



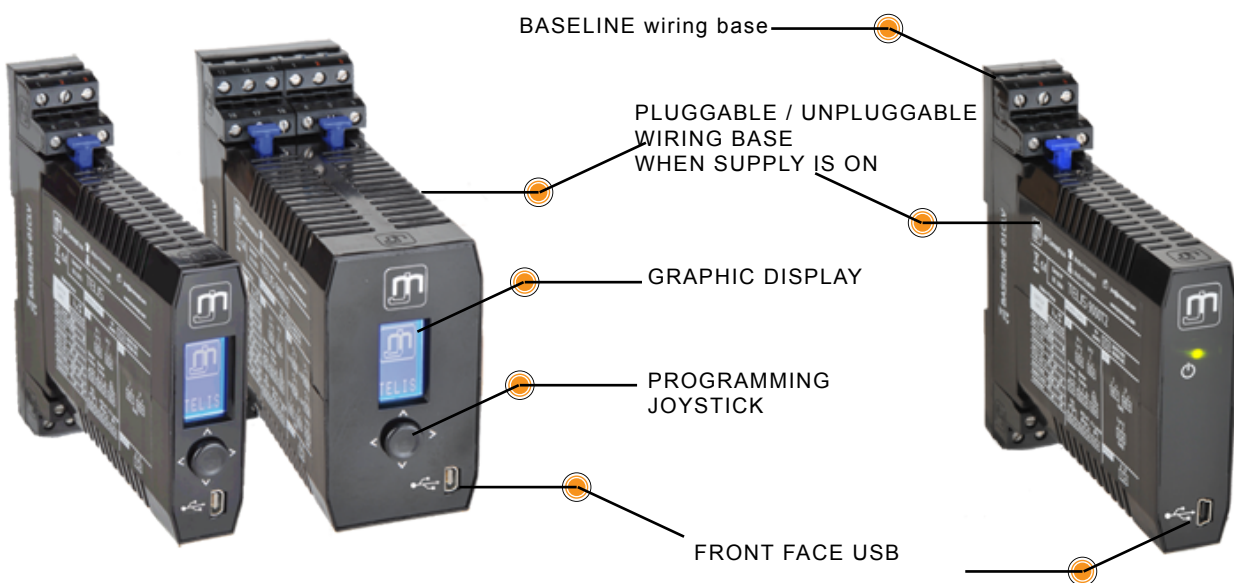
TELIS reinvents conversion and transmission of measures

- Its graphic screen display, and its joystick make user-friendly and easily programmable device.
- Its USB front face plug enables a very simple programming with PC.
- Its cutting edge technology allows T E L I S 9000S to have exceptional characteristics.
- Its inputs/outputs configurations, adapted to the market, are efficient for any application.
- A double current input makes of T E L I S 9000 a double transmitter in one product.
- T E L I S is designed in JM concept case unpluggable from its DIN RAIL wiring base.



REFERENCE WITH GRAPHIC DISPLAY	1 UNIVERSAL INPUT OR 2 INPUTS mA with calculation function	OUTPUTS						COMMUNICATION RS485 FRONT FACE USB	CASE WIDTH		REFERENCE WITHOUT GRAPHIC DISPLAY
		ANALOGUES		RELAYS					22,5 mm	45 mm	
		1	2	1	2	3	4				
TELIS 9000U0	✓							✓	✓	TELIS 9000T0	
TELIS 9000U1	✓	✓						✓	✓	TELIS 9000T1	
TELIS 9000U2	✓		✓					✓	✓	TELIS 9000T2	
TELIS 9100U0	✓			✓				✓	✓	TELIS 9100T0	
TELIS 9150U1	✓	✓		✓				✓	✓	TELIS 9150T1	
TELIS 9250U0	✓				✓			✓	✓	TELIS 9250T0	
TELIS 9200U0	✓				✓			✓	✓	TELIS 9200T0	
TELIS 9200U1	✓	✓			✓			✓	✓	TELIS 9200T1	
TELIS 9200U2	✓		✓		✓			✓	✓	TELIS 9200T2	
TELIS 9300U0	✓					✓		✓	✓	TELIS 9300T0	
TELIS 9300U1	✓	✓				✓		✓	✓	TELIS 9300T1	
TELIS 9400U0	✓						✓	✓	✓	TELIS 9400T0	
TELIS 9400U1	✓	✓					✓	✓	✓	TELIS 9400T1	
TELIS 9400U2	✓		✓				✓	✓	✓	TELIS 9400T2	

VIEW



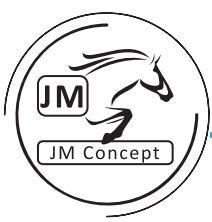


TELIS is a transmitter that offers exceptional performances.

