

Version of 06/12/2025

UHLIS 3030TCP/PT1000 4-20mA Kit

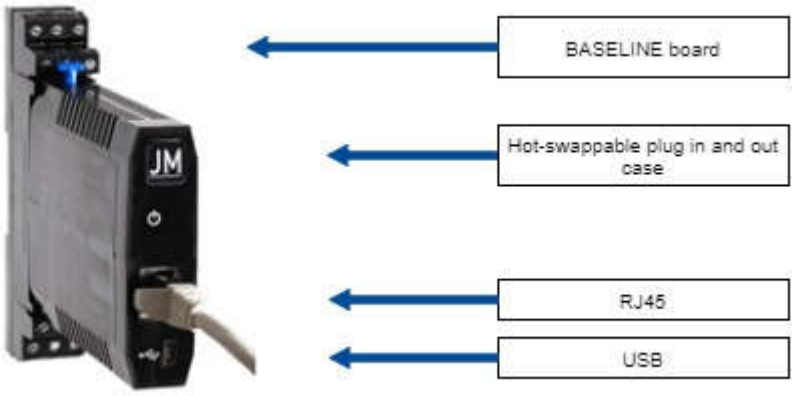


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Presentation

The UHLIS 3030TCP/PT1000 4-20mA kit includes:

- A UHLIS 3030TCP allowing the acquisition of 4 simultaneous current channels and the uploading of data via an RJ45 to local installations and/or the cloud.



- A BL01ALV base for connection to a DIN rail.
- Two compact screw-in RTD temperature probes comprises a protection tube with integrated temperature sensor, a process connection, and an attached housing for the transmitter electronic components. The integrated programmable two-wire transmitter converts the resistance value into a current signal.



- 2 x 2m straight cables with 4-pole female connector, M12x1



UHLIS 3030TCP

Factory settings

Program	Function	Filter	Resolution	Comma position	Cut-off	Offset
	Linear	0	1	4	off	0

Input	Input range	Input type	Input calibre
	0-10000	Current	4-20mA

Communication	RS485		MODBUS/TCP		
	Slave number	Speed	IP Address	Port	Netmask
	1	38400 bauds	192.168.1.253	502	255.255.255.0

Inputs - Communication

Input gauges

Current input (continuous)	Standard scales: 0-20mA ; 4-20mA Adjustable scales: From 0mA to 22mA
Sensor supply	2 wires sensor 24V - 26.6mA max

Communication

Communication	Isolated USB front panel, Isolated RS485 Modbus RTU RJ45, Modbus/TCP

Characteristics

Input characteristics	
Current input impedance	<6Ω
Voltage impedance Input	>10MΩ
Isolation	
Supply / Inputs-Communication	4200Vrms, 50Hz,1mn
Input x / Input y / USB / RS485 / Modbus TCP	2500Vrms, 50Hz,1mn
Auxiliary source	
Voltage supply	22.5-240Vdc or 100-230Vac 50/60Hz
General characteristics	
Precision class	0.1
Input analog / digital conversion	16 bits
Response time	<60ms
Thermal drift	<100ppm
Maximum of consumption	13.66VA
Operating temperature	-10°C … +60°C
Storage temperature	-25°C … +80°C
Relative humidity	<80% HR (non-condensing)
Protection factor	IP20 Black self-extinguishing polyamide housing V0

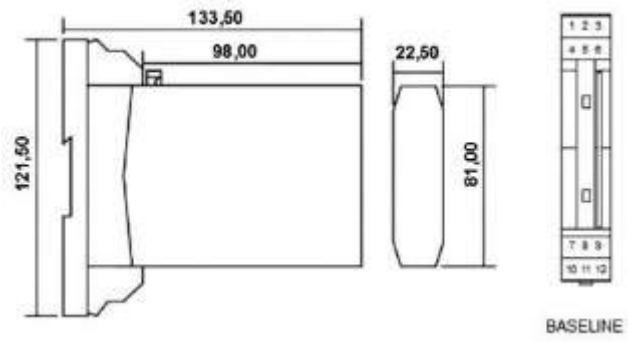
Functions

Display functions	
LED indicators	1 green LED on devices without display
Programming	Programming via USB with **IXLOG** software
Memory Mini / Maxi	Storage of the maximum and minimum value of the measurement on each input channel
Customizing the display	Resolution, Comma
Input	
Inputs display	The display allows to visualize the input in physical value and in programmed value
Adjustable input scale	Allows to zoom on the input either in manual or automatic mode
Offset	Manual adjustment of the input offset
Taring	Taring function at process input (by validation)
Cut-off	Threshold below which the input is considered as null
Smart functions	
Sensor signal loss	Translates the sensor signal loss on: • the display, • each of the analog outputs, • the digital output, • the status of the relays
Filtering	Integration of the measurement over the defined time (in seconds)
Square root	The output(s) are function of the square root of the input
Segmentation in 99 points	Linearization in 99 points (free choice for each point), allows to create an output function by segmentation of the signal of each input channel
Outputs	
Visualization of the outputs	The display allows to visualize the outputs, in physical value and percentage; as well as the status of the relays

