

Design, manufacture and supply communication systems world wide for use in the petrochemical industry.

KB032 Intrinsically Safe VAP Access Unit Installation

The Vodec VAP30 & VAP01 access units are both available for use in Zone 1 IIC potentially explosive atmospheres, in this application the unit is ATEX certified intrinsically safe EExi. To ensure that the requirements for intrinsic safety are met the following paper details the rules applicable to the correct and safe installation of the VAP apparatus.

Location of VAP

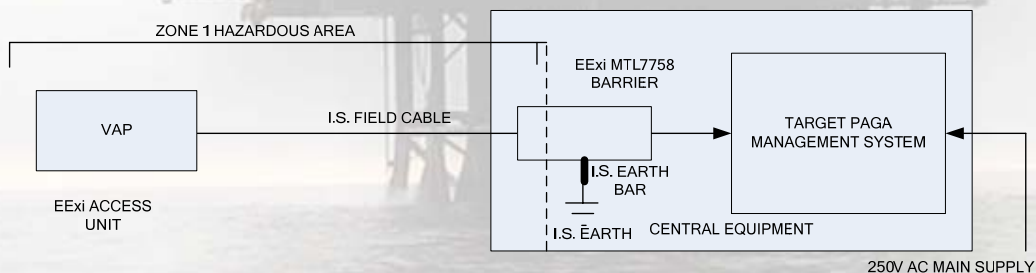
The unit should be located where the surface temperature of the apparatus can never be elevated above 60 degrees centigrade.

Cognisance shall be taken of the environmental rating of the VAP and the ultimate exposure to possible invasive moisture or particles. The unit should not be co-located adjacent to high voltage apparatus.

Intrinsically Safe System

The certified VAP product is designed to operate as part of a "system" this system architecture and implementation is critical to the integrity of intrinsic safety.

The intrinsically safe system comprises of the certified VAP, field cable, safety I.S. barrier, I.S. barrier earth bar, I.S. earth. The integrity of the intrinsically safe arrangement is also dependant on the way the equipment is installed as well as the characteristics of the component parts of the system.



VAP Unit

This device is independently ATEX certified and identified by the ATEX certificate cable.



Field Cable

The field cable shall carry only I.S. circuits destined for the VAP device. Under no circumstances shall “foreign” circuits share a multi-core cable.

The field cable shall be screened, this screen shall be bonded to the I.S. earth bar within the central rack and shall be isolated from any possible field earth.

Field cables that carry spare cable conductors shall be each bonded to the I.S. earth bar within the central rack. The spare conductors shall be individually double insulated and tied back at the device end of the cable or preferably be terminated into an approved termination box. Spare cable conductors shall be free of field earth faults.

The I.S. interconnecting cable shall be segregated from all other NON I.S. circuits, the cable shall not be routed adjacent to high voltage cable where longitudinally induced EMF's are a risk. Due cognisance shall be taken of creepage and clearance of I.S. and NON I.S. circuits within the host rack.

Where a field cable jacket colour is to be selected the preferred colour is blue.

Barrier

The VAP access unit is certified intrinsically safe only when used with an approved I.S. barrier MTL7758 or approved equivalent.

The barrier shall be located in the safe area central rack.

Barrier Earth

The barrier I.S. earth bar shall be reliably bonded to a high integrity I.S./instrument earth point external to the equipment rack by an I.S. earth bonding lead.

Modifications

No modifications are permissible to any ATEX certified product or approved wiring arrangement. If in doubt contact Vodec.

Repair

No repairs are permissible to the VAP or barrier devices. Repair is by approved equipment exchange.

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