

Multifunction Process Controller OC 4000

- ✓ 6 digit Display ± 999999
- ✓ Four Signal Channels
- ✓ DC, AC, $\cos \varphi$
- ✓ Power Measurement
- ✓ Arithmetic Operations
- ✓ Quotient Calculation
- ✓ Pt-100, Pt-1000, Ni, Thermistor
- ✓ DIN-Thermocouples
- ✓ Four Set Point Relay
- ✓ Two Analog Outputs



Model OC4000 is a programmable 6 digit instrument with inputs for nearly any process signal, DC and AC voltages and currents, watt power, Pt-100, Pt-1000 and DIN-Thermocouples.

The microcontroller has 4 signal channels which can simultaneously be used for DC and/or for true RMS measurements. Two inputs are also available for power measurements.

Signals from two or three inputs can selectively be shown at the display or calculated as addition, subtraction, multiplication, division, deviation or quotient.

The power measurement contains $VAc\cos\phi$, $VAsin\phi$ or VA . The phase shift $\cos \varphi$ can be measured from 1.000 to -1.000.

The keyboard at the front permits the entry into the menu and setting of parameters. The menu contains the selection of the input and the range, setting of the filter, the analog output and the data port as well as the selection of four set points and the activation of the Tare.

The analog outputs and the set points can be assigned to any one of the signal channel. The data port output is derived from the momentary display reading.

The measured signals can be assigned with the keyboard to any two display values such e.g. 4-20mA equals 0-75000.

In the calibration mode each signal channel can be independently calibrated via the keyboard.

In the measure mode all signal channels can be independently scaled and selectively shown at the display.

MENU

Four Set Points can be set with the keyboard within the entire display range ± 999999 . They activate four open collector transistors 60V-100mA or four mechanical relay 5A-230VAC.

RS232 and RS485 transmit the momentary display measurements. The RS485 has a selectable address.

Digital Filter calculates the average value of the preselected number of measurements prior they arrive at the display. The filter constant can be set from OFF to 99.

Analog Outputs $\pm 10V$ and 4-20mA are generated simultaneously from the display and can be assigned with the keyboard to any of the signal channel.

Tare is activated with the keyboard and sets the display to zero. The Tare value is memorized also when the instrument is switched-off from the supply. With the keyboard the Tare can be canceled causing the display to return to the original input signal.

Peak Memory stores automatically the maximum value of the display during the preselected time period. With the keyboard the stored value can be shown at the display or the memory reset to zero.

Excitation for external sensors is isolated and adjustable from 5 to 24VDC - 40mA.

SPECIFICATIONS

DISPLAY

0 ... \pm 999999, 7 segment red LEDs, 14.7 mm with decimal point and sign.

INPUTS

Four signal inputs:
4x DC or 2xDC and 2x RMS
1x Watt and $\cos \varphi$.

RANGES

Current DC or RMS

0/4-20mA to 0 - 5A

Voltage DC or RMS

0 ... \pm 100mV to 0 - 250V

Pt-100

2 or 4 wire connection

Pt-1000

2 or 4 wire connection

DIN Thermocouples

E,J,K,T,N,S,B

Watt Power

0-280V and 0-5A true RMS

$\cos \varphi$: -1.000 ... 1.000

A-D-C

ADC with 24 bit resolution

Sampling Time: 100ms.

Linearity: \pm (1 LSB + 1 digit).

Tempco: 25ppm/K

FILTER

Averaging filter OFF/ON, with constants 1, 2, 3 ... 99.

ANALOG OUTPUTS

Current: 0/4-20mA

Voltage: 0 ... \pm 10V

Resolution: 12 bit.

TARe

Resets the display to zero with the front keyboard. The tare can be canceled and the display returns to the original signal.

The tare remains memorized also when the instrument is switched-off from the supply.

DATA PORTS

RS232 and RS485, 8 bit, no parity, 1 start and 1 stop, the baud rate is programmable from 300 to 19200 bd.

The address 0 activates RS232.

One of addresses 1 - 31 activates RS485.

BCD parallel 1-2-4-8. Type: open collector 48V/100mA or emitter follower with external 5-48V isolated supply.

SET POINTS

Four 6 digit set points with four relay 5A-230VAC or with four NPN transistors 60V-100mA open collector type. The range of adjustment is \pm 999999.

HYSTEREZE

The hystereze of each set point can be programmed from 0 to 99.

EXCITATION

Isolated sensor supply adjustable from 5V to 24V/40mA.

SUPPLY

Standard

115V/230V \pm 15%, 48-60 Hz, 8VA.

Option

9-32VDC/4W.

TERMINALS

Plugable screw terminals.

CABINET

DIN 48x96x100 mm (HxWxD).

Panel cut-out: 45 x 93 mm.

PROTECTION

IP65 from the front.

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