- 24 bits analogue digital input conversion.
- 16 bits analogue digital output conversion.
- Triple or quadruple isolation 3750Vac 1mn 50Hz
- Cold soldering compensation with 16 bits digital sensor.
- Mapping of the modbus addresses allowing to chose your own adress of variable.
- USB front face plug enabling a direct programming with PC.
- TELIS 9000 is programmable on PC with IXLOGforTELIS, freely downloadable.
- TELIS can be used with 1 input, 2 inputs or 2 calculation inputs.

## FUNCTIONS 1/2

<b>DISPLAY</b>	LCD graphic screen display.
<b>INPUTS DISPLAY</b>	Among other possibilities, LCD graphic screen enables to display, inputs in real value or programmed value
<b>OUTPUTS DISPLAY</b>	Among other possibilities, LCD graphic screen enables to display, outputs programmed value or in percent, it displays also alarms status.
<b>PROGRAMMATION</b>	Programmation with a 5 position JOYSTICK 5 in front face and by USB with the free software IXLOG.
<b>INPUT SCALE FACTOR</b>	Enables to provide a magnifying effect on input 1 in manual or in automatic calibration
<b>OUTPUT SCALE FACTOR</b>	Enables to provide a magnifying effect on outputs and display.
<b>INPUT 1 CHANNEL</b>	Channel 1 : Universal – Sensor supply.
<b>INPUTS 2 CHANNELS</b>	Channel 1 & 2 : 0/20mA ; 4/20mA – NO sensor supply Independent programming of each channel.
<b>INPUT 2 CHANNELS WITH CALCULATION FUNCTION</b>	Calculation rule ( +, -, x, :) Input 3 = a x Input 1 + b x Input 2.
<b>SIMULATION</b>	Simulation function allows action concerning analogue, relays, digital, outputs (RS485 Modbus RTU & USB) and display separately from input and without disconnecting input or ouptuts. On TELIS simulation function can be set going separatly on each input.



<b>OUTPUTS ASSIGN</b>	Analogue outputs can be separately assigned on each input
<b>RELAYS ASSIGN</b>	Relays can be separately assigned on each input.
<b>OUTPUTS LIMITATION</b>	Possibility to limit outputs values – High Limitation and Low limitation.
<b>MEMORISATION</b>	Opens the possibility of memorisation the last measured value in case of error.
<b>SENSOR SAFETY</b>	Shows sensor break display, on digital output on analog output (by entering drop out value), and on relays outputs, independent for each output.
<b>100 POINTS LINEARIZATION</b>	100 points linearization (free choice for each point) allows to create an output function by input signal segmentation
<b>PTC - NTC RESISTIVE LINEARIZATION</b>	Allows to create the curve PTC or NTC by segmentation of input signal (only with software IXLOG for TELIS)
<b>SQUARE ROOT</b>	Output(s) is/are the square root of the input
<b>OFFSET</b>	OFFSET setting for all inputs type.
<b>TARE</b>	Tare function.
<b>MINI / MAXI MEMORY</b>	Maxi and mini measurement value memorizing
<b>CJC</b>	Cold Junction Compensation with digital sensor 16 bits.
<b>THRESHOLD</b>	Simple mode or band-mode with positive or negative safety. Threshold, hysteresis and temporization adjustment (separately from the rise or the fall). Direct access to the thresholds. Alarm memorizing and alarm deleting
<b>ALARMS RESET</b>	Separately on each alarm.
<b>ALARMS MEMORIZATION</b>	Separately on each alarm.
<b>OTHER FUNCTIONS</b>	Cut Off ; Resolution ; Comma ; Filtering ; Contrast setting ; programmation mode ; Display light off ; Joystick lock.
<b>COMMUNICATION</b>	All transmitters have a bidirectional digital output RS485, then it's possible to recover the measurements and to send them in digital, but it's also possible to configurate and to drive the transmitter. This digital output is double over with USB plug on front face.
<b>DIGITAL BUS</b>	Digital bus access through USB plug (when TELIS are plugged on multichannel wiring bases)
<b>USB</b>	USB front face plug enable to connect with PC for a very simple product configuration
<b>MAPPING</b>	Modbus adress maping, enables to choose your own parameter adress.



