

 Accuracy ± 0.0004 g/cm<sup>3</sup> (± 0.1 °Brix)



- Direct density or concentration readout in engineering units such as g/cm<sup>3</sup>, Kg/m<sup>3</sup>, Specific Gravity, °Brix, °Baume, °Plato, °INPM, °GL, °API, % Solids, % Concentration, etc.
- Integral Temperature Sensor
- Suitable for Tank and Pipe Applications
- Factory Calibration and Self Calibration
- Advanced Diagnostics
- Largest Library of Function Block Execution Capacity
- Industrial and Sanitary Models
- Instantiable Function Blocks
- Supported by DD, EDDL and FDT/DTM
- Density, Concentration and Temperature in three Analog Input Blocks















# 301 - 302 - 303

## **DENSITY TRANSMITTERS**

FOR DENSITY AND CONCENTRATION APPLICATIONS





CE

EXAM



- Accuracy ±0.0004 g/cm<sup>3</sup> (±0.1 °Brix);
- Temperature compensation;
- Range 0.5 g/cm<sup>3</sup> 5 g/cm<sup>3</sup>;
- Standard industrial and sanitary process connection;
- Digital LCD indicator;
- Direct density or concentration readout in engineering units;
- Suitable for dynamic and static liquids;
- Two wire loop powered;
- Several different wetted materials;
- Single integrated unit without moving parts;
- Factory calibration and Self calibration;
- In field re-calibration:
  - No standard reference required;
  - No lab calibration required;
  - ✓ No process shutdown.
- Continuous/Self diagnostics;
- Weather proof, explosion proof and intrinsically safe;
- The control strategy is built from direct instantiation and deletion of function blocks;
- Configuration and Parameterization all through open and interoperable configuration tools available in the market, e.g., based on PC or PCMCIA Cards or operations by the local adjustment switches (should be used with a LCD display);
- Use of the Analog Input function;
- Totally digital; including sensor, electronics and communication;
- Configurable Local Adjustment (FOUNDATION fieldbus™ and PROFIBUS PA);
- Easy firmware upgrade (via Flash Memory Interface) for FOUNDATION fieldbus<sup>™</sup> and PROFIBUS PA;
- Easy maintenance;
- Three technology options: HART<sup>®</sup>, FOUNDATION fieldbus<sup>™</sup>, PROFIBUS PA.

#### HART<sup>®</sup> - 4 to 20 mA

- Multi-drop operation mode;
- Supports DTM and EDDL.

#### FOUNDATION fieldbus<sup>™</sup>

- 17 different types of function blocks for control strategies and advanced diagnostics;
- Up to 20 function blocks;
- Two analog inputs: density and concentration or temperature;
- Execution of up to 31 external links (19 Publisher and 12 Subscriber);
- 12 mA consumption;
- Dynamic block instantiation improves interchangeability;
- FOUNDATION fieldbus<sup>™</sup> registered and ITK approved;
- MVC (Multivariable Container) enabled.

#### **PROFIBUS PA**

- 12mA consumption;
- Three Function blocks for analog inputs: density, concentration and temperature;
- Integrated to Simatic PDM;
- Supports DTM and EDDL;
- Profile 3.0 improves interchangeability.









The DT300 "Touché" Intelligent Density Transmitter is an instrument developed for the continuous, online measurement of liquid density and concentration, directly in the industrial process.

Its pioneer technology consists of a capacitive type differential pressure sensor coupled to a pair of pressure repeaters immersed in the process. A temperature sensor located between the two pressure repeaters is used to compensate the temperature variations in the process fluid.

