

HAS

HAS Interface

TR-Electronic GmbH

D-78647 Trossingen Eglishalde 6 Tel.: (0049) 07425/228-0 Fax: (0049) 07425/228-33 email: info@tr-electronic.de www.tr-electronic.com

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Courier font displays text, which is visible on the display or screen and software menu selections.

" < > " indicates keys on your computer keyboard (such as <RETURN>).



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Revision index

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1 HAS-Interface (<u>H</u>ighspeed-<u>A</u>synchronous-<u>S</u>erial)

1.1 Block diagram, standard HAS-encoder

1.2 Description



The **HAS** data communication is a **H**ighspeed-**A**synchronous-**S**erial transmission for binary position data with 24 bits data length. The electric data correspond to the RS422 interface with two lines for the inverted and the not inverted signal.

The baud rate used in the HAS protocol is 125 kBaud. In each case 8 data bit are transferred together with 1 parity, 1 start bit and 1 stop bit. At a position report altogether 4 characters each with 8 bits are transferred. The transmission of a complete position report with pause takes $500\mu s$. Thus, the positions are transferred in 2 kHz rhythm.

To guarantee an error-free data transmission, twisted-pair lines must be used. Under ideal conditions the data transmitting length is max. 1000 m.



1.2.1 Telegram structure



P: pause for synchronization Transmission time of one character: 88 µs (theoretical)

1.2.2 Interface – hardware without addressing (standard)

If the encoder is correctly wired and supplied with voltage, the encoder returns permanently and without request its current position data on the data lines.



1.2.3 Interface – hardware with addressing

If several axises must be managed, 2 further lines (Adr.+ / Adr. -) are used to switch the desired encoder active (connection example with PK-600 as control-system).





1.2.3.1 Connection example with PK-600 as control-system

