

Models WCM 7300ME Temperature Compensated Water Cut Monitor with Insertion Probe

Bulletin SSIN017 Issue/Rev. 0.1 (11/18)

The **Model WCM 7300ME** is designed to provide the highest possible sensitivity, resolution, and accuracy for water content determination in crude oil, other hydrocarbons, or other low dielectric liquids from a max of 25% to levels below 0.01% parts per million (ppm). In oil and natural gas (condensate) production, water cut measurements are significantly improved with the WCM 7300ME technology. Enhanced digital signal processing and full product temperature compensation are two of the technological advancements utilized by this device. Water cut, process temperature or probe electrical value can be selected for viewing without removing conduit cover by use of a supplied magnet to operate an internal reed switch.



Features

- **NACE adaptable.**
 - Can be modified for use in NACE applications.

Product Temperature Compensation

The base dielectric constant (Dk) of oils can change with changes in temperature. This can cause traditional monitors to change without a variance in water content. For example; for a 10°F change, a typical crude oil may show a reading shift of as much as 0.1%, which normally would be considered as water. The WCM 7300 measures product temperature and calculates a corrected cut reading, providing a true water cut at any temperature up to 160°F.

Applications

LACT (Lease Automatic Custody Transfer) Units

Detect and provide relay contact closure that can be used to reroute oil that has excess S&W.

Pipeline Loading

Monitor transfer of petroleum/condensate products from loading facilities.

Dehydration Equipment

Determine and enhance equipment efficiencies, by monitoring the product and indicating water content.

Fuel Oil Monitoring

Determine contamination of fuel oil by condensation, or other external factors, before entry to engine.

Storage and Treating Facilities

Monitoring and early detection of undesirable conditions as well as interface detection during dewatering of storage tanks.

Measurement / Monitor Specifications

Power Supply

20-30 Vdc +/-10% @ nominal, 200 mA max.

Water Cut Monitor Full Scale Range

- 0-25%
- Field adjustable to 0-5%, 0-10%, 0-25%.

Display

Four digit LCD with decimal point.

Analog Outputs

4-20 mA, 2-wire internally powered or 4-20 mA, 3-wire externally powered.

Relay Output

- SPDT Relay, 10A, 250 Vac.
- 1/2 Hp 250 Vac, 10A - 120 Vac resistive.
- 1/3 Hp 120 Vac, 10A - 30 Vdc resistive.

Time Delay

- 0 to 90 seconds adjustable in 10 second increments.
- Off-delay approximately 10% of on-delay time.

Temperature Range

- 0°F to 160°F (-20°C to 70°C).

Enclosures

- NEMA 4X, weatherproof.
- NEMA 7, explosion-proof, Class I, Division 1, Groups C and D.

Normal variances are:

- +/- .05 from 0 to 5% water
- +/- .1 from 5 to 10% water
- +/- .15 from 10% to 15% water
- +/- .2 to .25 from 15 to 25% water

Displays

Two lines 16 character, alphanumeric LCD showing by selection:

