



for level  
Intelligent instrumentation



True dual mode  
Analogue 4 to 20 mA and digital MODBUS  
level, pressure and temperature transmitter



The iCT is a liquid level and pressure transmitter with both analogue 4 to 20mA and digital MODBUS outputs designed to suit level, pressure & temperature measurement applications across all industries. It offers the highest possible standards in terms of performance, versatility & functionality and carries full marine 'Type' approval. Being certified intrinsically safe it is also suitable for use in hazardous applications.

iCT's ceramic cell is impervious to corrosion for most applications and is fully protected against overload and shock pressure conditions. The transmitter body is manufactured from high integrity 316 stainless steel and employs a carefully engineered Kalrez seal assembly providing a fully submersible (IP68) construction capable of withstanding the toughest operating conditions.

The powerful onboard microcontroller utilises a unique digital processing principle and incorporates a comprehensive range of functions and outputs, all under the user's control using NASC's free iSS configuration software.

## specifications

<b>Power Supply Digital Only Mode</b>	8-30Vdc
<b>Power Supply Including Analogue Mode</b>	12-30Vdc
<b>Accuracy Digital Mode</b>	± 0.1%
<b>Accuracy Analogue Mode</b>	± 0.25%
<b>Accuracy Temperature</b>	± 1°C immersed (available in digital mode only)
<b>Range</b>	Up to 20Bar
<b>Analogue Output</b>	4 – 20mA 2 wire loop powered
<b>Digital Output</b>	RS485 MODBUS 2 wire half duplex
<b>Sensing Element</b>	Ceramic- $Al_2O_3$ 96%
<b>Body Construction</b>	Fusion Welded 316 Stainless Steel
<b>Cable</b>	TPEE LSHF Thermoplastic Polyester Elastomer Low Smoke Halogen Free
<b>Operating Temperature</b>	-20°C to +80°C
<b>IP Rating</b>	IP68 (suitable for continuous immersion)
<b>Intrinsic Safety</b>	Ex ia IIC T4

Further detailed information is available in our datasheets DAT022 iCT for level, DAT037 Digital tank gauging systems, DAT030 The RFM series, DAT024 iSS — Configuration software and on our website at

## benefits at a glance

Easily replaces conventional 2 wire 4 to 20mA transmitters

Digital bus and analogue on one transmitter

Signal linearisation— output in level or true volume

Multidrop Modbus digital mode for significant cable savings

Analogue 4 to 20mA outputs

Wide span

High accuracy / stability

Programmable remotely

Simple configuration

Marine and I.S approvals

## analogue mode

In 2 wire analogue mode the 4 to 20mA output signal can be configured to compensate for any tank shape, S.G. and offset, so that the output is in true volume not just level, removing the need for any additional signal processing instrumentation. It's flexibility ensures it can be used to simply replace obsolete conventional 4 to 20mA 2 wire transmitters.

## digital mode

In digital mode iCT can communicate directly with a host PC via an industry standard RS485 multi drop network using standard MODBUS protocol

