

8AC125.61-2

1 General information

The AC125 plug-in module can be used in an ACOPOS slot. The module has a BiSS encoder interface (MODE C) with a baudrate of 6.25 MBit/s. BiSS encoders with a supply voltage of 12 V can be connected.

This module can be used to evaluate encoders which are built into B&R servo motors and also encoders for external axes (encoders that evaluate any machine movement). The input signals are monitored. In this way, broken connections, shorted lines and encoder supply failure can be recognized.

2 Order data

Model number	Short description	Figure
	Plug-in modules	
8AC125.61-2	ACOPOS plug-in module, BiSS encoder interface 12 V, baud rate 6.25 Mbit/s	

Table 1: 8AC125.61-2 - Order data

3 Technische Daten

Model number	8AC125.61-2
General information	
Module type	ACOPOS plug-in module
B&R ID code	0xBD5A
Slot ¹⁾	Slots 2, 3 and 4
Max. power consumption	5.8 W
Certifications	
CE	Yes
UL	cULus E225616
KC	Power conversion equipment Yes
Encoder connection ²⁾	
Module-side connection	9-pin female DSUB
Status indicators	UP/DN LEDs
Electrical isolation	
Encoder - ACOPOS	No
Encoder monitoring	Yes
Max. encoder cable length	100m Depends on the cross section of the power supply wires of the encoder cable ³⁾
Encoder power supply	
Output voltage	Typ. 12 V
Load capacity	350 mA
Protective measures	
Overload-proof	Yes
Short-circuit proof	Yes
Synchronous serial interface	
Signal transmission	RS485
Baud rate	6.25 Mbit/s

Table 2: 8AC125.61-2 - Technical data

Model number	8AC125.61-2
Ambient conditions	
Temperature	
Operation	
Nominal	5 to 40°C
Maximum	55°C
Storage	-25 to 55°C
Transport	-25 to 70°C
Relative humidity	
Operation	5 to 85%
Storage	5 to 95%
Transport	Max. 95% at 40°C

Table 2: 8AC125.61-2 - Technical data

- 1) The AC125 is an encoder module. It is also possible to connect multiple encoder modules. In this case, the encoder module in the smallest slot automatically serves as motor feedback.
- 2) Only B&R 8BCF EnDat 2.2 cables are permitted to be used for wiring the module.
- 3) Maximum encoder cable length l_{\max} can be calculated as follows (the maximum permissible encoder cable length of 100 m is not permitted to be exceeded):

$$l_{\max} = 2.5 \cdot A / [(I_G + 0.03) \cdot \rho]$$

I_G ... Max. current consumption of the encoder [A]

A ... Cross section of the power supply wires [mm²]

ρ ... Specific resistance [Ωmm²/m] (e.g. for copper: $\rho = 0.0178$)

4 Status indicators

The UP/DN LEDs are lit depending on the rotational direction and the speed of the connected encoder.

UP LED ... Lit when the encoder position changes in the positive direction.

DN LED ... Lit when the encoder position changes in the negative direction.

The faster the encoder position changes, the brighter the respective LED is lit.

5 Firmware

The firmware is part of the operating system for the ACOPOS servo drives. Firmware is updated by updating the ACOPOS operating system.

6 Wiring

6.1 Pinout


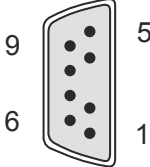
Figure	X11	Pin	Name	Function
		1	U+	Encoder power supply 12 V
		2	---	---
		3	---	Coding
		4	D	Data input/output
		5	T	Clock output
		6	COM (1)	Encoder supply 0 V
		7	---	---
		8	D\	Data input/output inverted
		9	T\	Clock output inverted

Table 3: 8AC125.61-2 BiSS encoder interface - Pinout

Danger!

The connections for the encoders are isolated circuits. These connections are therefore only permitted to be connected to devices or components that have sufficient isolation per IEC 60364-4-41 or EN 61800-5-1.

