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Foxboro 876CR Transmitter

For Contacting Conductivity and Resistivity

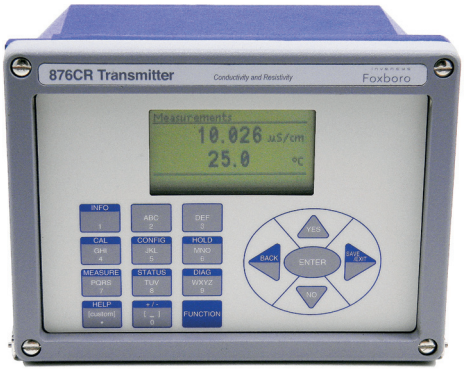
Summary

The Foxboro Model 876CR is a full featured transmitter for contacting conductivity and resistivity applications. It offers easy configurability, a rugged field-mounted enclosure for the most challenging industrial environments, and agency certifications for hazardous electrical areas. HART communications and a time saving HART Device Type Manager integrates with your plant asset management strategies.

Business Value

Unlike other contacting conductivity and resistivity measurement solutions, Foxboro's offering provides the widest choice of sensing and configuration selections, resulting in the best possible match for your application. The result is long service life, quick and easy application set changes, and savings in both material and labor costs.

FEATURES / BENEFITS



Application Flexibility
Transmitter can be rapidly customized to specific application requirements, including conductivity, resistivity and concentration. One basic transmitter handles all applications, simplifying inventory.

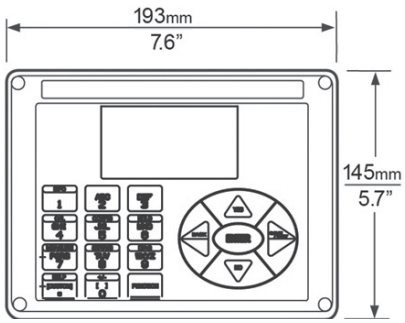
Save and Restore Configurations
Up to two unique configuration profiles can be saved, facilitating a quick and easy change, saving operator time and cost.

Customize and Employ up to Three Applications
Transmitter can be preconfigured for up to three different applications, each with its own display format, temperature compensation curve, chemical concentration curve (if applicable), and output configuration. Easy switching of applications saves significant time.

Auto-switching
Applications can be auto-switched using user-programmable switch limits. For example, the transmitter can switch from a wide range conductivity application to a very sensitive one without the need to recalibrate the system for the new range. This results in tremendous time savings for operators, and eliminates common sources of error in critical applications.

DESCRIPTION

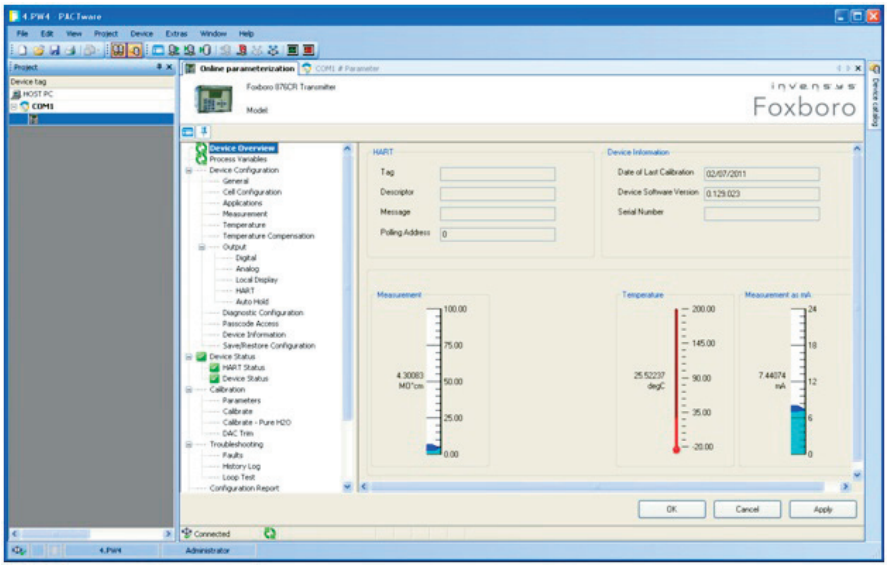
The Foxboro® brand Model 876CR is a 2-wire loop powered intelligent transmitter that, when used with appropriate electrochemical sensors, provides measurement, local display, and transmission of contacting conductivity, resistivity or concentration. The transmitter outputs a HART digital signal and a 4 to 20 mA analog output. For contacting conductivity or resistivity applications requiring a two-wire, loop powered transmitter, the Invensys Foxboro brand Model 876CR with Foxboro sensors provides the most flexible solution for wide ranging application conditions. Unlike other contacting conductivity and resistivity measurement solutions, Foxboro's offering provides the widest choice of sensing and configuration selections, resulting in the best possible match for your application. The result is long service life, quick and easy application set changes, and savings in both material and labor costs.



