Dynamic Inclinometer

Reliable tilt measurement in moving applications

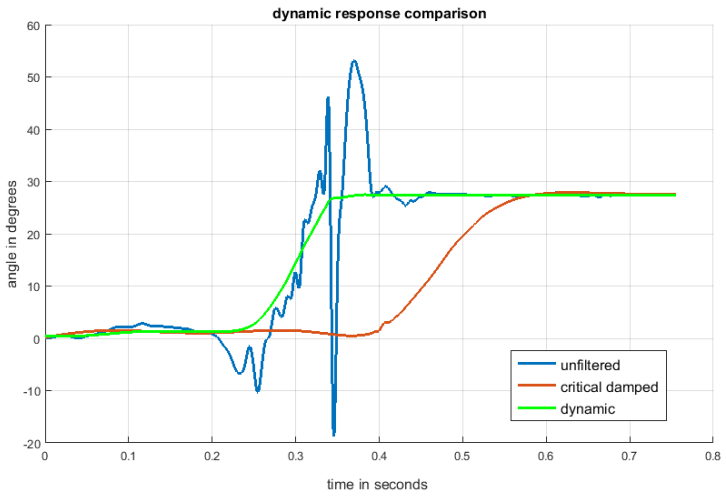
Characteristics:

- Combination of acceleration sensor and gyroscope
- Intelligent sensor fusion filter, configurable to the target application
- Programmable vibration suppression (digital filter)
- Interfaces CAN, CANopen and SAEJ1939
- High resolution of 0.01°
- Accuracy better than ±0.5° over the full meas. range
- Internal cycle time 5 ms
- Measurement range 360° (1-dimensional) or ±90° (2-dimensional)
- Zero point / offset configuration
- Supply voltage 8 to 36 V
- Temperature range -40 to +80 °C
- Schock resistance up to 100 g
- Comfortable and free configuration software

The GEMAC dynamic inclinometers provide reliable angle measurement in moving applications. Combininga classic acceleration sensor with an angular rate sensor enables accurate and fast measurement resultseven if the moving equipment is subject to strong accelerations. Existing MEMS based tilt sensors rely onmonitoring the gravity effect involving measurement errors due to external forces (e.g. by rapid movement ofthe equipment). By adding the signals of the gyroscope, these effects are compensated leading to precise,robust and dynamic measurement results. The dynamic inclinometer can be mounted horizontally orvertically and can be used reliably on mobile equipment such as construction machinery, cranes oragriculture machinery.

Applications:

- Agricultural and forestrymachinery
- Construction machinery
- Crane and hoistingtechnology



Address

GEMAC Chemnitz GmbH
Zwickauer Straße 227
D-09116 Chemnitz
Germany

Contact

phone: +49 371 3377-0
fax: +49 371 3377-272
e-mail: info@gemac-chemnitz.de
web: www.gemac-chemnitz.com

Company data

CEO: Robert Hermann
Tilo Rothkirch
VAT No.: DE815709706
Tax.No.: 215/109/05854
Commercial register: HRB 31088 Chemnitz

Bank details

Ostsächsische Sparkasse
IBAN: DE24 8505 0300 0221 1345 49
BIC: DDDE81XXX

Technical Data:

General Parameters	IS1BP360-x-DL	IS1BP360-x-DL
Measurement range	360°	±90°
Resolution	0,01°	
Static accuracy	typical ±0.3°	
Dynamic accuracy	typical ±0.5°	
Temperature coefficient (zero point)	typical ±0.01 °/K	
Sample rate	200 Hz	

Interface	
CAN	CAN 2.0 A and B (11- and 29-Bit-ID) according to ISO 11898-2 Angle request, cyclical and synchronized outputs, parametrization, sensor fusion filter, digital filter
CANopen	CANopen according CiA DS-301, profile according to CiA DSP-410 TPDO: dynamically mappable (RTR, cyclic, event-controlled, synchronized) SYNC-Consumer, EMCY-Producer, Heartbeat or Nodeguarding / Lifeguarding
SAE J1939	SAE J1939 configurable process data, cyclic output, configuration protocol, dynamic address claiming

Electrical Parameters	
Supply voltage	8 ... 36 V DC
Current consumption	15 mA @ 24 V

Mechanical Parameters	
Connector	2 x sensor connector 5-pole M12 (loop through connector)
Degree of protection	IP65/67
Operating temperature	-40 °C … +80 °C
Dimensions / Weight	66 mm x 90 mm x 36 mm / approx. 200 g

Ordering Information:

Article Number	Product Type	Description/Distinction
PR-26050-30	IS1BP360-C-DL	Dynamic inclinometer 1-dimensional, 360°, interface CAN
PR-26054-30	IS2BP090-C-DL	Dynamic inclinometer 2-dimensional, ±90°, interface CAN
PR-26150-30	IS1BP360-O-DL	Dynamic inclinometer 1-dimensional, 360°, interface CANopen
PR-26154-30	IS2BP090-O-DL	Dynamic inclinometer 2-dimensional, ±90°, interface CANopen
PR-26750-30	IS1BP360-J-DL	Dynamic inclinometer 1-dimensional, 360°, interface SAE J1939
PR-26754-30	IS2BP090-J-DL	Dynamic inclinometer 2-dimensional, ±90°, interface SAE J1939
PR-23999-10	ISPA2	Starter kit including programming adapter, cables and PC software