- Water Cut
- Process Temperature
- Probe Electrical Value

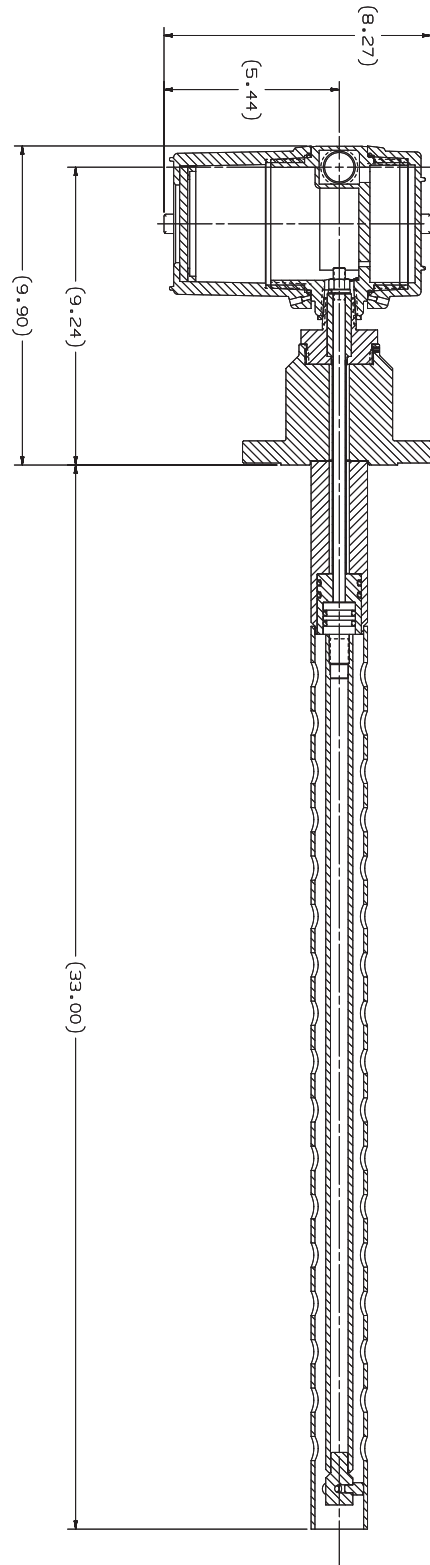
Red/Green LED showing good oil, bad oil, or by passing, condition.

Pressure Ratings

- As per Flange selection, 1440 psig max. (*Others by special order*)
- NPT - 1440 psig max.
- Victaulic grooved - 350 psig

WCM 7300 E Insertion Probes

Often it is more economical to use an insertion probe than an inline on large diameter flow lines.



Notes:

- These dimensions are for the 2" probe.
- The 3" face to end would be 18" instead of 28"

WCM 7300ME Capacitance Probe Ordering Information

WCM 7300ME	Insertion Style Water Cut Monitor, Digital, Temperature Compensating, Ranges from 0-20% Water					
	PROBE MATERIAL: Carbon Steel					
	CODE	PROBE BODY SIZE				
	2	2 INCH O.D.				
	3	3 INCH O.D.				
		CODE	END CONNECTIONS			
		00	SCREWED ENDS (TO 3" ONLY)			
		00	GROOVED ENDS / VICTAULIC (TO 4" ONLY)			
		00	150 LB ANSI RAISED FACE			
		30	300 LB ANSI RAISED FACE			
		60	600 LB ANSI RAISED FACE (SCH 80) (FOR 8" AND 10")			
		90	900 LB ANSI RAISED FACE (SCH 80)			
		05	150 LB ANSI RTJ			
		35	300 LB ANSI RTJ			
		65	600 LB ANSI RTJ (SCH 80) (FOR 8" AND 10")			
		95	900 LB ANSI RTJ (SCH 80)			
		115	1500 LB ANSI RTJ (SCH 160)			
			CODE	MATERIAL AND TEMPERATURE OPTIONS		
			B	STANDARD MATERIALS, A53B CARBON STEEL, -20 - 160° F		
			H	STANDARD MATERIALS / HIGH TEMP, -20 - 375° F		
			S	316 STAINLESS STEEL MATERIALS, -20 - 160°		
			T	316 STAINLESS STEEL / HIGH TEMP, -20 - 375° F		
				CODE	CONNECTION STYLE	
				S	SCREWED CONNECTIONS, MNPT	
				G	VICTAULIC CONNECTIONS (GROOVED)	
				F	FLANGED CONNECTIONS	
					CODE	OPEN
					P	Epoxy
Example:						
WCM 7300ME -	2	60 -	B	F	P	= WCM 7300ME - 260 - BFP

Choose one code selection from each option group to build model number and correct pricing.

Note: Consult Factory for temperature compensation factor.

The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

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