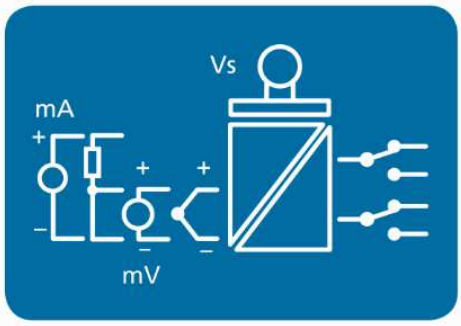
KOS1630 UNIVERSAL DIN RAIL TRIP AMPLIFIER

- **ISOLATED Pt100, THERMOCOUPLE, mV, mA INPUT**
- **DUAL RELAY OUTPUTS 250 VAC 1 A**
- **ISOLATED RELAYS**
- **SIMPLE CONFIGURATION VIA USB PORT**
- **FREE CONFIGURATION SOFTWARE**

KOS1630

INTRODUCTION

The KOS1630 is a DIN rail mounted trip amplifier. It has been designed to accept most common process and temperature sensor inputs and provide the user with a dual relay output. Isolation is provided on all three ports. All temperature ranges are linear to temperature.
Designed for ease of use, our latest USB interface is fitted for quick and easy configuration. Just connect a standard USB cable between the KOS1630 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.



FEATURE HIGHLIGHTS

TEMPERATURE SENSOR BURN-OUT DETECTION
If a temperature sensor wire is broken or becomes disconnected, the KOS1630 relays will automatically trip and the LED illuminate.

STABILITY
The KOS1630 DIN rail trip amplifier incorporates the latest digital technology to ensure accurate, low-drift performance.

FRONT PANEL LED INDICATION
The state LED indicates out of range input during normal operation.
LEDs are provided for each relay and will illuminate in alarm condition. “On” if the relay is in an alarm condition.

USB CONFIGURATION
The KOS1630 is quick and easy to set up using a standard type USB lead and the free-of-charge configuration software.

INPUT **Pt100**		**SPECIFICATIONS @20°C**
Type/Function	**Range/Description**	**Accuracy/Stability**
Pt100 3 wire	(-200 to 850) °C	±0.2 °C ±0.05% of reading *1
Thermal drift	Zero at 20 °C	±0.01% of full-scale range/°C
Minimum span		25 °C *2
Linearisation		BS EN 60751(IEC 751)
Excitation current		Less than 450 uA
Lead resistance effect		0.015 °C/Ω
Maximum lead resistance		20 Ohms per leg
*1 Basic measurement accuracy includes the effects of calibration, linearisation and repeatability		
*2 Any span may be selected; full accuracy is only guaranteed for spans greater than the minimum recommended		

INPUT **THERMOCOUPLE**			**SPECIFICATIONS@20°C**
Type	**Range**	**Stability**	**Accuracy/Notes**
K	(-200 to 1370) °C	Zero at 20 °C ±0.01% of FSR/°C	±0.1% of FSR ±0.5 °C
J	(-100 to 1200) °C		
E	(-100 to 1000) °C		
N	(-180 to 1300) °C		
T	(-100 to 400) °C		±0.2% FSR ±0.5 °C
R	(-10 to 1760) °C		±0.1% of FSR ±0.5 °C *1
S	(-10 to 1760) °C		±0.1% of FSR ±0.5 °C *1
Cold Junction error	(-20 to 70) °C	Zero at 20°C ±0.05 °C/°C	±0.5 °C
Impedance			1 MΩ *2
*1 Only over the range (800 to 1600) °C			
*2 Not including 0.2 uA open circuit detect bias current effect			

INPUT **mA and mV**		**SPECIFICATIONS @20°C**
Type/Function	**Range/Description**	**Accuracy/Stability**
mV	(-20 to 75) mV	± 0.04 mV
mV Thermal drift	Zero at 20 °C	± 0.01 % of FSR/°C
mV Impedance		1 MΩ *1
mA Active current	(-10 to 25) mA, (4 to 20) mA capability Externally powered current	± 0.008 mA
mA Thermal drift		± 0.01% of FSR /°C
mA Impedance	Maximum current over load ± 100 mA	2.7 Ω
FSR = Full Scale Range		
*1 Not including 0.2 uA open circuit detect bias current effect		

OUTPUT **Dual relays**		**SPECIFICATIONS @20°C**
Type/Function	**Range/Description**	**Accuracy/Stability/Notes**
Independent relays	Relay 1, relay 2	Form C contacts
Contact rating	(250 V ac rms @ 1A ; 30 V dc @ 1 A)	Resistive Load

USB USER INTERFACE		
Type/Function	**Range/Description**	**Notes**
Configuration hardware	USB configuration module	KOS-USB
Configuration software	USBSpeedLink	Download www.ditel.esì
Sensor configuration	Input type, from list Temperature unit	RTD, T/C, mA, mV °C or °F
Relay configuration Relay (1,2) independently set	Alarm action Setpoint Dead band	High, low °C/°F, mA, mV °C/°F, mA, mV
Read live data	Temperature/process Output	°C/°F, mA, mV Relay (1,2) condition
Save/Open configuration		From file
Default configuration	Pt100, Relay (1,2) Action high, setpoint 100 °C, dead band 0.1 °C	

