

# JOWA USA

## Vanguard IV Level Gauging System



### Key System Elements:

- Metritape level sensors with optional temperature detectors
- Sensor housings used to mount and protect sensors and to make cable terminations
- Central conditioning unit which performs signal conditioning, processing and calibration

### Features and Benefits:

- RS232 / 485 interface to control system
- Level and volume with optional temperature and inert gas pressure data
- Utilizes rugged resistance-tape sensors
- Sensors totally accessible from tank top
- Flexible resistance-tape sensors follow the contour of J-shaped ballast tanks
- One sensor technology serves cargo, ballast, service and draft

- Vanguard IV's program derives the vertical level when stillpipes are curved. It can also compensate for list and trim manually or automatically when draft sensors are included
- Sensors can be mounted in pairs to satisfy Independent High Alarm regulations with only one deck penetration

### Description:

The industry trend of integrating onboard instrumentation systems requires a streamlined approach to tank gauging. JOWA USA has responded to this demand with the Vanguard Level Gauging System, a simple, low cost solution that delivers high performance.

The Vanguard System provides the critical link between JOWA USA's reliable resistance-tape level sensors and the centralized control system aboard any vessel type, including tankers, container vessels, gas carriers and FPSO's.

# Vanguard IV Level Gauging System

## Description Continued:

The Vanguard Level Gauging System sends tank level, temperature, volume, inert gas pressure and draft data via an RS232 / 485 interface to any shipboard control system. This direct serial data communication provides a cost advantage over traditional analog systems.

Vanguard delivers more accuracy than traditional ballast, fuel, and draft gauging methods, resulting in better operational control and more efficient vessel management.

## Technical Data:

**Channels:** 120 Maximum in groups of 30, intrinsically safe or non-intrinsically safe

**Operating Temperature:** Electronics 0-50°C (refer to sensor data sheets for sensor temperature data)

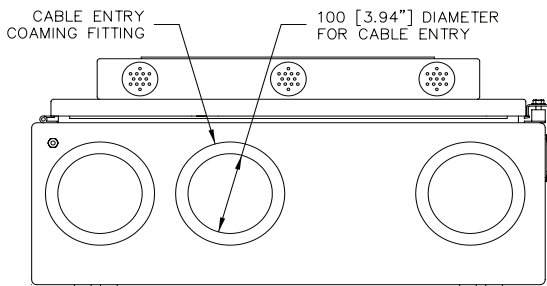
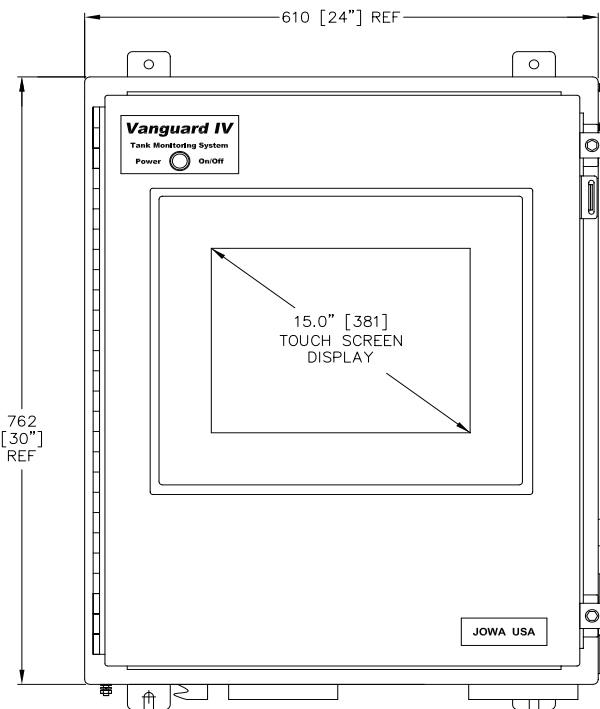
**Output:** RS232/485 Modbus, other protocols available

**Input Power:** 115VAC ±30% 60HZ, 230VAC ±30% 60 HZ. Integral power isolation unit converts to 120VAC

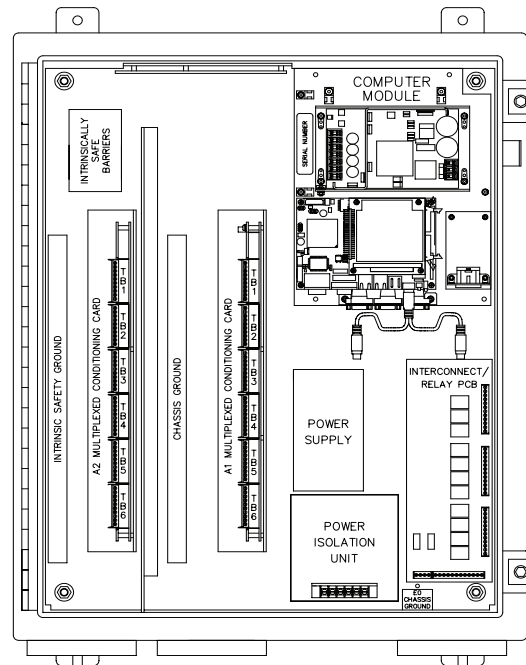
**Relays:** 13 total; 8 level/temp/inert gas pressure, 1 system fault, 2 horn, Form C 3 Amp at 220VAC, 2 API 100mA at 50VDC

**Enclosure:** NEMA 12 for indoor mounting, hinged left. Cable entry from bottom of cabinet

**Weight:** 54kg (120 lbs.)



BOTTOM VIEW



60 CHANNEL VANGUARD IV SHOWN WITH 2 MULTIPLEXED CONDITIONING CARDS

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