 **IO-Link**

ACTUATOR HUB

AHC 072 | IO-Link parameters

GENERAL INFORMATION

DESCRIPTION

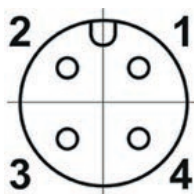
The IO-Link actuator hub is used for switching up to three actuators (e.g. heaters, fans, signal lights) each with max. 10 A. The relays for the connected actuators are controlled via IO-Link switching commands. The actuator is integrated within an IO-Link environment via an M12 plug connector.

GENERAL DATA

Manufacturer name	STEGO Elektrotechnik GmbH
Manufacturer ID	0x04C6 / 1222d
Manufacturer URL	www.stego.de
Product ID	AHC 07200.2-00
Device ID	ID 0x0000C8 / 200d
IO-Link version	V 1.1
Bit rate	COM2
Minimum cycle time	20.0 ms
SIO mode	No
Data storage	Yes

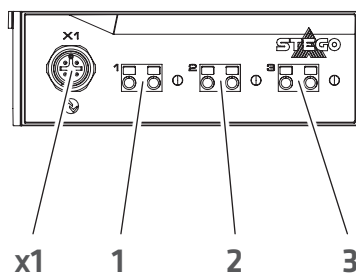


IO-LINK INTERFACE PIN ASSIGNMENT



Pin	Description
1	+24 V DC
2	n/a
3	GND
4	IO-Link communication

TERMINAL ASSIGNMENT



Connection	Description
x1	IO-Link
1	Relay 1
2	Relay 2
3	Relay 3

IDENTIFICATION

Parameter name	Description	Index	Subindex	Data type	Standard value
Vendor Name	Manufacturer name	0x10	0x00	StringT [64]	STEGO Elektrotechnik GmbH
Vendor Text	Manufacturer text	0x11	0x00	StringT [64]	STEGO CONNECT Intelligent Condition Management
Product Name	Device name	0x12	0x00	StringT [64]	AHC 072
Product ID	ID number of the device	0x13	0x00	StringT [64]	AHC 07200.2-00
Product Text	Device description	0x14	0x00	StringT [64]	Actuator Hub AHC 072, 3 relay outputs
Serial Number	Serial number of the device	0x15	0x00	StringT [64]	xxxxxxxxxxx
Hardware Version	Hardware version	0x16	0x00	StringT [64]	IOL_AHC_05
Firmware Version	Firmware version	0x17	0000	StringT [64]	01.00.00

The device information is the electronic nameplate of the actuator hub. Device information can only be read and not changed. The IO-Link master port performs the set validation of the identification data of the IO-Link device when the IO-Link device is reconnected or every time the communication restarts.

PROCESS DATA

Parameter name	Description	Index	Subindex	Bit offset	Data type	Individual values
Process Data Outputs		0x29	0x00		RecordT	
Relay 1	Relay at connection 1		0x01	0x00	BooleanT	false, true
Relay 2	Relay at connection 2		0x02	0x01	BooleanT	false, true
Relay 3	Relay at connection 3		0x03	0x02	BooleanT	false, true

If the Process Data Output parameter is set to 'true' for a relay, this switches on. The relay coil is energised and the contact is closed. In the case of 'false', the relay switches off, the relay coil is not energised and the contact is open.

PARAMETERS

PARAMETERS (GENERAL)

The general parameters are deactivated on the device in its delivered condition (factory settings). They can be overwritten by the user in the IO-Link Device Tool. Customer-specific parameter assignment is therefore possible.

Parameter name	Description	Index	Subindex	Bit offset	Data type	Value	Factory setting
Device Access Locks		0x0C	0x00		RecordT		
Parameter (write) Access Lock			0x01	0x00	BooleanT	false, true	false
Data Storage Lock	Blocking the IO link device from parameter writing, data storage, local parameter assignment		0x02	0x01	BooleanT	false, true	false

PARAMETERS FOR THE TIMER FOR RELAY SWITCHING DELAY

The values for the switching delay of the individual relays (**Timer Relay 1 to 3**) are set to the factory setting (Default_Value = 250 ms) in the device's delivered condition. They are displayed in the IO-Link Device Tool in the 'Parameters' menu and can be overwritten or modified by the user. Customer-specific parameter assignment is therefore possible. The values for the switching delay are entered in the IO-Link Device Tool in milliseconds [ms]. The value range is between 50 and 5,000 ms.