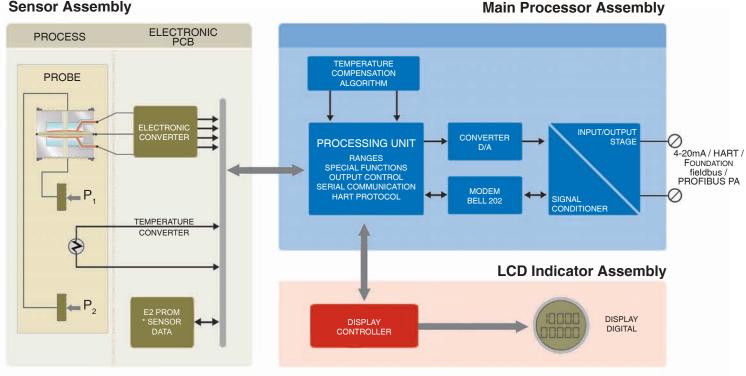
A dedicated software, by means of an algorithm, calculates the fluid density.

Depending on the industrial process, density may be expressed in g/cm<sup>3</sup>, Kg/m<sup>3</sup>, lb/ft<sup>3</sup>, Specific Gravity, Brix degree, Gay-Lussac degree, Baumé degree, Plato degree, INPM degree, API degree, Solids %, Concentration %, etc.

Designed for process control applications, these 2-wire transmitters generate a signal proportional to the concentration/density. Digital communication for remote calibration and monitoring is also provided.



Block Diagram



### Sensor Assembly



The DT300 "Touché" is available in two models:

- DT300I (Industrial Model) for general purpose;
- DT300S (Sanitary Model) for food and other applications where sanitary connections are required.

Both models have two mounting types: top mounting (straight type) and side mounting (curved type).

Installation may be done either in open or pressurized tanks, or directly in pipes since the DT300 is suitable for dynamic and static fluids.

The Sanitary model that meet 3-A Certification (Authorization N° 1399) uses a Tri-Clamp connection to allow a quick and easy connection and disconnection from the process. The wetted surface finish is polished and then is free of crevices where food or bacteria can be collected. 3A is the most widely accepted sanitary standard in the food, drug and beverage industry.

### **Applications**

### • Sugar and Alcohol Processing Plants:

Brix of the sugarcane juice, brix of the must, brix of the syrup, brix of the molasses, brix of the solved juice, calcium solution of the Baumé, interface level of the hexane cycle, lime density, INPM degree of the hydrated alcohol, INPM degree of the anhydrid alcohol, etc.

#### • Dairy Product Industries:

Condensed milk, Lactose, Yogurt, Cream cheeses, Lactic Acids, etc.

#### • Food Industry:

Vegetable oils, miscellaneous extractions, fruit syrup, starch dilution, glucose, jams, jellies, sweets, honey, tomato pulp, citrus juices, etc.

### • Pulp and Paper Industries:

Black liquor, green liquor, white liquor, red liquor, caustic soda concentration, ash dilution, talc dilution, pulp dilution, ink concentration, potassium hydroxide, etc.

#### • Beverage Industry:

Beer (Plato degree in the fermentation process) Soft Drinks (brix of the liquid sugar, etc.), liquors, wines, soluble coffee, malt, tequila, etc.

### Chemical Industry:

Acids, concentration/mixture, caustic soda, glycol, salt solution, detergent, toluene, urea, potassium, etc.

#### • Mining Slurries:

Mineral pulp, extraction of thins, flotation, thickening, acid concentration, starch dilution, scrapers, lime mud.

### • Petrochemical Industry:

Gas washing water, lubricant oils, aromatic extraction, fuel oils, gasoline, kerosene, water/oil interface level.



DT300 Series are available in three different technologies: HART<sup>®</sup> (DT301), Foundation fieldbus<sup>™</sup> (DT302) and PROFIBUS PA (DT303). These instruments can be configured with Smar software and other manufacturers' configuration tools.

Local adjustment is available in DT302 and DT303. For these models is possible to configure concentration adjust, self-calibration, direct density or concentration readout in engineering units and other control functions using the magnetic screwdriver. Smar has developed Asset View, which is a user-friendly Web Tool that can be accessed anywhere and anytime using an Internet browser. It is designed for management and diagnostics of field devices to ensure reactive, preventive, predictive and proactive maintenance.

