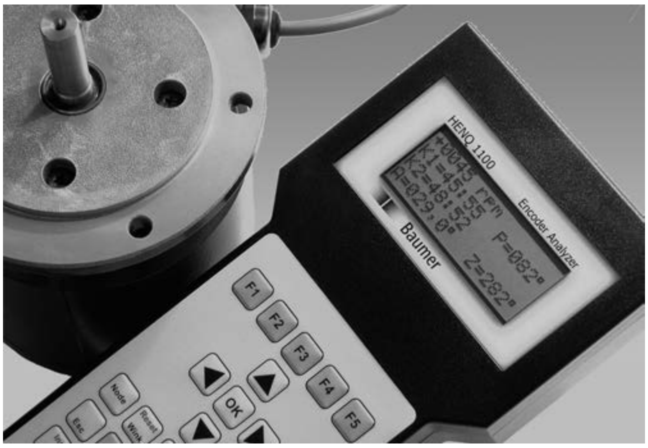
Accessories
Diagnostic accessories

Analyzer for encoders - HENQ 1100



Features

- **Analyzer for encoders**
- **Continuous monitoring and display of encoder data (speed, angular position, position of the zero pulse, phase shift, pulse/pause ratio, voltage range etc.)**
- **Continuous error monitoring (elimination of signal disturbances, comparison of the nominal/actual number of pulses per turn, check of the quadrature coding)**
- **Individual error messages**
- **Windows applications software for the PC, for graphical display and statistical evaluation of the measurements**
- **Recording of measurements and error messages**

Part number

11075858	Analyzer for encoders HENQ 1100

Description

The Baumer Hübner ENcoder Quality Measurement System HENQ 1100 is a hand-held testing instrument for incremental encoders with HTL/TTL or sin/cos signal output.
Fast signal processing enables quick tracking of sporadic errors, for example caused by interference in the signal leads or short voltage drop-outs in power supply. In addition, both angular position and speed are continuously shown in the display.
Besides the Baumer encoders, also those of other brands with TTL/HTL or sin/cos signals can be utilized. Encoder supply is either by the HENQ 1100 or an external source. This way, the encoder allows for independent operation offline the standard supply and also eavesdropping on a running system.
Device operation is by the integrated, user-friendly keypad and a 4-line LCD display with backlight.
Measured values of several encoders can be compiled and saved in the memory for further evaluation.
User-defined profiles can be used to program various thresholds as parameters, for instance:
- permissible phase deviation
- permissible pulse/pause ratio
Besides visual error messages on the LCD display, the integrated buzzer will give an acoustic alarm.

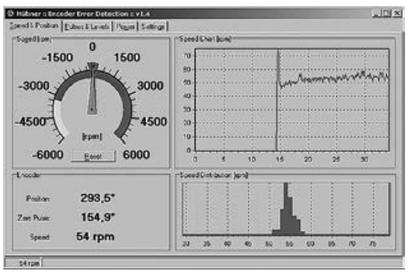
Technical data

For the HENQ 1100	
Voltage supply	9...30 VDC
Current consumption	≤500 mA
Permissible ambient temperature	-10...+50 °C
Accumulator voltage* Subthreshold warning* Charging time* Operating time*	12 V nominal 10 V 5 hours ~5 hours
Input	SUB-D female 15-pin
Outputs	SUB-D male 15-pin RS485 female 9-pin Option: RS232 female 9-pin
For the encoder	
Output frequency	≤250 kHz
Power supply	U_1 = UB - 1 V or by the HENQ 1100 U_2 = 5 V
Current consumption with encoder power supplied from the HENQ 1100**	≤300 mA
External supply voltage	$U_1 = U_{REG1}$ or with measuring signal looped through $U_2 = U_{REG2}$
Current consumption with externer supply voltage and encoder signal looped through**	≤500 mA

* Version with accumulator (option)
** Limited by polymer fuse

Data display via measurement program for PC or laptop (RS485 interface):

Display of
- Angular position
- Zero pulse position
- Speed
- Voltage and current
- Error messages



