MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

HEIDENHAIN

IBV660B ID331923-01

ENCODER SIGNAL INTERPOLATION CONVERTER

Used with the applicable IBV 600 Series configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: HEIDENHAIN IBV 600 Series product information, pp. 2–4; official product ID 331923-01

HEIDENHAIN



Product Information

IBV 600 Series

Interpolation and
Digitizing Electronics

September 2010

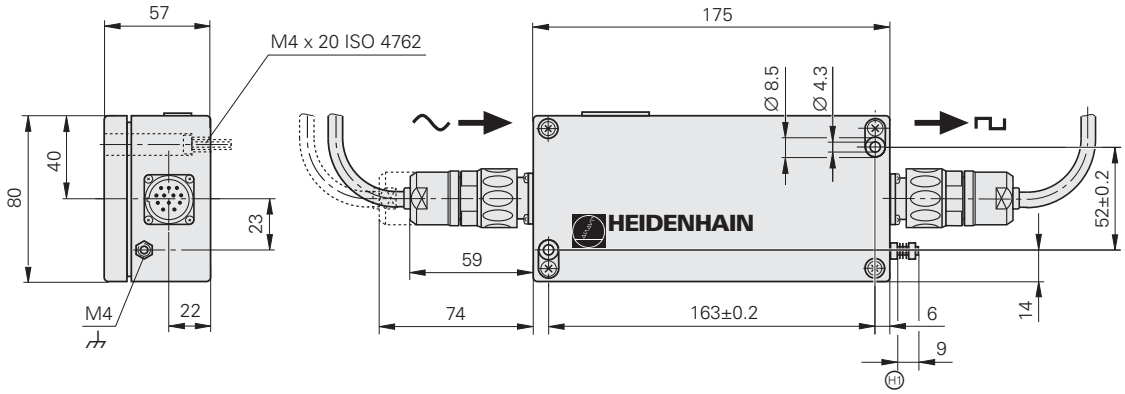
IBV 600 Series

Interpolation and digitizing electronics
- **Input ∿ 1 V_{PP}**
- **Output ⊓⊔ TTL**



mm

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



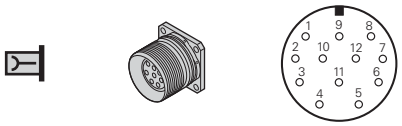
Specifications		IBV 600	IBV 660 B			
Input		∿ 1 V_{PP}				
Electrical connection		M23 flange socket (female) 12-pin				
Cable length		≤ 60 m at U_P > 4.9 V ≤ 30 m at $I_{encoder}$ ≤ 120 mA				
Interpolation[1]		None	25-fold, 50-fold, 100-fold, 200-fold, **400-fold**			
Input frequency[1] for interpolation		Nominal values[2]				
	None	600 kHz	–			
	2-fold	–	–			
	25-fold	–	100 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 (non-clocked)	⊓⊔TTL (clocked)			
Electrical connection		M23 flange socket (male) 12-pin				
Cable length		≤ 100 m ($\overline{U_{aS}}$ ≤ 50 m)				
Edge separation a		≥ 0.200 µs	≥ 0.075 µs	≥ 0.175 µs	≥ 0.370 µs	≥ 0.760 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]		≤ 85 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/s² ≤ 300 m/s²				
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

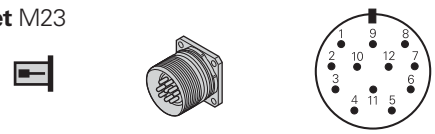
Connecting cable or adapter cable with M23 connector (male) 12-pin  **Cable** and **connector,** 12-pin. See also HEIDENHAIN catalogs for linear encoders, angle encoders and rotary encoders as well as Product Information sheets for the respective encoders.		**Connecting cable M23** 12-pin, Ø 8 mm
		Complete ID 298399-xx 
		With one connector ID 309777-xx 
		Cable only ID 244957-01  [4(2x0.14mm^2) + (4x0.5 mm^2)]
		Connector (female), 12-pin ID 291697-05 

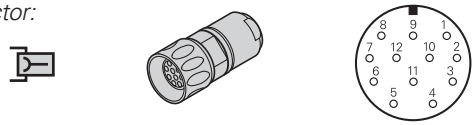
IBV input – ∿ 1 V_{PP}

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	**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

IBV output – ⊓⊔ 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** 5 V	**0 V**	**Sensor** 0 V	**U_{a1}**	**$\overline{U_{a1}}$**	**U_{a2}**	**$\overline{U_{a2}}$**	**U_{a0}**	**$\overline{U_{a0}}$**	**$\overline{U_{aS}}$**	**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!

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

For more information
- Product overview: *Interface Electronics*

598 011 · 01 · A · 02 · 9/2010 · PDF