Parameter name	Description	Index	Subindex	Value	Value range of the raw data	Factor for display value of the switching delay [ms]	Value range for switching delay [ms]	Factory setting (Default_Value [ms])
Timer Relay 1	Timer for the switch on/off delay of Relay 1.	0x64	0x00	Configurable	2 to 200	25	50 to 5000	250
Timer Relay 2	Timer for the switch on/off delay of Relay 2.	0x65	0x00	Configurable	2 to 200	25	50 to 5000	250
Timer Relay 3	Timer for the switch on/off delay of Relay 3.	0x66	0x00	Configurable	2 to 200	25	50 to 5000	250

The configurable values for the switching delay in the IO-Link Device Tool are obtained by multiplying the raw data by the factor 25:

Minimum value for the switching delay of the relay:

$$> \text{Min_Value} = (2 * 25 \text{ ms}) = 50 \text{ ms}$$

Standard value for the switching delay of the relay (factory setting):

$$> \text{Default_Value} = (10 * 25 \text{ ms}) = 250 \text{ ms}$$

Maximum value for the switching delay of the relay:

$$> \text{Max_Value} = (200 * 25 \text{ ms}) = 5000 \text{ ms}$$

DIAGNOSTICS DATA

The diagnostics data continuously supplies information regarding the condition of actuator hub.

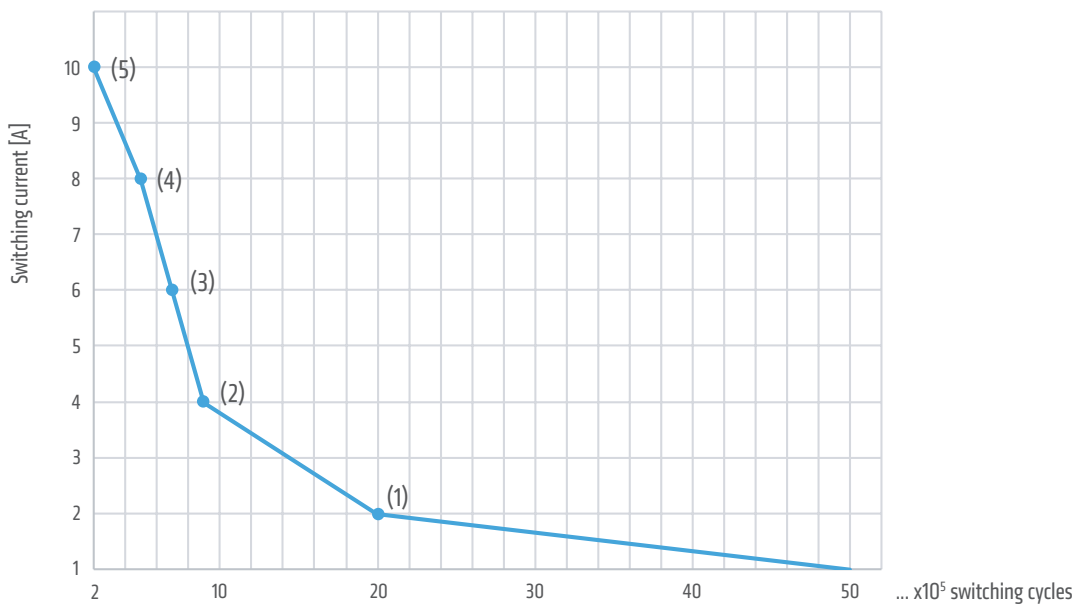
Parameter name	Description	Index	Subindex	Bit offset	Data type	Individual values
Device Status	Device status	0x24	0x00		UInteger_8	
Device is OK	Device OK:					0
Out of specification	Device out of specification					2
Functional check	Functional check					3
Failure	Error					4
Detailed Device Status	Additional device-dependent information (warnings/messages)	0x25	0x00		ArrayT	
Detailed Device Status [1]	Output of warnings and messages		0x01	0x198	OctetStringT [3]	See „Events and Messages“ on page 5
Detailed Device Status [2]			0x02	0x180	OctetStringT [3]	
Detailed Device Status [3]			0x03	0x168	OctetStringT [3]	
Detailed Device Status [4]			0x04	0x150	OctetStringT [3]	
Detailed Device Status [5]			0x05	0x138	OctetStringT [3]	
Detailed Device Status [6]			0x06	0x120	OctetStringT [3]	
Detailed Device Status [7]			0x07	0x108	OctetStringT [3]	
Detailed Device Status [8]			0x08	0xF0	OctetStringT [3]	
Detailed Device Status [9]			0x09	0xD8	OctetStringT [3]	
Detailed Device Status [10]			0x10	0xC8	OctetStringT [3]	
Detailed Device Status [11]			0x11	0xC0	OctetStringT [3]	
Detailed Device Status [12]			0x12	0xA8	OctetStringT [3]	
Detailed Device Status [13]			0x13	0x90	OctetStringT [3]	
Detailed Device Status [14]			0x14	0x78	OctetStringT [3]	
Detailed Device Status [15]			0x15	0x60	OctetStringT [3]	
Detailed Device Status [16]			0x16	0x30	OctetStringT [3]	
Detailed Device Status [17]			0x17	0x18	OctetStringT [3]	
Detailed Device Status [18]			0x18	0x00	OctetStringT [3]	
Error Count	Error counter	0x20	0x00		UIntegerT_16	
Operating Hours	Operating hours counter (base unit 0.001 h)	0x4B	0x00		UIntegerT_32	
Power-On Counter	Activation counter	0x4C	0x00		UIntegerT_32	
Counter Relay 1	Activation counter, Relay 1	0x4D	0x00		UIntegerT_32	
Counter Relay 2	Activation counter, Relay 2	0x4E	0x00		UIntegerT_32	
Counter Relay 3	Activation counter, Relay 3	0x4F	0x00		UIntegerT_32	

