

## Description for Bihl+Wiedemann AS-i OPC Server (OPC 1 Ver. 1.3+ OPC 2 Ver. 2.2)

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The OPC Server are developed for the AS-I PCI board and for the AS-I/Ethernet Gateway.

Two OPC Server are available:

- ASIOPC fast (OPC 1 Ver. 1.3) for fast data exchange of AS-I binary inputs and outputs.
- ASIOPCB slow (OPC 2 Ver. 2.2) for AS-I analog data and all other functions
- Both OPC Server can be used parallel with the same AS-I master.

### Items:

Inputs.Slave\_X: 4 bit input data of slave X. Type: uint8.

Inputs.Slave\_X\_B: 4 bit input data of B-slave X (AS-i 2.1 only). Type: uint8.

Inputs.Slave\_X\_Bit.Bit\_Y: Bit Y input data of slave X. Type: bool.

Inputs.Slave\_X\_B\_Bit.Bit\_Y: Bit Y input data of B-slave X (AS-i 2.1 only). Type: bool.

Outputs.Slave\_X: 4 bit output data of slave X. Type: uint8.

Outputs.Slave\_X\_B: 4 bit output data of B-slave X (AS-i 2.1 only). Type: uint8.

Outputs.Slave\_X\_Bit.Bit\_Y: Bit Y output data of slave X. Type: bool.

Outputs.Slave\_X\_B\_Bit.Bit\_Y: Bit Y output data of B-slave X (AS-i 2.1 only). Type: bool.

Inputs\_Analog.Signed.Slave\_X: 16 bit signed analog input data array (4 channels) of slave X (AS-i 2.1 only, protocol 7.3, 7.4). Type: array int32[4].

Inputs\_Analog.Signed.Slave\_X\_Channel.Channel\_Y: 16 bit signed analog input data of slave X channel Y (AS-i 2.1 only, protocol 7.3, 7.4). Type: int32.

Inputs\_Analog.Unsigned.Slave\_X: 16 bit unsigned analog input data array (4 channels) of slave X (AS-i 2.1 only, protocol 7.3, 7.4). Type: array int32[4].

Inputs\_Analog.Unsigned.Slave\_X\_Channel.Channel\_Y: 16 bit unsigned analog input data of slave X channel Y (AS-i 2.1 only, protocol 7.3, 7.4). Type: int32.

Outputs\_Analog.Signed.Slave\_X\_Channel.Channel\_Y: 16 bit signed analog input data of slave X channel Y (AS-i 2.1 only, protocol 7.3, 7.4). Type: int32.

Inputs\_Analog.Signed.Slave\_X\_Channel.Channel\_Y: 16 bit unsigned analog output data of slave X channel Y (AS-i 2.1 only, protocol 7.3, 7.4). Type: int32.

Input\_Memory.Memory: Array of 128 bytes user memory of the AS-i control. Type: array uint8[128].

Input\_Memory.Memory\_Byte.Byte\_X: 1 byte user memory of the AS-i control at address X (read only). Type: uint8.

Output\_Memory.Memory\_Byte.Byte\_X: 1 byte user memory of the AS-i control at address X (read/write). Type: uint8.

Flags.EcFlags: 1 byte execution control flags (see AS-i master description). Type: int16.

Flags.EcFlagsBit.AsiPowerFail: execution control flag AsiPowerFail (bit 0). Type: bool.

Flags.EcFlagsBit.AutoAddressAssign: execution control flag AutoAddressAssign (bit 1). Type: bool.

Flags.EcFlagsBit.AutoAddressAvailable: execution control flag AutoAddressAvailable (bit 2). Type: bool.  
 Flags.EcFlagsBit.ConfigOK: execution control flag ConfigurationOK (bit 3). Type: bool.  
 Flags.EcFlagsBit.ConfigurationActive: execution control flag ConfigurationActive (bit 4). Type: bool.  
 Flags.EcFlagsBit.LDS0: execution control flag Slave 0 detected (bit 5). Type: bool.  
 Flags.EcFlagsBit.NormalOperationActive: execution control flag NormalOperationActive (bit 6). Type: bool.  
 Flags.EcFlagsBit.OfflineReady: execution control flag OfflineReady (bit 7). Type: bool.  
 Flags.EcFlagsBit.PeripheryFault: execution control flag PeripheryFault (bit 8). Type: bool.

