

SmartAutomotive™

PRIMARY APPLICATIONS



Navigation Systems Aids for Dead Reckoning

Low noise, superior stability for accurate positioning up to 105°C



ADAS Vision Systems and Camera Stabilization

High sensor output data rate (up to 1kHz), F-sync pin for camera frame sync, small size fits into camera module



Telematics and Car Alarm

Programmable Wake-on-Motion embedded interrupt, Low-power feature to minimize current consumption



Door Control

Integrated 6-axis for free mounting orientation, up to 4k byte embedded FIFO to underload host processor

FEATURED PRODUCTS

IAM-2038xHT



Grade2 3-axis accelerometer MotionTracking® device for Automotive non-safety applications

IAM-20680HT/HP



High-performance 6-axis device featuring a 4096-byte FIFO, programmable gyroscope, on-chip 16-bit ADCs, and much more

IAM-20685



Grade 2 6-axis MotionTracking® device for automotive safety applications with ASIL rating up to B



InvenSense, a TDK Group Company ("TDK InvenSense") is committed through its Product Longevity Program ("PLP") to ensure that its customers will have access to a stable supply of products for their designs. Products are selected for the PLP from products developed for automotive and industrial markets.

PRODUCT CATEGORIES

IAM-2038xHT

Navigation Systems Aids, Vision Systems, Vehicle Location

- 3-axis automotive grade accelerometers
- 3-axis automotive grade gyroscopes

IAM-20680HT/HP

High Performance IMU for Navigation Systems Aids

- High performance MotionTracking® device
- Operating temperature range (-40°C / 105°C)
- Enhanced factory calibration procedure, providing superior stability over temperature and lifetime
- Reliability testing performed according to AEC-Q100 Grade 2

IAM-20685

High Performance IMU for systems up to ASIL-B for ADAS & Autonomous Drive Applications

- Smallest 6-axis ASIL-rated MotionTracking® device
- Lowest current consumption failsafe Inertial Measurement Unit for automotive applications
- Developed according to ISO-26262
- Grade 2 temperature range (-40°C / 105°C)

PRODUCT DETAILS

Product Number	Package (mm)	Gyro FSR (dps)	Gyro offset variation over T (dps typ)	Accel FSR (g)	Accel offset variation over T (mg typ)	Digital Output	Output Data Rate	Operating Voltage (V)	ISO26262 Rating	Interrupt Lines
IAM-20380HT	3 × 3 × 0.75	±250 to ±2000	±1	--	--	I ² C or SPI	4Hz to 8kHz (gyro)	1.7 to 3.6	n/a	2
IAM-20381HT	3 × 3 × 0.75	--	--	±2 to ±16	±50	I ² C or SPI	4Hz to 4kHz (accel)	1.7 to 3.6	n/a	2
IAM-20680HT	3 × 3 × 0.75	±250 to ±2000	±1	±2 to ±16	±50	I ² C or SPI	4Hz to 8kHz (gyro) 4Hz to 4kHz (accel)	1.7 to 3.6	n/a	2
IAM-20680HP	3 × 3 × 0.75	±250 to ±2000	±0.9 (**)	±2 to ±16	±15 (**)	I ² C or SPI	4Hz to 8kHz (gyro) 4Hz to 4kHz (accel)	1.7 to 3.6	n/a	1
IAM-20685	4.5 × 4.5 × 1.1	±41 to ±1966	(*)	±2 to ±16	(*)	SPI w/ CRC	8kHz	3.0 to 5.5	Up to ASIL B	2



Scan here for additional materials & information.

(*) please contact your local TDK InvenSense Sales Office for full datasheet

(**) min/max values are ~2x better compared to IAM-20680HT