WirelessHART

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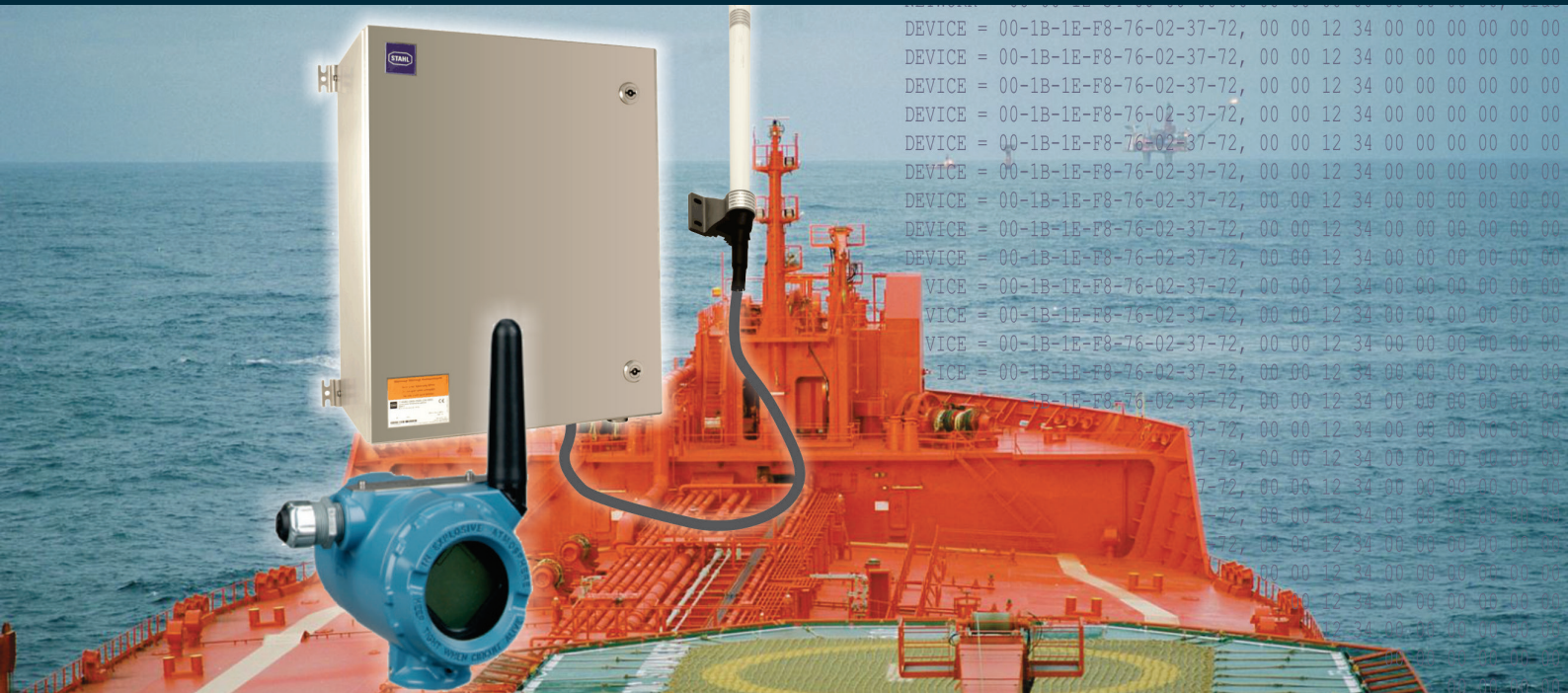76-02-37-72, 00 00 12 34 00 00 00
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WIRELESS NETWORK INFRASTRUCTURE SUPPORTING 2000 DEVICES

WirelessHART is a wireless communications protocol for process automation applications. It adds wireless capabilities to the HART Protocol while maintaining compatibility with existing HART devices, commands, and tools.