Links and communication	
RS485 MODBUS RTU	RS485 MODBUS RTU bidirectional digital link allowing to: • recover the measurements and transmit them in digital format • configure and control the device
MODBUS TCP	Bidirectional link via the RJ45 port allowing to: • recover measurements and transmit them in digital format • configure and control the device • make a Modbus-TCP-Modbus RTU gateway to communicate with other JM devices on the same RS485 bus as the UHLIS
USB front	USB front panel to connect directly to the USB port of a PC for programming via the **IXLOG** software
Mapping of Modbus addresses	Mapping of Modbus addresses, allowing you to choose your own variable address

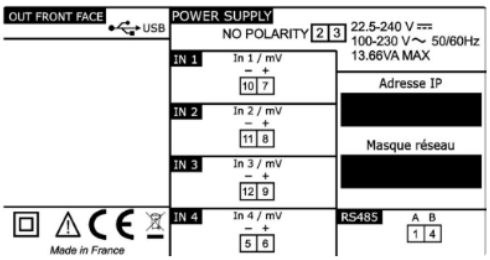
Dimensions and wiring

Dimensions



Dimensions: width: 22.5 mm - Height: 81 mm - Depth: 98 mm

Wiring



Probe with integrated converter

Probe

Input

Measurement input	Pt1000 temperature sensor, DIN EN 60751, class A, four-wire circuit
Measuring ranges	50 to +150°C
Limit deviations in °C	Class A (standard): ±(0.15 + 0.002 × |t|) °C |t| = temperature in °C regardless of prefix sign.

Characteristics

Electrical connection	Machine connector M12 × 1, 4-pole according to IEC 60947-5-2
Process connections	Screw connection G 1/2
Protection tubes	Stainless steel 316 L, material-no. 1.4404/1.4435
Protection type	IP67 according to DIN EN 60529 with inserted machine connector
Response times	in water 0.4m/s: $t_{0,5}$ = 5s ; $t_{0,9}$ = 12s in air 3.0m/s: $t_{0,5}$ = 40s ; $t_{0,9}$ = 110s
Ambient temperature range of the head	-30 to +85°C
Storage temperature range	-30 to +90°C
Relative humidity	≤ 95% with condensation according to IEC 60068-2-30
Vibration resistance	According to IEC 60068-2-6 (according to GL characteristic line)

Converter

Input

Smallest measuring span	10K
Input filter	Digital filter 2nd order, Filter constant can be set from 0 to 125s

Output

Load-independent direct current	4 to 20mA, 20 to 4mA

Characteristics

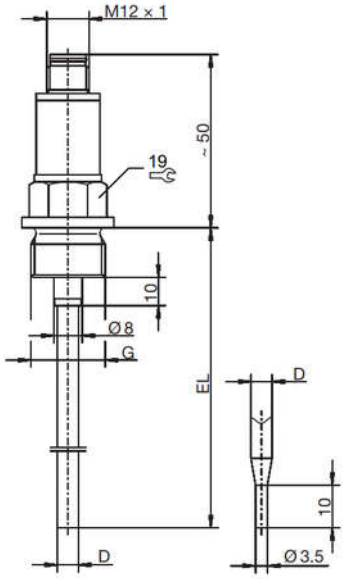
Input characteristics	
Sampling rate	1 measurement per second

Output characteristics	
Transmission behavior	Temperature-linear
Maximum burden (R_B)	$R_B = (U_b - 8V) \div 23mA$, max. 600Ω
Burden influence	≤ ±0,02% per 100Ω Measuring range end value: 20mA
Setting time for temperature changes	≤5s
Setting time after switch-on or reset	≤5s
Electronic measuring accuracy	0,1K or 0,08% in relation to the set measuring interval, the larger value applies. The deviation of the temperature sensor must be added to ensure the measuring accuracy of the transmitter.
Isolation	
Galvanic isolation	No galvanic isolation between sensor and output
Insulation resistance	>100MΩ at DC 100V
Auxiliary source	
Voltage supply (U_b)	DC 8 to 35V (pin 1 = +, pin 3 = -) Use only with SELV or PELV supply systems (according to DIN EN 61140)
Protection rating	III (according to DIN EN 61140)
Reverse voltage protection	Yes
Influence of the voltage supply	≤ ±0.01 % per V deviation from 24V Measuring range end value: 20mA

