HEIDENHAIN

Product Information

PWM 20
ATS Software

11/2014

Adjusting and testing package

HEIDENHAIN offers an adjusting and testing package for diagnostics and adjustment of HEIDENHAIN encoders with absolute and incremental interfaces. It consists of the following components:

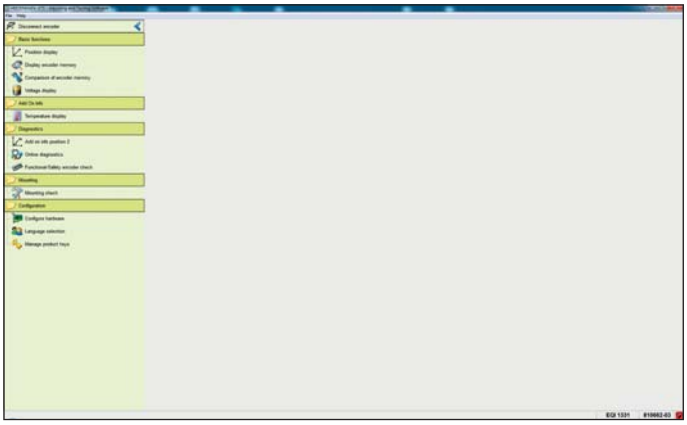
- **PWM 20:** Phase angle measuring unit for connection to a PC through the USB interface
- **ATS:** Adjusting and Testing Software with integrated local encoder database for automatic encoder identification

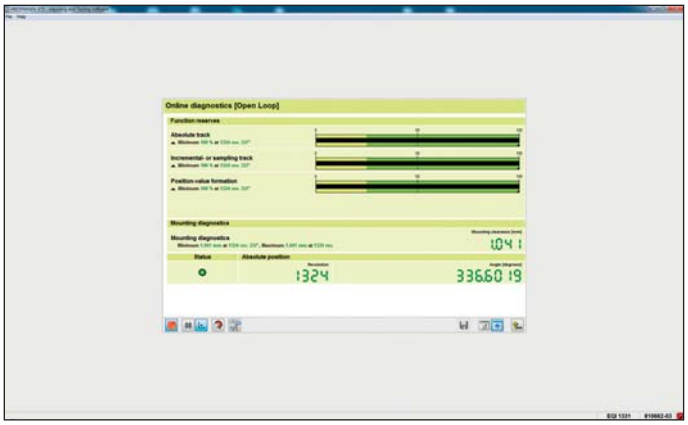
The functions supported by the ATS software vary depending on the encoder and the encoder interface. The EnDat interface makes it possible not only to display the position value, but also to read out the online diagnostics, to read or write parameters, shift datums, set write-protection and use further inspection functions, etc.

These statements in this document refer to the ATS software version V3.0

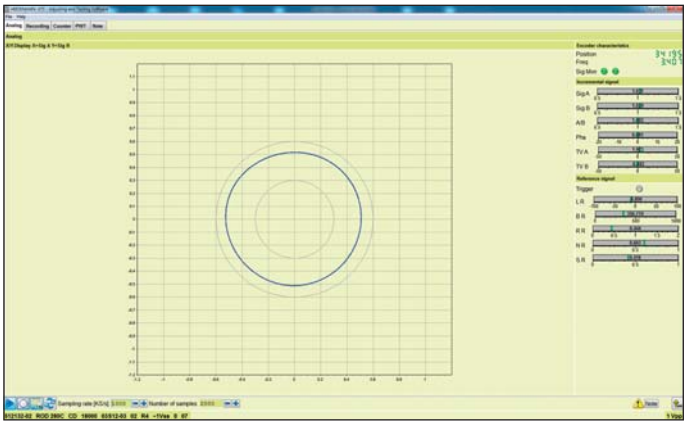
We recommend returning the PWM 20 to the HEIDENHAIN calibration service in Traunreut every two years in order to ensure traceable, accurate and error-free operation as test equipment.

