



## VOLTAGE TO CURRENT CONVERTER

OS-Ex-CR-1ST(V-VC) is a BV (ATEX) transformer isolated unit is used to convert a (0-5VDC)voltage signal from a potentially explosive atmosphere (hazardous area) to a (0-10VDC)voltage output in the non hazardous area.

### FEATURES :

- \* Manufactured according to European Standard EN 60079-0:12 and EN 60079-11:12.
- \* Intrinsically safe control circuit is galvanically isolated from main, input and output circuit **-1500V, 50Hz.**

### OPERATION

A 24V DC power supply (located in the non hazardous area) is connected to terminal 9(+) & 12(-) . The voltage source (0-5V) at terminal 3(+) & 1(-). The input voltage is converted to voltage signal and then converted accurately with same polarity across terminals 7(+) & 8(-) into the non hazardous area as a 0-10VDC voltage signal.

Precision & low loss toroidal transformer are used between hazardous & non-hazardous area circuit ensuring a minimum loss in energy. Supply is galvanically isolated between hazardous and non-hazardous area circuit. As the system is truly floating there is no need to connect any intrinsic safe earth. Both the field mounted device (Voltage source.) and also the controller in the non-hazardous area could be separately earthed if required without any adverse results on the accuracy of measurement.

### APPLICATION :

To isolate and convert voltage signal from hazardous area to proportional direct analogue voltage signal in non-hazardous area.

## TECHNICAL DETAILS

### ART. NO. : [ODD 064 O]

<b>Power Supply Section</b>	Terminals 9(+), 12(-)
Supply Voltage (nominal)	24V DC $\pm 10\%$
<b>Ripple</b>	$\leq 10\%$
Power Consumption	1.5W
<b>Field Area</b>	
<b>Input</b>	0-5VDC
	Terminals 1(-) & 3(+).
	Please specify the range
	(While ordering)
<b>Parameters</b>	
Voltage $u_i$	29.4V
Current $I_i$	90mA (2-Wire) resp.
<b>Intrinsically Safety Parameters</b>	
Explosion Group	II (1)G [Ex ia Ga] IIB/IIC IIC
Maximum External Capacitance	70nF 400nF
Maximum External inductance	0.2mH 0.5mH
<b>Fail Safe maximum Voltate <math>U_i</math></b>	
Power Supply	250V r.m.s
<b>Safe Area Section</b>	
Output (Non-I.S)	0-10VDC ,Terminals 7(+), 8(-).
<b>Transfer Characteristics</b>	
Calibrated accuracy at 20° C	0.1% of full scale value
Drift *	Temperature approx. $\pm 2\mu V / ^\circ C$
Terminals	Self opening max. conductor size 22.5mm
<b>Max. Ambient Temperature</b>	-20°C to 60°C
<b>Weight</b>	ca. 150g

### FEATURE:

- \* DC 24 V operated.
- \* Input 0-5V DC
- \* Output 0-10V DC
- \* 3 port 1500V, 50Hz Galvanic isolation
- \* 22.5mm Width
- \* Mounting Clip onto 35mm rail as per DIN 46277

### APPROVALS:

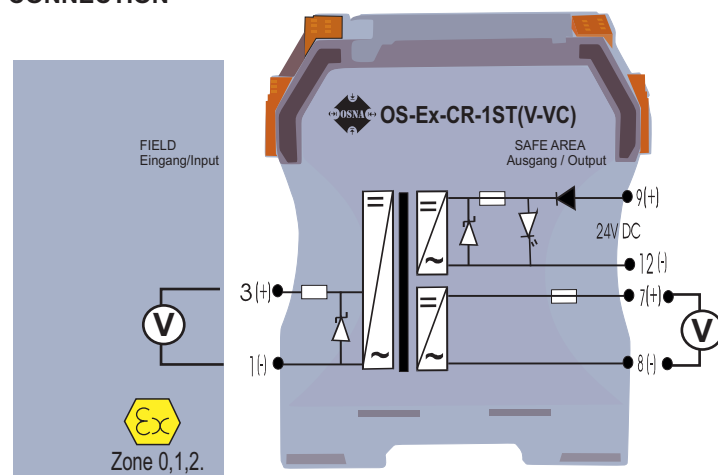
Confirming to EN 60079-0:2012 and EN 60079-11:2012.  
ZONE & GAS GROUP: ZONE1 & 2 Gas Group:IIC

BUREAU VERITAS Certificate No. EPS 16ATEX 1 019.

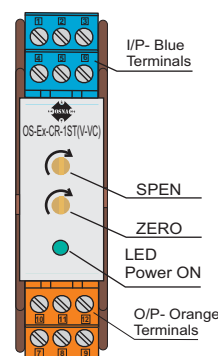
CIMFR Approval No.CIMFR/TC/P/2294

PESO Approval No.A/P/HQ/DL/104/5576(P410684)

### CONNECTION



### ASSEMBLY



### DIMENSIONS

