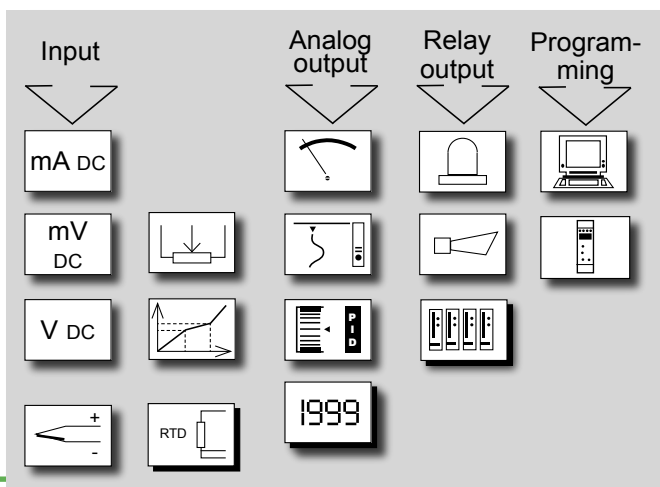


PROGRAMMABLE CONVERTER

μC 10



Easy programming on front face with a micro-console or by the PC software MCVision.

Programming with the Micro-console

The series μC accepts 2 types of μconsoles :

- The old generation with 4 electroluminescent alphanumerical green digits
- The new generation with graphical rear-lit LCD

The LCD allows visualising 4 pieces of information:

- the value of the measure,
- the unit of the displayed value,
- the value of the analog output or the marking name of the product,
- the status of the relay outputs.

This μconsole with LCD also allows the display of this information either vertically or horizontally, according to the sense in which the converter is mounted.

Programming by PC: MCVision

Programming software (Windows environment) allowing:

the storage of configurations as files which can be consulted, modified, duplicated or loaded into the converters, the edition and printing of files with or without having a converter connected.

Universal power supply:

20 to 270 Vac and 20 to 300 Vdc

Universal input:

100mV, 1V, 10V, 300V, 20mA, 3-wire Pt100, Ni 100, 2-wire ΔPt100, thermocouple, resistance and potentiometer.
Typical response time: 300 ms

Supply for 2-wire sensor

- **1 insulated analog output (A)**, programmable in 0-4-20mA current (active/passive) or in 0-10V voltage.

Relay outputs (option R) : 2 change-over relays (8A/250 VAC on resistive load).

Detection of the sensor rupture.

*Insulation between input/outputs/supply.
Self-zero and self-diagnosis.*

Mode driver: the analog output is piloted by the micro-console.

Function simulation of the input measure.

Programming either with the micro-console or by PC via the software MCVision.

Self-extinguishing case of black UL 94VO ABS.
Mounting in switchbox: latching on symmetrical DIN rail.
Rack version: consult.

Plug-off connectors for screwed connectings (2.5mm², flexible or rigid)
Weight: 240g (with packaging)

Dimensions : 22.5x75x120 mm
with μconsole : 26.5x80x130 mm

Operating T°: -10° to 50°C
Storage T°: -20 to 70°C



• **CE** according to the directive EMC 2004/108/CE.

Conform with standards:

IEC 61000-6-4 on emissions, IEC 61000-6-2 immunity (industrial environment)

IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-6 (level 3)

Sensitiveness < ±1% of the measure range

Coding

Type **μC 10 AR**

Outputs:

A analog I/U insulated
R 2 change-over relays

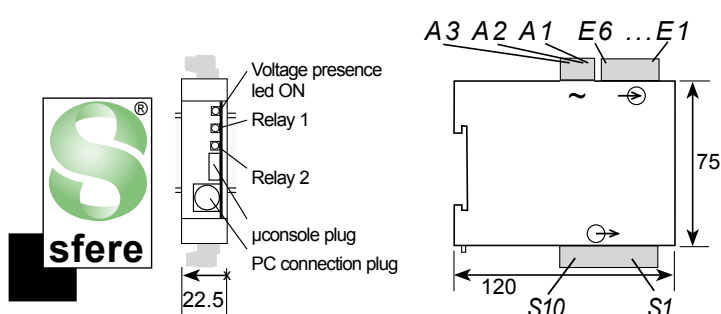
Supply:

20 to 270 VAC and 20 to 300 Vdc

Power draw : 3 W max. 5 VA max.
Dielectric withstanding: 2 kV-50Hz-1min.

