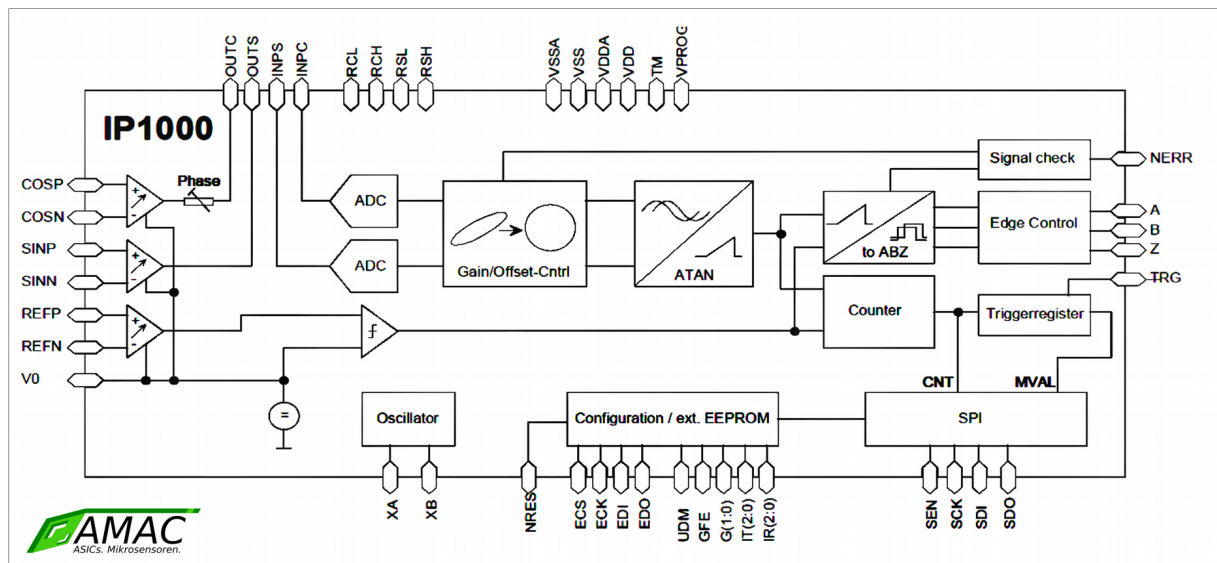
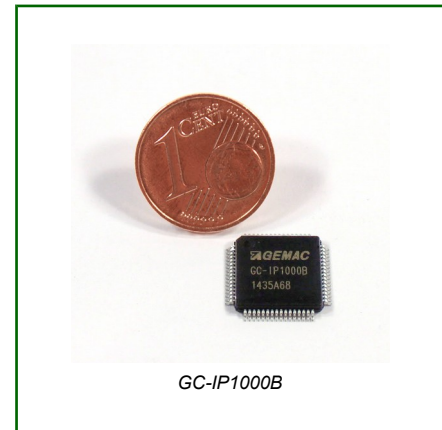


Interpolation Circuit GC-IP1000B

Features:

The GC-IP1000B interpolation IC has been designed for connection to incremental position and angular measurement systems with sine-shaped output signals with a 90° phase shift. It can be operated at a large number of transducer systems working according to the most varied measuring principles. With a maximum interpolation rate of 1000 the IC is capable to slit the input signal period into up to 1000 segments. An internal counter provides a counting value which can be output via a serial interface. Furthermore there is the possibility to output the data as a pair of square waves for processing externally.

The GC-IP1000B is ideal for single chip interpolation systems, micro-computer based measuring devices, as well as multi channel systems. Proprietary automatic gain and offset regulation, as well as the possibility of an analogue phase correction ensure a high measuring precision under industrial conditions. An integrated measuring value trigger enables the use in real-time applications.



Technical Specifications*:

Analogue Part	
Analogue input	3 differential channels (sine, cosine, reference) Voltage input $1V_{PP}$ (differential) 4 input voltage ranges ($100mV_{PP}$, $120mV_{PP}$, $145mV_{PP}$, $1V_{PP}$) (differential) Single-ended input $2V_{PP}$ Maximum input frequency 100kHz
AD-Converter	Internal converter max. 340kS/s
Signal correction	AMAC-specific gain- and offset regulation Phase correction static via internal digital potentiometer
Digital Part	
Interpolation rate	100, 125, 200, 250, 400, 500, 800, 1000
Output signals	28-Bit counting value 90° phase offset square wave signals resp. up / down counter pulses Error signal
Possibilities of configuration	Configuration pins, EEPROM, serial interface (SPI)
Serial interface	For configuration and measuring value output 16 Bit synchronous / asynchronous mode Not required for trivial systems
EEPROM	8 configuration banks For regulator settings (gain, offset, phase) For any type of user data in conjunction with SPI Not required for trivial systems
Miscellaneous	
Glitch filter	Filter for suppressing the edge distance noise at low input frequencies
Interval time	Programmable for adjusting the IC to slower counters
Trigger	Edge controlled measuring trigger
Error output	Programmable sensor failure response
Housing	
TQFP64	10mm x 10mm x 1,4mm

* A complete and more detailed description of the technical specifications is available at the data sheet at www.amac-chemnitz.de.

Ordering Information:

Product Type	Description	Item No.
GC-IP1000B	Interpolation IC GC-IP1000B, TQFP 64	PR-00055-01