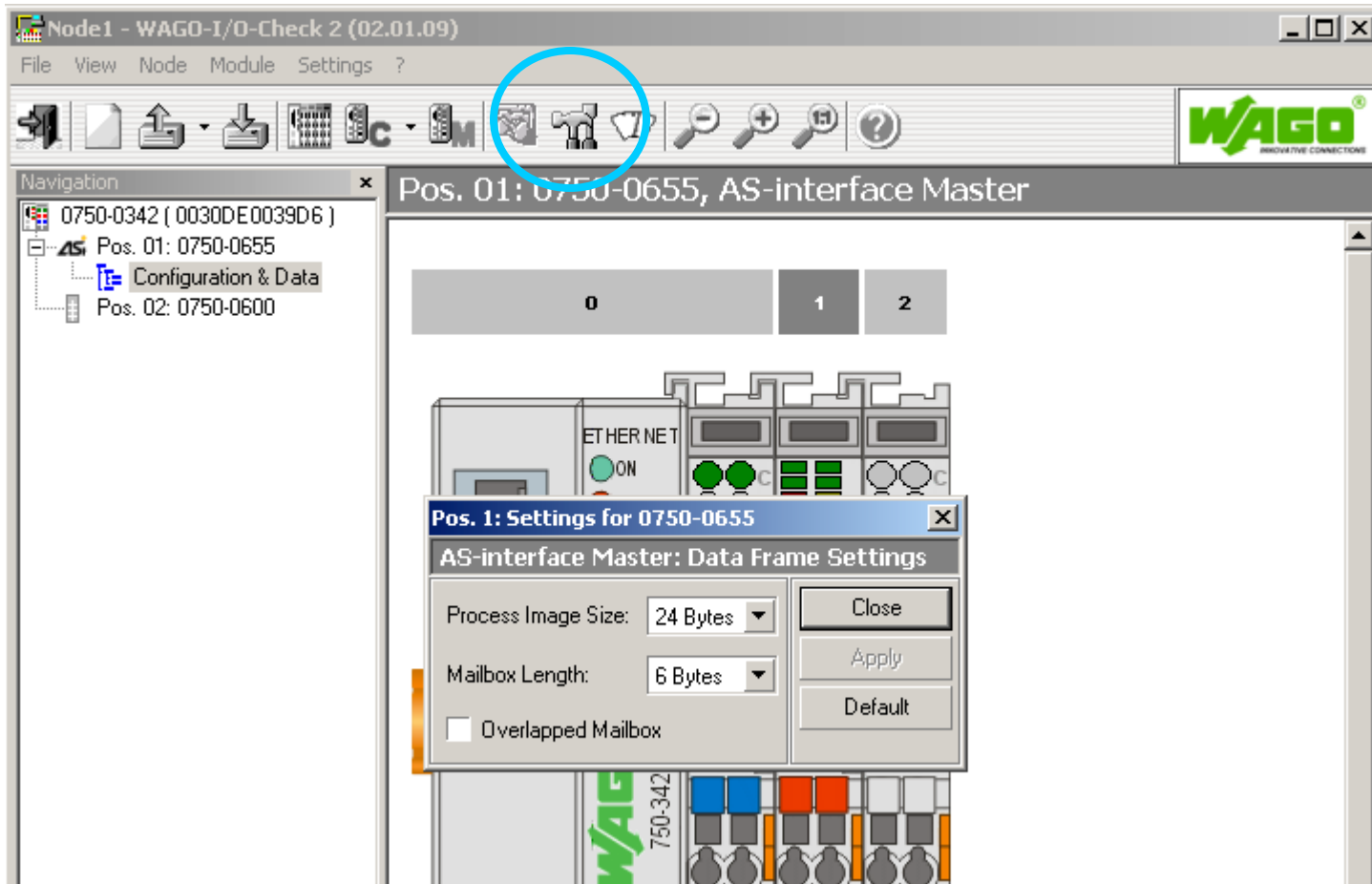
In this example the cable is connected to COM2.



