AMKASYN
Servo inverter KE/KW
Option card KW-SSI

Version: 2008/27
Part-No.: 202049

About this documentation

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Use:

What has changed:

Version	Change	Subject	Letter symbol
2008/27	first version		KOJ

Further Documentation:

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1 Product description

1.1 Ordering data

Product name	Order number
KW-SSI	O803

1.2 Prerequisites

Device	Requirement
Controller card KW-R03	Firmware ≥ AE-R03 V03.16 2008/03 (Part no. 201970)
Controller card KW-R03P	Firmware ≥ AE-R03 V05.16 2008/03 (Part no.: 201971)

1.3 Product overview

The option card KW-SSI provides the current actual position value to a superordinate controller via an SSI interface.

The actual position value is updated in cycles depending on the ID2 "SERCOS cycle time". The minimum updating rate is 500µs. The actual position value is transferred as Gray code and can can be queried by the superordinate controller in a cycle of ≥ 1ms.

The cycle signal (clock) needs to be sent by the superordinate controller. The KW-SSI works as a cycle slave. A synchronisation with the SSI cycle signal does not take place.

The KW-SSI option card can be used in any slot and is detected automatically by the KW controller card after the installation.

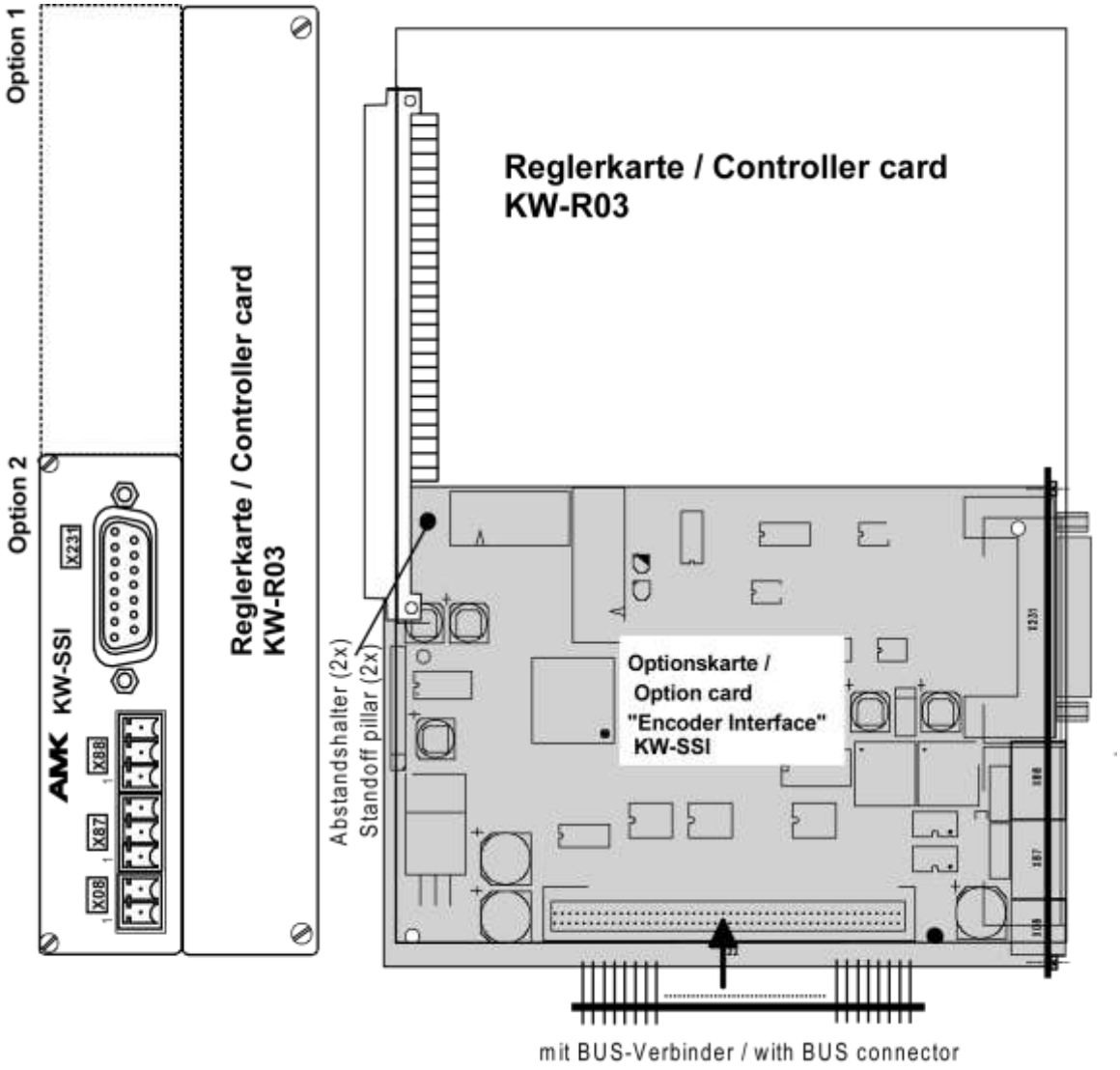
2 Assembly

2.1 Important information for handling

Avoid touching the electrical connections and contacts on the solder and component side of the option card; static discharge can destroy components. Before handling the option card, discharge by touching the PE.

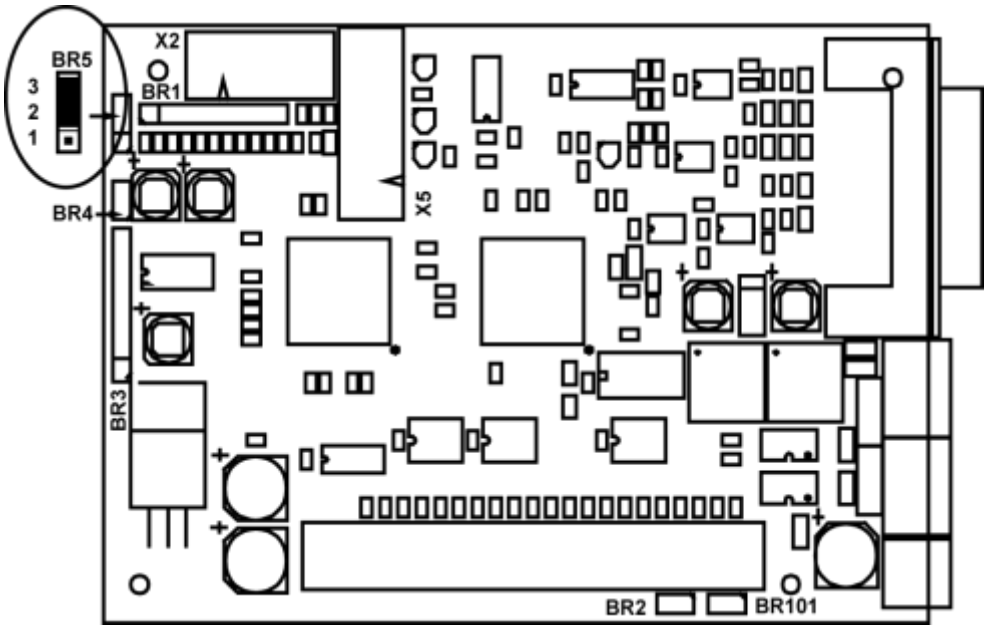
2.2 Front view and component overview

KW-SSI inserted in slot 2



Picture name: ZCH_KW_SSI

The SSI mode is active when the jumper is on PIN 2 and PIN 3 (BR5).



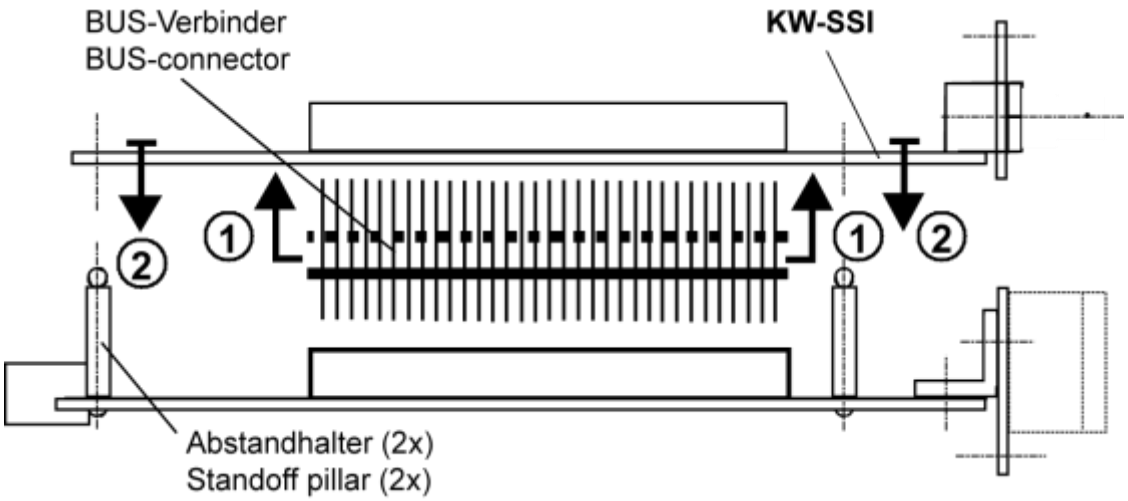
Picture name: ZCH_KW_SSI_Bestueckungsplan

