

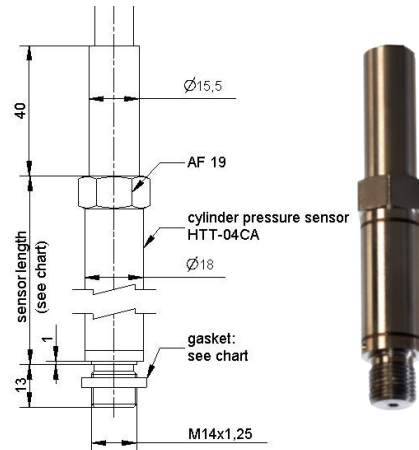
Cylinder Pressure Sensor HTT-04CA®

for On-line Combustion control

Cylinder pressure sensor for on-line combustion control on diesel- and gas engines for increasing engine performance and optimised engine control.

Characteristics

- Designed life expectancy of 16,000 h
- Digital electronic with event storing
- Very good thermodynamic performance
- ATEX, CSA and Marine classifications



Application:

Closed loop control on internal combustion engines e.g. knock detection, cylinder balancing, MIP calculation, start of combustion, NOx control

Technical data

| | |
|------------------------------------|--|
| Measuring range pressure | 0...300 bar |
| Over pressure static | 800 bar, 1200 bar and 1600 bar |
| Natural frequency sensor head | > 100 kHz |
| Frequency range | 2 kHz (others on request) |
| Thermal shock 1500 RPM pmi=10bar | < +/- 0,5 bar |
| Accuracy | ≤1% Full scale |
| Max. temperature at measuring cell | 300 °C (short time 1 min 350°C) |
| Temperature range of SCU | -40 °C ... + 75 °C |
| Supply voltage | 18...32 VDC |
| SCU current consumption | ≤50 mA (continuous operation); 250 mA (switch-on peak) |
| Output signal range | 4...20 mA |
| Electrical connector | HT0E10-6P-F42-A34-SPL acc.to MIL-C-26482 |
| Thread | M14 x 1,25 |
| Dimension sensor | 52 mm , Ø 18 mm |
| Dimension electronic | 138 mm x 18 mm |
| Tightening torque | 25 Nm |
| Weight incl. electronic | 346 g (0,4 m cable), 563 g (1,6m cable) |

General specifications

| | |
|-----------------------------|--|
| Degree of protection | IP 67 (EN 60529) |
| CE approval | 2004/1008/EG EN 61000-6-2 EN 61000-6-4 EN 61326-1 |
| ATEX type approval | Group II, Category 3G |
| CSA approval | Class I, Div 2, Groups C & D |
| Marine qualification | |
| Bureau Veritas | 22266/C0 BV |
| DNV-GL | TAA00000H0 |
| A. Bureau. of shipping | 15-HG1459708-PDA |
| Lloyd's Register | 11/20041 |
| NK Class | 14A046 |

Optimum sensor life is achieved at an average temperature at the measuring element of 200-250 °C.

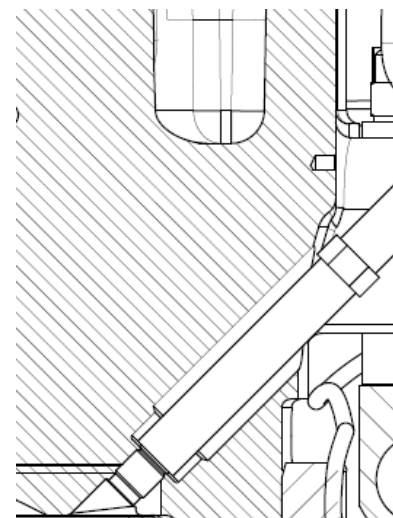
The life expectancy of the sensor has been designed so that the life of 16,000 h or more can be achieved in a gas engine. at 1500 rpm.

Mounting

The sensor should be installed close to the combustion chamber, the length of the pressure bore between sensor and combustion chamber depends mainly on engine speed.

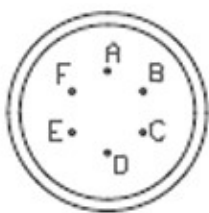
Generally there are two possibilities for the installation position of cylinder pressure sensors:

Head mounted or set-back mounted.