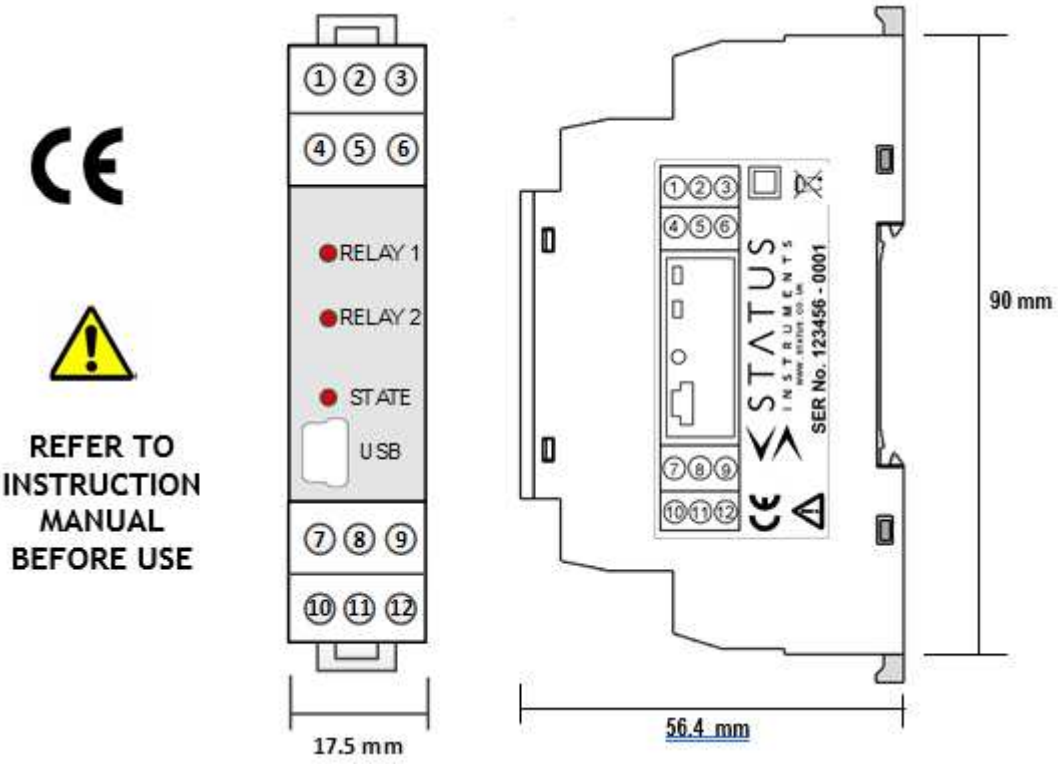
GENERAL		
Function	**Description**	
Galvanic Isolation	3750 VAC input to relays; relay to relay	
Supply voltage	24 VDC ±5%, SELV	
Supply current	40 mA maximum	
Response time	< 500 ms to reach 95 % of final value	
Start-up time	Start-up time < 3 s	
Protection	Reverse connection and over-voltage protection. Max over-voltage current 100 mA	
Loss of input signal	Pt100 and thermocouple mV (open circuit) mA (open circuit)	Relays will trip Relays will trip No detection
LED (State)	Off = OK On (Red) = Input/output error plus trim function: refer to manual.	
Relay LED (1,2)	Off = Not in alarm/trip condition On (Red) = In alarm/trip condition	

ENVIRONMENTAL	
Function	**Description**
Ambient temperature	Operating/Storage (-20 to 70) °C
Ambient Humidity	Operating/Storage (10 to 95) %RH non-condensing
Protection requirement	>= IP65 recommended
USB configuration ambient	(10 to 30) °C

MECHANICAL	
Function	**Description**
Dimensions	17.5 mm width, 56.4 mm depth from rail, 90 mm height
Enclosure	DIN rail mount
Material	Polymide 6.6 self-extinguishing: Grey
Connections	Screw terminals 2.5 mm wire maximum
Weight	60 g approximate

APPROVALS	
EMC	BS EN 61326: Note: Sensor input wires to be less than 30 m to comply
Ingress protection	BS EN 60529
RoHS	Directive 2011/65/EU
LVD	BS EN 61010

MECHANICAL



ORDER CODE	KOS1630

ACCESSORIES	
Configuration software	USBSpeedLink (free of charge from www.ditel.es)
Configuration lead	USB A to Mini B lead
Temperature probe options	Please refer to www.ditel.es

To maintain full accuracy annual calibration is required contact support@ditel.es for details.
The data in this document is subject to change. DISEÑOS Y TECNOLOGIA assumes no responsibility for errors.

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