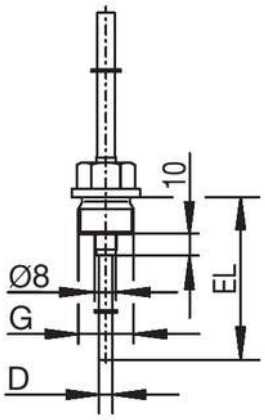
Measuring circuit monitoring	
Measuring range underflow	Linear decrease to 3.8mA (according to NAMUR recommendation 43)
Measuring range overflow	Linear increase to 20.5mA (according to NAMUR recommendation 43)
Probe short-circuit/ probe and cable break	≤ 3.6mA or ≥ 21.0mA (configurable)
Current limiting in the event of a probe short circuit or probe break	≤ 25mA
General characteristics	
Ambient temperature influence	≤ ±(15ppm/K × [measuring range end value + 200] + 50ppm/K × set measuring range) × Δυ Δυ = deviation of the ambient temperature from the reference temperature
Calibration/reference conditions	DC 24V at 25°C ±5°C
Electromagnetic compatibility (EMC)	DIN EN 61326 Interference emission: Classe B Interference immunity: Industrial requirement

Dimensions and wiring

Dimensions



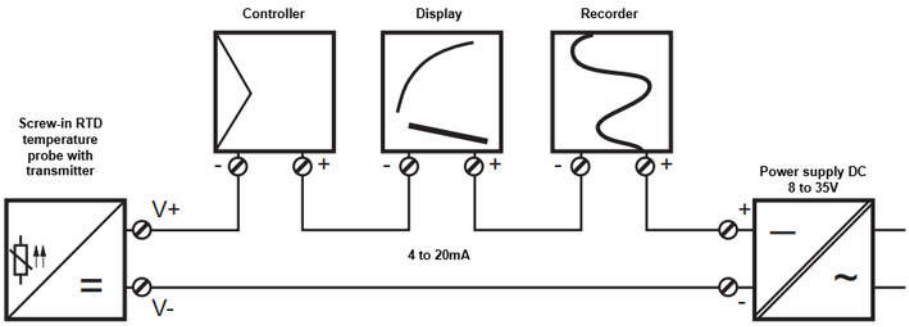
Process connection



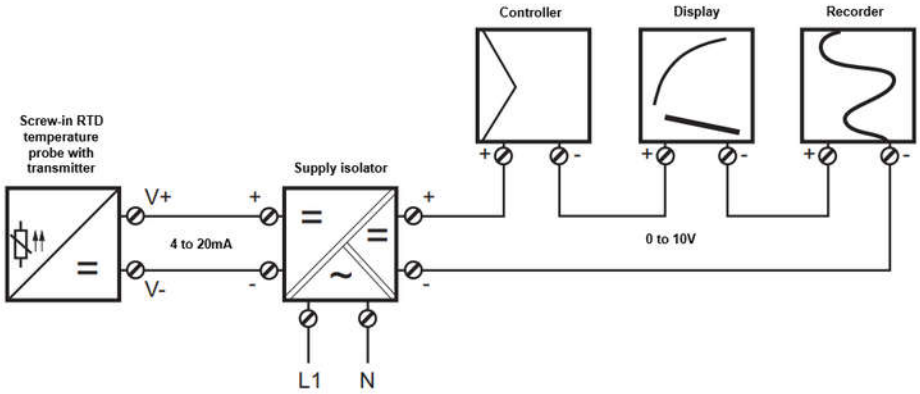
- D Protection tube diameter: 6mm
- EL Insertion length: 100mm
- G : 1/2''

Wiring

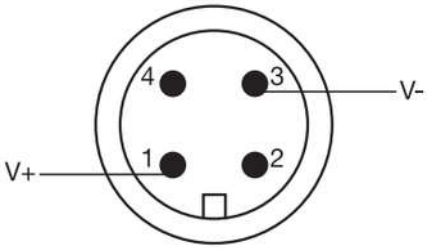
Connection example with power supply unit



Connecting example with supply isolator



Machine connector M12×1, 4-pole, according to IEC 60947-5-2



Do not connect pin 2 and pin 4 to voltage!

Voltage supply DC 8 to 35V

Current output 4 to 20mA

