AS-i Slave for Frequency Inverters

Bihl + Wiedemann

Automatisierungstechnik

AS-i Slave for Motors with intergrated Frequency Inverters

Easy control via preset speeds

Setpoint value via AS-i analog protocol

High protection class IP65

2 additional inputs and external 24 V

Article no. BW1164: AS-i Slave for MOVIMOT by SEW Eurodrive

Function

The AS-i Slave with serial interface enables the data exchange and the programming of frequency inverters with the help of an easy connection to AS-i. The AS-i Slaves consist of an AS-i 4I/4O Module as bus interface a serial interface to communicate with the frequnecy inverter. The MOVILINK protocol of MOVIMOT is implenented in the AS-i Slave. Varying operation modes are assigned to the different AS-i parameters.

1. Cyclic-Mode (AS-i Parameter = F_{hex})

The 4 AS-i data bits represents tight procedures.

Meaning of the AS-i output data bits e. g.:

0 = logical 0, 1 = logical 1, X = optional

Bit 3	Bit 2	Bit 1	Bit 0	Function
X	X	X	0	forward
X	X	X	1	backward
0	0	0	0	Reset
0	0	0	1	Stop
0	0	1	X	preset speed1 (15%)
0	1	0	X	preset speed 2 (20%)
0	1	1	X	preset speed 3 (25%)
1	0	0	X	preset speed 4 (33%)
1	0	1	X	preset speed 5 (50%)
1	1	0	X	preset speed 6 (100%)
1	1	1	X	preset speed 7 (AS-i parameter B)

The timeout monitoring is activated In the cyclic mode if one of the preset speeds is set and deactived if one of the bit combinations for STOPP o reception is set. For all preset speeds of this mode the ramp transmitted with AS-i parameter B_{hex} is used. Is this value equal zero no ramp is transmitted to the frequency inverter and the ramp set in the frequency inverter is used. The default value for the ramp is 0.

Meaning of the AS-i output data bits:

Bit 3	Bit 2	Bit 1	Bit 0	Function
X	X	X	0	not ready to work
X	X	X	1	ready to work
0	0	0	X/0	system error
0	0	1	X/0	FI not ready
0	1	0	X/1	FI ready / locked
0	1	1	X/1	FI ready / realeased
1	0	0	X/0	overvoltage
1	0	1	X/0	overload output stage
1	1	0	X/0	overload motor
1	1	1	X/0	overload brakereel

2. AS-i Parameter = D_{hex})

The AS-i parameter D_{hex} corresponds to the cylic mode (AS-i parameter F_{hex}) at the AS-i output data.

Additionally two inputs are transmitted to the AS-i slave. The AS-i input data bits have following meaning:

Bit 0: 1 motor turns
0 motor stops
Bit 1: 0 no error
1 error
Bit 2: input 1
Bit 3: input 2

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Technical data

Article no.	BW1164
Serial interface	RS 485
Initially wiring	PNP
Input	2
Voltage supply, sensors	via external 24 V
Voltage range	20 - 30 V DC
Current per input	≤ 13 mA
Input current high/low	≥ 5 mA/≤ 1,0 mA
Baud rates	9600 bit/s
Displays	
LED green (power)	Power on
LED yellow (ser active)	Serial communication active
LED red (rem. err.)	Frequency inverter error
LED yellow (input 1)	Input 1
LED yellow (input 2)	Input 2
Operating current	< 80 mA
Operating voltage	AS-i (30 V DC)
Voltage of insulation	≥ 500 V
EMC directions	EN 50082, EN 50081
Operating temperature	0°C … +55°C
Storage temperature	-25°C … +85°C
Housing	Housing for DIN-rail mounting
Dimensions (L, W, H)	90 mm, 80 mm, 70 mm
Protection category (DIN 40 050)	Housing IP65
Connections	AS-i and 24 V: Electromechanical interface (penetration technique) RS 485, 24 V and 3 inputs: Heavy gauge terminals and cage clamp terminal blocks
Weight	355 g

Connections:

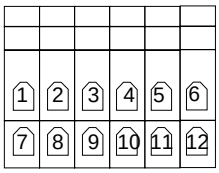
Connection of RS 485 interface, inputs and 24 V on cage clamp terminal block.

At MOVIMOT the bus address has to be set to 1 with the dip switch.

The external 24 V is protected with an idle fuse.

1	24V ext.
2	In1
3	0V ext.
4	24V ext.
5	FE
6	SCREEN
7	24V ext.
8	In2
9	0V ext.
10	0V ext.
11	BUS N
12	BUS P

LEDs



cage clamp terminals

Accessories:

- AS-i substructure module to connect 1 AS-i flat cable, 1 flat cable for additional supply (Art. no. BW1181)
- AS-i substructure module to connect 1 AS-i round cable, 1 round cable for additional supply (Art. no. BW1183)