

Signal Processing

Precision interpolator / splitter

Conversion of sin/cos signals into TTL and HTL signals

HEAG 158



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Technical data - electrical ratings

Voltage supply	10...30 VDC
Consumption	≤150 mA (15 VDC)
Inputs	Sine/cos 2x sine/cosine
Input signals	A+, A-, B+, B-, R+, R-
Input frequency	400 kHz
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...16394
Interpolation factor for HTL output (dividing)	1/2...1/2048
Interpolation factor for TTL output (multiplying)	1...16394
Interpolation factor for TTL output (dividing)	1/2...1/2048

Features

- Conversion of sin/cos 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

Optional

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

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	DIN EN 60068-2-6 Vibration 1 g, 50-2000 Hz DIN EN 60068-2-27 Shock 30 g, 11 ms
Weight approx.	1 kg
Connection	Connector M23, 12-pin Connector, 3-pin, external voltage supply

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Part number

HEAG 158 -

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| | | | | | |
| | | | | | <u>External voltage supply</u>
- Without external supply
EXT With external supply |
| | | | | | <u>Error output</u>
- Without error output
ER With error output (only one output possible: HTL or TTL) |
| | | | | | <u>Interpolation factor for TTL output - see table</u> |
| | | | | | <u>Interpolation factor for HTL output - see table</u> |
| | | | | | <u>Dual sine input</u>
- One sine input (standard)
D Two sine inputs for compensating radial runout of the connected encoder |
| | | | | | <u>Internal pre-amplifier</u>
- Without integrated pre-amplifier
V With integrated pre-amplifier |

Interpolation factor for HTL/TTL output

1	64	2048	1/4	1/128
2	128	4096	1/8	1/256
4	256	8192	1/16	1/512
8	512	16384	1/32	1/1024
32	1024	1/2	1/64	1/2048

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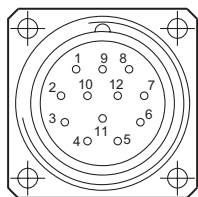
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Terminal assignment

View A - Input encoder signals

Flange socket, female contacts, counter-clockwise

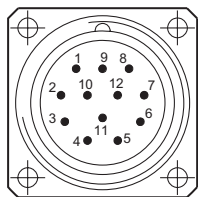
Female	Assignment
Pin 1	B- (inv.)
Pin 2	5 VDC
Pin 3	R+ (zero pulse)
Pin 4	R- (zero pulse inv.)
Pin 5	A+
Pin 6	A- (inv.)
Pin 7	n.c.
Pin 8	B+
Pin 9	n.c.
Pin 10	0 V
Pin 11	0 V
Pin 12	5 VDC



View C - Counter output

Flange socket, male contacts, counter-clockwise

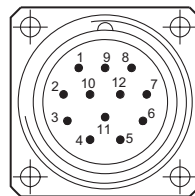
Male	Assignment
Pin 1	B- _{TTL} (inv.)
Pin 2	n.c.
Pin 3	R+ _{TTL} (zero pulse)
Pin 4	R- _{TTL} (zero pulse inv.)
Pin 5	A+ _{TTL}
Pin 6	A- _{TTL} (inv.)
Pin 7	n.c.
Pin 8	B+ _{TTL}
Pin 9	n.c.
Pin 10	0 V
Pin 11	0 V
Pin 12	n.c.



View B - Converter output

Flange socket, male contacts, counter-clockwise

Male	Assignment
Pin 1	B- _{HTL} (inv.)
Pin 2	n.c.
Pin 3	R+ _{HTL} (zero pulse)
Pin 4	R- _{HTL} (zero pulse inv.)
Pin 5	A+ _{HTL}
Pin 6	A- _{HTL} (inv.)
Pin 7	n.c. (Error- at option with error output)
Pin 8	B+ _{HTL}
Pin 9	n.c.
Pin 10	0 V
Pin 11	n.c.
Pin 12	10 ... 30 VDC (n.c. at option with external voltage supply)



View D - Option: External voltage supply

Male contacts

Male	Assignment
Pin 1	10 ... 30 VDC
Pin 3	0 V
Pin 4	Shield



Signal Processing

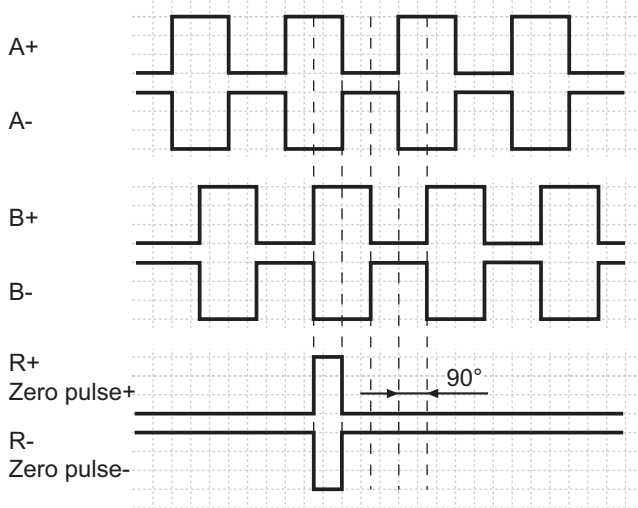
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Output signals

HTL or TTL



Dimensions