**INPUTS CHARACTERISTICS**

<b>CURRENT (DC)</b>	Standards scales 0-1mA ; 0-10mA ; 0-20mA ; 4-20mA; +/-1mA ; +/-10mA ; +/-20mA Adjustable scales From -22mA to 22mA
<b>VOLTAGE (DC)</b>	Standards scales : 0-100mV ; 0-1V ; 0-5V ; 1-5V ; 0-10V ; 2-10V ; 0-50V ; 0-100V ; 0-200V; +/-100mV ; +/-1V ; +/-5V ; +/-10V +/-50V ; +/-100V ; +/-200V 0-500V; 0-1000V; +/-500V; +/-1000V Adjustable scales From -110mV to 110mV ; From -2V to 11V ; From -200V to 220V
<b>RTD</b>	PT10; CU50; CU53; CU100 PT100 ; PT1000 2 or 3 wires ; Ni100 ; Ni1000 2 or 3 wires
<b>THERMOCOUPLE</b>	J, K, R, S, T, E, B, N, W3/C, W5/D, NiMo,P
<b>POTENTIOMETER</b>	From 0 - 100Ω to 0 - 100KΩ - Other values on demand
<b>RESISTOR 2 WIRES</b>	0-200Ω ; 0-1kΩ ; 0-0kΩ - 0-50kΩ - Other values on demand (NTC / PTC)
<b>SENSOR SUPPLY</b>	Sensor 2 or 3 wires – Sensor supply : 24V - 29mA max

**OUTPUTS CHARACTERISTICS**

<b>OUTPUT 1&amp;2 CURRENT</b>	0/10mA 0/20mA 4/20mA - From 0 to 20mA
<b>OUTPUT 1 VOLTAGE</b>	0/10V +/-10V - From -10 to 10V 0/5V, 1/5V, 2/10V
<b>OUTPUT 2 VOLTAGE</b>	0/10V - From 0 to 10V 0/5V, 1/5V, 2/10V
<b>SORTIE NUMÉRIQUE</b>	USB on front face RS 485 Modbus RTU isolated from input and output 1
<b>RELAY OUTPUT</b>	1 C/O or 1N/O (according to reference)



## OTHER CHARACTERISTICS

**INPUT IMPEDANCE**

Current input	5,6Ω
Voltage input <10V	> 10 MΩ
Voltage input +/-10V ou >10V	6 MΩ
Input PT100 ; PT1000 ; Ni100	Current : < 1mA
Input Ni 1000	Current : < 1mA
2 wires resistor R=200Ω;R=1kΩ;	Current : < 1mA
2 wires resistor R=10kΩ	Current : < 1mA

**OUTPUT IMPEDANCE**

Current output 1 & 2	< 900Ω
Voltage output 1 & 2	> 4 kΩ

**SENSOR SUPPLY** U < 24V - I < 29mA

**RELAYS** Relays 1C/O ou 1 N/O : 2A/250Vac

## GENERAL CHARACTERISTICS

<b>Precision class</b>	0.1
<b>Analogue input/digital conversion</b>	24 bits
<b>Digital output/analogue conversion</b>	16 bits
<b>Response time input Process, Thermoc., 2 wires resistance</b>	< 80ms
<b>Response time RTD potentiometer</b>	< 160ms

**ISOLATION**

Supply / Input	5000Vdc - 3750Vac, 50Hz, 1mn - 5000V RMS
Supply / Input 1 / Input 2	5000Vdc - 3750Vac, 50Hz, 1mn- 5000V RMS
Input / Output 1 / Output 2	5000Vdc - 3750Vac, 50Hz, 1mn- 5000V RMS
Digital output / Output 1	50Hz, 1mn- 2500V RMS
Communication bus / Output 2	Without

