UNIVERSAL DIN RAIL CONVERTER

KOS1620

- **SIMPLE CONFIGURATION VIA USB PORT**
- **UNIVERSAL Pt100, THERMOCOUPLE, mV, mA Input**
- **ISOLATED INPUT**
- **PUSH BUTTON USER TRIM**
- **THREE WIRE ISOLATED VOLTAGE OUTPUT**
- **3 YEARS WARRANTY**

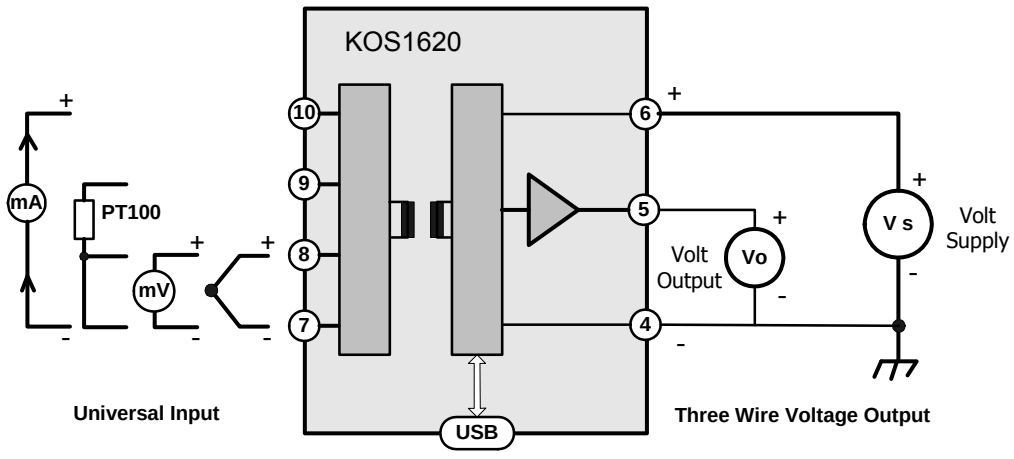
INTRODUCTION

The KOS1620 is the new generation DIN rail mounted temperature converter from DITEL. It has been designed to accept most common process and temperature sensor inputs and provide the user with a three wire voltage output signal. Isolation is provided between input and output and all temperature ranges are linear to temperature.

Designed for ease of use, our latest USB LINK software is fitted for quick and easy configuration. Just connect a standard USB cable between the KOS1620 and your PC. Using our free configuration software, your PC will automatically upload the existing configuration data and guide you through any changes you wish to make. To further help save time, the KOS1620 does not need to be wired to a power supply during the configuration process, it is powered via the USB interface from your PC. The following parameters are configurable:

INPUT TYPE	LOW RANGE	HIGH RANGE	UNITS	OUTPUT	BURNOUT	USER TRIM
Pt100	Input @ 4 mA	Input @ 20 mA	°F, °C	(0 to 10) V (2 to 10) V (0 to 5) V (1 to 5) V (0 to 1) V	Up/Scale Down/Scale	On , Off
TC: K, J, E, N, T, R, S			°F, °C			
mV			mV			
mA			mA			

The KOS1620 is also provided with user push button trim, allowing trim adjustments at both offset and span. The user trim function can be locked during configuration if not required. The range led indicates out of range input during normal operation, during user trim it is used to indicate the stage of trim.



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SPECIFICATION

INPUTS

INPUT	RANGE	ACCURACY (Note 1)	STABILITY	O/C	CJ (Note 3)	Sensor excitation (Note 4)	IMPEDANCE
K	(-200 to 1370) °C	0.1 % of FSR ±0.5 °C	± 0.01 % of FSR	Yes	Yes	-	1 MΩ **(Note 5)**
J	(-100 to 1200) °C	(type T 0.2 % FSR. ± 0.5 °C)					
E	(-100 to 1000) °C						
N	(-180 to 1300) °C						
T	(-100 to 400) °C						
R	(-10 to 1760) °C	± 0.5 °C ±0.1 % of FSR **(Note 2)**					
S	(-10 to 1760) °C	± 0.5 °C ±0.1 % of FSR **(Note 2)**					
mV	(-40 to 75) mV	± 0.04 mV			-		
P	(-200 to 850) °C	± 0.1 °C / ±0.05 % of rdg	± 0.005 % of FSR		-	<450 uA	-
mA	(-10 to 25) mA	± 0.008 mA	± 0.01 % of FSR	-	-	-	2.7 R **(Note 6)**

