

HEAG 158

Precision interpolator / splitter

Converting of SinCos signals into TTL and HTL signals

Overview

- Converting of SinCos signals into TTL and HTL signals
- Additional interpolation of the signals (multiplying or dividing)
- Oversampling with 24 MHz
- Digitally pre-filter
- Very high output frequency possible



Technical data

Technical data - electrical ratings

Voltage supply	10...30 VDC
Consumption	≤150 mA (15 VDC)
Inputs	SinCos 2x SinCos
Input signals	A+, A-, B+, B-, R+, R-
Outputs	HTL TTL Error output
Output signals	A+, B+, R+, A-, B-, R- Option: A+, B+, R+, A-, B-, R-, Error-
Output frequency	≤2 MHz (HTL) ≤5 MHz (TTL)
Interpolation factor for HTL output (multiplying)	1...2048
Interpolation factor for HTL output (dividing)	1/2...1/2048

Technical data - electrical ratings

Interpolation factor for TTL output (multiplying)	1...2048
Interpolation factor for TTL output (dividing)	1/2...1/2048
Approval	CE
Technical data - mechanical design	
Dimensions W x H x L	122 x 122 x 80 mm
Protection DIN EN 60529	IP 65
Operating temperature	0...+50 °C
Resistance	IEC 60068-2-6 Vibration 1 g, 50...2000 Hz IEC 60068-2-27 Shock 30 g, 11 ms
Weight approx.	1 kg
Connection	Connector M23, 12-pin Connector, 3-pin, external voltage supply

Optional

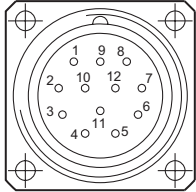
- Internal pre-amplifier
- Two sine inputs for compensating radial runout
- Error output, external voltage supply

Terminal assignment

View A (see dimension)

Input encoder signals

Assignment flange connector



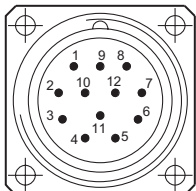
Flange connector M23,
female, 12-pin,
counter-clockwise (CCW)

Pin	Assignment
1	B-
2	5 VDC
3	R+
4	R-
5	A+
6	A-
7	dnu
8	B+
9	dnu
10	0V (\perp)
11	0V (\perp)
12	5 VDC

View B (see dimension)

Converter output

Assignment flange connector



Flange connector M23,
male, 12-pin,
counter-clockwise (CCW)

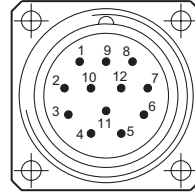
Pin	Assignment
1	B _{HTL}
2	5 VDC
3	R _{HTL}
4	R _{HTL}
5	A _{HTL}
6	A _{HTL}
7	dnu (with error output: Err-)
8	B _{HTL}
9	dnu
10	0V (\perp)
11	dnu
12	10...30 VDC (with external voltage supply: dnu)

Terminal assignment

View C (see dimension)

Counter output

Assignment flange connector



Flange connector M23,
male, 12-pin,
counter-clockwise (CCW)

Pin	Assignment
1	B _{TTL}
2	dnu
3	R _{TTL}
4	R _{TTL}
5	A _{TTL}
6	A _{TTL}
7	dnu
8	B _{TTL}
9	dnu
10	0V (\perp)
11	0V (\perp)
12	dnu

View D (see dimension)

External power supply



male, 3-pin,
counter-clockwise (CCW)

Pin	Assignment
1	10...30 VDC
3	\perp (0 V)
4	Shield

Terminal significance

... VDC	Voltage supply
0V (\perp)	Ground
A+	Output signal channel 1
A-	Output signal channel 1 inverted
B+	Output signal channel 2 (offset by 90° to channel 1)
B-	Output signal channel 2 inverted
R+	Zero pulse (reference signal)
R-	Zero pulse inverted
Err-	Error output
dnu	Do not use

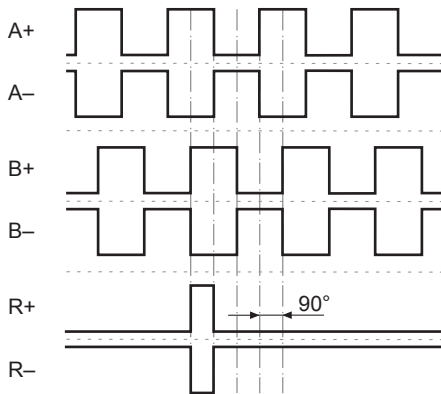
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Output signals