2.3 Connection and installation

Check that jumper is on PIN 2 and PIN 3 (BR5).

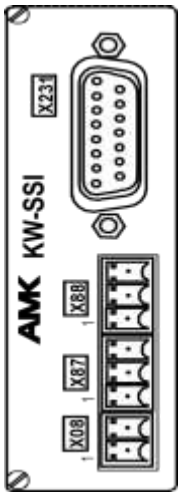
The "KW-SSI" option card is inserted on the KW controller card in the corresponding slot 1 or 2:

1. Make sure that the drive system is disconnected from the grid and that the intermediate circuit capacitors are discharged.
2. Remove the blind plate at the selected slot by loosening the two collar screws.
3. If available, remove the collar screws from the left side of the option card in the other slot.
4. Loosen the two collar screws at the right edge of the front panel of the controller card and carefully pull out the unit formed by the controller card and any option card. Place the controller card on a non-conducting, padded surface.
5. Press the two lockable plastic standoff pillars into the corresponding holes on the controller card (assigned to the selected slot 1 or 2).
6. Press in the BUS connector with the longer pins completely into the "KW-SSI" option card (BUS connector pins are flush with the socket plugs on the top).
7. Plug the short pins of the BUS connector on the "KW-SSI" into the socket on the controller card and simultaneously press the standoff pillars into the bore holes on the circuit board until the snap into place.
8. Carefully slide the unit formed by controller card and the interface card into the card slot until the controller card is firmly positioned in the mating connector.
9. Tighten the collar screws on the controller card and the option card(s).



Picture name: ZCH_KW_SSI_MT

3 Connector technology



Picture name: KW_SSI_Front.png

3.1 Supply voltage

The 5 Volt voltage supply is provided from the KW switch power pack through the bus plug connection to the controller card. An external voltage supply is not necessary.

3.2 X231 SSI interface

D-sub 15-pin, socket

The cable shielding needs to be connected to the casing.

PIN	Signal	Explanation
1 - 7	-	Reserved
8	GND	Ground
9	DATA -	Data inverted
10	DATA +	Data not inverted
11	CLOCK -	Cycle signal inverted
12	CLOCK +	Cycle signal not inverted
13 - 15	-	Reserved

Then connections marked as "reserved" have to remain unassigned.

3.3 X08 (reserved)

3.4 X87 / X88 (reserved)

4 Configuration

The KW-SSI option card does not have to be parametrised separately. The following settings are valid:

The SSI mode is active when the jumper is on position 2-3 (bridge 5). The KW-SSI is detected automatically by the controller card.

The ID2 "SERCOS cycle time" specifies in which time cycles the actual position value of the KW-SSI option card should be updated. Minimum value 500µs. The entered value depends on the setpoint source used in the system (ID1 = ID2 or ID32958 = ID2).

The resolution of the actual position value equals the value specified in ID116 "Resolution motor encoder" or ID117 "Resolution external position measuring system" for an external actual position value encoder.

5 SSI interface

5.1 Technical data

Data of the SSI interface	
Cycle signal (clock) SSI	≤500 kHz (the cycle signal needs to be provided by the superordinate controller)
Value range actual position value	24 bit
Transferred bits	1 start bit + 24 data bit (beginning with MSB, Gray coded)
Cyclic position query by the superordinate controller	≥ 1 ms

5.2 Description

The data signal is retained at "high" level in the idle state. This can be queried by the superordinate controller and be interpreted as a "ready" signal.

The sender is activated by the first falling cycle edge.

The data is changed by the increase of the cycle signal's edge. The scanning by the controller has to be done shortly before the next increasing edge.

Picture name: SSI_Oszii

Data at a cycle of about 300 kHz (measured at pin 10 and pin 12 of X231)

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