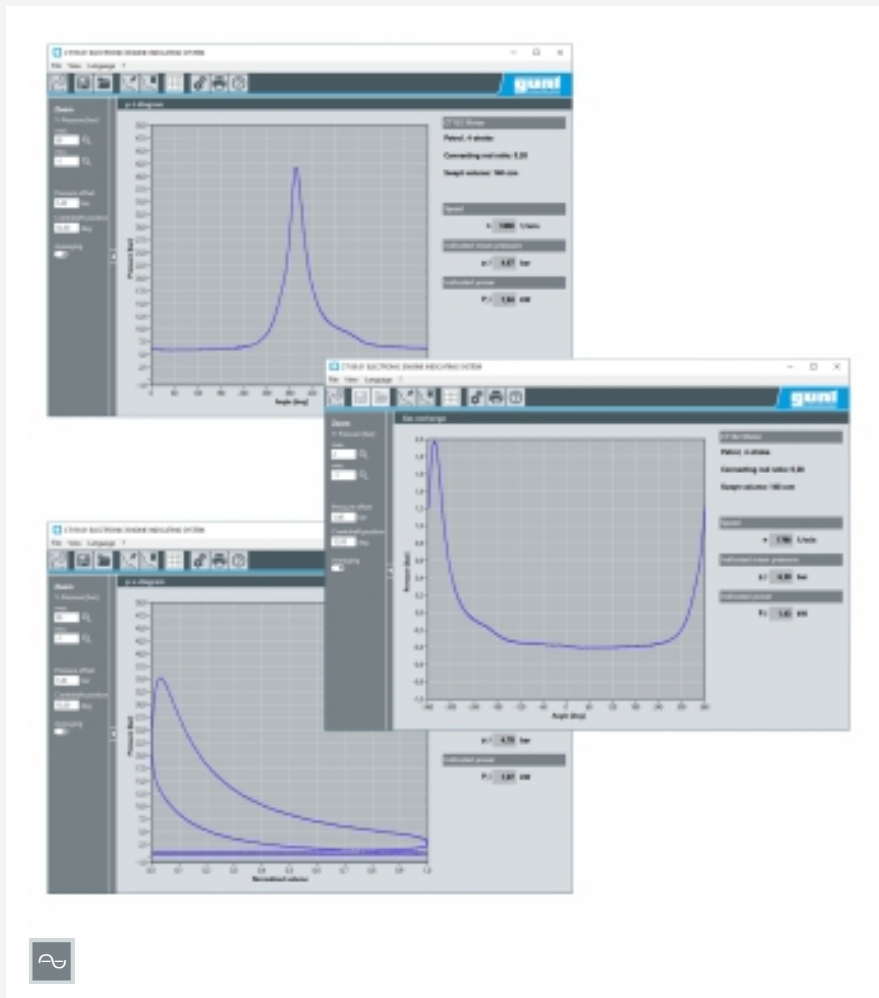


# CT 400.09

## Electronic engine indicating system for CT 400



The illustration shows: p-t diagram, pressure curve for gas cycle, p-V diagram

### Description

#### ■ cylinder pressure indication system, suitable for CT 400.01 and CT 400.02 engines

Indicating systems can be used for a thermodynamic analysis of engines. In industrial applications, these systems are used to optimise the combustion process.

The system is used in conjunction with the transducer sets CT 400.16 and CT 400.17. Each of the sets consists of a pressure transducer and a TDC sensor. It allows pressure measurements to be carried out in the cylinder head of an internal combustion engine and is designed for the CT 400.01 and CT 400.02 engines. The data is transferred to a PC for further processing. The software produces p-t and p-V diagrams, and also displays the average pressure and the indicated power output.

The system consists of a software and a measuring amplifier for the pressure transducer. The optical reflex sensor in one of the transducer sets CT 400.16 or CT 400.17 serves as a TDC sensor.

### Learning objectives/experiments

- familiarisation with and use of an electronic cylinder pressure indic. system
- p-t diagram
- p-V diagram
- pressure curve for gas cycle
- determination of indicated power output from p-V diagram

### Specification

- [1] cylinder pressure indication system for internal combustion engine
- [2] only to be used in conjunction with CT 400.16 or CT 400.17 pressure transducers
- [3] chronological representation of pressure curve against the crank angle in p-t diagram to determine the maximum pressure and to monitor the ignition point and the pressure increase
- [4] representation of pressure curve against the standardised piston capacity in p-V diagram to determine the indicated power output
- [5] system consists of measuring amplifier and software
- [6] GUNT software for data acquisition via USB under Windows 10

### Technical data

Measuring amplifier, pressure measurement

- input signal charge amplifier:  $\pm 100 \dots 1.000.000 \mu\text{C}$
- output signal: 0...10V

Accessories, depending on motor

- TDC sensor scanning range: 3...150mm
- pressure transducer: up to 200bar, up to 350°C, max. tightening torque 1,5Nm

230V, 50Hz, 1 phase  
 230V, 60Hz, 1 phase  
 120V, 60Hz, 1 phase; UL/CSA optional  
 LxWxH: 270x250x100mm (measuring amplifier)  
 Weight: approx. 4kg

### Required for operation

PC with Windows

### Scope of delivery

measuring amplifier, 1 set of accessories, GUNT software + USB cable, manual

## CT 400.09

### Electronic engine indicating system for CT 400

#### Required accessories

CT 400 Engines	Load unit, 75kW, for four-cylinder engines
CT 400.01 with	Four-cylinder petrol engine for CT 400
CT 400.16 or	Pressure transducer and TDC sensor for CT 400.01
CT 400.02 with	Four-cylinder diesel engine for CT 400
CT 400.17	Pressure transducer and TDC sensor for CT 400.02