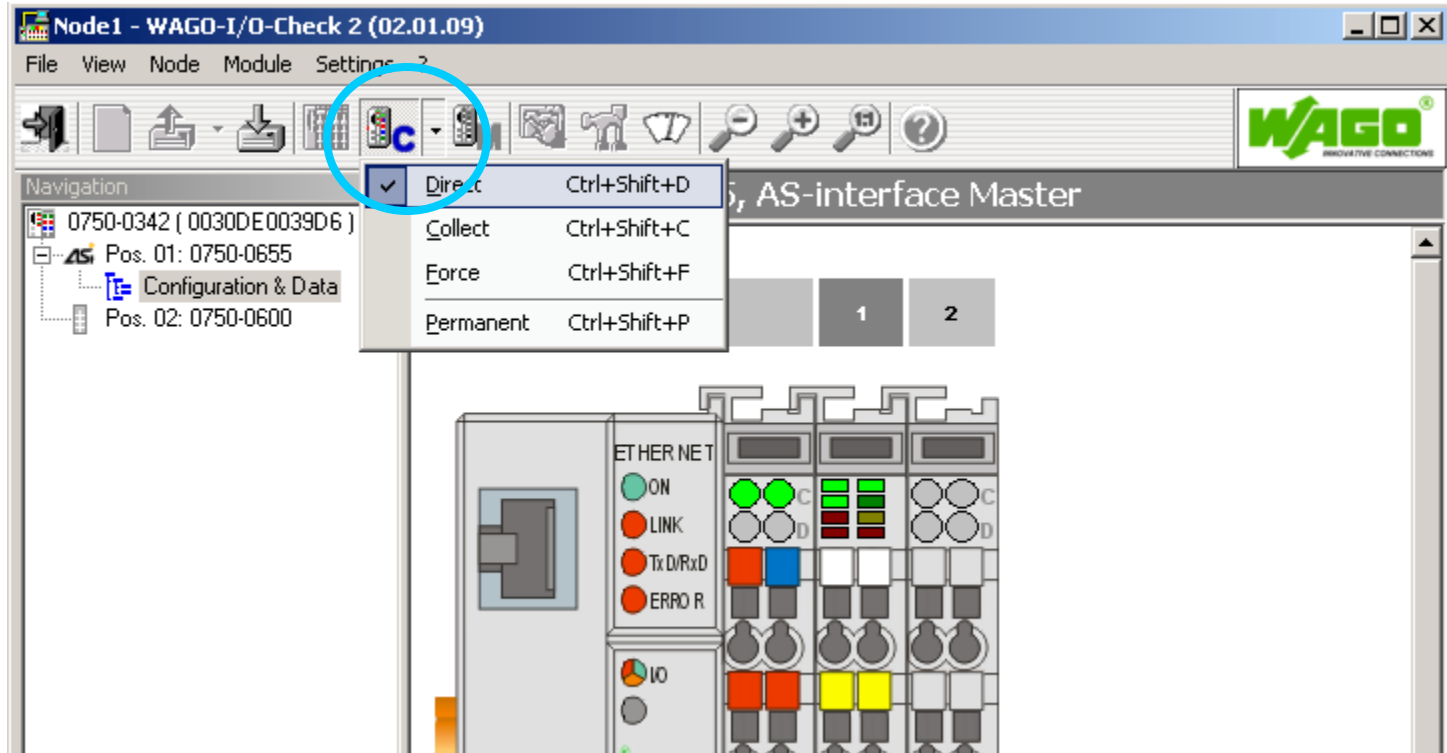
Click on the Settings button to configure the process image and mailbox size. The default settings are 24 byte process image and 6 byte fixed mailbox. The SMLC supports this configuration and this selection allows you to access up to 31 AS-i slaves.

The SMLC does **not** support the Overlapped Mailbox so do not check this.

