Product Overview

Interface Electronics

November 2014
Interface electronics

Interface electronics from HEIDENHAIN adapt the encoder signals to the interface of the subsequent electronics. They are used when the subsequent electronics cannot directly process the output signals from HEIDENHAIN encoders, or if additional interpolation of the signals is necessary.

HEIDENHAIN interface electronics are available in various mechanical designs.

Box design
Because of their high IP 65 degree of protection, interface electronics with a box design are well suited for a rough industrial environment, for example where machine tools operate. The inputs and outputs are equipped with robust M23 and M12 connecting elements. The stable cast-metal housing offers protection against physical damage as well as against electrical interference.

The EXE/IBV 100 series distinguishes itself from the EXE/IBV 600 series primarily in its compact dimensions.

Plug design
The interface electronics with a plug design save a great deal of space: there is room for the entire interpolation and digitizing electronics in an extended D-sub connector housing. This offers protection against physical damage (IP 40 protection) and electrical interference.

Appropriate accessory parts can be used to firmly attach the connecting elements, and stack several connectors on top of each other.

In the Evaluation Electronics for Metrology Applications you will find more products for signal adjustment:
- MSE 1000 – modular evaluation unit for multipoint inspection apparatuses
- EIB 700 – with four inputs and Ethernet interface
- The IK 220 – PC counter card for two axes
Version for integration

There are also versions of the interface electronics intended for integration in existing electronics. These pluggable boards must be protected against electrical and physical influences.

The IDP series consists of pure interpolation and digitizing electronics, and is intended for integration as input assemblies in non-HEIDENHAIN electronics.

Top-hat rail design

The interface electronics for top-hat rail mounting are suited for operation in an electrical cabinet with simple fastening on a standard DIN rail.

This Product Overview supersedes all previous editions, which thereby become invalid. The basis for ordering from HEIDENHAIN is always the Product Overview valid when the contract is made.
Input signals of the interface electronics
Interface electronics from HEIDENHAIN can be connected to encoders with sinusoidal signals of 1 Vpp (voltage signals) or 11 µApp (current signals). Encoders with the serial interfaces EnDat or SSI can also be connected to various interface electronics.

Output signals of the interface electronics
Interface electronics with the following interfaces to the subsequent electronics are available:
- TTL square-wave pulse trains
- EnDat 2.2
- DRIVE-CLiQ
- Fanuc Serial Interface
- Mitsubishi high speed interface
- Yaskawa Serial Interface
- Profibus

Interpolation of the sinusoidal input signals
In addition to being converted, the sinusoidal encoder signals are also interpolated in the interface electronics. This permits finer measuring steps and, as a result, higher control quality and better positioning behavior.

Formation of a position value
Some interface electronics have an integrated counting function. Starting from the last reference point set, an absolute position value is formed when the reference mark is traversed, and is transferred to the subsequent electronics.

The Interfaces of HEIDENHAIN Encoders brochure includes comprehensive descriptions of all available interfaces as well as general electrical information.

Outputs

<table>
<thead>
<tr>
<th>Interface</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTL 2 Vpp</td>
<td>1</td>
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<tr>
<td>EnDat 2.2</td>
<td>1</td>
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<tr>
<td>DRIVE-CLiQ</td>
<td>1</td>
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<tr>
<td>Fanuc Serial Interface</td>
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<tr>
<td>Mitsubishi high speed interface</td>
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<tr>
<td>Yaskawa serial interface</td>
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<tr>
<td>PROFIBUS-DP</td>
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</table>

1) Switchable

DRIVE-CLiQ is a registered trademark of SIEMENS Aktiengesellschaft
<table>
<thead>
<tr>
<th>Inputs</th>
<th>Design – Protection class</th>
<th>Interpolation(^1) or subdivision</th>
<th>Model</th>
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<tbody>
<tr>
<td>〜 1 Vpp</td>
<td>〜 1 Vpp</td>
<td>〜 1 Vpp</td>
<td>〜 1 Vpp</td>
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<tr>
<td>Interface</td>
<td>Quantity</td>
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<td>5/10-fold</td>
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<td>20/25/50/100-fold</td>
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<td>Without interpolation</td>
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<td>25/50/100/200/400-fold</td>
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<td>Plug design – IP 40</td>
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<td></td>
<td>Version for integration – IP 00</td>
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<td>Box design – IP 65</td>
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<td>Without/5-fold</td>
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<td>Top-hat rail design</td>
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\(^1\) Only LIC 4100 with 5 nm measuring step, LIC 2100 with 50 nm and 100 nm measuring steps
For more information

For more detailed information, mounting instructions, technical specifications and exact dimensions, please refer to our brochures and Product Information data sheets, or visit us on the Internet at www.heidenhain.de.

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In the Evaluation Electronics for Metrology Applications catalog you will find more products for signal adjustment.

Catalog
Interfaces of HEIDENHAIN Encoders

Catalog
Evaluation Electronics for Metrology Applications

Product Information
EIB 192

ExE 100 Series

Product Information
EIB 392

Contents:
EIB 1512
EIB 1592 F
EIB 1592 M

Product Information
ExN 100 Series

Contents:
EXE 101
EXE 102

Product Information
EIB 2391 S

Product Information
EIB 3391 Y

Product Information
EIB 3391 Y
Product Information

**ExN 600 Series**
Contents:
- EXE 602 E
- EXE 660 B

Product Information

**Gateway**

Product Information

**IBV 100 Series**
Contents:
- IBV 101
- IBV 102

Product Information

**IBV 600 Series**
Contents:
- IBV 600
- IBV 606
- IBV 660 B

Product Information

**IBV 6000 Series**
Contents:
- IBV 6072
- IBV 6172
- IBV 6272

Product Information

**IDP 100 Series**
Contents:
- IDP 101
- IDP 181
- IDP 182