EVENTS AND MESSAGES

Messages are output via the variable **Detailed Device Status [x]** (see „Diagnostics data“ on page 4).

Name	Description	Value range	Type	Event code
Relay 1: The relay contact has reached two hundred thousand switching operations	This event is triggered when the Relay 1 counter has reached the value two hundred thousand.	false/true	Warning	6210
Relay 1: The relay contact has reached five hundred thousand switching operations	This event is triggered when the Relay 1 counter has reached the value five hundred thousand.	false/true	Warning	6211
Relay 1: The relay contact has reached seven hundred thousand switching operations	This event is triggered when the Relay 1 counter has reached the value seven hundred thousand.	false/true	Warning	6212
Relay 1: The relay contact has reached nine hundred thousand switching operations	This event is triggered when the Relay 1 counter has reached the value nine hundred thousand.	false/true	Warning	6213
Relay 1: The relay contact has reached two million switching operations	This event is triggered when the Relay 1 counter has reached the value two million.	false/true	Warning	6214
Relay 2: The relay contact has reached two hundred thousand switching operations	This event is triggered when the Relay 2 counter has reached the value two hundred thousand.	false/true	Warning	6220
Relay 2: The relay contact has reached five hundred thousand switching operations	This event is triggered when the Relay 2 counter has reached the value five hundred thousand.	false/true	Warning	6221
Relay 2: The relay contact has reached seven hundred thousand switching operations	This event is triggered when the Relay 2 counter has reached the value seven hundred thousand.	false/true	Warning	6222
Relay 2: The relay contact has reached nine hundred thousand switching operations	This event is triggered when the Relay 2 counter has reached the value nine hundred thousand.	false/true	Warning	6223
Relay 2: The relay contact has reached two million switching operations	This event is triggered when the Relay 2 counter has reached the value two million.	false/true	Warning	6224
Relay 3: The relay contact has reached two hundred thousand switching operations	This event is triggered when the Relay 3 counter has reached the value two hundred thousand.	false/true	Warning	6230
Relay 3: The relay contact has reached five hundred thousand switching operations	This event is triggered when the Relay 3 counter has reached the value five hundred thousand.	false/true	Warning	6231
Relay 3: The relay contact has reached seven hundred thousand switching operations	This event is triggered when the Relay 3 counter has reached the value seven hundred thousand.	false/true	Warning	6232
Relay 3: The relay contact has reached nine hundred thousand switching operations	This event is triggered when the Relay 3 counter has reached the value nine hundred thousand.	false/true	Warning	6233
Relay 3: The relay contact has reached two million switching operations	This event is triggered when the Relay 3 counter has reached the value two million.	false/true	Warning	6234

Number of switching cycles based on the load current:



The smaller the switching current, the larger the maximum number of switching cycles of the relays:

(1) When switching loads with 2 A, the maximum number of switching cycles is two million.

⋮

(5) When switching loads with 10 A, the maximum number of switching cycles is two hundred thousand.

COMMANDS

These commands are only writable (wo).

Parameter name	Description	Index	Subindex	Data type	Individual values
StandardCommand	Standard commands	0x02	0x00	UIntegerT_8	
Restore Factory Settings	Establish factory settings; all variables/parameters are reset to the factory settings Application Specific Tag = *** Location Tag = *** Function Tag = ***				130
Device Reset	Restart device				128