



## Pressure Transmitters

# ICT 1000 Pressure Transmitter

NASC has drawn upon thirty years of global marine application experience, to develop a smart dual mode MODBUS and analogue pressure transmitter that offers you the highest possible standards in terms of performance, versatility, functionality and reliability. The ICT 1000 pressure transmitter's advanced capacitive measurement cell is manufactured in robust and durable ceramic, and our careful design of the sensor means the diaphragm is fully supported and protected against overload and shock conditions. The ICT 1000 transmitter body is manufactured from 316SS and employs a carefully engineered Callers seal assembly to provide a fully submersible (IP68) construction capable of withstanding the toughest operating conditions. A powerful on-board micro-controller to precisely monitor the pressure related output of the capacitive cell. Ambient temperature is also monitored to provide a fully compensated measurement output. The transmitter is certified according to ATEX regulations for installation in a hazardous area and approved by many major classifications societies as suitable for use in marine applications.

### Key Features

- Constructed and type approved specifically for pressure measurement in marine applications
- Simple to install, robust and reliable
- Wide range of process and electrical connections
- Ceramic measuring cell ensures high accuracy, long term stability and a wide measuring range
- Gauge, Absolute and Compound calibration options
- Dual-mode operation provides outputs as 4-20mA and RS485 MODBUS
- Smart micro-controller operation allows remote programming and diagnostics via RS485 modem



### Digital and analogue operation

The ICT 1000 is capable, depending on option, of operating as both an analogue 4-20mA hydrostatic level transmitter and communicating directly to the host system using the RS485 MODBUS protocol. The integral temperature measurement is also available as an output variable in digital mode.

### Save money and Time

When installing for multi-point applications ICT 1000 digital mode enables significant cost and weight savings for cable runs to individual transmitters by utilizing an RS485 communication with NASC RFM series modules.

### Smart Programming

The ICT 1000 is a smart pressure transmitter capable of being remotely programmed for measurement range, functionality and diagnostics by the user via RS485 serial modem and NASC supplied software configuration tool.

### Part of the TankView Product family

Including the RFM series of field mount connection and barrier modules and TankView software, display and control modules. These comprise a simple to install but scalable solution for marine level measurement and supervision systems for ballast, cargo, service and bunker fuel oil tanks,