### **HART® - DT301**

DT301 (HART<sup>®</sup> protocol) can be configured by:

- Smar CONF401 for Windows and UNIX:
- Smar DDCON100 for Windows and UNIX:
- Smar HPC301 for several models of Palms\*;
- Other manufacturers' configuration tools based on DD (Device Description) or DTM (Device Type Manager), such as AMS<sup>™</sup>, FieldCare<sup>™</sup>, PACTware<sup>™</sup>, HHT275 and HHT375, PRM Device Viewer.

For DT301 management and diagnostics, Asset View ensures continuous information monitoring. \*Requires the HPI311 or HPI321 interface.



DT300 Series

### FOUNDATION fieldbus<sup>™</sup> - DT302

DT302 utilizes the FOUNDATION fieldbus<sup>™</sup> H1 protocol, an open technology that allows any H1 enabled configuration tool to configure this device.

Syscon302 (System Configuration Tool) is a software tool used to configure, maintain and operate the field devices. Syscon offers efficient and friendly interaction with the user, using Windows NT version 4.0 or later, Windows 2000 and Windows XP.

Configuration tools such as AMS<sup>™</sup> and HHT375 can configure DT302 devices. DD (Device Description) and CF (Capability File) files can be downloaded at either the Smar or Fieldbus Foundation website.

DT302 supports complex strategies configurations due to the high capacity and variety of dynamic instantiable function blocks.

Seventeen different types of function blocks are supported, and up to 20 function blocks can be running simultaneously. Maintenance procedures with Asset View diagnostics and status information from Foundation fieldbus™ result in a safer plant with longer availability.



### **PROFIBUS PA - DT303**

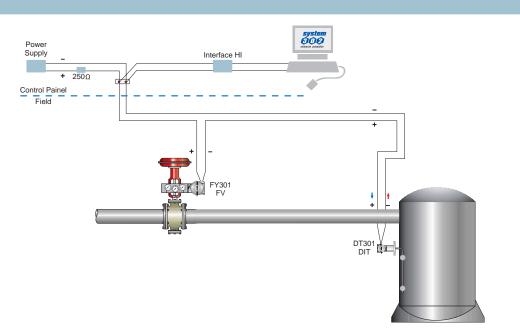
smar

DT303 (PROFIBUS PA protocol) can be configured using Simatic PDM and by the FDT (Field Device Tool) and DTM (Device Type Manager) concept tools, such as FieldCare<sup>™</sup> and PACTware<sup>™</sup>. It can also be integrated by any PROFIBUS System using the GSD file.

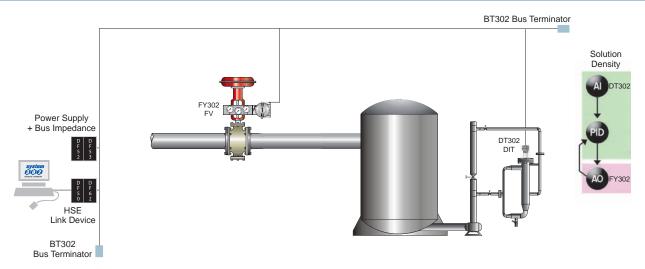
PROFIBUS PA also has quality and diagnostic information, improving plant management and maintenance.



