HEIDENHAIN

Product Information

EXE 600 Series

Interpolation and
Digitizing Electronics

EXE 600 Series

Interpolation and Digitizing Electronics
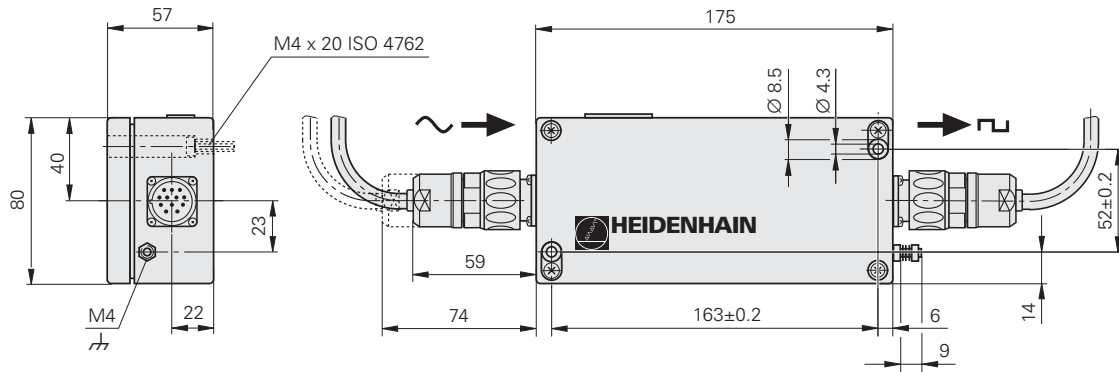- **Input signals** $\sim$ **11 µA$_{PP}$**
- **Output signals** $\sqcap\sqcup$ **TTL**

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

Specifications	EXE 602 E	EXE 660 B			
Input	$\sim$ 11 µA$_{PP}$				
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 (unclocked)	⊓⊔TTL (clocked)			
Electrical connection	M23 flange socket (male) 12-pin				
Cable length	≤ 100 m ($\overline{U_{aS}}$ ≤ 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 *without interpolation*) 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 **Storage temperature**	0 °C to 70 °C –30 °C to 80 °C				
Vibration 50 to 2000 Hz **Shock** 11 ms	≤ 10 m/s^2 ≤ 300 m/s^2				
Protection	IP 65				
Weight	0.7 kg				

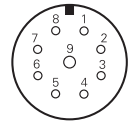**Bold:** These preferred versions are available on short notice
[1] Adjustable
[2] The actual input frequency can be up to 5 % lower. Exceeding this limit results in failure
[3] Not including the current consumption of the encoder (see the corresponding brochure) and without output load (80 mA with recommended input circuitry)

Electrical Connection

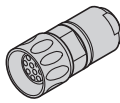| Connecting cable or adapter cable with M23 connector (male) 9-pin		M23 connecting cable 12-pin, Ø 8 mm	
		Complete Id. Nr. 298399-xx	
Cable and **connector** 9-pin See HEIDENHAIN catalogs for digital readout and length gauges as well as product Information sheets for the respective encoders		**With 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	
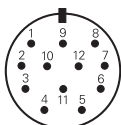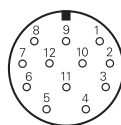
EXE input – $\sim$ 11 µA$_{PP}$

9-pin Flange socket M23

	Power supply				Incremental signals					
	3	**4**	**Housing**	**9**	**1**	**2**	**5**	**6**	**7**	**8**
	U_P	0 V	**External shield**	**Inside shield**	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.

Output of EXE – $\sqcap\sqcup$ 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}	$\overline{U_{a0}}$	$\overline{U_{aS}}$	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

HEIDENHAIN

For more information
• Product overview: *Interface Electronics*