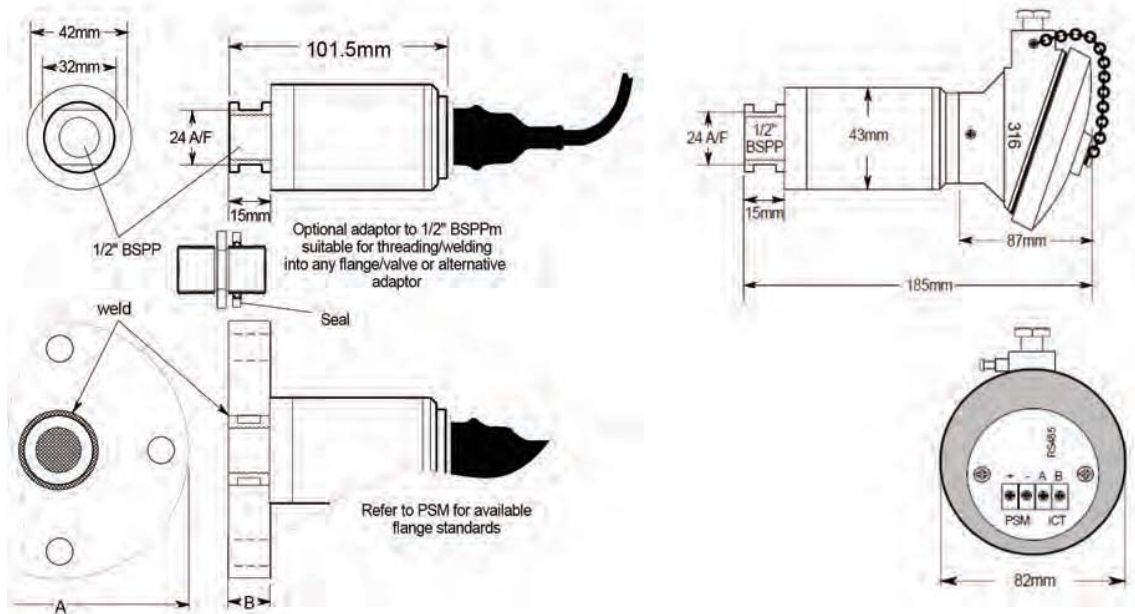


Pressure Transmitters

Operating Specifications

Specifications			
Power Supply Digital Only Mode	8 - 30 Vdc		
Power Supply Including Analogue Mode	12 - 30 Vdc		
Accuracy: Level (at 20°C and 1 bar)	±0.1% FS (Digital mode only)		
	±0.25% FS (Analogue mode or Dual mode)		
Long Term Stability	< ± 0.2% FS per year		
Accuracy: Temperature	± 1°C (Measurement available in digital mode only)		
Temperature Coefficient	± 0.025% FS per 1°C (Over calibration range of 0-60°C Other temperature ranges on request)		
Measuring Cell Pressure Overload Ratings	Range (Bar)	Proof Pressure (Bar)	Burst Pressure (Bar)
	0.20	1.4	2.7
	0.35	1.5	3
	1	3	5
	2	6	10
	10	30	50
20	60	100	
Analogue Output	4-20mA 2 wire loop powered		
Digital Output	RS485 MODBUS 2 wire half duplex		
Sensing Element	Ceramic (96% AL <sub>2</sub> O <sub>3</sub> ) measuring cell		
Construction	316SS with Kalrez seal and LSHF PET-E sheathed cable		
Operating Temperature	-20°C to +80°C		
IP Rating	IP68 (suitable for continuous immersion)		
Intrinsic Safety	Ex ia IIC T4		

Dimensional Specifications





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Model code 7 position construction (ex: 1050 / C / S1 / 6 / I / F / 7.5)

Position	Code	Description
1: OUTPUT	1040	Digital output only
	1050	Analogue output only
	1060	Analogue & Digital outputs
	A	Absolute measurement, otherwise leave blank
2: TRANSMITTER MAXIMUM PRESSURE	A	2m H2O (200 mbar)
	B	3.5m H2O (350 mbar)
	C	10m H2O (1 bar)
	D	20m H2O (2 bar)
	E	50m H2O (5 bar)
	F	100m H2O (10 bar)
	G	200m H2O (20 bar)
	X	Custom range on request (specify X metres H2O)
3: PROCESS CONNECTION	A1	Basic submersible sensor 1/2" BSP female with removable nosecone
	A2 X	Basic submersible sensor with drain wire adaptor (Specify length X metres)
	A3	Pole adaptor fitting threaded 1/2" BSP female
	A4	Free Standing
	A5	Free standing with Pole adaptor fitting threaded 1/2" BSP female
	A6	DN25 PN16 flange mounting
	A7	DN40 PN16 flange mounting
	A8	DN50 PN16 flange mounting
	A9	1" ANSI 150lb flange mounting to BS1560
	AA	1 1/2 ANSI 150lb flange to BS1560
	AB	2" ANSI 150lb flange to BS1560
	AE	Pole adaptor fitting 2" x 1 1/4" OD For Compression Adaptor
	S1	Tank fixing clamp
	X	Custom fixing on request
4: CABLE	3	Standard 3m cable length
	X	Custom cable length on request (specify length X metres)
	TH	316 stainless steel terminal housing (not possible with ATEX approval)
5: APPROVALS	S	Safe area installation
	I	Hazardous area installation (ATEX I.S. approved)
6: CONFIGURATION	N	Not configured
	F	Factory configured (specify)
7: RANGE	X	Transmitter 4-20 mA configured range in X metres H2O