



HEIDENHAIN



Product Information

IBV 3171

IBV 3271

Interface Electronics
in Cable Design

IBV 3x71

- Interface electronics in cable design
- Up to 100-fold interpolation
- Cable design with electronics integrated in the D-sub connector

Specifications	IBV 3171		IBV 3271			
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 ²⁾	10-fold: 200 kHz ²⁾	20-fold: 100 kHz ³⁾	25-fold: 80 kHz ³⁾	50-fold: 40 kHz	100-fold: 20 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>	$\geq 0.100 \mu s$					
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 60068-2-6)					
Shock 11 ms	200 m/s ² (EN 60068-2-27)					
Protection	IP40					
Mass	71 g (IBV without cable with electronics)					

* Please select when ordering

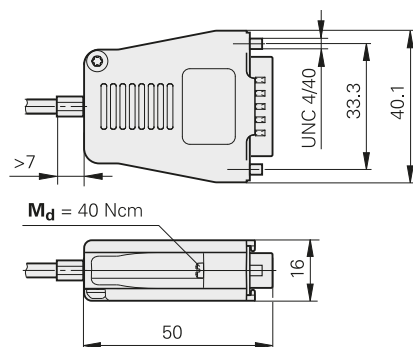
1) Tolerance: ± 5 %; incorrect output signals result if exceeded

2) Maximum input frequency for referencing: 50 kHz

3) Maximum input frequency for referencing: 70 kHz


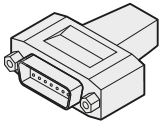
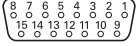

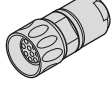
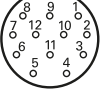



mm

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

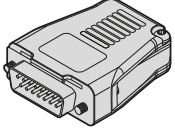
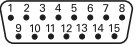




Electrical connection

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	Sensor U _P	0V	Sensor 0V	A+	A-	B+	B-	R+	R-	Vacant	H ¹⁾ L1 ¹⁾	L ¹⁾ L2 ¹⁾
	Brown/ Green	Blue	White/ Green	White	Brown	Green	Gray	Pink	Red	Black	/	Violet	Yellow

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	Sensor 5V	0V	Sensor 0V	U _{a1}	\overline{U}_{a1}	U _{a2}	\overline{U}_{a2}	U _{a0}	\overline{U}_{a0}	\overline{U}_{aS}	H ¹⁾ L1 ¹⁾	L ¹⁾ L2 ¹⁾	²⁾ PWT

Shield on housing; **U_P** = Power supply voltage

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

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


²⁾ Conversion of TTL/11 μA_{PP} for PWT

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This Product Information 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 made.



Further information

Brochure: *Interfaces of HEIDENHAIN Encoders*

Brochure: *Cables and Connectors*

Product overview: *Interface Electronics*

1078628-xx

1206103-xx

598160-xx