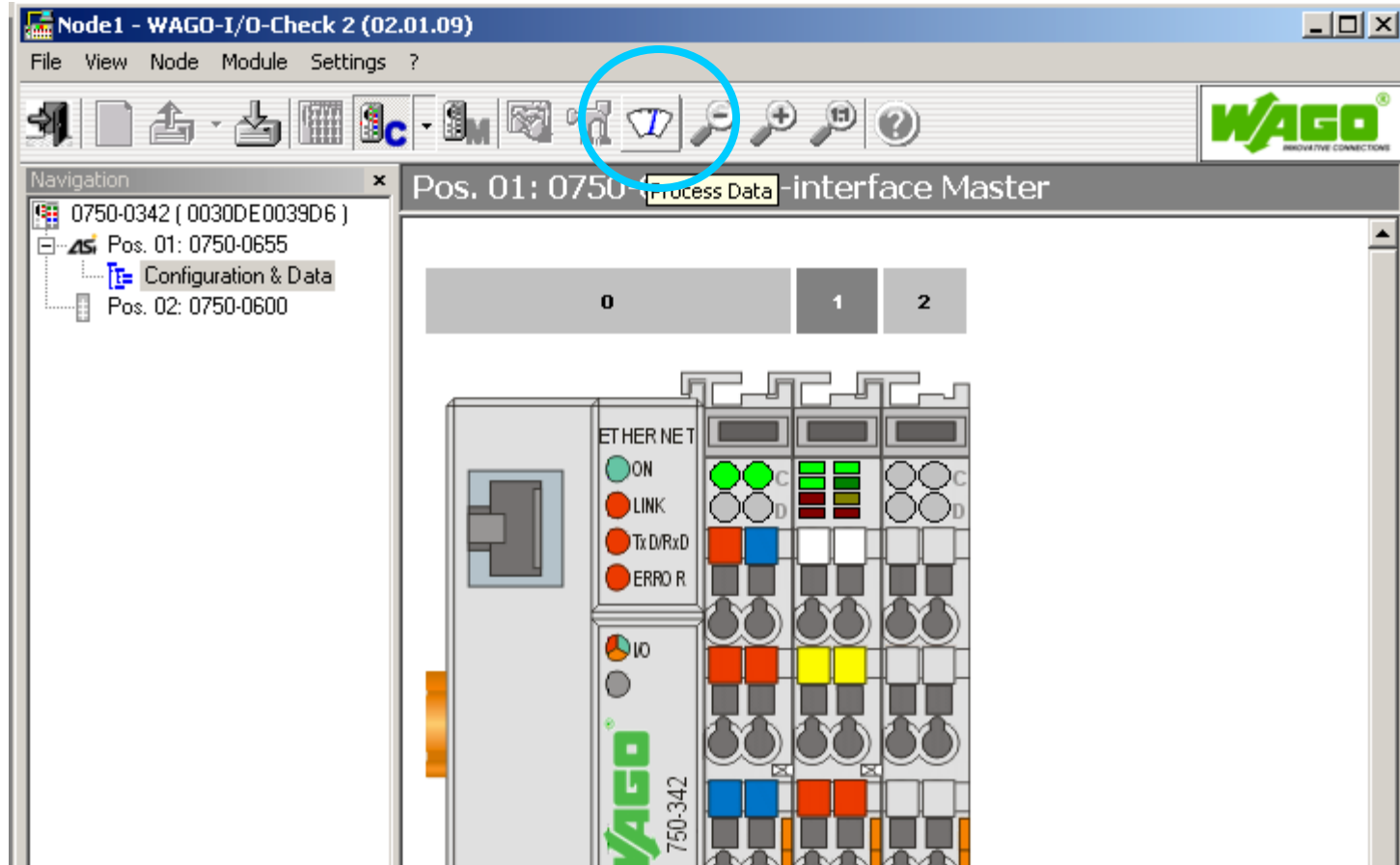
If you change any of the settings click the Apply button to send the new configuration to the bus coupler.



Select the Direct Control mode



Click on the Process Data button to configure the AS-i network



The Master Configuration screen shows the current AS-i network and any connected slaves.

By selecting a slave you can monitor its inputs and toggle its outputs.

