



HEIDENHAIN

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Product Information

IBV 600 Series

Interpolation and
Digitizing Electronics

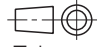
September 2010

IBV 600 Series

Interpolation and digitizing electronics

- Input $\sim 1V_{pp}$
- Output \square TTL

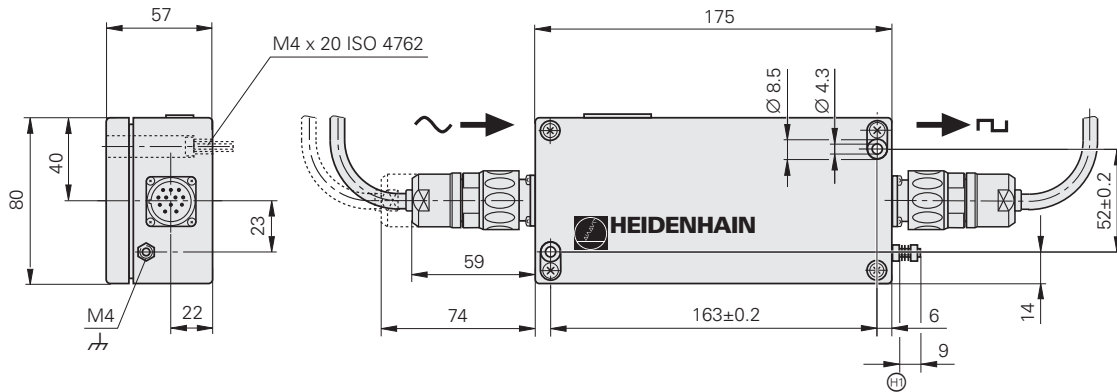
mm



Tolerancing ISO 8015

ISO 2768 - m H

< 6 mm: ± 0.2 mm



Specifications	IBV 600	IBV 660 B				
Input	$\sim 1 V_{PP}$					
Electrical connection	M23 flange socket (female) 12-pin					
Cable length	≤ 60 m at $U_P > 4.9$ V ≤ 30 m at $I_{encoder} \leq 120$ mA					
Interpolation ¹⁾	None	25-fold, 50-fold, 100-fold, 200-fold, 400-fold				
Input frequency ¹⁾ for interpolation	Nominal values ²⁾					
	<i>None</i>	600 kHz	–			
	<i>2-fold</i>	–	–			
	<i>25-fold</i>	–	100 kHz	50 kHz	25 kHz	12.5 kHz
	<i>50-fold</i>	–	50 kHz	25 kHz	12.5 kHz	6.25 kHz
	<i>100-fold</i>	–	25 kHz	12.5 kHz	6.25 kHz	3.12 kHz
	<i>200-fold</i>	–	12.5 kHz	6.25 kHz	3.12 kHz	1.56 kHz
	<i>400-fold</i>	–	6.25 kHz	3.12 kHz	1.56 kHz	0.78 kHz
Output¹⁾	\square TTL (non-clocked)	\square TTL (clocked)				
Electrical connection	M23 flange socket (male) 12-pin					
Cable length	≤ 100 m ($\overline{U_{aS}} \leq 50$ m)					
Edge separation a	≥ 0.200 μ s	≥ 0.075 μ s	≥ 0.175 μ s	≥ 0.370 μ s	≥ 0.760 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 \pm 5 %					
Current consumption³⁾	≤ 85 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					
Degree of protection	IP 65					
Weight	Approx. 0.7 kg					






Bold: This version is the factory default setting

¹⁾ Adjustable



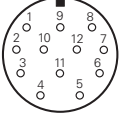


²⁾ The actual input frequency can be up to 5 % lower. Exceeding this limit results in failure

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



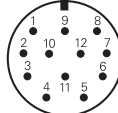

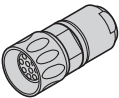
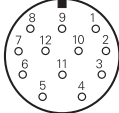


Electrical Connection

Connecting cable or adapter cable with M23 connector (male) 12-pin  Cable and connector, 12-pin. See also HEIDENHAIN catalogs for linear encoders, angle encoders and rotary encoders as well as Product Information sheets for the respective encoders.	Connecting cable M23 12-pin, Ø 8 mm	
	Complete ID 298 399-xx	
	With one connector ID 309 777-xx	
	Cable only ID 244 957-01	 [4(2x0.14mm ²) + (4x0.5 mm ²)]
	Connector (female), 12-pin ID 291 697-05	

IBV input – \sim 1 V_{PP}

12-pin flange socket M23   													
	Power supply				Incremental signals						Other signals		
	12	2	10	11	5	6	8	1	3	4	7	9	/
	U _P	Sensor U _P	0V	Sensor 0V	A+	A-	B+	B-	R+	R-	Vacant	Vacant	Vacant
	Brown/ Green	Blue	White/ Green	White	Brown	Green	Gray	Pink	Red	Black	Violet	/	Yellow

IBV output – \square TTL

12-pin flange socket M23   														Mating connector: 12-pin connector M23   			
	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}	Vacant	Vacant				
	Brown/ Green	Blue	White/ Green	White	Brown	Green	Gray	Pink	Red	Black	Violet	/	Yellow				

Cable shield connected to housing; **U_P** = power supply voltage

Sensor: The sensor line is connected in the encoder with the corresponding power line.

Vacant pins or wires must not be used!

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For more information

- Product overview: *Interface Electronics*