



HEIDENHAIN



Product Information

EXE 600 Series

Interpolation and
Digitizing Electronics

October 2006

EXE 600 Series

Interpolation and Digitizing Electronics

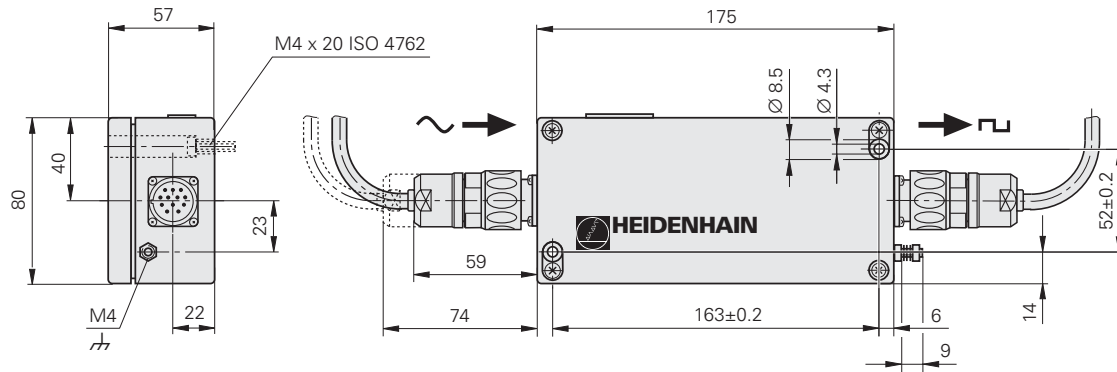
- Input signals $\sim 11 \mu\text{App}$
- Output signals $\square$ TTL



Tolerancing ISO 8015

ISO 2768 - m H

< 6 mm: $\pm 0.2 \text{ mm}$



Specifications	EXE 602 E		EXE 660 B			
Input	 11 μApp					
Electrical Connection	M23 flange socket (female) 9-pin					
Cable length	≤ 30 m for I _{Encoder} ≤ 120 mA					
Interpolation ¹⁾	Without, 5-fold		25-fold, 50-fold, 100-fold, 200-fold, 400-fold			
Input frequency ¹⁾ for interpolation	Nominal values ²⁾					
	Without	50 kHz	–			
	5-fold	25 kHz	–			
	25-fold	–	50 kHz	50 kHz	25 kHz	12.5 kHz
	50-fold	–	50 kHz	25 kHz	12.5 kHz	6.25 kHz
	100-fold	–	25 kHz	12.5 kHz	6.25 kHz	3.12 kHz
	200-fold	–	12.5 kHz	6.25 kHz	3.12 kHz	1.56 kHz
	400-fold	–	6.25 kHz	3.12 kHz	1.56 kHz	0.78 kHz
Output	 TTL (unlocked)		 TTL (clocked)			
Electrical connection	M23 flange socket (male) 12-pin					
Cable length	≤ 100 m ($\overline{U_{aS}} \leq 50$ m)					
Edge separation a	≥ 2.500 μs	≥ 0.500 μs	≥ 0.075 μs	≥ 0.175 μs	≥ 0.370 μs	≥ 0.760 μs
Reference mark signal ¹⁾	Pulse width 90° elec. or ungated (only when <i>without interpolation</i>) 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⁾	≤ 90 mA		≤ 120 mA			
Operating temperature	0 °C to 70 °C					
Storage temperature	–30 °C to 80 °C					
Vibration 50 to 2000 Hz	≤ 10 m/s ²					
Shock 11 ms	≤ 300 m/s ²					
Protection	IP 65					
Weight	0.7 kg					

Bold: These preferred versions are available on short notice

¹⁾ Adjustable

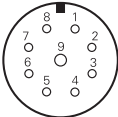
²⁾ The actual input frequency can be up to 5 % lower. Exceeding this limit results in failure

³⁾ Not including the current consumption of the encoder (see the corresponding brochure) and without output load (80 mA with recommended input circuitry)

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. Nr. 298399-xx
			With one connector Id. Nr. 309777-xx
			Cable only [4(2x0.14mm ²) + (4x0.5 mm ²)] Id. Nr. 244957-01
			Connector (female) 12-pin Id. Nr. 291697-05

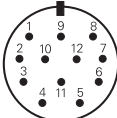
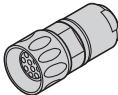
EXE input – $\sim$ 11 μ App

9-pin Flange socket M23   										
	Power supply				Incremental signals					
	3	4	Housing	9	1	2	5	6	7	8
	U_p	0V	External shield	Inside 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.

Output of EXE – $\square$ 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 5V	0V	Sensor 0V	U_{a1}	$\overline{U}_{a1}$	U_{a2}	$\overline{U}_{a2}$	U_{a0}	$\overline{U}_{a0}$	$\overline{U}_{aS}$	U_{aS}	Vacant
	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*