Master Properties

<input checked="" type="checkbox"/> Configuration OK (Cok)	<input type="checkbox"/> Configuration Active (CA)
<input checked="" type="checkbox"/> Periphery OK (Pok)	<input type="checkbox"/> Offline on Configuration Error
<input checked="" type="checkbox"/> Normal Operation Active (NA)	<input checked="" type="checkbox"/> Data Exchange Active (DX)
<input checked="" type="checkbox"/> Offline Ready (OR)	<input type="checkbox"/> Offline (OL)
<input checked="" type="checkbox"/> AS-i Power Fail (APF)	
<input type="checkbox"/> Auto Address Assign (AAs)	<input type="checkbox"/> Auto Address Enable (AAe)
<input type="checkbox"/> Auto Address Available (AAv)	

Slave Properties [Address: 1A]

Projected Detected Activated Scan

Configuration	IO	ID	ID1	ID2	Description
Detected	7	F	F	E	User defined (ID2=0xE): 4 in / 4 out
Projected	7	F	F	E	User defined (ID2=0xE): 4 in / 4 out

Store Detected Set Projected

Parameter	Bit 03	Bit 02	Bit 01	Bit 00
Actual	ON	ON	ON	ON
Permanent	ON	ON	ON	ON

Set Actual Store Permanent

Address: New Address: 1A Set

Data	Bit 03	Bit 02	Bit 01	Bit 00
Input	ON	OFF	OFF	ON
Output	OFF	ON	ON	OFF

Suppose we want to change the address of Slave 1A to 2A. Check the Configuration Active (CA) box and then enter the new address (2A) and click the Set button.

The screenshot shows the 'AS-interface Master Configuration' window for 'Pos. 1: 0750-0655'. The left pane shows a list of slaves, with '02 : User defined (ID2=0xE): 4 in / 4 out' selected. The right pane is divided into 'Master Properties' and 'Slave Properties [Address: 2A]'. In the 'Master Properties' section, the 'Configuration Active (CA)' checkbox is checked and circled in blue. In the 'Slave Properties' section, the 'Address' field is set to '2A' and the 'Set' button is circled in blue.

Master Properties

- Configuration OK (Cok)
- Configuration Active (CA)
- Online on Configuration Error
- Peripheral OK (Pok)
- Normal Operation Active (NA)
- Data Exchange Active (DX)
- Offline Ready (OR)
- Offline (OL)
- AS-i Power Fail (APF)
- Auto Address Assign (AAs)
- Auto Address Enable (AAe)
- Auto Address Available (AAv)

Slave Properties [Address: 2A]

Configuration	IO	ID	ID1	ID2	Description
Detected	7	F	F	E	User defined (ID2=0xE): 4 in / 4 out
Projected	7	F	F	E	User defined (ID2=0xE): 4 in / 4 out

Parameter

Parameter	Bit 03	Bit 02	Bit 01	Bit 00
Actual	ON	ON	ON	ON
Permanent	---	---	---	---

Address

New Address:

Data

Data	Bit 03	Bit 02	Bit 01	Bit 00
Input	ON	OFF	OFF	ON
Output	OFF	OFF	OFF	OFF

Note that the network view shows <Slave missing> for 1A and the Configuration OK LED is red. Click on the Store Config button

The screenshot shows the 'AS-i Master Configuration' software window. The title bar reads 'Pos. 1: 0750-0655, AS-interface Master Configuration'. The menu bar includes 'File', 'View', 'Master', 'Slave', and 'Extras'. Below the menu bar, there is a dropdown menu for 'A-Slaves' and three buttons: 'Store Config.', 'Store Param.', and 'Refresh'. The 'Store Config.' button is circled in blue. The main area is divided into two panes. The left pane shows a list of slave addresses from 01 to 31. Address 01 is highlighted in yellow and labeled '<Slave missing>'. Address 02 is labeled 'User defined (ID2=0xE): 4 in / 4 out'. The right pane is titled 'Master Properties' and contains several status indicators with checkboxes: 'Configuration OK (Cok)' (red circle, unchecked), 'Periphery OK (Pok)' (green circle, checked), 'Normal Operation Active (NA)' (green circle, checked), 'Offline Ready (OR)' (green circle, checked), 'AS-i Power Fail (APF)' (green circle, checked), 'Auto Address Assign (AAs)' (checkbox, unchecked), 'Auto Address Available (AAv)' (checkbox, unchecked), 'Configuration Active (CA)' (checkbox, checked), 'Offline on Configuration Error' (checkbox, unchecked), 'Data Exchange Active (DX)' (checkbox, checked), and 'Offline (OL)' (checkbox, unchecked). Below this is the 'Slave Properties [Address: 2A]' section, which includes a table for 'Detected' and 'Projected' slaves, a 'Parameter' table, and a 'Data' table.

