E²KNOCKCON-M

E²KNOCKCON-M reliably detects knocking and misfiring in rough conditions for up to 24 cylinders.

The M-series of the E²KNOCKCON family offers reliable knock detection with high sensitivity.

Due to its usability in rough conditions and its extremely robust design, E²KNOCKCON-M can be mounted directly on the engine or nearby.

Using sophisticated digital signal processing algorithms the knock information is reliably filtered from the customary engine noises even under challenging acoustic conditions.

E²KNOCKCON-M computes knock levels and ignition timings for each engine working cycle and transfers them to the engine control system or to the ignition system directly.

But there is far more useful data in structure-borne sound than that. E²KNOCKCON-M reliably detects misfiring with no extra sensors and considerably faster than other methods.

E²KNOCKCON-M is easily integrated into engine control systems and PLCs via CAN bus.

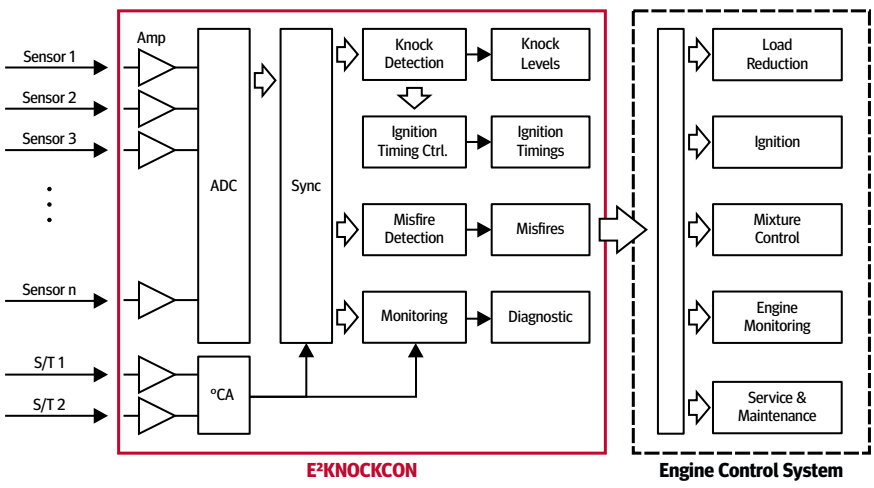
HIGHLIGHTS

- Cylinder-individual knock control
- Reliable misfire detection
- On-engine mounting
- Consistent shielding, via M12 plug
- Best proven selectivity
- AVAT calibration program for new engine series
- Marine type approvals ABS, BV, DNV GL, LR
- Direct communication to ignition system (option)
- Library for Bachmann PLC included (others on request)

APPLICATION AREA

DESIGNATION	E²KNOCKCON-M	
Part number	3 000 210	
AMBIENT CONDITIONS		
Operating temperature	-25 ... +85 °C	
Storage temperature	-25 ... +85 °C	
Humidity	0 ... 95 % relative humidity	
Vibration resistance	IACS UR E10.7 vibration, IEC 60068-2-6 2 ... 25 Hz: s = ±1.6 mm; 25 ... 100 Hz: a = ±4 g	
Protection class	IP66 (EN 60529)	
ELECTRICAL DATA		
Supply voltage	DC 24 V	
Range of supply voltage	DC 18 ... 32 V	
Typical current consumption	600 mA / 24 V	
Typical power consumption	15 W	
EMC limit values	EN 61326-1[a)], DIN EN 61000-6-2 and DIN EN 61000-6-4	
Knock sensors with piezoelectrical signal	12 knock sensors	24 knock sensors (2 moduls)
Connection speed / timing sensors	Passive 2-wire sensors: signal threshold 2 ... 70 V_{PP} or active sensors: input voltage range DC ±35 V	
DATA INTERFACES		
Data link to ECS	CAN SAE-J1939 standard protocol	
Ignition system (option)	CAN SAE-J1939	
Connection to service PC	Ethernet	
MECHANICAL DATA		
Dimensions in mm (H×W×D)	321 × 320 × 47.3	
Installation	Mountable on-engine or nearby.	

a) Impulse voltages ›0.5 kV (line / line) or ›1 kV (line / earth) require an external protective circuit.



E²KNOCKCON-M computes knock levels, ignition timings and misfire information for each cylinder and every engine working cycle. This data is transmitted synchronously to the engine control system where it is used for various purposes.