Process Controller
CL47

- **Two configurable inputs. (TC, pt100, 0... 20 mA, Volts.) with mathematical operations between them (+, -, *, /).**
- **Special functions: square root, X^3/2, X^2, X^5/2.**
- **Motorized valves handling with and without feedback.**
- **Modbus RTU Communications (optional).**

General Description

The CL47 is oriented to industrial processes in which very specific operations are required (non available in the CL400), such as remote Set point for cascade or multiloop control, motorized valves feedbacks, complex linearizations (square roots and powers) and mathematical operations between the 2 analog inputs to form the process variable.
By e.g. [concentration] = [solute flow] / [solvent flow]

Inputs

It has 2 analog inputs, main (Main) and the auxiliary (Auxl) separately configurable. Process value PV is obtained from one of the inputs or the sum, subs traction, multiplication or division among them.
By means of the auxiliary input is possible to have a remote Set point or the position feedback of motorized valves.
Additional square root and power functions are used in applications related to flow measurements by board orifice and open channel.

Outputs

Has 2 control outputs (relays or voltage for SSR). The first control normally for heating, the second for cooling or alarm according to is configuration.
Optional analog 4... 20mA and 0... 10v (isolated galvanically) output repeats a selected parameter like the process variable, Set point, output percentage, etc.

| Control | The CL47 configuration menu allows the plant engineer to select the input, control algorithms, alarms and output type. Available control algorithms are PID with PWM, analog output, motorized valve drive with and without feedback (position estimation), several ON/OFF configurations and alarms. Allows remote or local set point, set point ramp to facilitate system start up and open loop operation.
The "parameters menu" is destined to the machine operator, contains according to the preprogrammed configuration, the variables that the operator can modify or handle. If it is desired, the access to this menu can be restricted. |
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| Digital Communication | It has optional RS485 serial communications that allows to connect in network Up to 247 instruments reporting to a PC. Uses the modbus RTU communications protocol. |
| Power supply | The instrument has a current mode switching power supply that allows an ample rank of input voltages. Simultaneously makes the instrument extremely resistant to spikes and fluctuations of voltage network. |

Technical Specifications.

Inputs Main, Auxiliary	TC rupture protection:	It makes prefixed action and warning.
	Thermocouples (100 ohm max.):	J,K,T,R,S,B,N,E,,Platinel,C,D,G
	RTD:	PT100 (-136, 450) °C
	Adjustable:	4... 20 mA, 0... 20 mA, 0... 5 V, 1...5 V, 0...10 V, 0...50 mV
	Liberalization:	Square Root, X^3/2, X^2, X^5/2. Mathematical operations between the inputs to obtain the value of the process (+, -, * and /).
Control	Control 1:	P, PID, On/Off, 2On/Off, Limit contact (Lict), Limit comparator (LcP), dual PID and PID for valve control with or without feedback. Operation in manual mode.
	Control 2:	dOn/Off, On/Off, 2On/Off, alarm modes: dLcP, Lict, Lcp.
	Set point:	allows to be operated in remote mode and to create Set point ramps.
Outputs	2 controls:	relays 250VAC/3A. or voltage output for SSR
	Communications: (optional).	RS485, Connection to PC, printer or PLC.
	Analogous: (optional).	0... 20mA, 4... 20mA, 0... 10 V Isolated Galvanically
Power Supply	Switching current mode.	
	Ac:	85... 275 Vac, 7 W, 45... 65 Hertz.
	Dc option:	20... 50 Vdc, 7 W.
Construction	Aluminum and Polycarbonate	IP65
	Total Dimensions:	DIN 1/8; 96 x 48 x 175 mm.
	Cut of panel:	92 x 45 mm.
	Weight:	300 grams.
	Operation temperature:	0... 50 °C.

CE directives	2006/95/EC	(LVD) Low Voltage Directive
	2004/108/EC	(EMC) Electromagnetic compatibility directive
Standards	Safety:	IEC61010-1:2010
	EMC immunity:	EN61326-1:2006 Industrial locations.
	EMC emissions:	EN61326-1:2006 Class B.

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PART CODES:

Model:
CL47-H	Horizontal mount (96mm width, 48mm height)
CL47-V	Vertical mount (48mm width, 96mm height)

Optional:
- 420AC	isolated 4..20mA and 0..10V active output
- 420LP	isolated 4..20mA passive output
- 485	RS485 serial communications.
- DC	20.. 60 Vdc power supply.

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FOR MORE INFORMATION:

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