Configuration	IO	ID	ID1	ID2	Description
Detected	7	F	F	E	User defined (ID2=0xE): 4 in / 4 out
Projected	7	F	F	E	User defined (ID2=0xE): 4 in / 4 out

Parameter	Bit 03	Bit 02	Bit 01	Bit 00
Actual	ON	ON	ON	ON
Permanent	---	---	---	---

Data	Bit 03	Bit 02	Bit 01	Bit 00
Input	ON	OFF	OFF	ON
Output	OFF	OFF	OFF	OFF

Now the slave address has been re-assigned and the Configuration OK LED is green

The screenshot shows the 'AS-i Pos. 1: 0750-0655, AS-interface Master Configuration' window. The 'A-Slaves' list on the left includes slave 02, which is highlighted and described as 'User defined (ID2=0xE): 4 in / 4 out'. The 'Master Properties' section contains several status indicators, with 'Configuration OK (Cok)' circled in blue and shown as a green LED. Other indicators include 'Peripheral OK (POK)', 'Normal Operation Active (NA)', 'Offline Ready (OR)', 'AS-i Power Fail (APF)', 'Auto Address Assign (AAs)', and 'Auto Address Available (AAv)'. The 'Configuration Active (CA)' checkbox is checked and highlighted in yellow. The 'Slave Properties [Address: 2A]' section includes a table for 'Projected', 'Detected', and 'Activated' states, and a table for 'Parameter' (Actual and Permanent) across bits 03, 02, 01, and 00. The 'Address' field shows 'New Address: 2A' with a 'Set' button. The 'Data' table at the bottom shows 'Input' as ON for bit 00 and OFF for others, and 'Output' as OFF for all bits.

Configuration	IO	ID	ID1	ID2	Description
Detected	7	F	F	E	User defined (ID2=0xE): 4 in / 4 out
Projected	7	F	F	E	User defined (ID2=0xE): 4 in / 4 out

Parameter	Bit 03	Bit 02	Bit 01	Bit 00
Actual	ON	ON	ON	ON
Permanent	---	---	---	---

Data	Bit 03	Bit 02	Bit 01	Bit 00
Input	ON	OFF	OFF	ON
Output	OFF	OFF	OFF	OFF

Uncheck Configuration Active (CA) and close the window

Master Properties

- Configuration OK (Cok)
- Peripheral OK (Pok)
- Normal Operation Active (NA)
- Offline Ready (OR)
- AS-i Power Fail (APF)
- Configuration Active (CA)
- Online on Configuration Error
- Data Exchange Active (DX)
- Offline (OL)
- Auto Address Assign (AAs)
- Auto Address Enable (AAe)
- Auto Address Available (AAv)

Slave Properties [Address: 2A]

Configuration	IO	ID	ID1	ID2	Description
Detected	7	F	F	E	User defined (ID2=0xE): 4 in / 4 out
Projected	7	F	F	E	User defined (ID2=0xE): 4 in / 4 out

Buttons: Store Detected, Set Projected

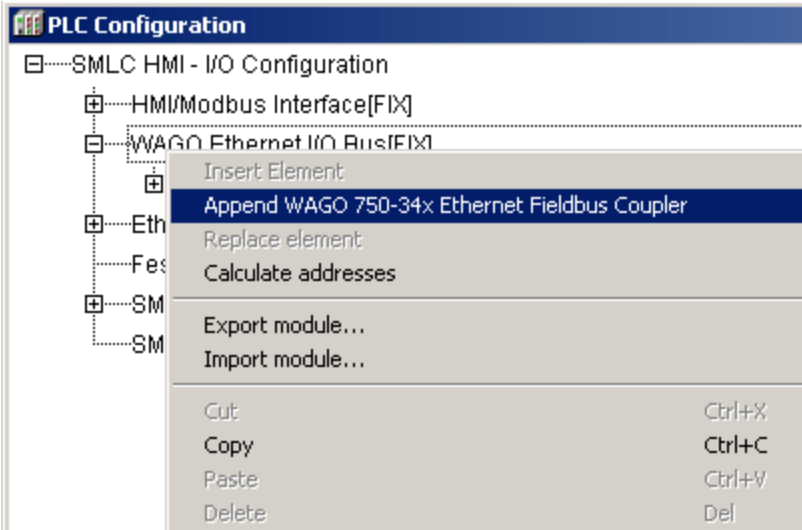
Parameter	Bit 03	Bit 02	Bit 01	Bit 00
Actual	ON	ON	ON	ON
Permanent	---	---	---	---