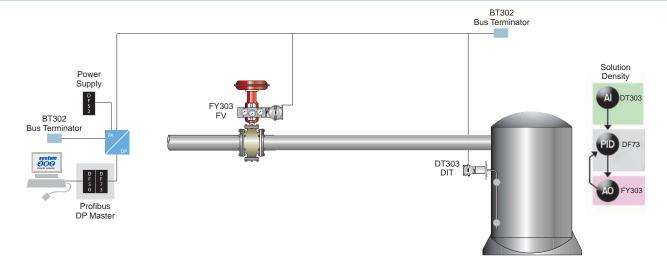
### HART® - DT301



### FOUNDATION fieldbus<sup>™</sup> - DT302



#### **PROFIBUS - DT303**



# **Functional Specifications**

Output and Communication	HART <sup>®</sup> : Two-wire, 4-20 mA with super-imposed digital communication (HART <sup>®</sup> Protocol).
Protocol	FOUNDATION fieldbus <sup>™</sup> and PROFIBUS PA: Digital only. Complies with IEC 61158-2:2000 (H1): 31.25 kbit/s voltage mode, bus powered.
Power Supply/ Current Consumption	HART <sup>®</sup> : 12 to 45 Vdc. Foundation fieldbus™ and PROFIBUS PA: Bus powered: 9 to 32 Vdc. Quiescent current consumption: 12 mA.
Indicator	4½-digit numerical and 5-character alphanumerical LCD indicator (optional).
Hazardous Area Certifications	<ul> <li>HART<sup>®</sup>, FOUNDATION fieldbus<sup>™</sup> and PROFIBUS PA: Explosion proof, weather proof, intrinsically safe, CEPEL, Dekra/EXAM, FM, NEMKO and NEPSI.</li> <li>FOUNDATION fieldbus<sup>™</sup> and PROFIBUS PA: FISCO Field Device Ex ia IIC T4 (CEPEL, Dekra/EXAM, NEPSI) and FNICO Field Device Ex nI IIC T4</li> </ul>
	(CEPEL, Dekra/EXAM).
Other Certification	HART <sup>®</sup> , FOUNDATION fieldbus <sup>™</sup> and PROFIBUS PA: 3A Sanitary Standard.
Zero and Span Adjustments	Noninteractive, via digital communication or local adjustment.
Failure Alarm (Diagnostics)	Detailed diagnostics through communication for all protocols. HART®: In case of sensor or circuit failure, the self diagnostics drives the output to 3.6 or 21.0 mA, according to the user's choice. FOUNDATION fieldbus™: For sensor circuit failures, events are generated and status is sent to link outputs. Detailed diagnostics are available in the contained parameters. PROFIBUS PA: For sensor or circuit failures, status is sent to output parameters. Detailed diagnostics are available in the contained parameters.
Temperature Limits	Ambient: -40 to 85 °C (-40 to 185 °F) Process: -20 to 150 °C (-04 to 302 °F) Storage: -40 to 100 °C (-40 to 212 °F) Digital Display: -10 to 60 °C (14 to 140 °F)
Turn-on Time	HART <sup>®</sup> : Performs within specifications in less than 5 seconds after power is applied to the transmitter. FOUNDATION fieldbus <sup>™</sup> and PROFIBUS PA: Performs within specifications in less than 10 seconds after power is applied to the transmitter.
Configuration	HART <sup>®</sup> : By digital communication (HART <sup>®</sup> protocol) using the configuration software CONF401, DDCON (for windows), HPC301 or HPC401 (for Palms). It can also be configured using DD and FDT/DTM tools. FOUNDATION fieldbus <sup>™</sup> and PROFIBUS PA: Basic configuration may be done using the local adjustment magnetic tool if device is fitted with display. Complete configuration is possible using configuration tools.
Static Pressure Limit	7 MPa (70 kgf/cm²) (1015 psi).
Humidity Limits	0 to 100% RH.
Damping Adjustment	0 to 32 seconds in addition to intrinsic sensor response time (0.2 s) via digital communication.





# **Performance Specifications**

Reference Conditions	Temperature of 25 $^{\circ}$ C (77 $^{\circ}$ F), atmospheric pressure, power supply of 24 Vdc, silicone oil fill fluid, isolating diaphragms in 316L SST and digital trim equal to lower and upper range values.
Accuracy	For range 1: ±0.0004 g/cm <sup>3</sup> (±0.1 °Bx) For range 2: ±0.0007 g/cm <sup>3</sup> For range 3: ±0.0016 g/cm <sup>3</sup> Linearity, hysteresis and repeatability effects are included.
Stability (for 12 months)	For range 1: 0.021 x 10 <sup>-3</sup> g/cm <sup>3</sup> For range 2: 0.083 x 10 <sup>-3</sup> g/cm <sup>3</sup> For range 3: 0.521 x 10 <sup>-3</sup> g/cm <sup>3</sup>
Ambient Temperature Effect (per 10 °C)	For range 1: 0.003 x 10 <sup>-3</sup> g/cm <sup>3</sup> For range 2: 0.013 x 10 <sup>-3</sup> g/cm <sup>3</sup> For range 3: 0.041 x 10 <sup>-3</sup> g/cm <sup>3</sup>
Static Pressure Effect	Zero Static Pressure <b>For range 1:</b> 0.001 x 10 <sup>-3</sup> g/cm <sup>3</sup> <b>For range 2:</b> 0.004 x 10 <sup>-3</sup> g/cm <sup>3</sup> <b>For range 3:</b> 0.007 x 10 <sup>-3</sup> g/cm <sup>3</sup>
Power Supply Effect	± 0.005% of calibrated span per volt.
Mounting Position Effect	It can be eliminated after installation. No span effect.
Electro-Magnetic Interference Effect	Designed to comply with IEC 61326-1:2006, IEC 61326-2-3:2006, IEC 61000-6-4:2006 and IEC 61000-6-2:2005.