Key **Rdg = Reading ; FSR = Full Scale Range ; O/C = programmable open circuit sensor detect; CJ = Cold junction error**

Notes

1. Accuracy for Pt100 and T/C do not include sensor and cold junction errors.
2. Only over the range (800 to 1600) °C
3. Cold junction range (-20 to 70) °C, Accuracy ± 0.5 °C , Tracking ± 0.05 °C
4. PT100 input Maximum lead resistance 20 R, Lead effect 0.015 °C / Ω.
5. Impedance – not including 0.2 uA open circuit detect bias current effect.
6. Maximum current over load ± 100 mA.

OUTPUT

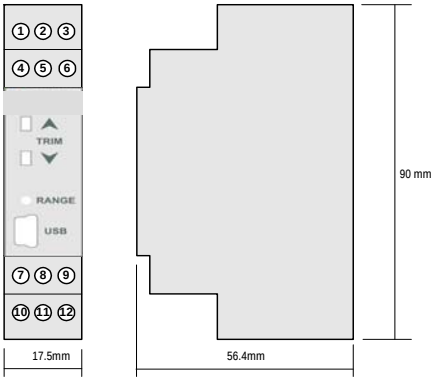
Type	Three Wire voltage output with programmable ranges. (0 to 10), (0 to 5), (2 to 10), (1 to 5), and (0 to 1) V
Supply	(15 to 28) V dc
Response time	< 500 ms to reach 95 % of final value; Start up time < 3 s
Calibration Accuracy	± 5 mV
Output Drive	2 mA driving 5 KΩ @ 10 V
Protection	Reverse connection and over-voltage protection. Max over voltage current 100 mA.
User Trim	Raise and lower buttons, active for offset when output is at offset and span. Trim lock option.

GENERAL

Isolation	Input to output tested at 500 V dc.
Ambient	operating (-20 to 70) °C (10 to 95) % RH non condensing. Storage (-40 to 85) °C
Approvals	CE tested to EN 61326

USER TRIM

User trim function allows manual adjustment of the output current, this is useful for minor calibration adjustment or trimming out any sensor error, ± 5% of range adjustment is available at both offset and span. Up and Down buttons are provided on the front panel, of the transmitter, accessed using a 3 mm flat blade screw driver. Insert the screw driver into the appropriate slot to operate the button. The button has a click action.
The converter will automatically detect the correct trim point (offset or span) based on the output current drive. Offset will be trimmed when the current is between (3.8 to 6) mA, span when the current is between (18 to 22) mA. No trim action occurs at any other current.



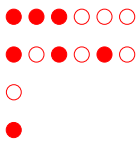
MECHANICAL DETAIL

Material	Polymide 6.6 self extinguishing
Terminals	Screw terminal
Cable	2.5 mm Max
Colour	Grey

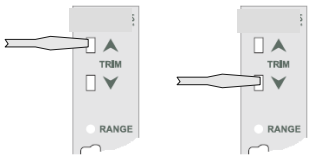
METHOD

1.0 Connect converter to a suitable input simulator or sensor. Connect output to a 24V dc supply, connecting a digital mA current meter in series with the output. Turn supply on, set input to either offset or span calibration point.

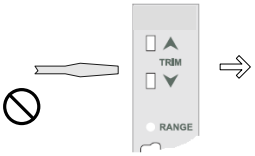
2.0 Enter trim menu by pressing "raise" button for > two seconds.
When the trim menu is open the range LED will flash
Range LED will indicate Trim action:



3.0 Trim output current by pressing either the Up or Down button, single click to step advance, or press continuously to auto advance.



4.0 Once trim is complete allow 30 seconds with no button press, the transmitter will time out and return to normal operation.



ORDER CODE: KOS1620

DISEÑOS Y TECNOLOGIA S.A.
Xarol, 8-C P.I. Les Guixeres
08915 Badalona, SPAIN
www.ditel.es

Tel: +34 933394758
Fax: +34 934903145
Email: dtl@ditel.es