

# KOS1200

## 4-20mA ISOLATING SIGNAL SPLITTER



30727048

06.06.16



The instruments are warranted against defective materials and workmanship for a period of three years from date of delivery.

If a product appears to have a defect or fails during the normal use within the warranty period, please contact the distributor from which you purchased the product.

This warranty does not apply to defects resulting from action of the buyer such as mishandling or improper interfacing.

The liability under this warranty shall extend only to the repair of the instrument. No responsibility is assumed by the manufacturer for any damage which may result from its use.

# KOSMOS SERIES

### 1.0 SPECIFICATIONS

#### 1.1 KOS1200

The **KOS1200** isolator is a dual output isolator, providing two separate isolated 4-20mA current signals from a primary loop. The output loops must be powered externally.

#### INPUT

**Type** Current input 2 wire Loop powered.  
**Range** 4-20mA (30mA MAX.).  
**Protection** Reverse connection.  
**Voltage Drop** 5.0V MAX.

#### OUTPUT 1 & 2

**Type** 2 Wire current sink 4-20mA.  
**Loop Voltage** 5-32V DC ( reverse protected). \*

Loop volt drop = 5V. Load = 900Ω @ Vs = 24V.  
Load = 1200Ω @ Vs = 30V.

Load must be > 250Ω for ambients > 50°C.

\* Quoted specifications at 15V.

#### 1.2 GENERAL SPECIFICATIONS @ 20°C Vs OUT < 15V

**Isolation** 500V AC (Flash tested @ 1kV) between each port.

**Environment** BS EN61010-1 POLLUTION DEGREE 2;  
INSTALACIÓN CAT.II; CLAS I.

**Ambient** 0-70°C; 10-95% RH non condensing.

**Linearity** 0.05% .

**Stability** 100ppm/°C.

**Response time** < 100mS to reach 70% of final value.

**EMC** IEC 801-2 Susceptibility to E.S.D.  
IEC 801-3 Radiated Susceptibility .  
IEC 801-4 Susceptibility to Conducted Inter.  
EN 55022 Radiated Emissions.

**Connection** Captive clamp screws.

**Cable size** Max.4mm<sup>2</sup> solid / 2.5mm<sup>2</sup> stranded.

**Case Material** Grey Polyamide.

**Flammability** UL94-V0 VDE 0304 Part 3, Level IIIA.

**Dimensions** 60 x 75 x 12.5mm(67.5 above rail).

**Mounting** Rail DIN EN 50022-35.

**Adjustment** Front Entry Fine Zero and Span Adjustment  
For each channel.

### 2.0 INSTALLATION

#### 2.1 Mechanical

This isolator is designed to be housed within a suitable enclosure that will provide protection from the external environment, and ensure the stated temperature and humidity ranges are not exceeded. The isolator case is designed to snap fit onto a standard "top hat" DIN rail. The isolator may be removed if required by applying pressure with one hand, to the bottom face of the enclosure, in a direction parallel with DIN rail and at the same time gripping the top of the isolator and pulling away from the rail. The isolator may be mounted in any orientation and stacked side by side along the rail.

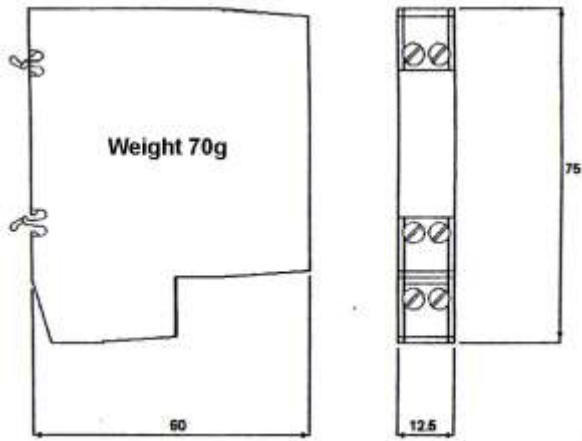
#### 2.2 Electrical

Connections to the isolator are made via screw terminals. Wire protector plates are provided inside each terminal. To maintain CE compliance twisted pair (screened) cables are recommended. It is also good practice to ensure that all 4-20mA loops are grounded at a single point in the loop. Before installation, care must be taken to ensure enough voltage is available in the loop to drive the total loop load. Refer to the specifications listed above for the loop drop voltage. The KOS1200 in most applications, requires separate power supplies for the secondary loops, these may be provided from separate power supplies or from the instrument monitoring the output loop.

Refer to the KOS1000 series data sheet for further information on applications of this series of isolators. Please note the isolation provided by this device is only suitable for providing isolation between two process signals and therefore must not be used to provide isolation from hazardous voltages, such as main supplies.

### 3.0 OPERATION

This isolator requires no user adjustment during commissioning, apart from an initial test, to ensure it operates correctly over its full working range. Minor adjustments can be made to the calibration of the device by means of the two front panel potentiometers. Incorrect connection in the loop will not damage the device as long as the specified maximum currents/voltages are not exceeded. If the isolator fails to operate, check loop for bad connections. Ensure enough voltage is available in the loop to power the isolator. In the unlikely event of the isolator not working, it should be returned to the supplier for repair or replacement.



**DISEÑOS Y TECNOLOGIA, S.A.**

Polígono Industrial Les Guixeres  
 C/ Xarol 6B  
 08915 BADALONA-SPAIN  
 Tel : +34 - 93 339 47 58  
 Fax : +34 - 93 490 31 45  
 E-mail : [dtl@ditel.es](mailto:dtl@ditel.es)

[www.ditel.es](http://www.ditel.es)

**4.0 CALIBRATION**

- 4.1 Connect a precision current calibrator to the input, and a precision current meter in series with output loop. Power output loop with 24V DC supply. (\*1).
- 4.2 Inject 4.000mA  $\pm 0.001$ mA into the input and adjust zero potentiometer for 4.000mA  $\pm 0.001$ mA output. (\*2)
- 4.3 Inject 20.000mA  $\pm 0.001$ mA into the input and adjust span potentiometer for 20.000mA  $\pm 0.001$ mA output. (\*2)
- 4.4 Repeat steps 4.2 y 4.3 until both points are in calibration.

**NOTES \***

- 1 Current calibrator must be capable of driving the expected loop drop.
- 2 Please note that the reading accuracies quoted in 4.2 and 4.3 above are absolute values and do not include test equipment tolerances.