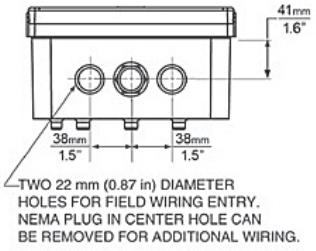
Foxboro®

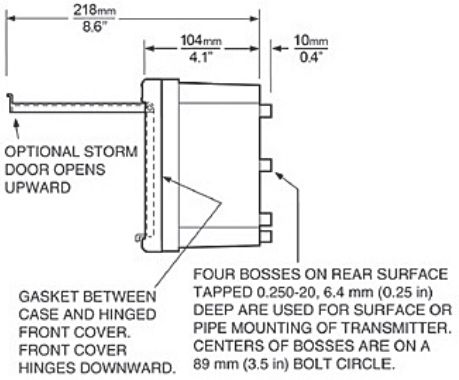
SPECIFICATIONS

Accuracy:	± 0.5% of absolute reading over the input range of 40 Ω to 10 MΩ
Stability (After 6 Months):	Twice the absolute measurement accuracy value
NAMUR Compliance:	NAMUR NE 43 for analog overrange and underrange NAMUR NE 21 for interference immunity requirements
Electromagnetic Compatibility (EMC):	Complies with European EMC Directive 2004/108/EC by conforming to EN 61326-1:2006
Display Format (Selectable):	0.9999 uS/cm to 9999 mS/cm 0.9999 Megohm-cm to 99.99 Megohm-cm Available display format depends on cell factor and units of measurement selected
Temperature Inputs:	100 ohm or 1000 ohm platinum RTD 10 kohm or 100 kohm thermistor
Temperature Compensation:	Absolute, NaCl, ultrapure water, linear, custom and several other standard types
Sensor Compatibility:	871CC and 871CR Series
Output Hold:	Hold OFF, Hold at PRESENT value, or Hold at MANUAL value
History Log:	100 most recent events stored in nonvolatile memory
Environmental and Corrosion Resistance:	IP66 and NEMA 4X
Electrical Safety Specifications:	FM approved for Zone 0 and Zone 2, Divisions 1 and 2; ATEX, CSA and IECEx pending



HART DTM:
A time-saving HART Device Type Manager (DTM) simplifies configuration, troubleshooting and provides trend graph capabilities.





MODEL CODE

Description	Model
Intelligent Transmitter for Contacting Conductivity and Resistivity Measurement	876CR
Output Signal	
Intelligent; Digital HART and 4 to 20 mA	-T
Enclosure Mounting	
Panel Mounting	W
Surface Mounting	X
Pipe Mounting (Horizontal or Vertical Pipe)	Y
Electrical Safety (contact Foxboro for the current status of certifications)	
ATEX intrinsically safe; II 1 G, Ex ia IIC, Zone 0	AA
ATEX intrinsically safe for II 3 G, Ex ic IIC, Zone 2	AN
CSA intrinsically safe; Class I, II, III, Division 1; and Ex ia IIC, Zone 0	CA
CSA for Class I, II, III, Division 2; and energy limited for Ex nL IIC, Zone 2	CN
FM intrinsically safe; Class I, II, III, Division 1; and AEx ia IIC, Zone 0	FA
FM nonincendive; Class I, II, III, Division 2; and energy limited for AEx nC IIC, Zone 2	FN
IECEx intrinsically safe; II 1 G, Ex ia IIC, Zone 0	DA
IECEx intrinsically safe II 3 G, Ex ic IIC and Ex nL IIC, Zone 2	DN
No Certification	ZZ
Optional Selections	
Special per Engineering Order (a)	-1
Storm Door (b)	-7
Detailed Instruction Manual (c)	-M

(a) Provides ability to preconfigure the instrument with custom temperature compensation.
(b) Used to protect front panel controls, particularly in field mounting applications.
(c) A CD-ROM is shipped as standard with each transmitter.

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