Kongsberg Maritime's WirelessHART interface supports multiple redundant WirelessHART networks handling up to 2000 devices. The interface uses Stahl gateways with a pre-installed monitoring control system to configure routers to a wireless sensor network. The MODBUS TCP/IP communication protocol is used to transfer WirelessHART device variables from the WirelessHART gateway and the process control system. Remote control units (RCUs) handle process control in the system. Each RCU can handle up to 50 gateway pairs.

The WirelessHART gateway

The WirelessHART gateway enables the operation of WirelessHART networks, establishing the wireless data transfer between field devices and automation systems. The gateway is powered by 24 VDC and can operate in zone 2, or outside the hazardous area.
The gateway interfaces with HART asset management system as well as automation control systems.

Each gateway pair can handle up to 100 devices.

Gateway redundancy

Each gateway pair consists of two separate gateways serving a single WirelessHART network. Each gateway is contained within a separate enclosure. The primary and secondary gateways are connected to different field networks.

Wireless field devices

Connected to process or plant equipment, field devices can have WirelessHART built in or an existing installed HART-enabled device with a WirelessHART adapter attached.

Typical WirelessHART devices include vibration, temperature, pressure, flow, level and other process variable transmitters.

Gateway antenna

The gateway antenna gives a transmission distance in line of sight of up to 200 m. The antenna is pre-assembled and includes a mounting bracket and 5 meters cable with connector. Each gateway in a redundant pair requires its own antenna.

TECHNICAL SPECIFICATIONS - WirelessHART GATEWAY

Mechanical data

|	Cabinet	Antenna
Dimensions	500 x 400 x 230 mm	320 x 24
Weight	17 kg	250 g (without cable)
Material	AISI 316L	ABS

Electrical data

Nominal voltage	24 VDC
Nominal current	300 mA
Power consumption	7.2 W

Radio interface

Protocol	WirelessHART
Frequency band	2.4 - 2.4835 GHz (ISM-Band)
Maximum WHART devices	100
Antenna connection	Fixed cable with SMA plug

Data interface

Protocol	MODBUS TCP, HART over Ethernet UDP
100Base-Tx connections	Spring cage terminals
100Base-Fx connections	Fiber optical splice (single mode)
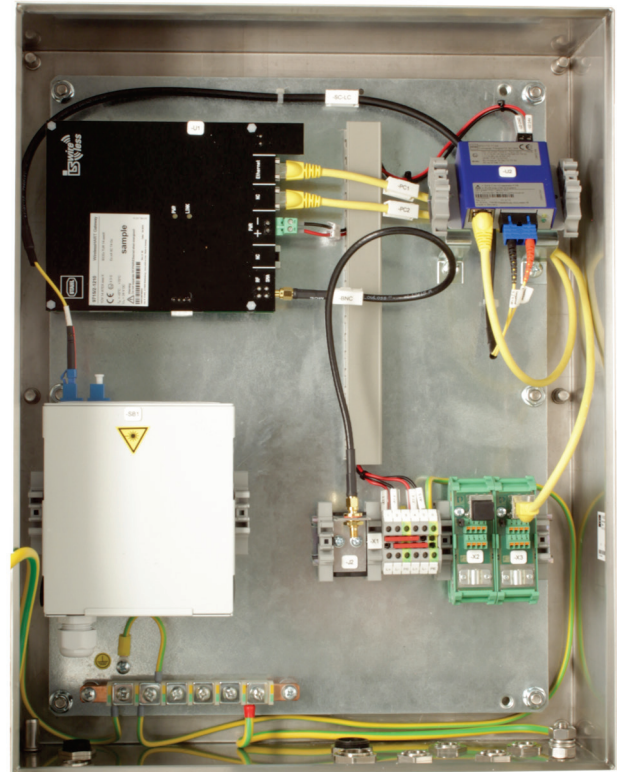
Connectors and cables

The enclosure includes mounting brackets and all necessary cable glands (M25).

The enclosure and antenna are suitable for installation in Hazardous area Zone 2 and is by manufacturer declared to conform to ATEX 2014/34/EU.

Standards:	IEC 60079-0, IEC 60079-15
Marking:	II 3 G Ex e nA op pr IIC T4 Gc

Specifications subject to change without any further notice.

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