



## **pH/ REDOX ELECTRODES FOR INDUSTRIAL/ AUTOCLAVABLE & STEAM STERILIZABLE APPLICATIONS MODEL TFERM**



**Membrane Glass:** A wide selection of different pH-sensitive glass membranes (Green) ensures the best possible measurement performance, based on the application for Low pH/ HF applications/ Full Range/ High Alkaline etc.

**Reference Fill & Construction:** These electrodes are sealed, CLP+ Hard Gel & HGel+ filled, sterilizable, autoclavable designs to suit high variations in Temperature, Pressure & other measuring conditions.

**Temperature Compensation (Built In) (optional):** The inbuilt temperature elements allow for the automatic compensation of Nernstian temperature effects in processes with wide pH ranges and significant temperature shifts. The temperature element is either a Pt100 or Pt1000 or 30K NTC etc. which are compatible with the majority of commercially available instruments.

**Solution Ground:** The Solution Ground (optional) feature as a measuring point on a pH sensor improves grounding and effectively eliminates the risk of electrostatic interference. This also allows the use of our advanced diagnostic functions, and makes parallel pH/redox measurement possible.

**Reference System:** The sensor is provided with a Ag/AgCl reference system with a double junction to prevent & delay the diaphragm fouling process.

**Connections:** The Cap/ Threaded Cap\* (TC)/ Variopin (V)/ S8/ S7 connections allow for multiple connections suiting different needs; both pH signal and temperature signal in the same wiring harness.

**pH & Redox:** The TFERM family of pH and Redox electrodes is ideal for Biotech applications, like fermentations, where autoclavations, steam sterilisations (SIP) and cleaning in place (CIP) procedures occur frequently.

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**TOSHNIWAL INSTRUMENTS MANUFACTURING PVT. LTD.,**

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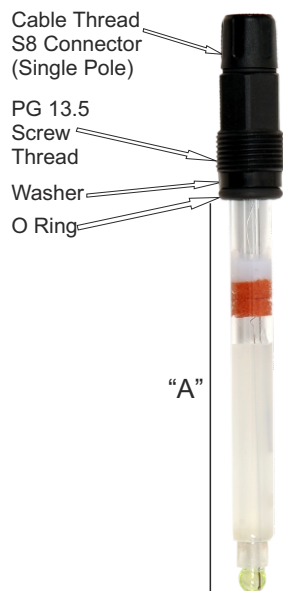
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REGD OFFICE: 401, Manish Chamber, Sonawala Cross Lane, Goregaon (E), MUMBAI - 400 063

### TECHNICAL SPECIFICATIONS:

- |                             |                                                                                                                       |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 1. pH Range                 | : 0 - 14                                                                                                              |
| 2. Operating Temperature    | : Up to 105°C (steam up to 140°C)                                                                                     |
| 3. Slope                    | : 59 ±3 mV (95-105%) at 25°C                                                                                          |
| 4. Zero Point               | : pH 7                                                                                                                |
| 5. Asymmetry Potential      | : 0±25 mV                                                                                                             |
| 6. No. of Junctions         | : Double Junction, Ceramic                                                                                            |
| 7. Glass Membrane Impedance | : <300 MΩ at 25°C                                                                                                     |
| 8. Membrane Glass           | : Green                                                                                                               |
| 9. Temp. Compensation       | : Pt100/ Pt1000/ 30K NTC                                                                                              |
| 10. Pressure                | : Up to 6 Bar at 25° C                                                                                                |
| 11. Reference Electrolyte   | : CLP+ Hard Gel & HGel+                                                                                               |
| 12. Diaphragm               | : Glass Annular                                                                                                       |
| 13. Reference System        | : Ag/AgCl                                                                                                             |
| 14. pH Storage Solution     | : Saturated KCl/ TOSHCON storage solution                                                                             |
| 15. Shape of Membrane       | : Spherical                                                                                                           |
| 16. Diameter                | : 12 mm                                                                                                               |
| 17. Shaft Length (A)        | : 120, 225, 325, 425 mm etc.                                                                                          |
| 18. Shaft Material          | : Glass                                                                                                               |
| 19. O Ring                  | : EPDM (in case of S8/ S7/ VP connectors etc.)                                                                        |
| 20. Autoclavable            | : Yes                                                                                                                 |
| 21. CIP                     | : Yes                                                                                                                 |
| 22. Connector type          | : Cap/TC* with BNC with Low-Noise Coaxial Cable or S8 (PG 13.5)/ S7 or Variopin (V) or any other connector requested. |
| 23. Solution Ground         | : Optional                                                                                                            |
| 24. Suitability             | : Suitable/ compatible with mostly all make instruments.                                                              |



<b>Junction:</b>	
Ceramic	-
Open	- 0

<b>Cap/ Connector:</b>	
Cap	-
Threaded	-
Rotatable Cap	- TRC
PG 13.5	- S8
S7	- S7
Variopin	- V

<b>Solution Ground:</b>	
Without Liquid	-
Ground	-
Liquid Ground	- L

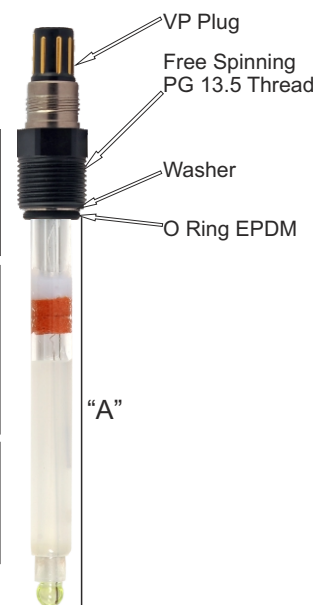
### ORDERING CODE

TFERM - X - X - X - X - X - X

<b>Shaft Length (A):</b>	
120 mm	- 225
225 mm	- 225
325 mm	- 325
425 mm	- 425

<b>Cable Length for Cap Electrode:</b>	
1 Mtr.	- 3
3 Mtrs.	- 3
5 Mtrs.	- 5
9 Mtrs.	- 9
13 Mtrs.	- 13

<b>Temp. Compensator</b>	
Without	-
Pt100	- T
Pt1000	- 1T
30K NTC	- 3T



### OTHER INDUSTRY:

Pharma, Petrochemical, Swimming Pools, Aquarium, Electroplating, Food, Chemical, Fertilizer, Dairy, Oil, Drinking Water, Ground Water, Waste Water

### OTHER APPLICATIONS:

Extreme pH (Acidic), Extreme pH (Alkali), Narrow Vessel/ Semi Micro, Low Ionic/ Ultrapure, Oil/ Water Emulsion, HF, Low Temp. (-30°C), High Temp. (135°C), Steam Sterilisable

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