



THERMOCOUPLE TO VOLTAGE CONVERTER

The OS-Ex TC-CC-1(VC) is a BAREAU VERITAS (ATEX) approved interface unit, to accept an input mV signal and offers a proportional galvanically isolated (0-10VDC) voltage 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. Input signal/output signal and the power supply are galvanically isolated from each other -**1500V, 50Hz**.

OPERATION :

A 24V DC power supply (located in the non hazardous area) is connected to terminal 9(+) & 12(-). of the voltage converter OS-Ex-TC-CC-1(VC) shall power the mV/ Thermocouple connected to terminals 2 (-) & 3 (+) or 1(-) & 3 (+).

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.

Insert Jumper for down scaling and remove the Jumper for up scaling.

APPLICATIONS :

To enable a remote temperature measurement as a thermocouple to 0-10VDC voltage converter.

TECHNICAL DETAILS

ART. NO. : [ODA 059 W]

Power Supply Section	Terminals 9(+), 12(-)
Supply Voltage (nominal)	24V DC $\pm 10\%$
Ripple	$\leq 10\%$

Hazardous Area Section

Input	Thermocouple Terminals
	1(-) & 3(+),
	(T1, T2, T3, J1, J2, J3, J4
	J5, J6, K1, K2, K3, K4,
	K5, K6, K7, K8)
	Terminals 2(-) & 3 (+)
	0-50mV.

Fail Safe maximum Voltage U_m

Not Nominal Supply	250Vr.m.s.
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Control Area

Output	0-10VDC Terminals
	7(+) & 8(-)

Parameters

Voltage u_o	DC 8.6V
Current I_o	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	$\pm 0.1\%$ at 10VDC
Temperature Drift*	approx. $\pm 2\mu A / ^\circ C$
Weight	ca. 150g

Max. Ambient Temperature	-20°C to 55°C
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FEATURE:

- * DC 24 V operated.
- * Input Thermocouple
- * Output 0-10VDC
- * 3 port Galvanic Isolation
- * 22.5mm Width
- * Clip onto 35mm rail as per DIN 46277

APPROVALS:

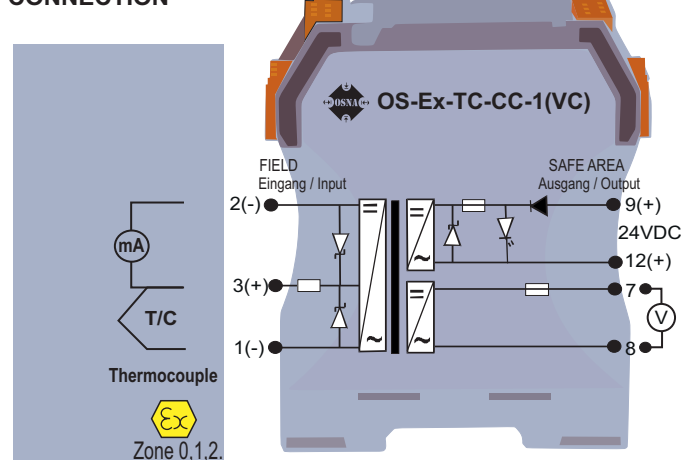
Confirming to EN 60079-0:2012 and EN 60079-11:2012.
ZONE & GAS GROUP: ZONE1 & 2 Gas Group:IIC

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

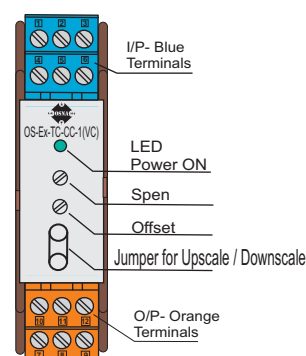
CIMFR Approval No. **CIMFR/TC/P/2294**

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

CONNECTION



SETTING & ASSEMBLY



DIMENSIONS