Buttons: Set Actual, Store Permanent

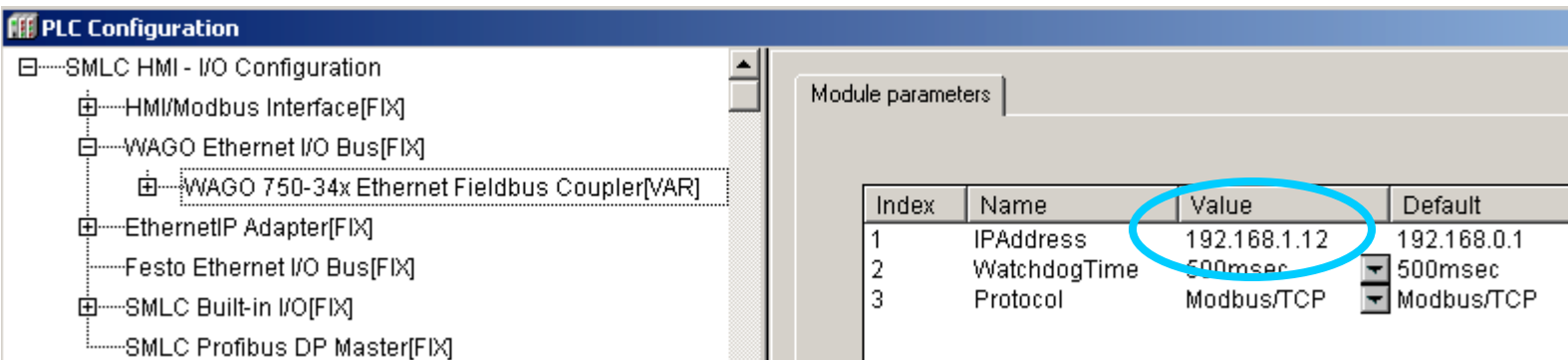
Data	Bit 03	Bit 02	Bit 01	Bit 00
Input	ON	OFF	OFF	ON
Output	OFF	OFF	OFF	OFF

Quite WAGO I/O Check, reconnect the Ethernet cable to the bus coupler and start CoDeSys.

Add a WAGO Ethernet bus coupler to your PLC Configuration and set the IP address.



In this example the WAGO bus coupler's IP Address is 192.168.1.12



For this example we will use the default configuration of a 24 byte process image with a 6 byte mailbox.

The PLC Configuration tree now shows the AS-i module with 24 input bytes and 24 output bytes. The comment fields for each byte are useful in determining what each byte is.

