



## CURRENT TO VOLTAGE CONVERTER

OS Ex CR-1-ST(CVC) is a BV (ATEX) transformer isolated unit used to power a 2 wire transmitter, converted the 0-10VDC voltage signal into 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 power supply (located in the non-hazardous area.), which can be an unregulated 24 VDC power supply connected to terminals 9(+) & 12(-) of the current converted OS Ex CR-1-ST(CVC), shall power the 2 wire transmitter. The 4-20mA current input signal is converted (0-10VDC) very accurately with the same polarity across terminal 7(+) & 8(-) in to the non-hazardous area.

Low loss, precision toroidal transformers between the hazardous area and non-hazardous area circuits ensure a minimum loss in energy. Supply is also galvanically isolated between the hazardous and non hazardous circuits. As the system is truly floating there is no need to connect any intrinsic safe earth. Both the field mounted device (transmitter etc.) 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 current signal from hazardous area to proportional direct analogue voltage signal in non-hazardous area.

## TECHNICAL DETAILS

### ART. NO. : [ODD 109 W]

<b>Power Supply Section</b>	Terminals 9(+), 12(-)
Supply Voltage (nominal)	24V DC $\pm$ 10%
Power Consumption	2W
Power Factor	89% @ Full Load
	Terminals 9(+), 12(-)
<b>Field Area</b>	
<b>Input</b>	0-20mA (2 wire transmitter)
	Terminals 1(-) & 3(+).
Voltage available for transmitter	Max. 17.5VDC at 20mA
<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 U<sub>i</sub></b>	
Power Supply	250V r.m.s
<b>Safe Area Section</b>	
Output (Non-I.S)	0-10VDC, at Terminals 7(+),8(-).
<b>Transfer Characteristics</b>	
Replacable fuse	125mA
Calibrated accuracy at 20°C	< $\pm$ 20 $\mu$ A
<b>Max. Ambient Temperature</b>	-20° to 60°C
<b>Weight</b>	ca. 150g

### FEATURE:

- \* DC 24 V operated.
- \* Input 4-20mA (2 wire Transmitter)
- \* Output 0-10VDC
- \* 3 port 1500V, 50Hz Galvanic isolation
- \* 22.5mm Width
- \* Mounting Clip onto 35mm rail as per DIN 46277

### APPROVALS:

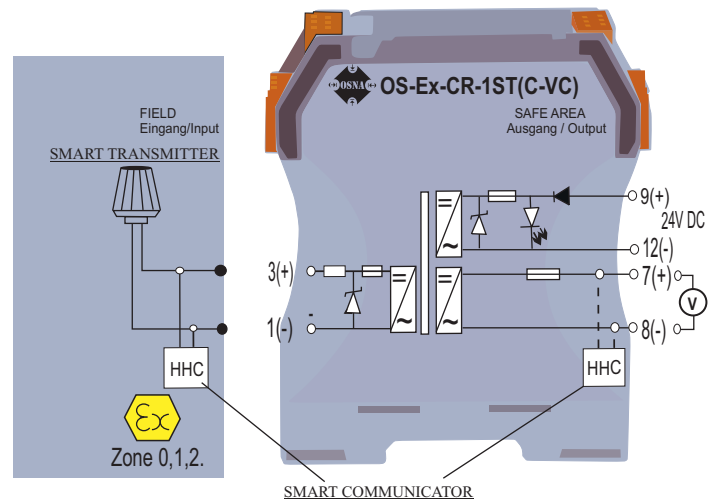
Confirming to EN 60079-0:2012 and EN 60079-11:2012.  
ZONE & GAS GROUP: ZONE1 & 2 Gas Group:IIC

BUREAU VERITAS Certificate No. EPS 16ATEX 1 019.

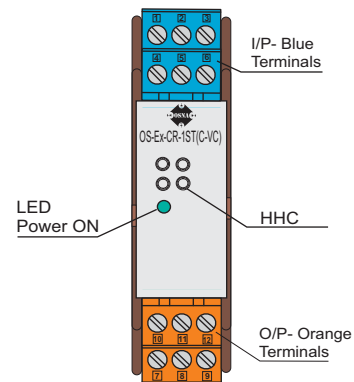
CIMFR Approval No.CIMFR/TC/P/2294

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

### CONNECTION



### ASSEMBLY



### DIMENSIONS

