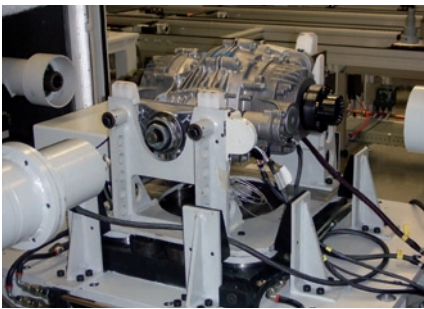# MIG16 AQS

ACOUSTIC QUALITY ASSURANCE

Quality without compromise

Serial production of power train components has become a highly automated affair. Quality assurance plays a vital role to guarantee parts with consistently high quality. Functional test at the end of the automated production line assesses product quality of every part produced. Pinpointing faults quickly, and identifying those faults accurately is increasingly important for complex systems, for example automatic transmissions. Easily added to existing automated test beds and in parallel to the functional tests, red-ant MIG16 AQS will carry out proven NVH diagnostics — providing your management the missing piece of quality criteria — the acoustic quality fingerprint. A PASS/FAIL decision is quickly calculated and issued by MIG16 AQS is based on objective measured values of noises emitted by the test specimen.

Assembly defects, missing parts, bearing failures, gear tooth defects and much more are reliably detected. MIG16 AQS considerably enhances the value and validity of the end of line quality test, usually without extending cycle times. MIG16 AQS delivers NVH testing without compromise, guaranteeing maximum product quality and production quantity. Process-assured, fully automatic, quick and economical.

MIG16 AQS indicators quickly, repeatably identify:

> Assembly defects and missing parts or bearing elements

> Noise levels of the test specimen

> Objectionable tooth mesh, pump and turbine noise

> Knocking, squeaking, scraping, rattling and much more

Product advantages:

> Objective sound measurement: The optimum complement to functional testing

> Traceability: End product acoustic fingerprint for every part produced

> Production control: Quality-critical trends detected in minimum time

> Cost reduction: Rapid remedial action possible thanks to rapid fault identification

> Simple, seamless integration into existing test stand automation

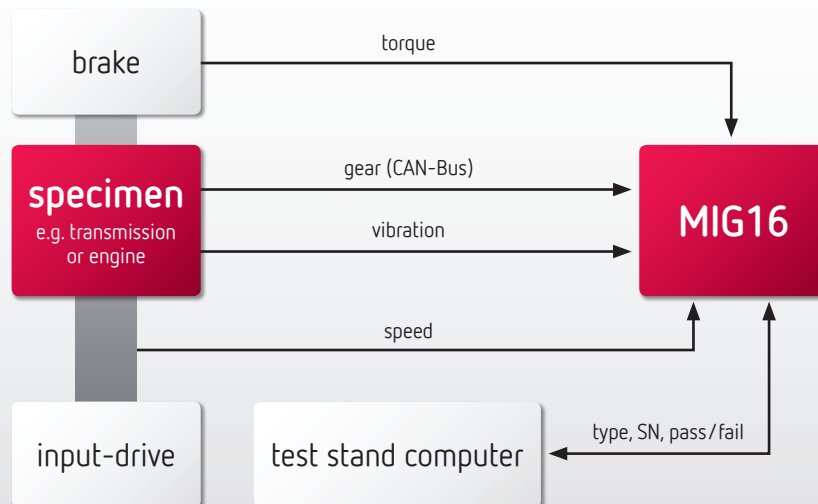> Fully automatic expert system (24/7): No NVH experts required

MIG16 AQS

Characteristics

> Application: all areas of engine, transmission and axle production

> All proven vibration analysis processes available, incl. frequency, order and torsional vibration analysis, levels over time and many more

> Real-time calculation: Diagnosis PASS/FAIL available immediately, completely documented

> Logical post-processing of limit values delivers extremely robust product under test diagnostics

> Automated, customer-specified reporting incl. trend analysis

> Integration of MIG16 AQS into the test stand user interface is possible

Characteristics of MIG16 AQS Intelligent Sensor solution

> Cost optimized: Specifically designed for test stands utilizing high performance controllers

> "Multi-Indicator": Compression of measurement signals to generate meaningful NVH indicators

> "Multi-Sensor": Simultaneous processing of multiple measurement points and signals

> Allows PASS/FAIL decision and limit value management to be handled by the test stand computer

> Minimizes complexity, maximizes failure safety due to heartbeat and watchdog

Typical configuration of MIG16 AQS


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brake ──── torque ──────────────┐
                                 ▼
specimen ── gear (CAN-Bus) ──► MIG16
e.g. transmission
or engine ── vibration ──────► 

           ── speed ──────────►

input-drive    test stand computer ── type, SN, pass/fail ──►
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red-ant
measurement technologies and services

Based in Munich Germany with technical representatives worldwide, red-ant is a competent partner for complete vibration analysis solutions. Our product and service portfolio encompasses optimally tailored measurement technology and specialist services for applications in automotive manufacturing and machinery construction. Over 120 satisfied industry customers around the world utilize the high-precision red-ant systems for early failure detection and quality assurance.