



HEIDENHAIN



Product Information

EXE 100 Series

Interpolation and
Digitizing Electronics

April 2007



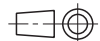
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EXE 100 Series

Interpolation and digitizing electronics

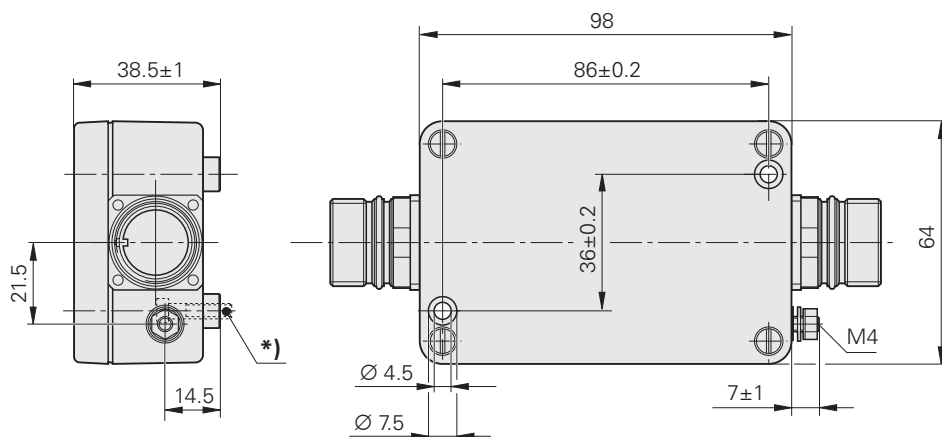
- Input signals $\sim 11 \mu\text{App}$
- Output signals $\square$ TTL



Tolerancing ISO 8015
ISO 2768 - m H
< 6 mm: ± 0.2 mm



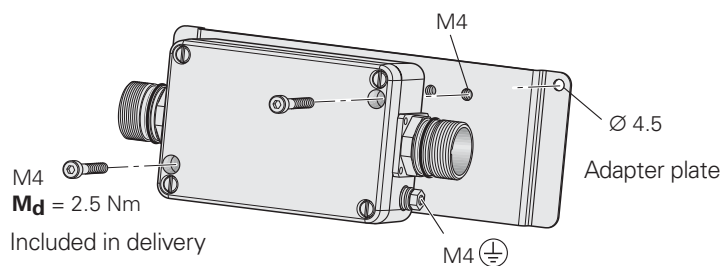
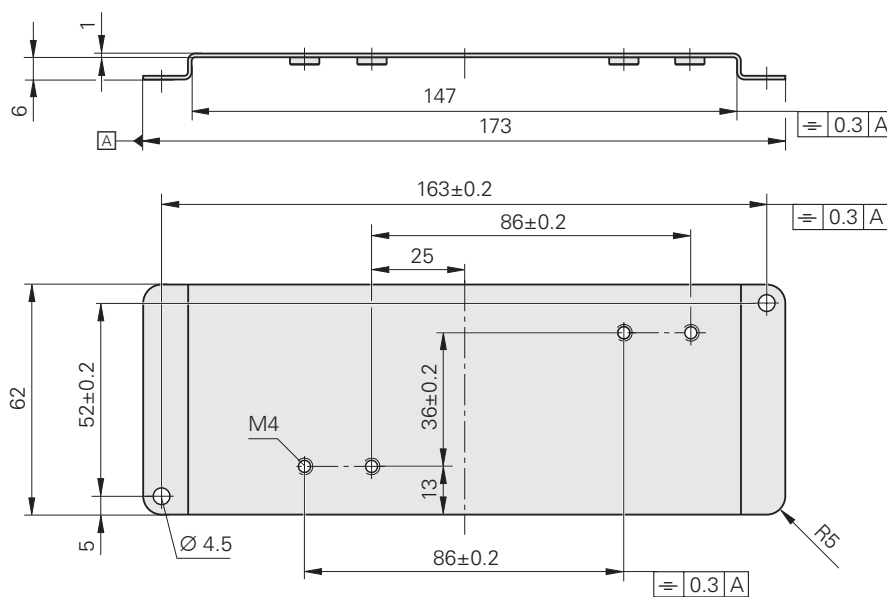
*) Two mounting screws
M4 x 16 ISO 4762/DIN 912



Accessories:

An adapter plate is available for mounting on existing holes for the IBV 6xx/EXE 6xx:

