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MOSTEC

pH/mV-Controller Type M9920R



Technical description

The type M9920R controller is suitable for pH control systems and for redox titrations with known end point potential.

Typical applications include waste water neutralization, redox control, bio-reactor control and chemical processes in continuous or batch-type operating modes.

Even processes with highly non-linear titration curves can be controlled with the M9920R, thus making it always possible to set up control systems that work in a stable manner. The quasi-steady working principle of the three-point controller eliminates the need for using proportional valves when adding reagents;

two-position or open/close valves are sufficient.

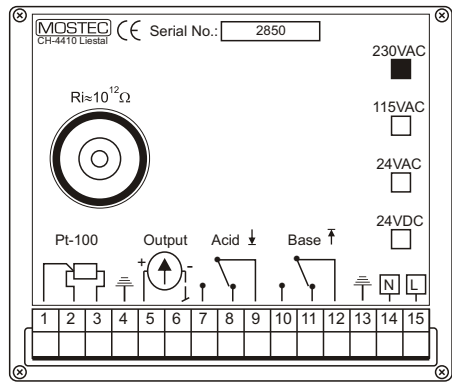
As a result, the reagent viscosity plays a minor role; if necessary, pneumatic or hydraulic valves can be used. By this way, inexpensive control elements are used and valve adjustments are eliminated.

The actual value, the setpoint and temperature can be easily read from the integrated digital display. The pH-electrode is automatically calibrated by two buttons and the signal current output is floating against the electrometer input. Any electrode can be used, however, contact Mostec for additional information.

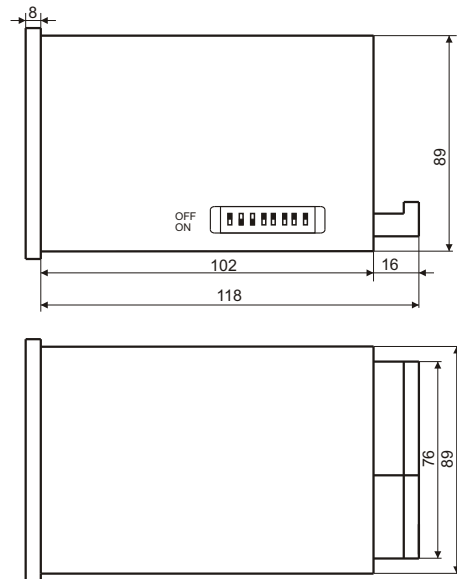
Technical Data:

Measuring range:	0,00 to 14,00pH	-1000 to +1000mV
Resolution:	0,01pH	1mV
Accuracy:	0,01pH	3mV
Long term stability per year at 23°C:	0,02pH	6mV
Display:	red LED-display 3½-digit	
Character high:	12.7mm	
Temperature drift:	max. 50µV/°C	
Max. humidity:	non condensing (the dew point must not be exceeded within the instrument.)	
Input impedance:	1000GΩ (10 ¹² Ω)	
Bias current:	max. 1,5pA	
Pt-100 / Hand button:	temperature compensation by Pt-100 3-wire, or by hand.	
Temp. button:	display the actual temperature	
Auto / Hand button:	relay contact automatically/manually	
+ / - button:	value button	
pH7 button:	calibrate the probe at isotherm 7	
mV/pH button:	calibrate the probe at mV/pH	
X _{t1} button / X _{t2} button	valve times acid X _{t1} / base X _{t2}	
X _{p1} button / X _{p2} button	proportional band acid X _{p1} / base X _{p2}	
W ₁ button / W ₂ button	setpoint acid=W ₁ / base=W ₂	
Programming functions:	prog.-switch	
Nr.1	ON	OFF
Nr.2	LED acid inverse	LED acid normal
Nr.3	LED base inverse	LED base normal
Nr.4	REL acid N/O C open	REL acid N/O C closed
Nr.5	REL base N/O C open	REL base N/O C closed
Nr.6	2...12pH	0...14pH
Nr.7	4...20mA	0...20mA
Nr.8	[Up (base)]	K1 controls direction Up
Nr.9	[Dn = Down (acid)]	K2 controls direction Dn
Option current output:	K1 controls direction Dn	
Max. load:	K2 controls direction Up	
Output impedance:	0/4...20mA, isolated	
Relay contact value:	500Ω	
Acid-/Basestatus:	Typ. >1MΩ	
Relay contact output:	0...14pH, adjustable over the full range	
Max. contact load:	by green LED-lamps	
Power supply:	floating change over contacts	
CE-conformity:	2A@230VAC, inductive /	
Terminal description:	6A@230VAC, resistive	
	230V 50-60Hz, 9VA	
	fulfilled	
	Nr. 1	Pt-100 sense -
	Nr. 2	Pt-100 -
	Nr. 3	Pt-100+
	Nr. 4	PE for Pt-100/output
	Nr. 5	signal current output +
	Nr. 6	signal current output -
	Nr. 7	acid valve norm. open contact
	Nr. 8	acid valve norm. closed contact
	Nr. 9	acid valve change over
	Nr. 10	base valve norm. open contact
	Nr. 11	base valve norm. closed contact
	Nr. 12	base valve change over
	Nr. 13	PE
	Nr. 14	N
	Nr. 15	L1
		} power supply
Terminals:	two plug-in screw terminals	
pH/mV-plug:	13mm DIN-plug with teflon isolation	
Weight:	620g	
Accessories:	2 mounting clamps, 1 manual	
Warranty:	2 years	
Options:	- 115VAC/24VAC/24VDC power supply - customer specified outputs - customer specified functions - transparent plastic door IP55	

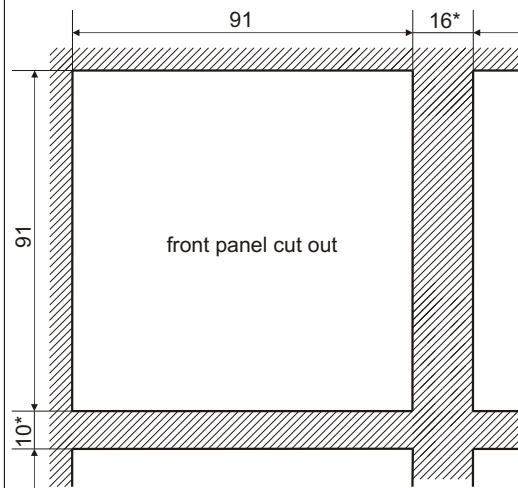
Back panel:



Dimensions:



Cut out dimensions:



*min. distance from one instrument to the next

Valve times X_t:

Course No.:	ton*	toff*	ratio
1	1.00	20.00	0.050
2	1.13	16.20	0.680
3	1.28	13.12	0.098
4	1.44	10.63	0.135
5	1.63	8.61	0.189
6	1.84	6.97	0.264
7	2.08	5.65	0.368
8	2.35	4.57	0.514
9	2.66	3.70	0.719
10	3.00	3.00	1.000

*in the middle of the P-band

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