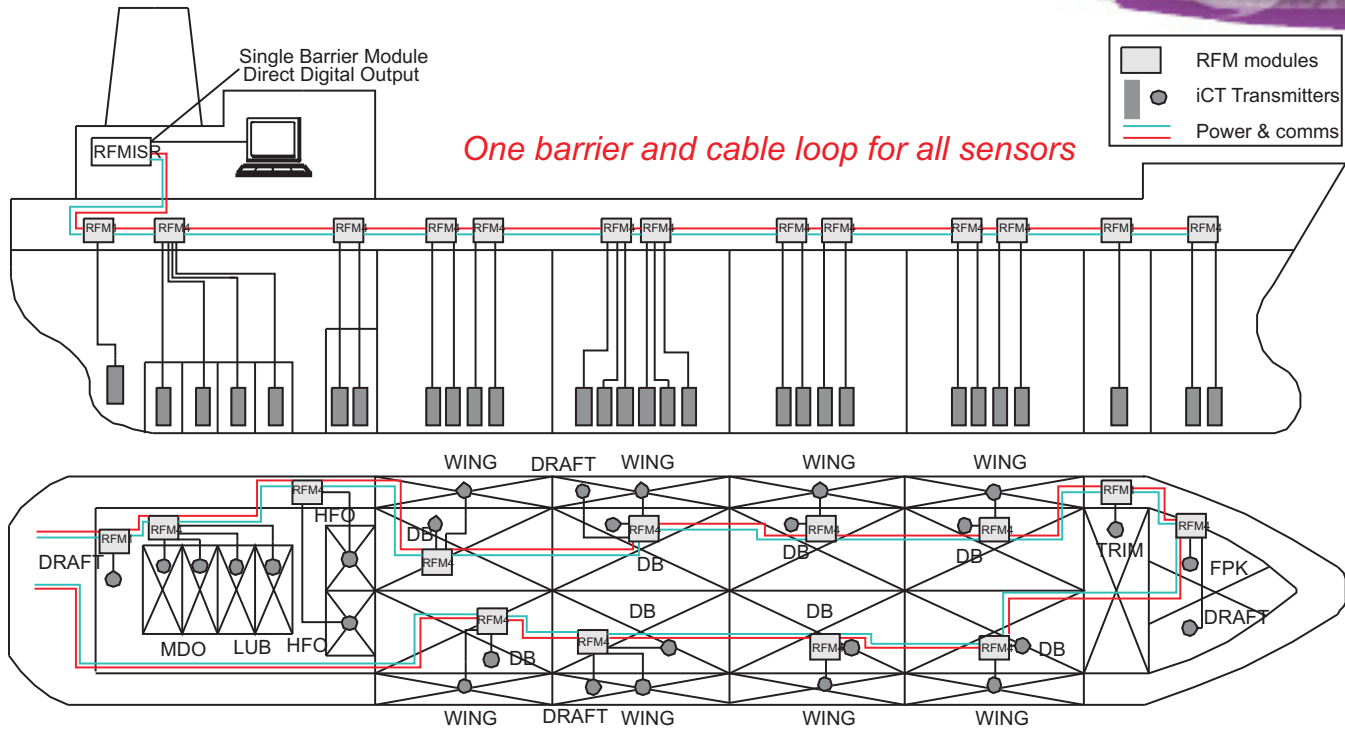
Even when used as a 4 to 20mA transmitter the ability to temporarily connect a PC to configure the output greatly simplifies commissioning.

To complement the iCT, a complete range of termination and barrier modules are available in the RFM range.

# typical shipboard iCT network installation



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## model codes

Example model code 1040 / C / S1 / 6 / I / F / 7.5mH2O / COS8

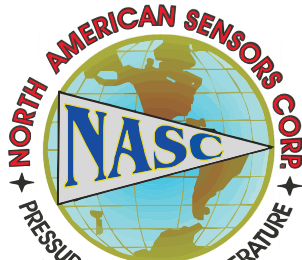
1010	Digital output only
1020	Analogue output only
1030	Analogue & Digital outputs
1040	Digital output only - Marine Duty
1050	Analogue output only- Marine Duty
1060	Analogue & Digital outputs Marine Duty

All models include 3 meters of Heavy Duty Cable

A	Maximum range- 2.0m H <sub>2</sub> O (200 Mbar)	Other ranges available on special request
B	Maximum range- 3.5m H <sub>2</sub> O (350 Mbar)	
C	Maximum range- 10m H <sub>2</sub> O (1Bar)	
D	Maximum range- 20m H <sub>2</sub> O (2Bar)	
E	Maximum range- 50m H <sub>2</sub> O (5Bar)	
F	Maximum range- 100m H <sub>2</sub> O (10Bar)	
G	Maximum range- 200m H <sub>2</sub> O (20 Bar)	

COS**	PTFE oversheath /meters
**	Transmitter set range in meters H <sub>2</sub> O
N	Non Factory Configured
F	Factory Configured
O	Model 1020 / 1050 with Volumetric scaled Output
S	Hazardous Area Approval not required
I	Hazardous Area Approval required
**	Total cable length in meters

Many other process fittings are available by adaptor please ask for details



A1	Basic submersible sensor 1/2" BSP female with Nosecone (Std option for adapting)
A2**	Basic submersible sensor with drain wire adaptor**Specify length per meters
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

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