Loop Powered Temperature Converter

OS-Ex-TC-CC-1 (LP)

THERMOCOUPLE TO CURRENT CONVERTER

The OS-Ex-TC-CC(LP) is a (BAREAU VERITAS) ATEX approved loop powered interface unit, to accept an input mV signal and offers a proportional galvanically isolated 4-20mA current signal.

Customer's field requirements on actual thermocouple type to be specified while ordering.

FEATURES :

* Manufactured according to European Standard EN 60079-0:12 and EN 60079-11:12.
* Intrinsically Safe galvanically isolated from both main input and output control circuitry - **1500V, 50Hz**.
* 24VDC Supply (Loop Powered)
* T/C Type J, K, R, T, E,N,& EMF Input
* Output 4-20mA
* Internal cold junction compensation.
* Lead Breakage detection
* T/C and Range Selection through software.

OPERATION :

A 12-30V DC power supply (located in the non hazardous area) is connected to terminal 9(+) & 12(-) .

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 instrinsic 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.

APPLICATIONS :

To enable a remote temperature measurement as a thermocouple to 4-20mA current converter.

FEATURE:

* DC 24 V operated.
* Input Thermocouple
* Output 4-20mA
* 2 point Galvanic Isolation
* 22.5mm Width
* Clip onto 35mm rail as per DIN 46277

APPROVALS:

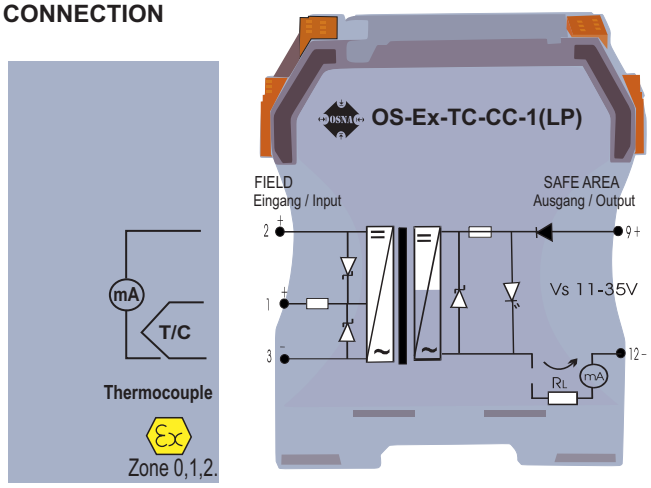
Confirming to EN 60079-0.2012 and EN 60079-11:2012.
ZONE & GAS GROUP: ZONE1 & 2 Gas Group:IIC

BUREAU VERITAS Certificate No. **EPS 16 ATEX 1 019.**

CIMFR Approval No.**CIMFR/TC/P/2294**

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

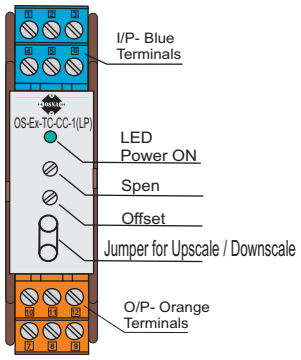
CONNECTION



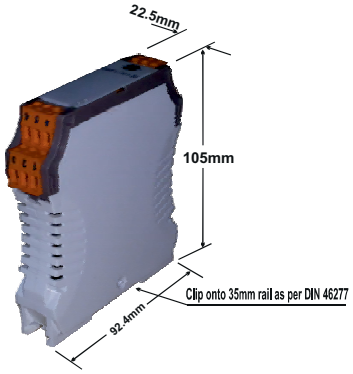
TECHNICAL DETAILS
ART. NO. : [ODA 013 W]

Power Supply Section	Terminals 9(+) , 12(-)	
Supply Voltage	12-30V DC	
Ripple	≤ 10%	
Power Consumption	< 0.60W	
Hazardous Area Section		
Input (Thermocouple)	at terminal 1(+)& 3(-)	
	Thermocouple (Select anyone at the time of order)(J, K, R, T, E,N,& EMF)	
(mV)	at Terminal 2(+) & 3(-).	
Fail Safe maximum Voltage U_m		
Not Nominal Supply	250Vr.m.s.	
Control Area		
Output	4-20mA	
Load resistance	$\frac{Vs - 12}{20mA}$	
Parameters		
Voltage u_i	DC 8.6V	
Current I_i	26.5mA	
Intrinsically Safety Parameters		
Explosion Group	IIC	IIB
Maximum External Capacitance	1.2mF	4.5mF
Maximum External Inductance	2mH	10mH
Transfer Characteristics		
Calibrated accuracy at 20°C	± 20mA at 20mA	
Temperature Drift*	approx. ± 2uA/ °C	
Weight	**ca. 150g**	
Max. Ambient Temperature	**60°C**	

SETTING & ASSEMBLY



DIMENSIONS



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OSNA ELECTRONICS PVT. LTD.
No.4 & 5, Phase-IV, Okhla Industrial Estate, New Delhi-110020.
0091-011-41023751-752.
osna@osnaelectronics.net
www.osnaelectronics.net