

# Transformer Isolated Current Driver

# OS Ex CR-1ST(CD-1)

OS Ex CR-1-ST(CD-1) is a BV (ATEX) Approved isolates unit and passes on a 0/4-20 mA current signal from a safe area controller to drive a hazardous area load. Input and output circuit float independently to ensure compatibility with all types of drive instrumentation and permit the use of earthed or poorly insulated loads.

### FEATURES :

- \* Manufactured according to European standard EN 60079-0:12 and EN 60079-11:12.
- \* Intrinsically safe circuit is galvanically isolated from both main i/p and both the O/P control circuitry - **1500V, 50Hz.**
- \* Transfer of 0/4-20mA analog current from a current driver source from a non hazardous area into a hazardous area.
- \* Convenient plug in terminals enable a zero time error-free maintenance and pre-wiring of the control panel.

### OPERATION

The unit is 24V DC powered at terminals 9(+) & 12(-) allowing an open circuit voltage of 24V. considering the output resistance as 300 Ohm a min. of 17V is available ( at 20mA transmitter current ) to drive the field out put circuit across terminals 1(+) & 3(-).

The Output 0/4-20mA current for transmitter running through terminals 1(+) & 3(-) is transferred through a precision resistance into a voltage which is chopped and transferred through the DC/DC converter and accordingly amplified and corrected to run through Input terminals 7(+) & 8(-).

### APPLICATION :

Application for isolation of 0-20mA current used to drive a field mounted circuit I to P Transmitter converter, electrically operated valves, dampers & potentiometers in a hazardous area (group II c) from a non hazardous area.

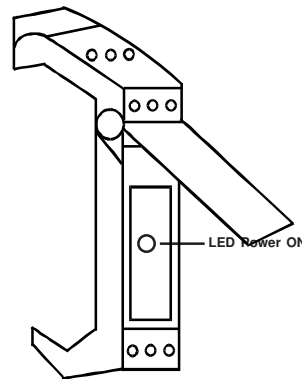
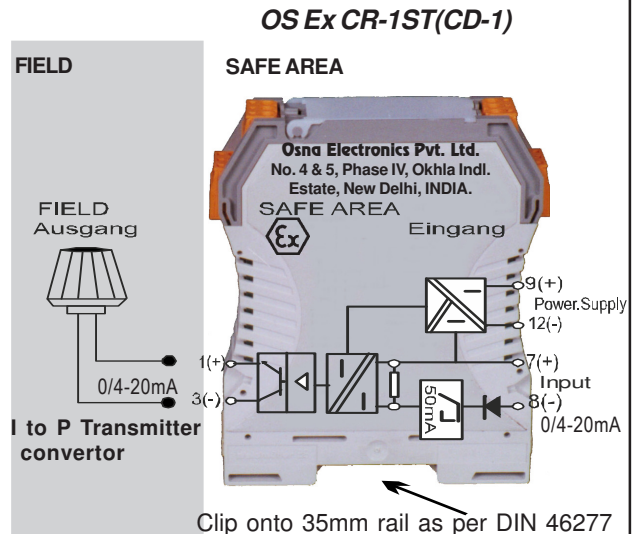
Intrinsic Safety parameters correspond to 28V, 300 Ohm barrier level.

### TECHNICAL DETAILS

**ART. NO. : [ODA 010 W]**

<b>Power Supply Section</b>	Terminals 9(+), 12(-)
Supply Voltage (nominal)	24V DC $\pm$ 10%
<b>Hazardous Area Section</b>	Terminals 1(+), 3(-)
Output	0/4-20mA
Voltage available for transmitter	17.5V DC [Terminals 1(+), 3(-)] at 20mA
Load	0-700 $\Omega$
<b>Permissible Circuit Values</b>	
<b>Certificate No.</b>	<b>EPS 16 ATEX 1 019</b>
<b>Intrinsically Safety Parameters</b>	
Explosion Group	II (1)G [Ex ia Ga] IIB/ IIC
Maximum External Capacitance	70nF      400nF
Maximum External inductance	0.2mH      0,5mH
<b>Fail Safe maximum Voltage U<sup>m</sup></b>	
Power Supply	28v, 300 $\Omega$ ,93mA, 250Vr.m.s/DC
<b>Safe Area Section</b>	
Input (Non-I.S)	0/4- 20 mATerminals 7(+), 8(-)
<b>Weight</b>	<b>ca. 150g</b>
<b>Max. Ambient Temperature</b>	<b>+55<math>^{\circ}</math>C</b>

- \* 24V DC powered
- \* Input 0/4-20mA
- \* 3 Part Galvanic Isolation
- \* Output 0/4-20mA to I to P Transmitter convertor



○	○	○
1	2	3
○	○	○
4	5	6
Osna Electronics		
Type No. OS Ex CR-1ST(CD-1)		
○	○	○
10	11	12
○	○	○
7	8	9

**APPROVALS :**  
Confirming to EN 60079-0:2012 and EN 60079-11:2012.  
BUREAU VERITAS Certificate No. EPS 16 ATEX 1 019.

### Dimensions