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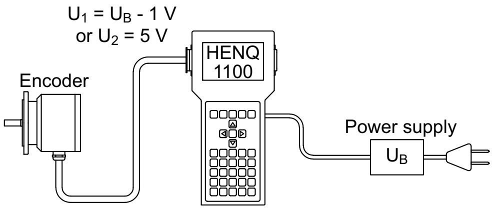
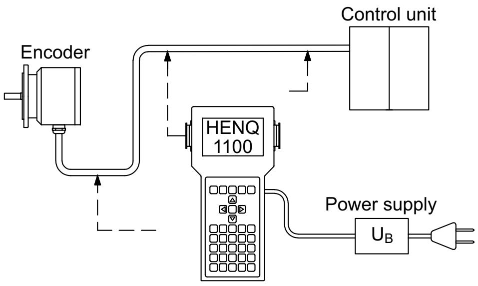
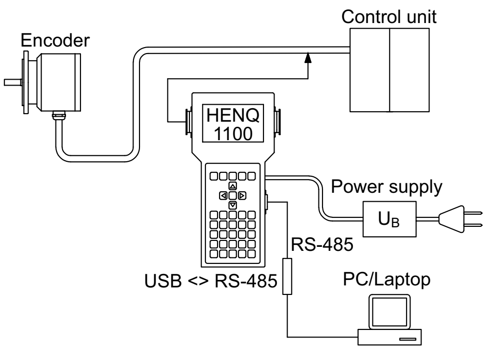
Connection examples



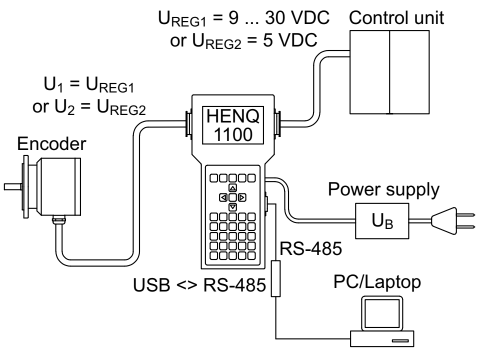
Encoder supply from the HENQ 1100



Error analysis through a step-by-step check of the test signal at various points in the signal path



Long-term monitoring by a PC to detect sporadic errors



Long-term monitoring with simultaneous filtering of the looped-through measuring signal

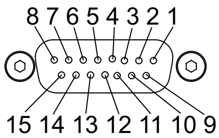
Terminal assignment

Input/Output SUB-D
Female/male, 15 pin

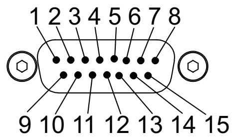
	Input Assignment female	Output Assignment male
Pin 1	A+ (K1)	A+ (K1)
Pin 2	A- ($\overline{K1}$)	A- ($\overline{K1}$)
Pin 3	B+ (K2)	B+ (K2)
Pin 4	B- ($\overline{K2}$)	B- ($\overline{K2}$)
Pin 5	R+ (K0) [zero pulse]	R+ (K0) [zero pulse]
Pin 6	R- ($\overline{K0}$) [zero pulse inv.]	R- ($\overline{K0}$) [zero pulse inv.]
Pin 7	n.c.	n.c.
Pin 8	n.c.	n.c.
Pin 9	U_1 = 9 ... 30 VDC	U_{REG1} = 9 ... 30 VDC *
Pin 10	U_1 = 9 ... 30 VDC	U_{REG1} = 9 ... 30 VDC *
Pin 11	U_2 = 5 VDC	U_{REG2} = 5 VDC *
Pin 12	U_2 = 5 VDC	U_{REG2} = 5 VDC *
Pin 13	GND	GND
Pin 14	GND	GND
Pin 15	GND	GND

* from control unit

Input

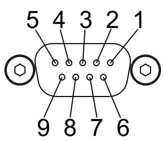


Output



RS-485 interface

	Assignment
Pin 1	B (D-)
Pin 2	A (D+)
Pin 3	B (D-)
Pin 8	A (D+)



The output signals of the HENQ 1100 are always differential! It is not possible to make a daisy-chain signal loop with sinewave signals.

Accessories
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Accessories	
Connectors and cables	
11064248	USB → RS485 converter
11117345	USB → RS485 converter with connecting cable for DSL