### **Physical Specifications**

1/2 - 14 NPT M20 X 1.5 PG 13.5 DIN
Industrial Model: 316 SST Flange ANSI B16.5 4". Sanitary Model: 304 SST Tri-clamp 4".
Isolating Diaphragms: 316L SST or Hastelloy C276. Wetted O-Rings (For Sanitary Model): Buna N, Viton™ or Teflon™.
Electronic Housing: Injected aluminum with polyester painting or 316 SST. Complies with NEMA 4X, IP66/68 W. Fill Fluid: Silicone (DC200/20, DC704), Glycerin and Water, Neobee M20 Propylene Glycol. Cover O-Rings: Buna N. Identification Plate: 316 SST.
Side or top mounted.
8 kg (18 lb) – Sanitary Model. 12 kg (26 lb) – Industrial Model.

Viton and Teflon are trademarks of E. I. DuPont de Nemours & Co. HART® is a trademark of HART® Communication Foundation. Foundation is a trademark of Fieldbus Foundation. Profibus is a trademark of Profibus International. This product is protected by US patent numbers 6,234,019 and D439,855.

MODEL	INDU	JSTRI	AL CO	NCENTRAT	ION/DE	NSITY	TRAN	SMITTER								
DT301 I DT302 I DT303 I	FOUN		-20 mA fieldbu S PA													
1	COD.				М	inimur	n Spar	1								
	1         0.5         to         1.8 g/cm <sup>3</sup> 0.025 g/cm <sup>3</sup> 2         1.0         to         2.5 g/cm <sup>3</sup> 0.050 g/cm <sup>3</sup> 3         2.0         to         5.0 g/cm <sup>3</sup> 0.250 g/cm <sup>3</sup>								Note: For the concentration units: °Brix, °Plato, °INPM, °GL and °Baumé, specify code 1.							
i i		COD.	Wett	ed Parts Ma		0										
		H U X Z	316L Hast 316L	elloy C276 / . SST / 316L elloy C276 / . SST / 316L ers - Specify	. SST 316L S . SST w											
			COD.	Fill Fluid												
	N     Neobee- M20 Propylene Glycol - Food Grade       D     DC-704 Silicone Oil       S     DC 200/20 Silicone Oil       G     Glycerin and Water - Food Grade       T     Syltherm 800       Z     Others - Specify															
	Z Others - Specify COD. Local Indicator															
				0 Wit 1 Wit	thout Ind th Digita . Elec ½ -	dicator al Indica s <b>trical</b> ( 14 NP <sup>-</sup>	Conne∘ Г (4)	ction 4 NPT (Al 316) - With Adapter <b>(5)</b>	A M20 X 1.5 (7) B PG 13.5 DIN (7)							
				2 3	1/2 · 1/2 ·	- 14 NF - 14 NF	PT X 3/ PT X 1/	4 BSP (Al316) - With Adapter <b>(6)</b> 2 BSP (Al 316) - With Adapter <b>(6)</b>	z	Others – Specify						
		÷.			COD.		nting									
					1 2	Top Side	•									
						CC	DD.	Process Connection Size, Rating and Standard								
		Ì	Ì			5 5 A Z	1 2 3 C Z	4" 150# ANSI B-16.5 4" 300# ANSI B-16.5 4" 600# ANSI B-16.5 DN 100 PN25/40 DIN 2526 - FORM D Others - Specify								
		İ						COD. Continues Next Page								
		i														
DT301I	- 1		S-	1   0	1	- 5	1	TYPICAL MODEL NUMBER								
DT302I	- 1	ļ	S-	1   0	1	- 5	1									
DT303I	- 1	1	S-	1   0	1	5	1									

