



HEIDENHAIN



Product Information

IBV 100 Series

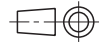
Interpolation and
Digitizing Electronics

May 2010

IBV 100 Series

Interpolation and digitizing electronics

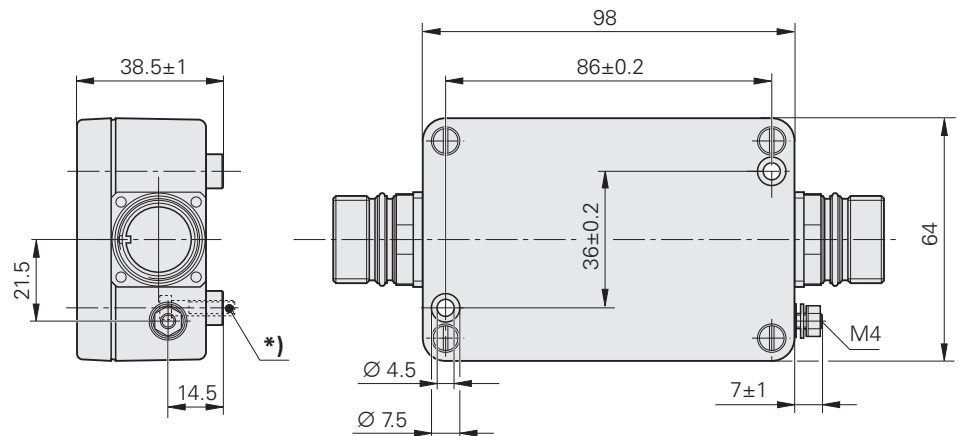
- Input signals $\sim 1\text{ V}_{\text{PP}}$
- Output signals $\square$ TTL



Tolerancing ISO 8015

ISO 2768 - m H

< 6 mm: ± 0.2 mm

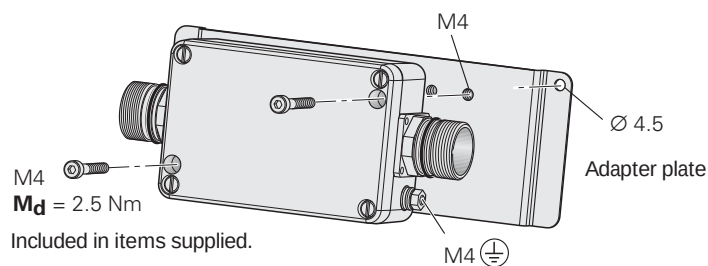
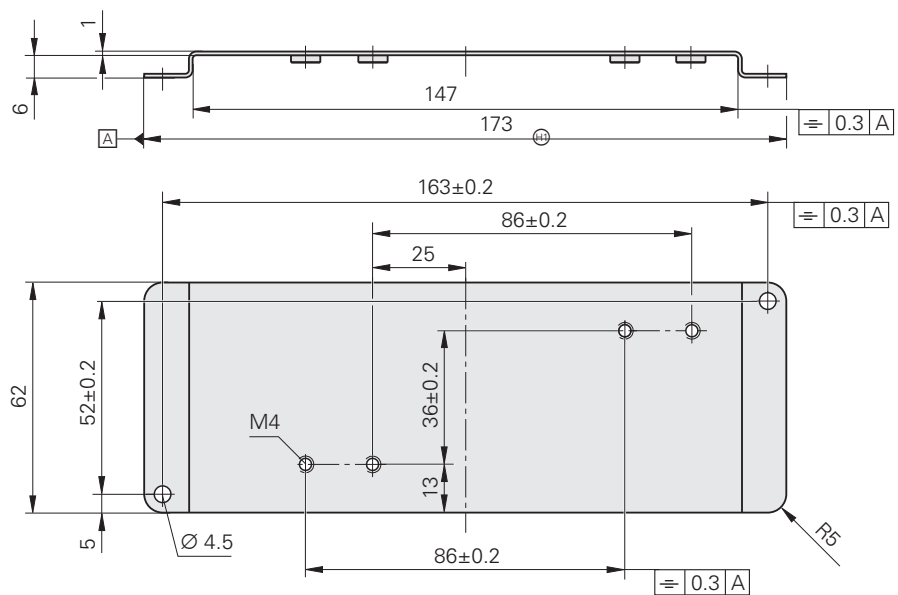


*) 2 mounting screws
M4 x 16 DIN 912/ISO 4762

Accessories:

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

Adapter plate: ID 536452-01



Specifications	IBV 101 IBV 102							
Input	 1 V _{PP}							
Electrical connection	M23 flange socket (female) 12-pin							
Cable length	≤ 60 m for U _P > 4.9 V ≤ 30 m at I _{Encoder} ≤ 120 mA							
Interpolation ¹⁾	IBV 101: 5-fold, 10-fold IBV 102: 20-fold, 25-fold, 50-fold, 100-fold							
Input frequency ¹⁾ for interpolation	Nominal values ²⁾							
IBV 101 5-fold 10-fold IBV 102 20-fold 25-fold 50-fold 100-fold	200 kHz	200 kHz	133 kHz	100 kHz	80 kHz	50 kHz	25 kHz	
	200 kHz	100 kHz	66 kHz	50 kHz	40 kHz	25 kHz	12.5 kHz	
	100 kHz	50 kHz	33 kHz	25 kHz	20 kHz	12.5 kHz	6.25 kHz	
	80 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 ¹⁾	 TTL (clocked)							
Electrical connection	M23 flange socket (male) 12-pin							
Cable length	≤ 25 m	≤ 50 m	≤ 75 m ($\overline{U_{aS}} \leq 50$ m)	≤ 100 m ($\overline{U_{aS}} \leq 50$ m)				
Edge separation a	≥ 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⁾	IBV 101: ≤ 120 mA IBV 102: ≤ 130 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							

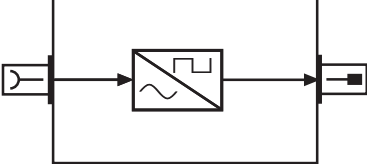
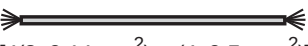
Bold: This version is the factory default setting, please select when ordering

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 encoder brochure)

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			M23 connecting cable 12-pin, Ø 8 mm
			Complete ID 298 399-xx
			With one connector ID 309 777-xx
		 [4(2x0.14mm ²) + (4x0.5 mm ²)]	Cable only ID 244 957-01
			Connector (female) , 12-pin ID 291 697-05

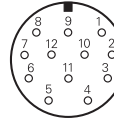
IBV input – $\sim$ 1 V_{PP}

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 U _P	0 V	Sensor 0 V	A+	A–	B+	B–	R+	R–	Vacant	Vacant	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.

IBV output – $\square$ 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 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 test pin
	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

HEIDENHAIN

DR. JOHANNES HEIDENHAIN GmbH

Dr.-Johannes-Heidenhain-Straße 5

83301 Traunreut, Germany

☎ +49 8669 31-0

FAX +49 8669 5061

E-mail: info@heidenhain.de

www.heidenhain.de

624 603 · 01 · A · 02 · 5/2010 · PDF

For more information

• Product overview: *Interface Electronics*