

TDC-SENSOR

The most important crank angle: TDC – we measure it!

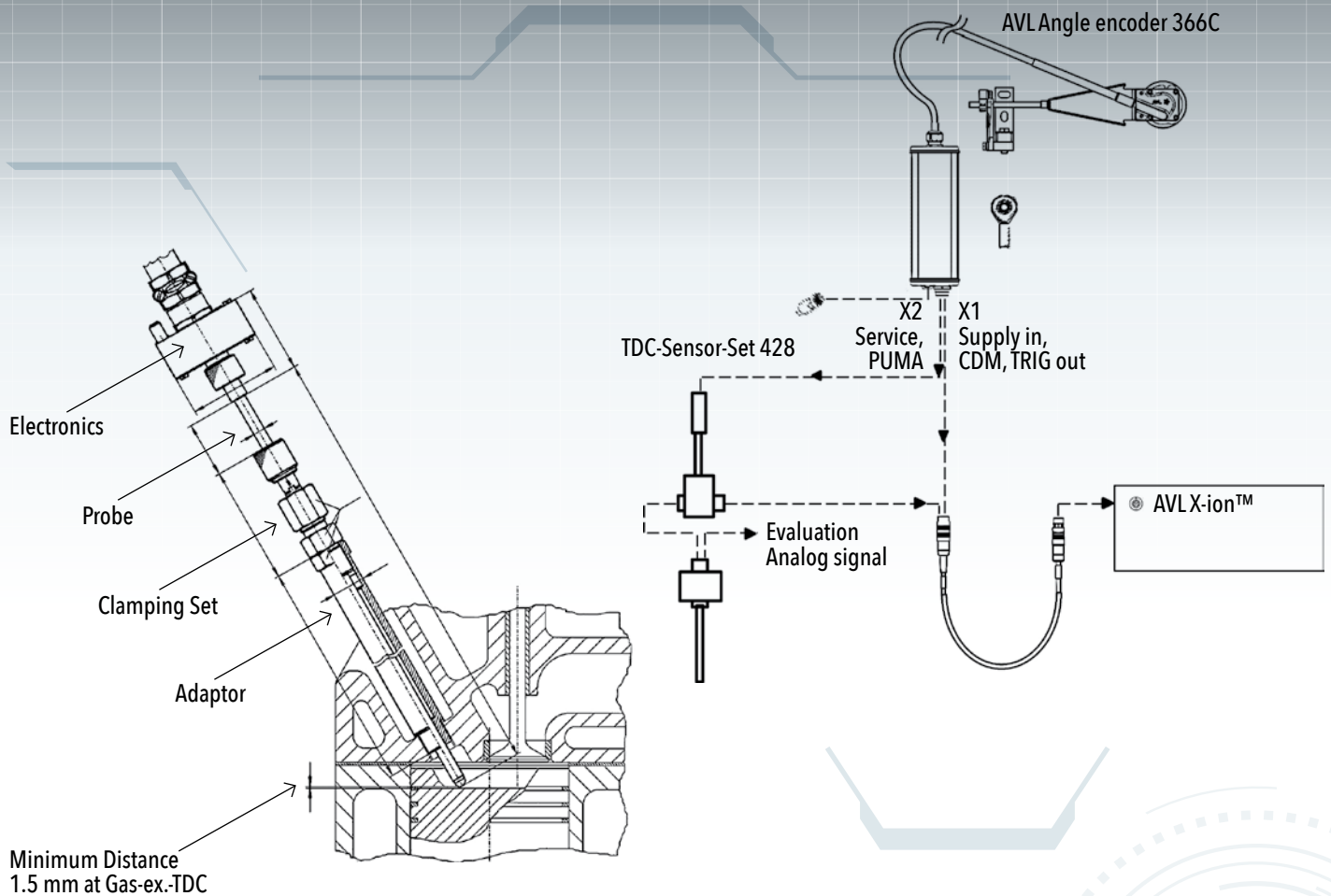
GENERAL DESCRIPTION

When performing thermodynamic calculation on pressure curves measured in internal combustion engines, the exact determination of the TDC position is of great importance (e.g. IMEP measurement). Due to the not ideally rigid structure of the engine, the static determination of the TDC can lead to uncertainties at calculation. The capacitive TDC Sensor 428 is a precise measuring instrument for dynamic determination of the TDC of motored or non-fired cylinders of internal combustion engines.

A specially developed electronic circuit delivers an analogue signal, its maximum value corresponds to the engine's TDC position. The AVL Indicating Systems are able to process this signal in conjunction with an angle encoder directly. The necessary power for the TDC-sensor is supplied by means of AVL's angle encoder.

YOUR BENEFITS AT A GLANCE

- Dynamic determination of the angular TDC position under motored or non-fired operating conditions better than ± 0.1 deg. CA
- AVL Indicating Software IndiCom recognizes the compression TDC and calculates the TDC symmetry angle.
- Simple installation of the sensor via the pressure sensor bore, spark bore plug or injector bore.
- Comparison of the TDC-sensor and the cylinder pressure signals (engine thermodynamic loss angle)



TECHNICAL INFORMATION

The TDC-Sensor is installed in the cylinder head via already existing bore (i.e. injector, spark plug or pressure transducer bore) using a suitable adapter. Due to the many varied injector, spark plug and engine types in use, it is not possible to supply adapter for any application. Therefore these adapters will usually be manufactured by the user according to the dimension of the engine in charge. For applying the standard probe (L=260mm, 2 pieces in scope of supply) the „TDC-Sensor-Set 428“ consists of three suitable adaptors (M10, M12, M14).

TECHNICAL DATA

Sensor	
Operating Temperature Range	Sensor Probe: 0°C to 250°C (Cycle average) Sensor Electronic: 0°C to 80°C
Speed Range	600rpm to 2000rpm, non-fired
Power Supply	AVL angle encoder
Analogue Output Signal	±10V
Weight	TDC-Sensor 428: 780g Installation Adapter: 120g

FOR FURTHER INFORMATION PLEASE CONTACT:

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