DT300 Series



MODEL	INDUS	TRIAL	CONC	ENTRA	TION/DI	ENSITY TRANSMITTER (CONTINUATION)								
	COD. I	Identifi	cation	Plate										
	14 15 16 17	CEPEL: Without	DMT) EX-D Certifi DMT)	EX-IA; EX-IA cation GRUPO										
	С	OD.	Housiı	ng Mate	rial (1)	(2)								
		H1 H2 H3	316 SS Alumin 316 SS	ST for Sa	Type) ype) Saline Atmosphere (IPW/TypeX) (3) aline Atmosphere (IPW/TypeX) (3) Juminum (IPW/TypeX) (3)									
		c	COD.	Tag Pl	ate									
			J0 J1 J2	With Ta Blank User's	ag Specifio	cation								
		1		COD.	Displa	ay Unit								
				Y0 Y1 Y2 Y3 Y4 Y5 Y6 YU	1: Den 1: Tem 2: Cur 2: Den 2: Tem	tage rent – I (mA) isity/Concentration (Eng. Unit) iperature (Temperature) rent – I (mA) isity/Concentration (Eng. Unit) iperature (Temperature) r's Specification								
	i -				COD.	Painting								
						Gray Munsell N 6,5 Black Polyester White Epoxy Yellow Polyester Without Painting Blue Safety Epoxy – Electrostatic Painting Blue Safety Polyester – Electrostatic Painting								
[						COD. Optional Item (*)								
		i -				ZZ Special Options								
DT301I-1IS-101-51 /	I6	H0	JO	Y0	P0	TYPICAL MODEL NUMBER								
DT302I-1IS-101-51	I6	H0	JO		P0									
DT303I-1IS-101-51		H0	JO		P0									

# **Optional Items**

Diaphragm Thickness	N0 - Standard
Diapinagin mickness	N1 - 0.1 mm
Strengthening of the Probe	R1 - with strengthening of the probe
Mounting Position	E1 - reverse position

lotes						
<ol> <li>IPX8 tested</li> <li>Ingress Prot</li> </ol>		water column for 24	hours.			<ul> <li>(4) Certified for use in Explosive Atmosphere (CEPEL, FM, CSA, NEPSI, NEMKO and EXAM</li> <li>(5) Certified for use in Explosive Atmosphere (CEPEL and CSA).</li> <li>(2) Only and the second /li></ul>
Product	CEPEL	NEMKO / EXAM	FM	CSA	NEPSI	<ul> <li>(6) Options not certified for Explosive Atmosphere.</li> <li>(7) Certified for use in Explosive Atmosphere (CEPEL, NEPSI, NEMKO and EXAM).</li> </ul>
DT30X	IP66/68/W	IP66/68/W	Type 4X/6	Type 4X	IP67	
(3) IPW / TypeX	tested for 200	hours according to I	NBR 8094 / AS	STM B 117 sta	ndard.	



