ZEPWN J. Czerwiński i Wspólnicy - spółka jawna

CL166

CL166 single channel meter for strain gauge or potentiometer sensor

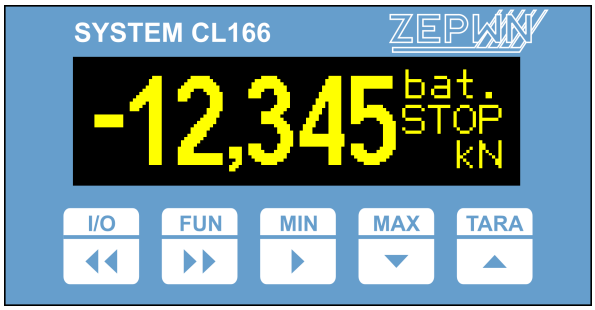
- **memory of calibration parameters for 127 sensors**
- **minimum and maximum indication**
- **averaging and saving measurements**
- **sensors' non-linearity correction**
- **non-volatile memory for 2047 measurement results**
- **quick reading of the stored measurement results to a text file**
- **easy programming**
- **communication with computer via USB**
- **three-year warranty and post-warranty service**

CL166 digital meters are designed to measure signals from strain gauges (measuring e.g. force, moment or weight) or from potentiometric sensors (measuring e.g. displacement). A single meter is adapted to work with strain gauges or to cooperate with potentiometric sensors (the meter cannot work with both strain gauge and potentiometric sensors at the same time).

The meter is controlled by software whose parameters can be modified by the user (also via USB). These parameters are saved in non-volatile EEPROM memory - switching off the supply voltage does not cause the loss of these data. The CL166 can remember parameters for up to 127 sensors.

The meter software enables cyclical measurement of the value of the signal quantity from the sensor connected to the meter input and the presentation of these quantities on the graphic OLED display. Conversion parameters set by the user for the measured signal allow for the indication of the actual values of the measured physical quantities. Software procedures for analyzing the measured values allow for averaging the measurements, correction of non-linearity of sensors, searching and presentation of extreme values and saving the measurement results in its non-volatile FRAM memory.

The meter is also equipped with a real time clock, thanks to which the date and time of its execution are remembered together with the measurement result. The meter has a USB connection that allows you to transfer information to and from a computer. The CL166 is battery operated which, combined with its compact dimensions, makes it a convenient and portable measuring instrument.



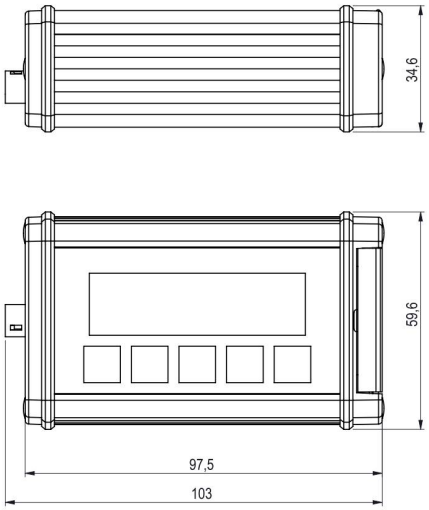
Front pannel of CL166

Specification

Analog channel count	1
Analog input type	strain gauge (full bridge) or potentiometric
Number of memory banks for meter parameters	up to 127
Strain gauge power	5,0 Vdc (±0,2 V) max. 50 mA
Strain gauge resistance	110 Ω min. 4000 Ω max.
Strain gauge sensitivity	0,5÷1000 mV/V
Potentiometric sensor sensitivity	500 Ω÷10 kΩ
Potentiometric sensor power	4,15 Vdc (±0,2 V)
Sensor cable length	< 30,0 meters
Analog-to-digital converter sampling rate	from 2,5 to 50 samples per second
Time to determine result after sudden change change of signal	4 samples for sinc filter[4] 3 samples for sinc filter[3]
Analog-to-digital converter resolution	24 bits
Measuring resolution for strain gauge sensor	±1800 divisions for sensor with the sensitivity 0,5 mV/V and maximum measurement speed ±10000 divisions for sensor with the sensitivity 0,5 mV/V and maximum measurement speed ±3600 divisions for sensor with the sensitivity 1 mV/V and maximum measurement speed ±20000 divisions for sensor with the sensitivity 1 mV/V and minimum measurement speed ±7200 divisions for sensor with the sensitivity 2 mV/V and maximum measurement speed ±40000 divisions for sensor with the sensitivity 2 mV/V and minimum measurement speed
Measurement error (for 300K)	< 0,0025% (relative to the full scale)
Błąd temperaturowy pomiaru	< 0,018%/10K (relative to the full scale)
Measuring resolution for potentiometric sensor	±100000 divisions
Measurement error (for 300K)	< 0,0025% (relative to the full scale)
Temperature error of measurement	< 0,010%/10K (relative to the full scale)
Additional measurement averaging (option)	from 2 to 32 samples in a moving time window
Analog sensor non-linearity correction	up to 20 points
Units displayed	any (4 chars max.) – typed when entering the parameters
Display update time	from 0,1 s to 2,0 s
Taring	0÷100% of nominal value
Display	OLED, yellow colour, graphical, resolution 128×32 pixels
Display active area	55,0×13,1 mm
Charakter height	– 11,5mm (measurement result) – 5,7mm (info text and during parameter programming) – 3,7mm (unit symbol and additinal infos beside the result)
Maximum indication	±99999
Sound signal	buzzer

Computer connection	USB 2.0 – Full Speed
Socket	miniUSB type B
Result memory	non-volative (FRAM memory)
Data saved	measurement result, data and time, parameter memory bank
Recording current result to memory	when pressing the FUN key
Maximum number of saved results	2047
Power supply	built-in lithium-ion battery 3,6V/2Ah
Battery power consumption	typically 50 mA when ON (with a 350Ω sensor) max. 0,05 mA when OFF
Time between charges	> 30h (with a 350Ω sensor)
Batter charging time	up to 5h
Battery charger	external stabilised 5V/2A
Enclosure dimensions	103mm × 60mm × 35mm (W×H×D)
Weight	0,22 kg (excl. cabling)
Operating temperature	253K to 323K (-20°C to +50°C)
Relative humidity	20÷80%
IP rating	IP65 (with the enclosed sensor cable)

NOTE! When ordering CL166 to work with z czujnikami potentiometric sensors, provide the potentiometric sensor resistance (from 0,5 kΩ to 10kΩ) – the resistance must be identical for all sensors connected to CL166.



Dimensions CL166

The CL166 set includes:

CL166 unit
Battery charger 5V/2A (with USB micro B)
USB cable
CL166_PARAM software
Operating manual for the CL166 meter and the CL166_PARAM software (pdf file)

Manufacturer:
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