Head mounted installation near to combustion chamber

Connector



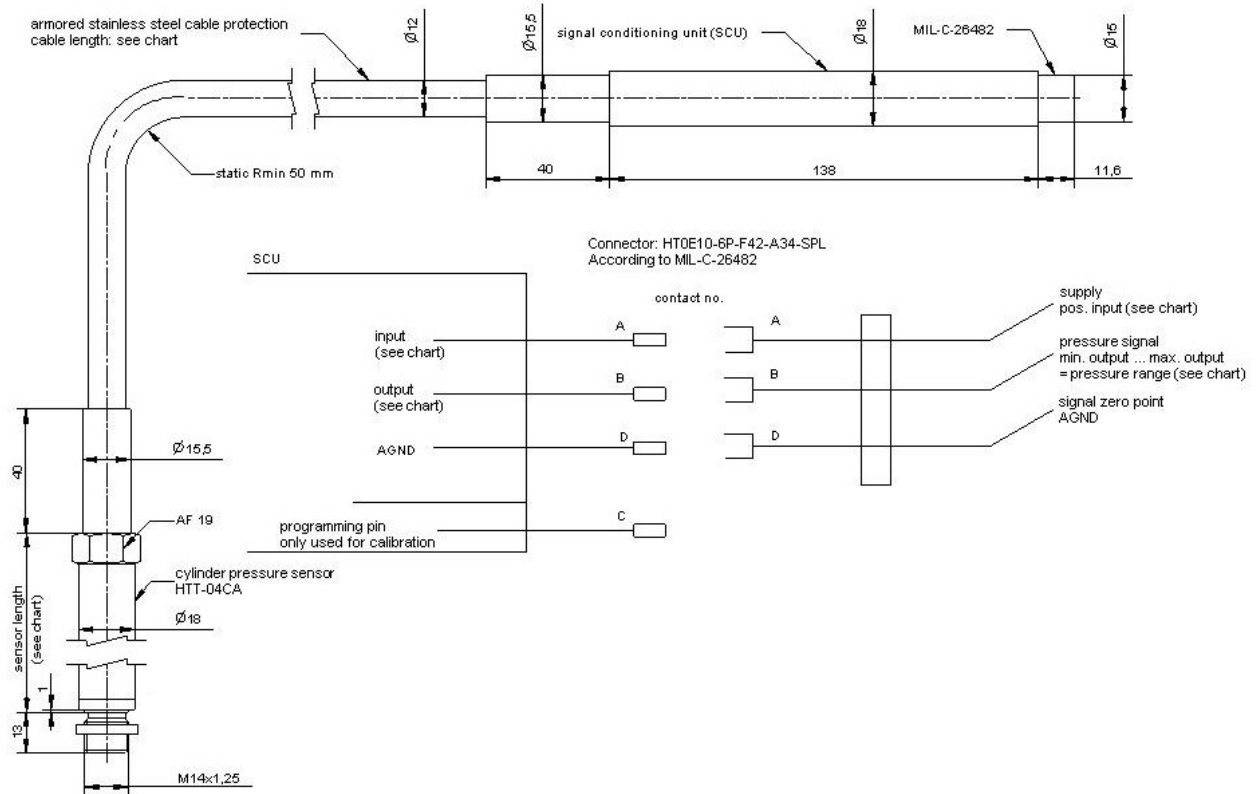
A = Power supply 18 - 32 V

B = Pressure signal output 4...20mA

D = Signal zero point / Power GND

C = Programming pin, only used for calibration

E, F not connected



| Product No. | Pressure range | Sensor length | Cable length | Static overpressure |
|-------------|----------------|---------------|--------------|---------------------|
| IW-6031 | 0 - 3000 psi | 52 mm | 1,60 m | 12000 psi |
| IW-6032 | 0 - 1500 psi | 52 mm | 1,60 m | 7500 psi |
| IW-6033 | 0 - 5000 psi | 52 mm | 1,60 m | 12000 psi |
| IW-6242 | 0 - 300 bar | 52 mm | 0,40 m | 1200 bar |
| IW-6243 | 0 - 300 bar | 52 mm | 0,40 m | 1600 bar |
| IW-6250 | 0 - 300 bar | 52 mm | 1,60 m | 1200 bar |
| IW-6251 | 0 - 300 bar | 52 mm | 1,60 m | 1600 bar |
| IW-6252 | 0 - 300 bar | 105 mm | 0,60 m | 1200 bar |

Optional Accessories

| Optional Accessories | Product No. |
|----------------------|-------------|
| Protection cover | IW-6210 |
| Connecting cable 5m | IW-4132 |
| Connecting cable 10m | IW-4133 |
| Connecting cable 20m | IW-4130 |