T301 S	HAR	T® & 4	20 mA																						
T302 S T303 S	Four	IDATION	fieldbu																						
	COD.	_				I	Vinin	num	Span	1															
	1 2 3	0.5 1.0 2.0	to to to	1.8 g 2.5 g 5.0 g	I/cm <sup>3</sup>	(	0.025 g/cm <sup>3</sup> 0.050 g/cm <sup>3</sup> 0.250 g/cm <sup>3</sup>				Note: For the concentration units: °Brix, °Plato, °INPM, °GL and °Baumé, specify code 1.														
i -		COD.	Wett	ed Pa	rts Ma	ateria	I																		
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i.			COD.	Fill	Fluid																				
			N D G T Z	DC DC Gly Sylt	obee- -704 S 200/2 cerin a therm ners –	Silicon 0 Silic and W 800	e Óil cone /ater	Oil	-		ood G	Grade	e (8)												
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					CO		·	ical C		ectio	n														
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i -						СС	DD.	Top Side COD. J Z	nting	1															
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ļ									B V T Z	Ì	Buna-N (8)         Viton (8)           Viton (8)         Viton (8)           Cothers - Specify         Viton (8)														
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MODEL	SA	NITARY	TARY CONCENTRATION/DENSITY TRANSMITTER (CONTINUATION)												
	1  4  5  6  7	FM: X EXAN CEPE Witho EXAN	EL: EX-D ut Certif	l, DI : EX-IA; , EX-IA ication GRUPO											
		COD. H0 H1 H2 H3 H4	Alumii 316 S Alumii 316 S	num (IP/ ST (IP/T) num for \$ ST for S	g Material (1) (2) Im (IP/Type) T (IP/Type) Im for Saline Atmosphere (3) (IPW/TypeX) T for Saline Atmosphere (3) (IPW/TypeX) Free Aluminum (3) (IPW/TypeX)										
			COD. J0 J1 J2	Tag Plate       With Tag       Blank       User's Specification											
					Percen 1: Cur 1: Der 1: Terr 2: Cur 2: Der 2: Terr	ay Unit ntage rent – 1 (mA) isity/Concentration (Eng. Unit) isity/Concentration (Eng. Unit) isity/Concentration (Eng. Unit) isity/Concentration (Eng. Unit) isity/Concentration (Eng. Unit) isity/Concentration (Eng. Unit) isity/Concentration (Eng. Unit)									
					COD. P0 P3 P4 P5 P8 P9 PC	Painting         Gray Munsell N 6,5         Black Polyester         White Epoxy         Yellow Polyester         Without Painting         Blue Safety Epoxy – Electrostatic Painting         Blue Safety Polyester – Electrostatic Painting									
						COD. Optional Item (*) ZZ Special Options									
DT301S-1IN-102-JB11 / DT302S-1IN-102-JB11 / DT303S-1IN-102-JB11 /	16	H0   H0   H0	J0   J0   J0	Y0	P0 P0 P0	TYPICAL MODEL NUMBER									

#### Notes

(1) IPX8 tested in 10 meters of water column for 24 hours.

(2) Ingress Pro	otection:			
Product	CEPEL	NEMKO / EXAM	FM	CSA

	Product	CEPEL	NEMKO / EXAM	FM	CSA	NEPSI
	DT30X	IP66/68/W	IP66/68/W	Type 4X/6	Type 4X	IP67
6	3) IPW / Type	X tested for 20	0 hours according to	0 NBR 8094 /	ASTM B 117 s	tandard.

(4) Certified for use in Explosive Atmosphere (CEPEL, FM, CSA, NEPSI, NEMKO and EXAM).

(5) Certified for use in Explosive Atmosphere (CEPEL and CSA).

(6) Options not certified for Explosive Atmosphere.

(7) Certified for use in Explosive Atmosphere (CEPEL, NEPSI, NEMKO and EXAM).

(8) Compliant with 3A-7403 standard for food and other applications where sanitary connections

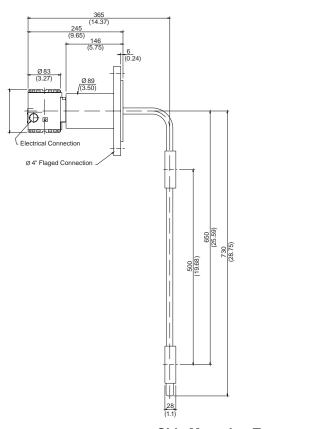
are required.