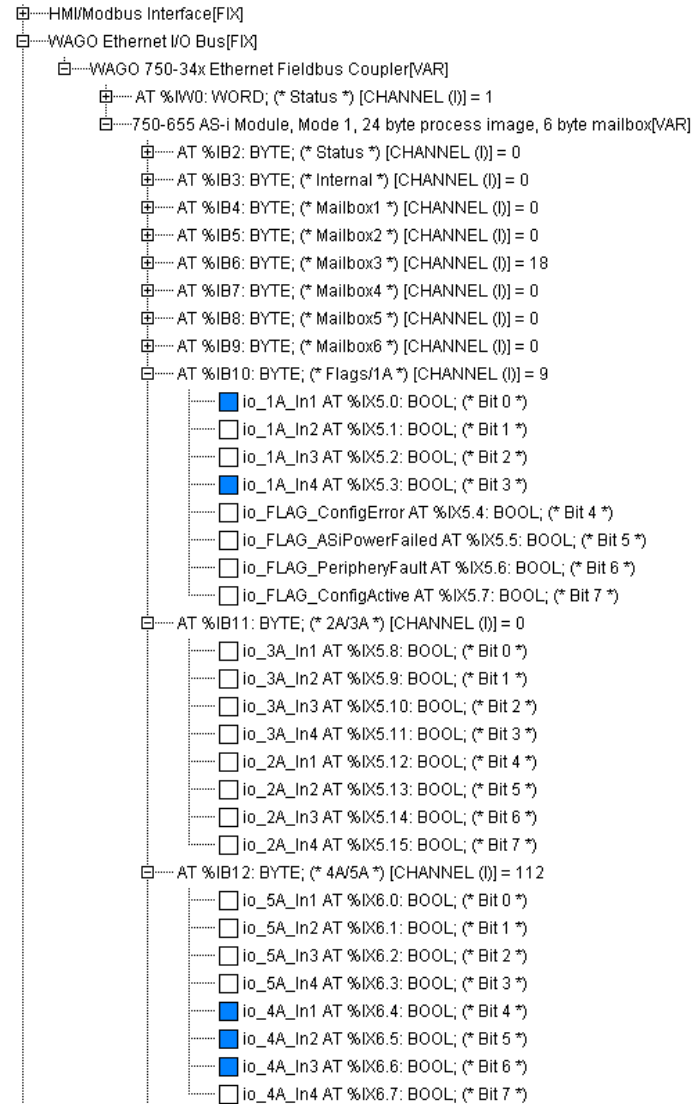
For our I/O what we are interested in are the device IDs of the slaves on the AS-i network: 1A, 2A, 3A etc.

Each AS-i slave has 4 bits of inputs and 4 bits of outputs available.

```
WAGO 750-34x Ethernet Fieldbus Coupler[VAR]
├── AT %IWO: WORD; (* Status *) [CHANNEL (I)]
└── 750-655 AS-i Module, Mode 1, 24 byte process image, 6 byte mailbox (default)[VAR]
    ├── AT %IB2: BYTE; (* Status *) [CHANNEL (I)]
    ├── AT %IB3: BYTE; (* Internal *) [CHANNEL (I)]
    ├── AT %IB4: BYTE; (* Mailbox1 *) [CHANNEL (I)]
    ├── AT %IB5: BYTE; (* Mailbox2 *) [CHANNEL (I)]
    ├── AT %IB6: BYTE; (* Mailbox3 *) [CHANNEL (I)]
    ├── AT %IB7: BYTE; (* Mailbox4 *) [CHANNEL (I)]
    ├── AT %IB8: BYTE; (* Mailbox5 *) [CHANNEL (I)]
    ├── AT %IB9: BYTE; (* Mailbox6 *) [CHANNEL (I)]
    ├── AT %IB10: BYTE; (* Flags/1A *) [CHANNEL (I)]
    ├── AT %IB11: BYTE; (* 2A/3A *) [CHANNEL (I)]
    ├── AT %IB12: BYTE; (* 4A/5A *) [CHANNEL (I)]
    ├── AT %IB13: BYTE; (* 6A/7A *) [CHANNEL (I)]
    ├── AT %IB14: BYTE; (* 8A/9A *) [CHANNEL (I)]
    ├── AT %IB15: BYTE; (* 10A/11A *) [CHANNEL (I)]
    ├── AT %IB16: BYTE; (* 12A/13A *) [CHANNEL (I)]
    ├── AT %IB17: BYTE; (* 14A/15A *) [CHANNEL (I)]
    ├── AT %IB18: BYTE; (* 16A/17A *) [CHANNEL (I)]
    ├── AT %IB19: BYTE; (* 18A/19A *) [CHANNEL (I)]
    ├── AT %IB20: BYTE; (* 20A/21A *) [CHANNEL (I)]
    ├── AT %IB21: BYTE; (* 22A/23A *) [CHANNEL (I)]
    ├── AT %IB22: BYTE; (* 24A/25A *) [CHANNEL (I)]
    ├── AT %IB23: BYTE; (* 26A/27A *) [CHANNEL (I)]
    ├── AT %IB24: BYTE; (* 28A/29A *) [CHANNEL (I)]
    ├── AT %IB25: BYTE; (* 30A/31A *) [CHANNEL (I)]
    ├── AT %QB2: BYTE; (* Control *) [CHANNEL (Q)]
    ├── AT %QB3: BYTE; (* Internal *) [CHANNEL (Q)]
    ├── AT %QB4: BYTE; (* Mailbox1 *) [CHANNEL (Q)]
    ├── AT %QB5: BYTE; (* Mailbox2 *) [CHANNEL (Q)]
    ├── AT %QB6: BYTE; (* Mailbox3 *) [CHANNEL (Q)]
    ├── AT %QB7: BYTE; (* Mailbox4 *) [CHANNEL (Q)]
    ├── AT %QB8: BYTE; (* Mailbox5 *) [CHANNEL (Q)]
    ├── AT %QB9: BYTE; (* Mailbox6 *) [CHANNEL (Q)]
    ├── AT %QB10: BYTE; (* Flags/1A *) [CHANNEL (Q)]
    └── AT %QB11: BYTE; (* 2A/3A *) [CHANNEL (Q)]
```

