

DIGITAL CONVERTER, PARAMETRABLE BY SWITCHES

TMv10/CAPv10

ARDETEM

SFERE





- Universal power supply:**
 20 to 250 Vac and 20 to 250 Vdc
- Universal input:**
 mA, mV, V, Pt100 3 or 4 wire, thermocouple J or K, resistance and potentiometer.
- Supply for 2-wire sensor**
- Isolated analog output:**
 - active or passive current (0-20 mA or 4-20 mA) or voltage (0-10V).
- Sensor break detection**
 Self-zero and self-diagnosis
- Configuration:**
 A set of 8 switches located behind the front face allows selecting the input and output types and calibers, without any other setting required.

Features

- Power supply:** 20 to 250 Vac and 20 to 250 Vdc
 TMv10/CAPv10 Z: 24 Vdc $\pm 30\%$
- Power consumption:** 2.2 W max. 5 VA max.
- Dielectric withstanding:** 3 kV eff. 50Hz-1min. (IN/OUT/supply)
 TMv10/CAPv10 HI: 5kV eff. 50Hz-1min.
- Operating temperature:** -20 to +60°C
- Storage temperature:** -20 to +70°C
- Installation:** Pollution degree 2 / voltage surge II
- Protection: housing/terminals: IP 20
 Removable terminal blocks for screwed connectings (2.5 mm², flexible or rigid)
 Weight: 290g (with packaging)
 Self-extinguishing case of black UL 94VO PA66.
 Mounting in cabinet: latching on symmetrical DIN rail.

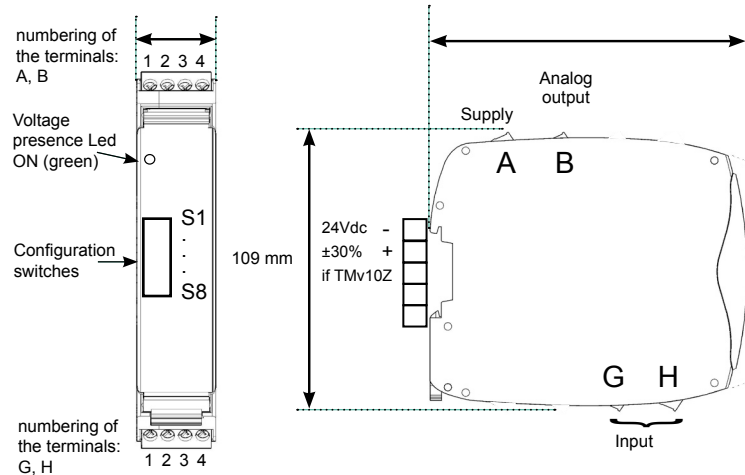
- Compliance with standards:**
 Electrical safety EN 61010-1
 ATEX 2014/34/UE (area 2) EN 60079-0, EN 60079-15
 Directive EMC 2014/30/UE EN 61326-1

- Marking:**

 II 3 G Ex nA IIC T4 Gc

Safeties

	Blinking of the voltage presence LED	Return value of the analog output
Self-diagnosis	2s / 2s	22mA for current output
Sensor break	0.5s / 0,5 s	0-20mA 0mA for output 4-20mA 11V for voltage output

Dimensions



Outputs

- Average response time = 150 ms in standard (for a variation from 0 to 90% of the input signal)
- Option F: Faster response time: < 5ms for the voltage or current inputs and < 8ms for the other inputs
- Response times guaranteed 10 min. after setting the converter on tension and 30 seconds after a revert from measure overrange or a sensor break.
- Temperature coefficient < 100 ppm of the MR°C

Type	Load impedance Lr in Ω	Caliber	Configuration of the micro-switches	
			S7	S8
Current active/passive	active: ≤ 600 passive: $\leq (U-2)/0,022$	0-20 mA		
		4-20 mA		●
Voltage	≥ 5000	0-10V	●	

