



PHI-22-XP

Flame-Proof pH Indicator



Output



RS-485



Touch Key Pad



Auto-Tune
PID Control



Password Protected
Setpoint

Masibus' PHI-22-XP pH Indicator is designed with the latest technology to use for online pH monitoring with auto and manual temperature compensation. pH Indicator is designed with a high input impedance signal conditioning which make pH indicator compatible with any pH electrode for accurate indication.

pH Indicator has user selectable single pH buffer to five pH buffer calibration points for slope / offset adjustment which help to indicate the accurate pH. It also indicates electrode performance on demand which helps to monitor the healthiness of pH electrode.

PHI-22-XP pH monitoring device is certified for use in zone 1 of gas group I, IIA & IIB hazardous areas optionally IIC certified compact flame proof housing. The pH indicator is designed with touch sensitive keys to give full programmability and ease of operation which you only find in devices available for safe areas.

PHI-22-XP incorporates easy to read 4-digit bright big seven segment displays for PV and SV, comes with variety of output options for control and alarm, Re-transmission signal and RS-485 can be opted for interfacing with other devices and systems like PLC/ SCADA/ Recorder etc.

Features

- pH measurement with auto and manual temperature compensation
- Temperature measurement with selectable °C or °F unit
- Inbuilt diagnosis and pH electrode performance indicator to monitor the healthiness of electrode
- User selectable 5-point calibration for pH with slope / offset adjustment
- Two relay and two analogue outputs are scalable for pH and temp.
- Password protected configuration to avoid unauthorized tampering
- Configurable lower display value as set point of relay 1 or 2 / mV of pH sensor / temperature
- For gas group I, IIA and IIB as per IS:2148/04 and IP65 as per 13346:04 (Optional: IIC group)
- Touch sensitive keys to give full programmability
- RS-485 serial communication (Optional)

Applications

- Utilities & environment
- Chemical & water treatment plants
- Water/liquid storage systems
- Pharma & biotechnology
- Chemical & petrochemical
- Liquid waste management

TECHNICAL SPECIFICATIONS

Input		Power Supply	
Input pH	pH: 0.00 to 14.00	Standard	85-265VAC/ 100-300VDC
Input Temp.	RTD (Pt 100 -3 wire) - 50 to 150 °C/-58 to 0 302 °F	Optional	18-36VDC
Accuracy	pH: ±0.05 temp.: ±0.25% of FS ±1 degree	Power Consumption	<10VA
ADC Resolution	16 bits	Isolation (Withstanding Voltage)	
Display Resolution	pH: 0.00, temp.: 0.1 °C / °F	Between primary terminals* and secondary terminals**: At least 1500 V AC for 1 minute	
Sampling Rate	2 Samples/sec	Between primary terminals* and grounding terminal: At least 1500 V AC for 1 minute	
Temp. Compensation	Auto/manual	Between grounding terminal and secondary terminals*: At least 1500 V AC for 1 minute	
Burnout Current	0.25uA	Between secondary terminals**: At least 500 V AC for 1 minute	
RTD Excitation Current	0.166mA (Approx)	* Primary terminals indicate power terminals and relay output terminals.	
NMRR	> 40dB	** Secondary terminals indicate analog I/O signal and communication O/P.	
CMRR	> 120dB	Insulation resistance: 50MΩ or more at 500 VDC between power terminals and grounding terminal.	
Temp.-Co	< 100ppm for input to display	Physical	
Input Impedance	10 ¹² Ω	Gas Groups	IIA/IIB Single Compartment
Max Voltage	20VDC	Dimensions	150(H)x 150(W)x 120(D)
Security	Password protected programming mode	Weight	2.6 Kgs
Display& Keys		Enclosure Type	Explosion proof, aluminum alloy LM-6, Ex-d
Process Value pH	0.8", 7 segment, Red LED, 4 digits	Area Classification	Zone 1 & 2
Process Value Temp	0.56", 7 segment, Red LED, 4 digits	Ingress Protection	IP65
Status LEDs	Relay & communication, ATC, mV, °F	Mounting Type	2 nos. M20 cable glands and 3 blind plugs
Keys	MENU, ESC, Increase, Decrease	Environmental	
Output		Operating Temperature	0-55 °C
Relay Control Output		Storage Temperature	0-80 °C
Relays	2 Nos.	Humidity	20-95 %RH non-condensing
Type	Single change over (C, NO, NC)	Calibration	
Rating	5A @ 230VAC / 30VDC	pH Calibration:	
Retransmission Output (Optional)		5 Point Calibration	
Current	0/4-20mA @500Ω Max.	Single Buffer / Two Buffer/ Three Buffer / Four Buffer / Five Buffer & Sample Calibration Slope / Offset Adjustment	
Voltage	0/1-5V, 0-10V @2KΩ Min.		
Accuracy	0.25% of FS		
Communication Output (Optional in lieu of 2nd Retransmission o/p)			
Interface	RS-485		
Protocol	Modbus-RTU		
Baud Rate	9600, 19200, 38400		

Ordering Code

Model	Auxiliary Power Supply	Options				Gas Group Compartment	No of Extra Glands			
		Output-1		Output-2						
PHI-22-XP	X	X		X		XX	X			
	U1	85-265VAC / 100-300VDC	N	None	N	None	1S	IIA, IIB Single compartment	N	None
	U2	18-36VDC	1	4-20mA	1	4-20mA	2S	IIA/IIB & IIC Single compartment	1	1 Extra gland
			2	0-20mA	2	0-20mA			2	2 Extra glands
			3	1-5V	3	1-5V			3	3 Extra glands
			4	0-5V	4	0-5V				
			5	0-10V	5	0-10V				
6	RS485									

Standard Accessory

2 nos. of M20 cable glands & 3 nos of blind plugs