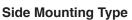
- Neobee M2O Fill Fluid

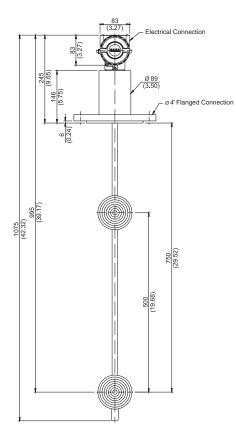
- Finishing wet Face: 0.8  $\mu m$  Ra (32  $\mu "$  AA)
- Wet O-Ring: Viton Teflon and Buna-N

### Industrial Model - 500 mm

Dimensions are millimeters (inches)

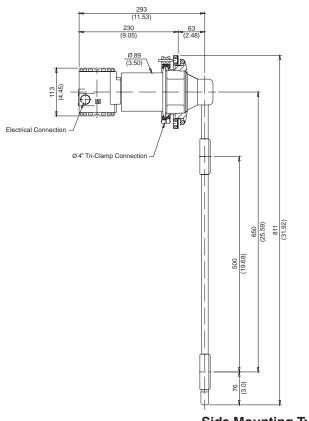




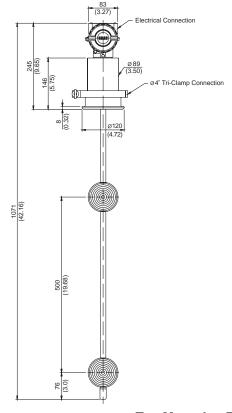


**Top Mounting Type** 

### Sanitary Model - 500 mm



Side Mounting Type

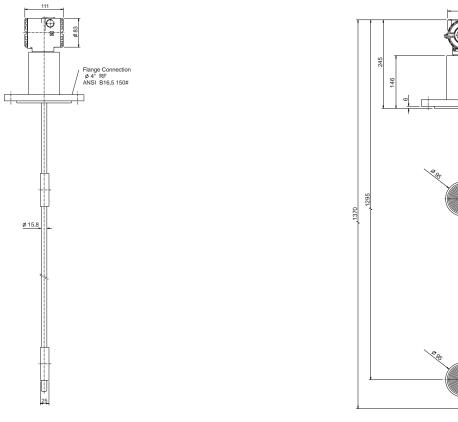


**Top Mounting Type** 





### Industrial Model - 800 mm



Side Mounting Type

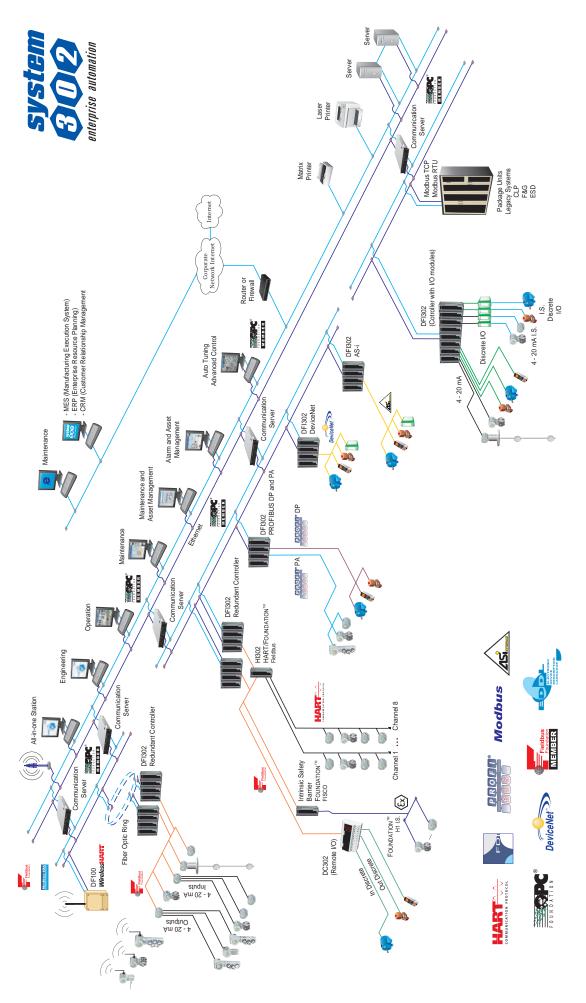
**Top Mounting Type** 

1050

800

Electrical Connection

ø 89















Specifications and information are subject to change without notice. Up-to-date address information is available on our website.

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