**POWER SUPPLY**

Universal supply	20Vdc / 240Vdc & 80Vac / 2 56Vac
Option	20Vac / 60Vac

**MAXIMAL CONSUMPTION** < 4VA

**TEMPERATURE**

Operating temperature	-10°C / +60°C
Storage temperature	-25°C / +80°C

**PROTECTION INDEX** Black polyamide self-extinguishable V0

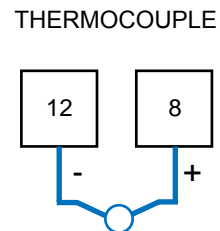
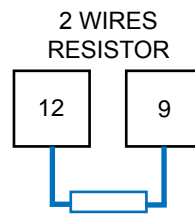
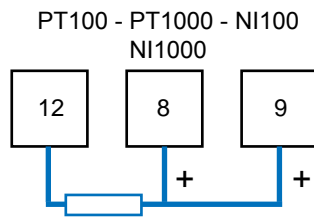
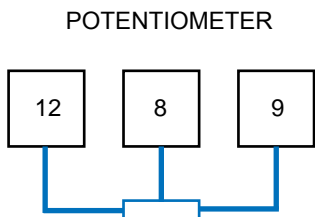
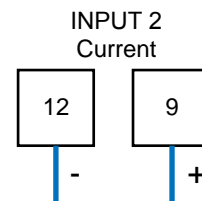
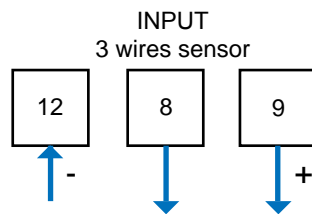
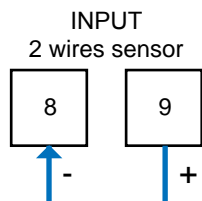
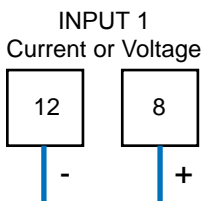


OPTIONS	PRODUCT CODE
Case varnish 22,5mm ou 45mm	TELIS 9XXXXX-T
Auxiliary power supply 20Vac / 60Vac	TELIS 9XX9XX

**INPUT CONFIGURATION SWITCH**

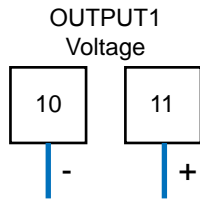
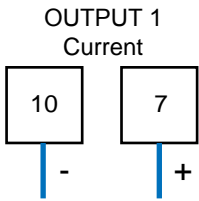
INPUT SWITCH		1	2	3	4	5	6
	Input 1 - Current	●	●				
	Input 2 - Current	●					●
	Voltage input < 10V - Thermocouple		●				
	Voltage input >10 V	●		●			
	RTD		●			●	
	Sensor supply	●	●		●		
	2 wires resistor	●				●	
	Potentiometer		●			●	

**INPUT WIRING**

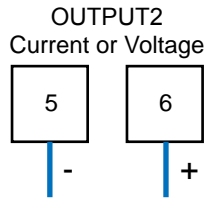
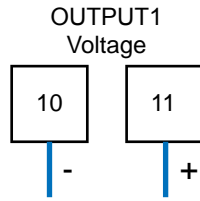
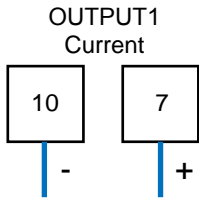




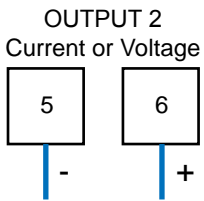
**ANALOG OUTPUTS WIRING**



TELIS 9000U1 - TELIS 9000T1  
 TELIS 9200U1 - TELIS 9200T1  
 TELIS 9300U1 - TELIS 9300T1  
 TELIS 9400U1 - TELIS 9400T1

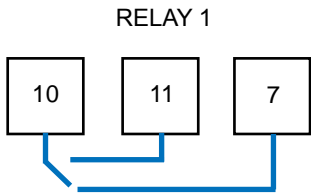


TELIS 9000U2 - TELIS 9000T2  
 TELIS 9200U2 - TELIS 9200T2  
 TELIS 9400U2 - TELIS 9400T2

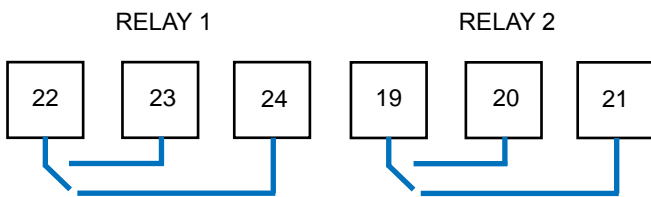


TELIS 9150U1 - TELIS 9150T1

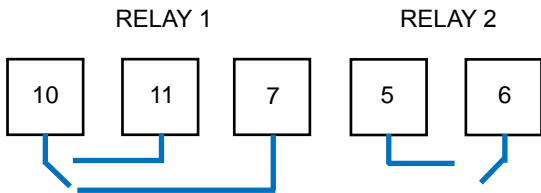
**OUTPUT RELAYS WIRING**



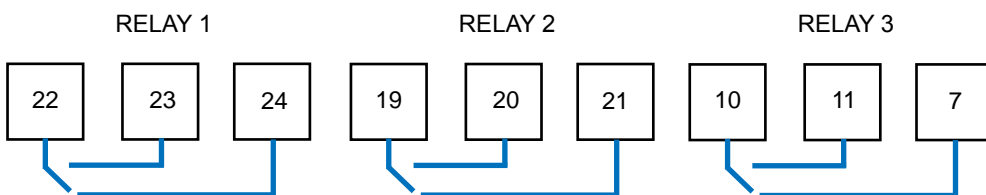
TELIS 9100U0 - TELIS 9100T0  
 TELIS 9150U1 - TELIS 9150T1