Adapter plate: ID 536452-01



Specifications	EXE 101 EXE 102							
Input	⌚ 11 μApp							
Electrical connection	M23 flange socket (female) 9-pin							
Cable length	≤ 30 m for I _{Encoder} ≤ 120 mA							
Interpolation ¹⁾	5-fold , 10-fold, 20-fold, 25-fold, 50-fold, 100-fold							
Input frequency ¹⁾ for interpolation	Nominal values ²⁾							
EXE 101 5-fold 10-fold EXE 102 20-fold 25-fold 50-fold 100-fold	100 kHz	100 kHz	100 kHz	100 kHz	80 kHz	50 kHz	25 kHz	
	100 kHz	100 kHz	66 kHz	50 kHz	40 kHz	25 kHz	12.5 kHz	
	60 kHz	50 kHz	33 kHz	25 kHz	20 kHz	12.5 kHz	6.25 kHz	
	60 kHz	40 kHz	26 kHz	20 kHz	16 kHz	10 kHz	5 kHz	
	40 kHz	20 kHz	13 kHz	10 kHz	8 kHz	5 kHz	2.5 kHz	
	20 kHz	10 kHz	6.6 kHz	5 kHz	4 kHz	2.5 kHz	1.25 kHz	
Output	⌚ TTL (clocked)							
Electrical connection	M23 flange socket (male) 12-pin							
Cable length	≤ 100 m ($\overline{U_{aS}}$ ≤ 50 m)							
Edge separation <i>a</i>	≥ 0.100 μs	≥ 0.220 μs	≥ 0.345 μs	≥ 0.465 μs	≥ 0.585 μs	≥ 0.950 μs	≥ 1.925 μs	
Reference mark signal ¹⁾	Pulse width 90° elec. or 270° elec.							
Fault indication ¹⁾	Through fault detection signal $\overline{U_{aS}}$ or, in addition, U _{a1} /U _{a2} high impedance							
Power supply	5 V ± 5%							
Current consumption ³⁾	EXE 101: ≤ 120 mA EXE 102: ≤ 140 mA							
Operating temperature Storage temperature	0 °C to 70 °C –30 °C to 80 °C							
Vibration 50 to 2000 Hz Shock 11 ms	≤ 100 m/s ² ≤ 300 m/s ²							
Degree of protection	IP 65							
Weight	Approx. 0.3 kg							

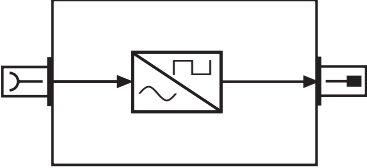
Bold: These preferred versions are available on short notice, please select when ordering

¹⁾ Adjustable

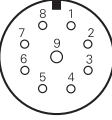
²⁾ The actual input frequency can be up to 5% lower. Exceeding this limit results in failure

³⁾ Not including output load (80 mA with recommended input circuitry) or the current consumption of the encoder (see the corresponding brochure)

Electrical Connection

Connecting cable or adapter cable with M23 connector (male), 9-pin  Cable and connector, 9-pin See HEIDENHAIN catalogs for digital readout and length gauges as well as product Information sheets for the respective encoders			M23 connecting cable 12-pin, Ø 8 mm
			Complete ID 298399-xx
			With one connector ID 309777-xx
			Cable only [4(2x0.14mm ²) + (4x0.5 mm ²)] ID 244957-01
			Connector (female) 12-pin ID 291697-05

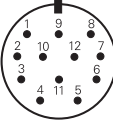
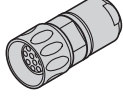
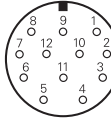
EXE input – 11 µA_{pp}

9-pin M23 flange socket   										
	Power supply				Incremental signals					
	3	4	Chassis	9	1	2	5	6	7	8
	U_P	0V	External shield	Internal shield	I₁₊	I₁₋	I₂₊	I₂₋	I₀₊	I₀₋
	Brown	White	–	White/Brown	Green	Yellow	Blue	Red	Gray	Pink

U_P = power supply voltage
Vacant pins or wires must not be used!

Shield on housing
Color assignment applies only to extension cable.

EXE output – TTL

12-pin M23 flange socket					12-pin M23 connector							
  					  							
	Power supply				Incremental signals						Other signals	
	12	2	10	11	5	6	8	1	3	4	7	9
	U_P	Sensor 5 V	0 V	Sensor 0 V	U_{a1}	$\overline{U}_{a1}$	U_{a2}	$\overline{U}_{a2}$	U_{a0}	$\overline{U}_{a0}$	$\overline{U}_{aS}$	PWT-Testpin
	Brown/ Green	Blue	White/ Green	White	Brown	Green	Gray	Pink	Red	Black	Violet	Yellow

Shield on housing; U_P = power supply voltage

Sensor: The sensor line is connected internally with the corresponding power line

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For more information
• Product overview: *Interface Electronics*