6.2 Input/output circuit diagram

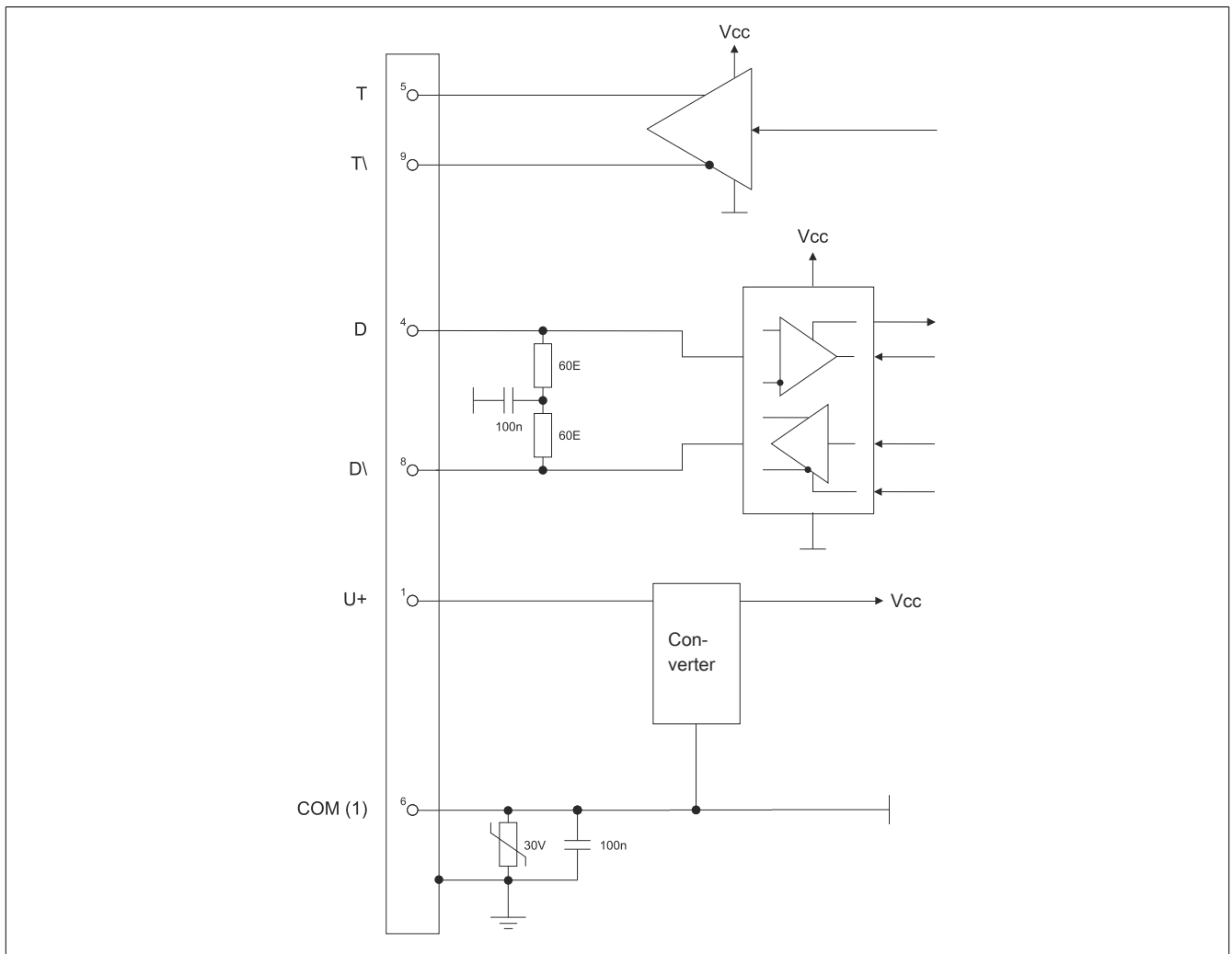


Figure 1: BISS encoder interface 8AC125.61-2 Input/Output circuit diagram