Lists.LDS.LDS\_H: (OPC 2) List of Detected Slaves upper 32 bits (Slave 32-63) (AS-i 2.1 only). Type: int32.  
 Lists.LDS.LDS\_L: (OPC 2)List of Detected Slaves lower 32 bits (Slave 0-31) . Type: int32.  
 Lists.LDS.Slave\_X: (OPC 2)List of Detected Slaves slave X . Type: bool.  
 Lists.LDS.Slave\_X\_B: (OPC 2)List of Detected Slaves B-slave X (AS-i 2.1 only). Type: bool.

Lists.LAS.LAS\_H: (OPC 2)List of Active Slaves upper 32 bits (Slave 32-63) (AS-i 2.1 only). Type: int32.  
 Lists.LAS.LAS\_L: (OPC 2)List of Active Slaves lower 32 bits (Slave 0-31) . Type: int32.  
 Lists.LAS.Slave\_X: (OPC 2)List of Active Slaves slave X . Type: bool.  
 Lists.LAS.Slave\_X\_B: (OPC 2)List of Active Slaves B-slave X (AS-i 2.1 only). Type: bool.

Lists.LPS.LPS\_H: (OPC 2) List of Projected Slaves upper 32 bits (Slave 32-63) (AS-i 2.1 only). Type: int32.  
 Lists.LPS.LPS\_L: (OPC 2) List of Projected Slaves lower 32 bits (Slave 0-31) . Type: int32.  
 Lists.LPS.Slave\_X: (OPC 2) List of Projected Slaves slave X . Type: bool.  
 Lists.LPS.Slave\_X\_B: (OPC 2) List of Projected Slaves B-slave X (AS-i 2.1 only). Type: bool.

Lists.LPF.LPF\_H: (OPC 2) List of Periphery Faults upper 32 bits (Slave 32-63) (AS-i 2.1 only). Type: int32.  
 Lists.LPF.LPF\_L: (OPC 2) List of Periphery Faults lower 32 bits (Slave 0-31) . Type: int32.  
 Lists.LPF.Slave\_X: (OPC 2) List of Periphery Faults slave X . Type: bool.  
 Lists.LPF.Slave\_X\_B: (OPC 2) List of Periphery Faults B-slave X (AS-i 2.1 only). Type: bool.

Lists.LOS.LFS\_H: (OPC 2) List of Offline Slaves upper 32 bits (Slave 32-63) (AS-i 2.1 only). Type: int32.  
 Lists.LOS.LFS\_L: (OPC 2) List of Offline Slaves lower 32 bits (Slave 0-31) . Type: int32.  
 Lists.LOS.Slave\_X: (OPC 2) List of Offline Slaves slave X . Type: bool.  
 Lists.LOS.Slave\_X\_B: (OPC 2) List of Offline Slaves B-slave X (AS-i 2.1 only). Type: bool.

Lists.CDI.Slave\_X: (OPC 2) Configuration Data Image slave X . Type: int32.  
 Lists.CDI.Slave\_X\_B: (OPC 2) Configuration Data Image B-slave X (AS-i 2.1 only). Type: int32.

Lists.PCD.Slave\_X: (OPC 2) Permanent Configuration Data slave X . Type: int32.  
 Lists.PCD.Slave\_X\_B: (OPC 2) Permanent Configuration Data B-slave X (AS-i 2.1 only). Type: int32.

Watchdog.SetTime: (OPC 2) Activates the software watchdog with the given timeout. Units are [10ms]. A value of zero deactivates the watchdog. The watchdog can be triggered by the OPC client in writing a value to the Trigger object. When the software watchdog is active also the AS-i Master communication watchdog is enabled as a protection against system crash. After the watchdog has timed out all AS-i outputs are reset to zero. Type: int16.  
 Watchdog.GetTimedOut: (OPC 2) TRUE= Watchdog has timed out. Reset watchdog in writing 0 to the SetTime object. Type: bool.  
 Watchdog.Trigger: (OPC 2) Writing this object triggers the software watchdog. Any value can be written. Type: int16.

Other.CycleTime: The internal OPC server data update cycle time in [ms]. The following tables shows the object update time as factor of CycleTime. Type: int32.

Object Type	Update time as factor of CycleTime
Inputs	1
Outputs	1
Analog	Asynchronous. Depends on number of client requests.
Input_Memory (OPC 1, reading)	Asynchronous. Depends on number of client requests.
Input_Memory (OPC 2, reading)	8
Output_Memory (writing)	Asynchronous. Depends on number of client requests.
EcFlags	1
LDS	4
LAS	4
LPS	4
LPF	4
LOS	1
CDI	32
PCD	32