



HEIDENHAIN



Product Information

IBV 3171

IBV 3271

IBV 3371

Signal Converters
in Cable Design


IBV 3x71

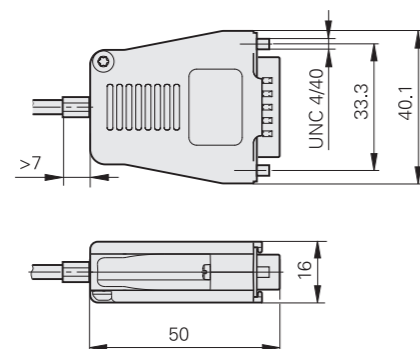
- Signal converters in cable design
- Up to 400-fold interpolation
- Cable design with electronics integrated in the D-sub connector

Specifications	IBV 3171	IBV 3271	IBV 3371						
Input	Incremental signals $\sim 1 V_{PP}$								
Electrical connection*	<ul style="list-style-type: none"> • 15-pin, 2-row D-sub connector (female), with locking nuts • 12-pin M23 connector (female) 								
Cable	Diameter: 4.5 mm; cable length: ≤ 3 m								
Input frequency ¹⁾ for interpolation*	5-fold: 200 kHz	10-fold: 200 kHz	20-fold: 100 kHz	25-fold: 80 kHz	50-fold: 40 kHz	100-fold: 20 kHz	200-fold: 12.5 kHz	400-fold: 6.25 kHz	400-fold: 3.125 kHz
Output	Incremental signals \square TTL								
Electrical connection	15-pin, 2-row D-sub connector (male) with locking screws and integrated electronics								
Cable length	≤ 100 m with HEIDENHAIN cable (≤ 20 m when homing/limit signals are used)								
Edge separation <i>a</i>	$\geq 0.100 \mu s$		$\geq 0.075 \mu s$	$\geq 0.175 \mu s$					
Power supply	5 V ± 0.25 V measured at IBV								
Current consumption (typical)	≤ 80 mA (without load or encoder)								
Operating temperature	0 °C to 70 °C								
Storage temperature	-30 °C to 70 °C								
Vibration 55 Hz to 2000 Hz	100 m/s ² (EN 60 068-2-6)								
Shock 11 ms	200 m/s ² (EN 60 068-2-27)								
Protection	IP40								
Mass	71 g (IBV without cable with electronics)								

* Please select when ordering




¹⁾ Tolerance: ± 5 %; incorrect output signals result if exceeded

mm

 Tolerancing ISO 8015
 ISO 2768:1989-mH
 ≤ 6 mm: ± 0.2 mm



Electrical connection

Pin layout for IBV input


	Power supply				Incremental signals						Other signals		
	12	2	10	11	5	6	8	1	3	4	/	7	9
	4	12	2	10	1	9	3	11	14	7	5/13/15	8	6
	U_P	U_P	0V	0V	A+	A-	B+	B-	R+	R-	Vacant	H¹⁾ L¹⁾	L¹⁾ L²⁾
	Brown/ Green	Blue	White/ Green	White	Brown	Green	Gray	Pink	Red	Black	/	Violet	Yellow

Shield on housing; **U_P** = Voltage supply

Sensor: The sense line is connected internally with the corresponding power line.

¹⁾ Homing/limit signals, if supported by the encoder

Pin layout for IBV output

15-pin D-sub connector with integrated interface electronics														
	Power supply				Incremental signals						Other signals			
	4	12	2	10	1	9	3	11	14	7	13	8	6	15
	U_P	U_P	0V	0V	U_{a1}	U_{a1}	U_{a2}	U_{a2}	U_{a0}	U_{a0}	U_{aS}	H¹⁾ L¹⁾	L¹⁾ L²⁾	PWT

Shield on housing; **U_P** = Voltage supply

Sensor: The sense line is connected internally with the corresponding power line.

¹⁾ Homing/limit signals, if supported by the encoder (otherwise, logic level HIGH)


²⁾ TTL/11 μA_{PP} conversion for the PWT


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This Product Information document supersedes all previous editions, which thereby become invalid. The basis for ordering from HEIDENHAIN is always the Product Information document edition valid when the order is placed.



Further information:

Brochure: *Interfaces of HEIDENHAIN Encoders*

Brochure: *Cables and Connectors*

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