



HEIDENHAIN



Product Information

EXE 100 Series

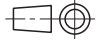
Interpolation and
Digitizing Electronics

April 2007

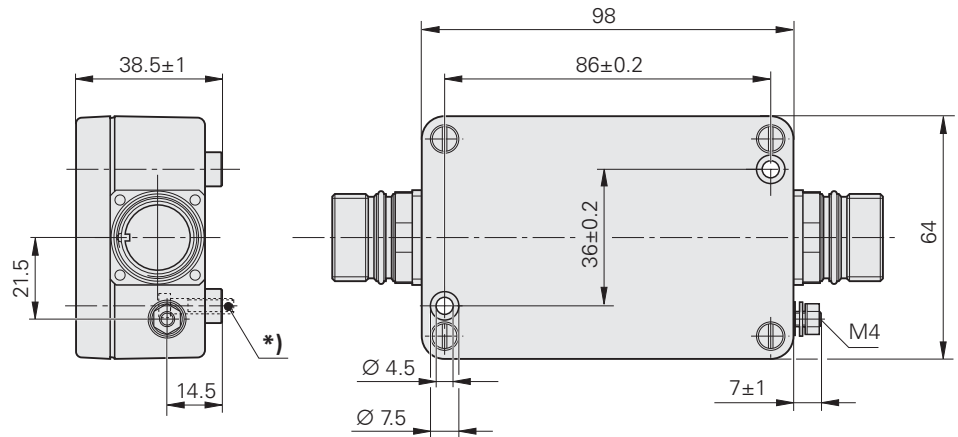
EXE 100 Series

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

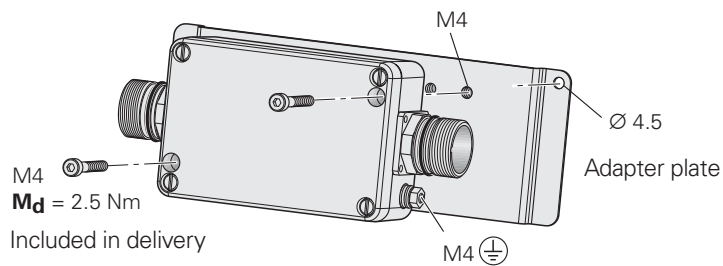
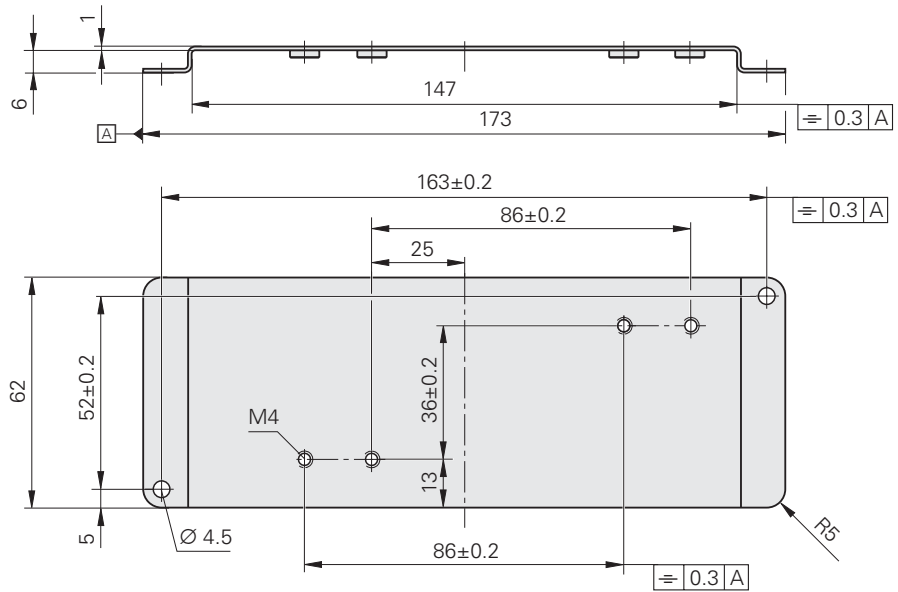


*) Two mounting screws
M4 x 16 ISO 4762/DIN 912

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 μ A _{PP}							
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	100 kHz	100 kHz	100 kHz	100 kHz	80 kHz	50 kHz	25 kHz
	10-fold	100 kHz	100 kHz	66 kHz	50 kHz	40 kHz	25 kHz	12.5 kHz
EXE 102	20-fold	60 kHz	50 kHz	33 kHz	25 kHz	20 kHz	12.5 kHz	6.25 kHz
	25-fold	60 kHz	40 kHz	26 kHz	20 kHz	16 kHz	10 kHz	5 kHz
	50-fold	40 kHz	20 kHz	13 kHz	10 kHz	8 kHz	5 kHz	2.5 kHz
	100-fold	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 μ s	≥ 0.220 μ s	≥ 0.345 μ s	≥ 0.465 μ s	≥ 0.585 μ s	≥ 0.950 μ s	≥ 1.925 μ s	
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							


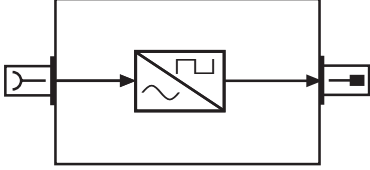





Bold: These preferred versions are available on short notice, please select when ordering

¹⁾ Adjustable



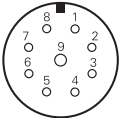


²⁾ The actual input frequency can be up to 5% lower. Exceeding this limit results in failure

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 $[4(2 \times 0.14 \text{ mm}^2) + (4 \times 0.5 \text{ mm}^2)]$ ID 244957-01
			Connector (female) 12-pin ID 291697-05



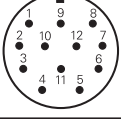


EXE input – \sim 11 μ App

9-pin M23 flange socket   	Power supply		Chassis	9	Incremental signals					
	3	4	External shield	Internal shield	1	2	5	6	7	8
	U_p	0V	–	White/Brown	I_{1+}	I_{1-}	I_{2+}	I_{2-}	I_{0+}	I_{0-}
	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 – \square TTL

12-pin M23 flange socket   	Power supply				Incremental signals						Other signals	
	12	2	10	11	5	6	8	1	3	4	7	9
	U_p	Sensor 5V	0V	Sensor 0V	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*



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