

Cylinder Pressure Sensor CPS-01CA®

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

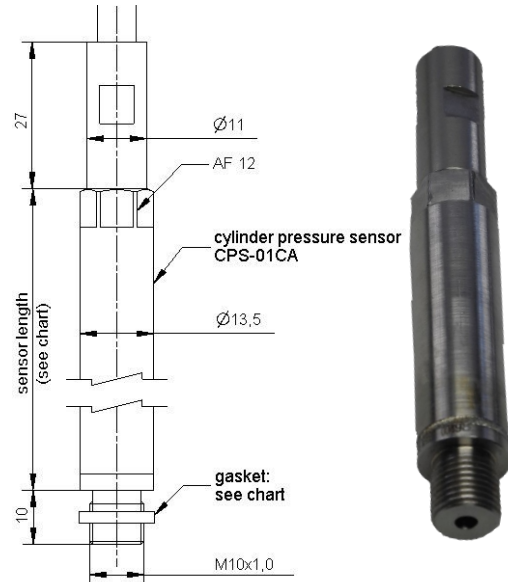
- Designed life expectancy of 16,000 h
- Digital electronic with event storing
- Very good thermodynamic performance
- Marine classifications

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, others on request
Overload pressure static	800 bar, 1200 bar, 1600 bar
Overpressure dynamic	Max. 5,000 bar/ms
Load cycles	$\geq 10^8$
Frequency range	2 kHz (others on request)
Thermal shock 1500 RPM pmi=10bar	$\leq \pm 0,5$ bar
Max. temperature at measuring cell	300 °C (short time 1 min 350°C)
Max. temperature at pins on ceramic	350 °C
Max. temperature of cable between sensor head and SCU	200 °C
Temperature range SCU	-40 °C...75 °C
Supply voltage	18...32 VDC
Output signal pressure	4...20 mA
Electrical connector	HTOE10-6P-F42-A34-SPL acc.to MIL-C-26482
Thread	M10 x 1
Type of protection	IP 67
Dimension sensor	52 mm (122mm) , \varnothing 13,5 mm
Dimension electronic	115 x 18 mm
Tightening torque	15 Nm
Weight incl. Electronic	150 g



General specification

Degree of protection	IP 67 (EN 60529)
CE approval	2004/1008/EG EN 61000-6-2 EN 61000-6-4 EN 61326-1
Marine qualification	
DNV-GL	TAA00000H0
Buerau Veritas	22266/C0 BV
Class-Nk	14A046
Lloyd's Register	11/20041

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

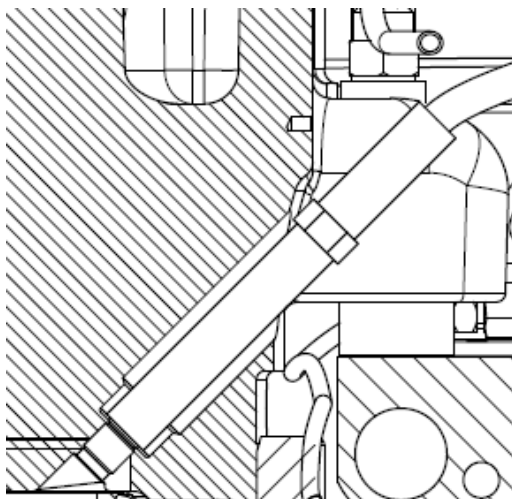
The life expectancy of the sensor has been designed so that the life of 16.000 h or more can be achieved in a gas engine at 1500 rpm.

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.

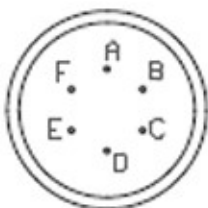
Generally there are two possibilities for the installation position of cylinder pressure sensors:

Head mounted or set-back mounted.