PWM 20


ATS software



Online diagnostics


Lissajou display of sinusoidal incremental signals

Available functions

PWM 20 and ATS V3.0—available functions	EnDat	Fanuc	Mitsubishi	SSI	DRIVE-CLiQ	Yaskawa	Panasonic	1 V_{PP}[2] 11 μA_{PP}[2]	TTL	HTL[3]
Position display										
Display of the absolute position	✔	✔	✔	✔	✔	✔	✔	–	–	–
Display of the incremental position (if available)	✔	–	–	✔	–	–	–	✔	✔	✔
Display and resetting of error messages	✔	✔	✔	–	✔	✔	✔	–	–	–
Display and resetting of warnings	✔	–	–	✔	✔	–	–	–	–	–
Display of transmission status	✔	✔	✔	(✔)	✔	✔	✔	–	–	–
PWT display of incremental signals	–	–	–	–	–	–	–	✔	(✔)	–
Connection dialog										
Automatic connection using ID number	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Connection by indicating the supply voltage and interface	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Diagnostics										
Display of online diagnostics (open loop)	✔	✔	✔	–	✔	–	–	–	–	–
Display of online diagnostics (closed loop)[1]	✔	✔	✔	–	–	–	–	–	–	–
Feed-through mode permitted with PWM 20	✔	✔	✔	–	–	–	–	✔	✔	–
Circular diagram of incremental signals (if available)	✔	–	–	✔	–	–	–	✔	✔	–
Evaluation of reference signal	–	–	–	–	–	–	–	✔	✔	✔
Incremental counter	–	–	–	–	–	–	–	✔	✔	✔
Display of supply voltage and supply current	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Homing and limit display	–	–	–	–	–	–	–	✔	✔	–
Mounting wizards/testing wizards										
For ECI 11xx/13xx/1xx, EQI 11xx/13xx, EBI 11xx/1xx For ERO 2xxx, ERP 1xxx, ECA 4xxx For LIP 2xx, LIC 4xxx, LIC 2xxx	For the available interfaces, please refer to the encoder specifications.									
Testing assistant for encoders with functional safety	✔	–	–	–	✔	–	–	–	–	–
Assistant for tensioning the scale tape	✔	✔	✔	–	–	–	–	✔	–	–
Additional functions (if supported by the encoder)										
Comparison of absolute position with incremental position	✔	–	–	✔	–	–	–	–	–	–
Datum shift (“electrical zeroing of position”)	✔	–	–	–	–	–	–	–	–	–
Display of additional information: Temperature	✔	–	–	–	✔	–	–	–	–	–
Display of additional information: Position value 2	✔	–	–	–	✔	–	–	–	–	–
Display of additional information: Additional sensors	✔	–	–	–	–	–	–	–	–	–
Display of additional information: Limit position signals	✔	–	–	–	–	–	–	–	–	–
Display of additional information: Operating status error sources	✔	–	–	–	–	–	–	–	–	–
Memory contents										
Display of memory contents	✔	–	–	–	✔	–	–	–	–	–
Modification to memory contents	✔	–	–	–	–	–	–	–	–	–
Saving the memory allocation	✔	–	–	–	✔	–	–	–	–	–
Comparison of current memory contents with saved memory contents	✔	–	–	–	–	–	–	–	–	–
Save encoder memory	✔	✔	✔	–	✔	✔	✔	–	–	–

[1] In Feed-through mode; preferred in connection with a signal adapter, e.g. SA 100 or SA 110
[2] 25 μA_{PP}/3 V_{PP} for service purposes
[3] Via signal adapter, for service purposes
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(✔) See ATS Software Operating Instructions

PWM 20 phase angle measuring unit

Phase angle measuring unit	PWM 20
Area of application	• Testing the correct operation of absolute and incremental HEIDENHAIN encoders • Mounting wizard for ExI, LIP 200, LIC 4000 and others
Encoder input Only for HEIDENHAIN encoders	• EnDat 2.1 or EnDat 2.2 (absolute value with/without incremental signals) • DRIVE-CLiQ • Fanuc serial interface • Mitsubishi high speed interface • Panasonic • Yaskawa • SSI • 1 V_{PP} (3 V_{PP} only for service purposes) • 11 μA_{PP} (25 μA_{PP} only for service purposes) • TTL • HTL (via signal adapter, only for service purposes)
Encoder output	Feed-through mode for certain interfaces (see *Available functions > Diagnostics);* (a signal adapter SA 100 or SA 110 is required for a galvanic isolation)
Interface	USB 2.0 (high speed)
Power supply	100 V to 240 V AC (± 10 %), 50 to 60 Hz (± 2 Hz), 24 V DC (± 2.4 V); Power consumption approx. 20 W
Operating temperature	0 °C to 45 °C
Protection EN 60 523	IP 20
Dimensions	Approx. 258 mm x 154 mm x 55 mm

Adjusting and testing software

Adjusting and testing software	ATS software V3.0
System requirements and recommendations	• PC with dual-core processor • Clock frequency (recommended) > 2 GHz • RAM > 2 GB • Windows operating systems Vista, 7 (32-bit or 64-bit), 8 • Approx. 200 MB free space on the hard disk • Screen resolution ≥ 1024 x 768
Product key	Management of product keys for optional functions
Languages	Choice between English and German

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