HTL/TTL

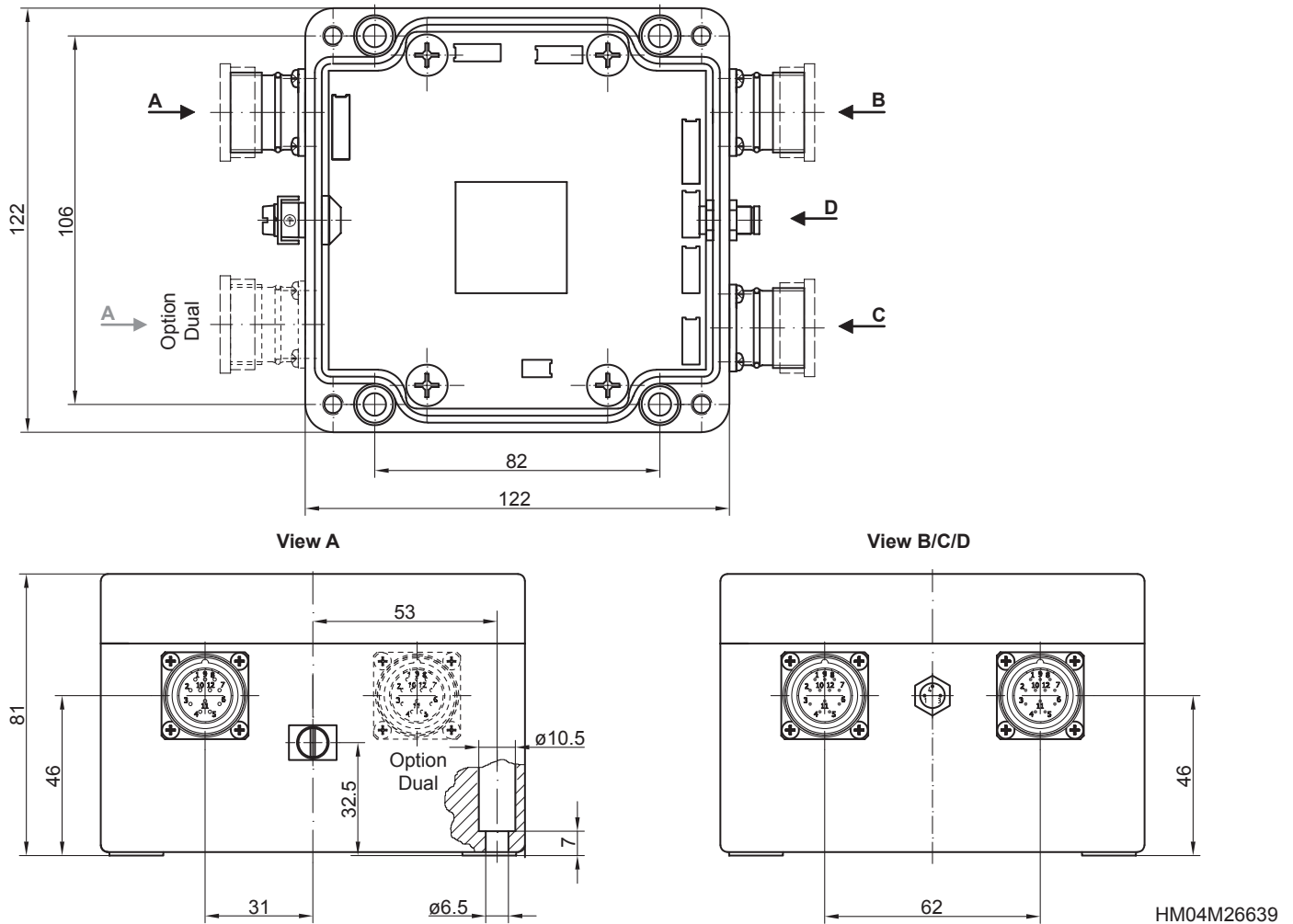


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Dimensions



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Ordering reference

	HEAG158	-	#	#	-	H	#####	-	T	#####	-	##	-	##
Product														
Signal Processing	HEAG158													
Internal pre-amplifier														
Without integrated pre-amplifier				-										
With integrated pre-amplifier				V										
Dual sine input														
One sine input (standard)				-										
Two sine inputs for compensating radial runout of the connected encoder				D										
HTL output														
HTL output						H								
Interpolation factor for HTL output														
1							1							
2							2							
4							4							
8							8							
32							32							
64							64							
128							128							
256							256							
512							512							
1024							1024							
2048							2048							
1/2							1/2							
1/4							1/4							
1/8							1/8							
1/16							1/16							
1/32							1/32							
1/64							1/64							
1/128							1/128							
1/256							1/256							
1/512							1/512							
1/1024							1/1024							
1/2048							1/2048							
TTL output														
TTL output									T					

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Ordering reference

	HEAG158	-	#	#	-	H	#####	-	T	#####	-	##	-	##
Interpolation factor for TTL output														
1										1				
2										2				
4										4				
8										8				
32										32				
64										64				
128										128				
256										256				
512										512				
1024										1024				
2048										2048				
1/2										1/2				
1/4										1/4				
1/8										1/8				
1/16										1/16				
1/32										1/32				
1/64										1/64				
1/128										1/128				
1/128										1/128				
1/512										1/512				
1/1024										1/1024				
1/2048										1/2048				
Error output														
Without error output												-		
With error output												ER		
External voltage supply														
Without external supply												-		
With external supply												EXT		