TELIS 9200U0 - TELIS 9200T0  
 TELIS 9200U1 - TELIS 9200T1  
 TELIS 9200U2 - TELIS 9200T2



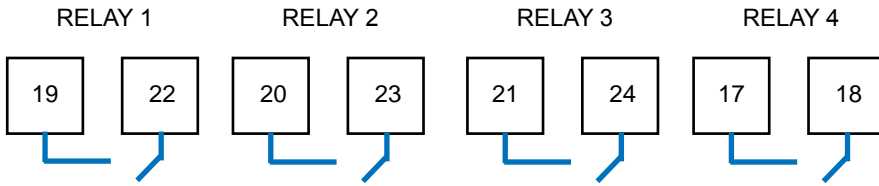
TELIS 9250U0 - TELIS 9250T0



TELIS 9300U0 - TELIS 9300T0  
 TELIS 9300U1 - TELIS 9300T1

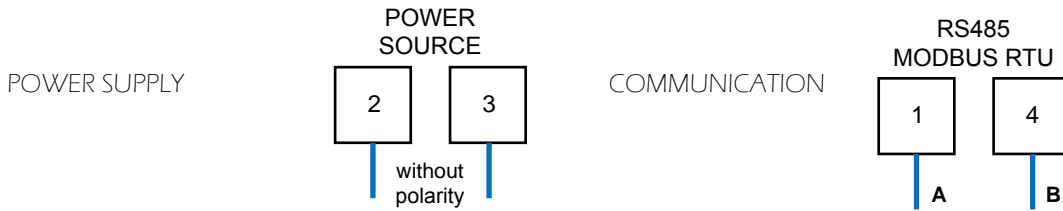


## OUTPUT RELAYS WIRING

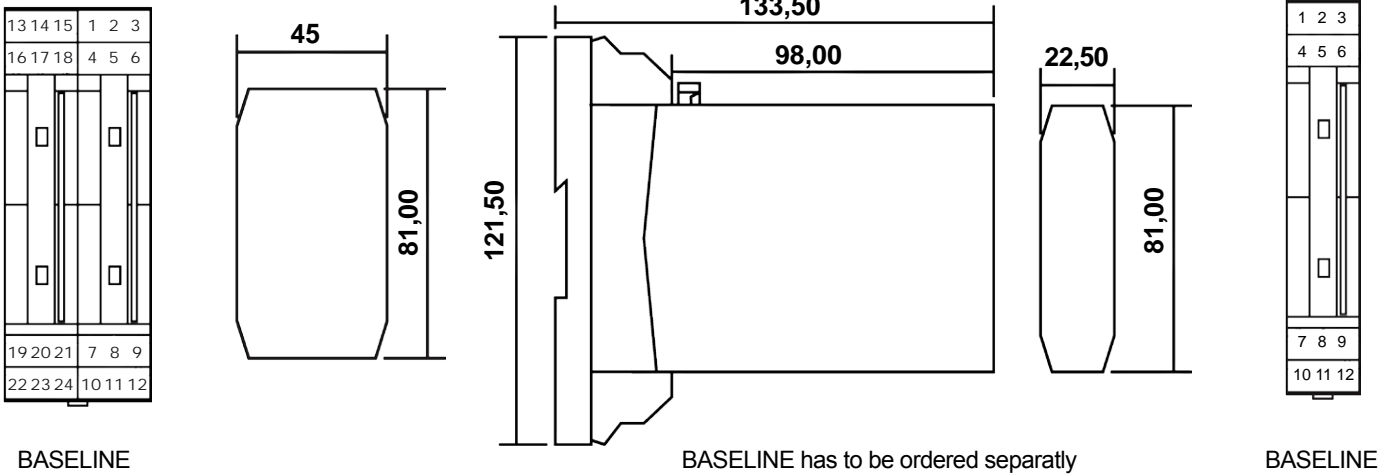


TELIS 9400U0 - TELIS 9400T0  
 TELIS 9400U1 - TELIS 9400T1  
 TELIS 9400U2 - TELIS 9400T2

## OTHERS WIRING



## DIMENSIONS



## DEFAULT ADJUSTMENT

Input: 4/20mA  
 Display : 0-100

Output 1: 4/20mA  
 Output 2: 4/20mA

Relay (1RT ou 1T)  
 Alarme High

Communication speed : 9600bauds  
 Slave adress : n°1

Other adjustment on demand