● → Switch ON



Inputs

● → Switch ON

Type	Max. error	Measure range (MR)	Input impedance	Permanent overload	Caliber	Configuration of the micro-switches									
						S1	S2	S3	S4	S5	S6				
V	±750mV	±300V	≥ 1MΩ	±600V	±270V	●			●	●	●				
	±450mV				±150V	●			●	●					
					0-270V	●					●				
	±25mV	±11V			±50V	±5V	●				●	●			
	±15mV					±10V	●				●				
						0-5V	●					●			
						0-10V	●					●			
	±2.5mV	±1,1V				±1V	±500mV		●	●	●				
±1.5mV	±1V			●					●	●					
	0-500mV			●						●					
mV	±250µV	±110mV	Max. drop 0.9V	±100mA			±100mV		●			●			
	±150µV				0-100mV			●	●	●					
mA	±40µA	±22mA	Max. drop 0.9V	±100mA	±5mA				●	●					
					±10mA				●		●	●			
	±30µA				±20mA				●						
					0-5mA					●	●				
					0-10mA						●				
					0-20mA										
					4-20mA						●				
	Thermocouple J (standard IEC581)				±3.5°C	-50/1200°C	≥ 1MΩ	-	-50 to 200°C			●	●	●	
									0 to 100°C			●	●	●	
									0 to 200°C			●	●	●	
0 to 400°C		●	●	●						●					
0 to 600°C		●	●	●						●					
0 to 800°C		●	●	●						●					
0 to 1000°C		●	●	●						●					
0 to 1200°C		●	●	●						●					
Thermocouple K (standard IEC581)		±3.5°C	-50/1200°C	≥ 1MΩ					-	-50 to 200°C			●	●	●
										0 to 100°C			●	●	●
	0 to 200°C						●	●		●					
	0 to 400°C				●	●	●			●					
	0 to 600°C				●	●	●			●					
	0 to 800°C				●	●	●			●					
	0 to 1000°C				●	●	●			●					
	0 to 1200°C				●	●	●			●					
	Sensor Pt100 3 wire Standard IEC751 (DIN 43760) (line resistance <25Ω)				±0.5°C	-200/800°C	Current 250µA	-		-50 to 50°C	●				●
										-50 to 100°C	●				●
0 to 100°C		●								●					
±0.7°C		0 to 150°C	●						●	●					
		0 to 200°C	●						●	●					
		0 to 300°C	●						●	●					
±0.9°C		0 to 500°C	●						●	●					
		0 to 800°C	●						●	●					
		-50 to 50°C	●		●										
		-50 to 100°C	●		●										
Sensor Pt100 4 wire Standard IEC751 (DIN 43760) (line resistance <25Ω)	±0.5°C	-200/800°C	Current 250µA	-	0 to 100°C	●				●					
					0 to 150°C	●				●					
					0 to 200°C	●				●					
	±0.7°C				0 to 300°C	●			●	●					
					0 to 500°C	●			●	●					
					0 to 800°C	●			●	●					
	±0.9°C				0 to 100°C	●			●	●					
					0 to 150°C	●			●	●					
					0 to 200°C	●			●	●					
					0 to 300°C	●			●	●					
Potentiometer 100Ω to 10kΩ	±0.2 of the MR	-	-	-		●	●								
Resistive sensor	±0.5Ω	0/440Ω (4 wire)	-	-	0 to 100Ω	●	●			●					
					0 to 200Ω	●	●			●					
					0 to 300Ω	●	●			●					
					0 to 400Ω	●	●			●					
	±25Ω	0/10kΩ			0 to 500Ω	●	●			●					
					0 to 1000Ω	●	●			●					
					0 to 5000Ω	●	●			●					
					0 to 10000Ω	●	●			●					

- Supply for 2-wire sensor: 24 Vdc ±15% (protection from short-circuits 30mA max)
- Measurable overrange: ±10% of the caliber
- Standard sampling time: 100ms (1ms if option F)
- Common mode rejection rate: 130 dB
- Serial mode rejection rate: 70 dB 50/60Hz
- Sensor break detection active for the inputs thermocouple, Pt100 and resistance < 440Ω

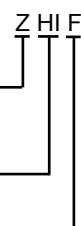
Coding

Types:

ARDETEM reference: TMv10
SFERE reference: CAPv10

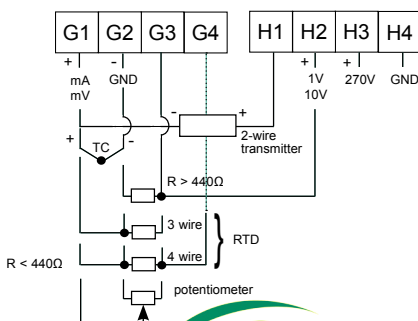
Options:

if bus supply version 24Vdc ±30%
if electrical strength 5KV
if option faster response time

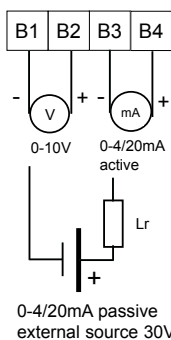


Wiring

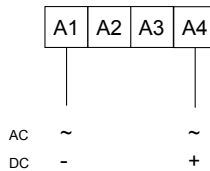
Inputs



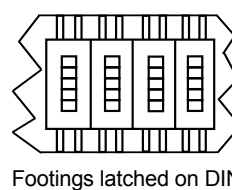
Analog output



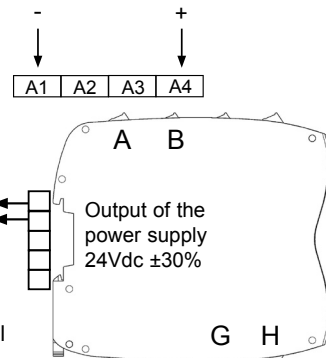
Supply



Max. supply current of the bus = 3.5A dc



Input of the power supply 24Vdc ±30%



version TMv10/CAPv10 Z

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