It may be helpful to assign variable names to each bit that indicate the AS-i ID and bit number.

In this example the input Flag bits are also given names.



If you wish to name the output flag bits as well an example is shown below. Notice that we are on the output (Q) channels now.

```
⊕----- AT %IB26: BYTE; (* 30A/31A *) [CHANNEL (I)]
⊕----- AT %QB3: BYTE; (* Control *) [CHANNEL (Q)]
⊕----- AT %QB4: BYTE; (* Internal *) [CHANNEL (Q)]
⊕----- AT %QB5: BYTE; (* Mailbox1 *) [CHANNEL (Q)]
⊕----- AT %QB6: BYTE; (* Mailbox2 *) [CHANNEL (Q)]
⊕----- AT %QB7: BYTE; (* Mailbox3 *) [CHANNEL (Q)]
⊕----- AT %QB8: BYTE; (* Mailbox4 *) [CHANNEL (Q)]
⊕----- AT %QB9: BYTE; (* Mailbox5 *) [CHANNEL (Q)]
⊕----- AT %QB10: BYTE; (* Mailbox6 *) [CHANNEL (Q)]
⊖----- AT %QB11: BYTE; (* Flags/1A *) [CHANNEL (Q)]
    |-----
    |-----io_1A_Out1 AT %QX5.8: BOOL; (* Bit 0 *)
    |-----io_1A_Out2 AT %QX5.9: BOOL; (* Bit 1 *)
    |-----io_1A_Out3 AT %QX5.10: BOOL; (* Bit 2 *)
    |-----io_1A_Out4 AT %QX5.11: BOOL; (* Bit 3 *)
    |-----io_FLAG_Offline AT %QX5.12: BOOL; (* Bit 4 *)
    |-----io_FLAG_LOS_Master AT %QX5.13: BOOL; (* Bit 5 *)
    |-----io_FLAG_SetSetupMode AT %QX5.14: BOOL; (* Bit 6 *)
    |-----io_FLAG_SetProtectedMode AT %QX5.15: BOOL; (* Bit 7 *)
⊕----- AT %QB12: BYTE; (* 2A/3A *) [CHANNEL (Q)]
⊕----- AT %QB13: BYTE; (* 4A/5A *) [CHANNEL (Q)]
⊕----- AT %QB14: BYTE; (* 6A/7A *) [CHANNEL (Q)]
```

If you intend to use Analog I/O it is necessary to use the WAGO ASInterface CoDeSys library (ASInterface_01.lib), which is available for download on the WAGO web site. Application notes on using this library are also available on the WAGO web site.

This library contains several function blocks that can perform advanced diagnostic commands using the mailbox interface. If you intend to use this library you must select a configuration with a non-zero mailbox length.

For more information on mailbox commands and additional details on the WAGO 750-655 AS-interface master module refer to the WAGO 750-655 manual.