Head mounted installation near to combustion chamber

Connector



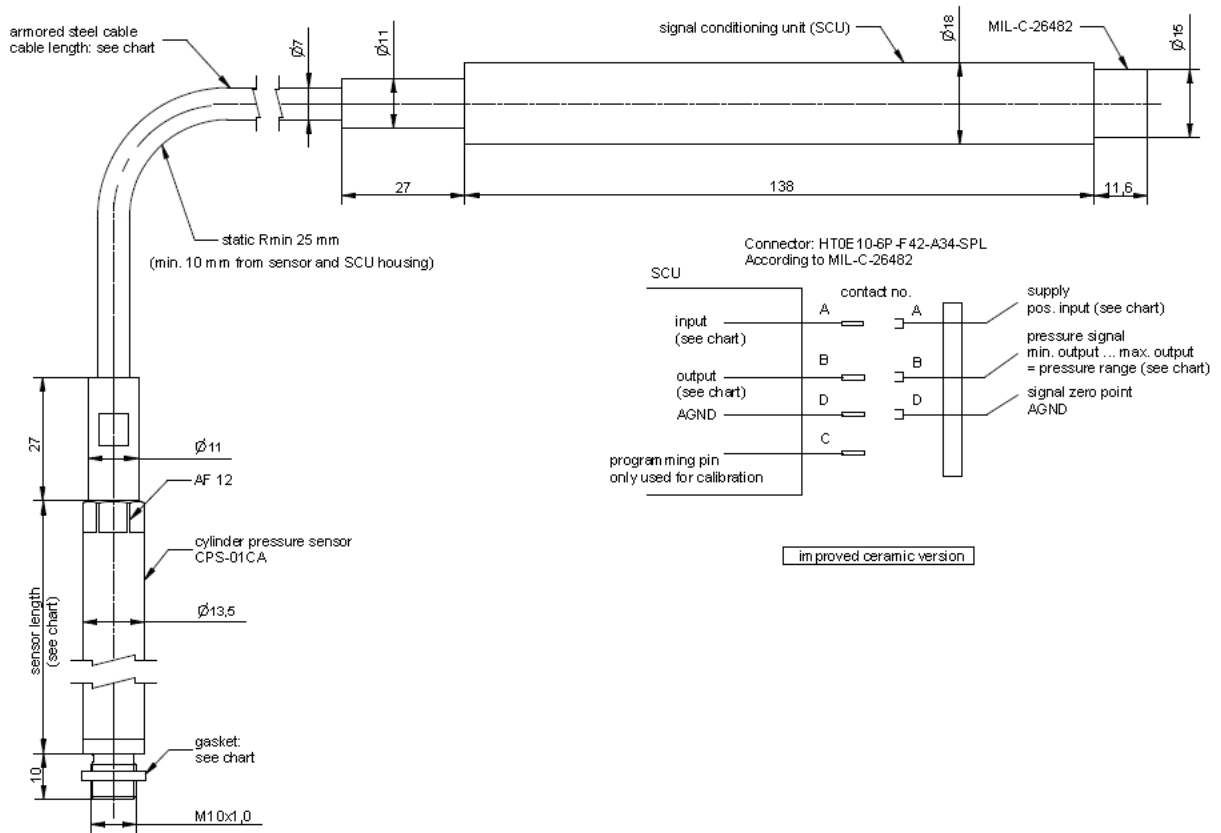
A = Power supply 18 - 32 V

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-5932	0 - 300 bar	52 mm	1,0 m	1200 bar
IW-5933	0 - 300 bar	52 mm	1,0 m	1600 bar
IW-5937*	0 - 300 bar	122 mm	1,0 m	1200 bar
IW-5938*	0 - 300 bar	122 mm	1,0 m	1600 bar
IW-5940	0 - 300 bar	122 mm	1,0 m	1200 bar
IW-5941	0 - 300 bar	122 mm	1,0 m	1600 bar
IW-5943*	0 - 300 bar	52 mm	1,0 m	1200 bar
IW-5944*	0 - 300 bar	52 mm	1,0 m	1600 bar

* SCU: 10 kHz version

Optional Accessories

Protection cover	IW-6211
Connecting cable 5m	IW-4132
Connecting cable 10m	IW-4133
Connecting cable 20m	IW-4130

Product No.