Order example: For a converter with universal input + analog output + 2 relays, request reference μC 10 AR.

Dimensions



CONVERTERS

CA
CO/81

Features

Inputs

Types of inputs	Measure range adjustable from:	Permanent overload	Intrinsic error	Console resolution	Input impedance
mA	-2 to +22mA with $\sqrt{\clubsuit}$	$\pm 100\text{mA}$	$< \pm 0.1\%$ of the MR	10 μA	Max. drop 0.9V
mV $\clubsuit$	-10 to +110mV with $\sqrt{\clubsuit}$	$\pm 1\text{V}$		10 μV	$\geq 1\text{M}\Omega$
V	-0.1 to +1.1V with $\sqrt{\clubsuit}$	$\pm 50\text{V}$		1 mV	
	-1 to +11V with $\sqrt{\clubsuit}$	$\pm 50\text{V}$		1 mV	
	-30 to +330V with $\sqrt{\clubsuit}$	$\pm 600\text{V}$		10mV	
Thermocouples $\clubsuit$ Standard IEC 581	$^{\circ}\text{C}$	$^{\circ}\text{F}$	$< \pm 0.1\%$ of the MR	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\geq 1\text{M}\Omega$
J	-160/1200	-256/2192			
K	-270/1370	-454/2498			
B	200/1820	392/3308			
R	-50/1770	-58/3218	$< \pm 0.1\%$ of the MR	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\geq 1\text{M}\Omega$
S	-50/1770	-58/3218			
T	-270/410	-454/770			
E	-120/1000	-184/1832			
N	0/1300	-32/2372	$< \pm 0.1\%$ of the MR	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	Current 250 μA
L	-150/910	-238/1670			
W	1000/2300	1832/4172			
W3	0/2480	32/4496			
WRE5	0/2300	32/4172			
Sensor Pt100 Ω (1) $\clubsuit$ 3 wire, Stand. IEC 751 (DIN 43760)	$^{\circ}\text{C}$	$^{\circ}\text{F}$	$< \pm 0.1\%$ of the MR	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	Current 250 μA
	-200/850	-328/1562			
Sensor Ni 100 3 wire (1) $\clubsuit$	-60/260	-76/500			
Differential measures from 2 sensors Pt100 Ω 2 wire Norme IEC 751 $\clubsuit$	-200/270	-328/518			
Resistive sensors	Calibers 0-440 Ω and 0-2.2 k Ω $\clubsuit$ (0-8.8 k Ω optional)	-	$< \pm 0.1\%$ of the MR (0.5% for 0-2K Ω)	-	-
Potentiometer	from 100 Ω to 10 k Ω $\clubsuit$	-			
Supply for 2-wire sensor	24 Vdc $\pm 15\%$ with protection from short-circuits. 25 mA max.				
Special linearisation programming up to 20 points	On input: mV, V, mA. Resistive sensors and potentiometer				

- (1) Line resistance $< 25\Omega$
(2) Or 30 μV typical (60 μV Max.)
 $\clubsuit$ CJC efficiency : $\pm 0.03^{\circ}\text{C}/^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ from -5°C to $+55^{\circ}\text{C}$

MR Measure range

- ** Line resistance $< 10\Omega$ and R. max. 400 Ω

$\sqrt{}$ Extraction of the square root

- $\clubsuit$ A 12 μA pulsed current allows the detection of line or sensor rupture
 $\clubsuit$ Cut off: the display of the console and the output of the TPI remain at down scale for an input signal $<$ to the cut off value, programmable from 0% to 100% of the input range.

Thermic drift $< 150\text{ppm}/^{\circ}\text{C}$

Outputs

Code	Types of OUTPUTS	Features
A	1 analog	Active/passive current Voltage
R	2 change-over relays	2 setpoints per relay, configurable on the whole MR. Hysteresis programmable from 0 to 100%. Time delay programmable from 0 to 25 sec. (8A/250VAC on resistive load)

Typical response time: 300 ms (for a variation from 0 to 90 % of the input signal)

Add 40ms for the response time on the analog output.

Galvanic partition:

2kV-50Hz-1min. between supply, input, analog output, relay outputs

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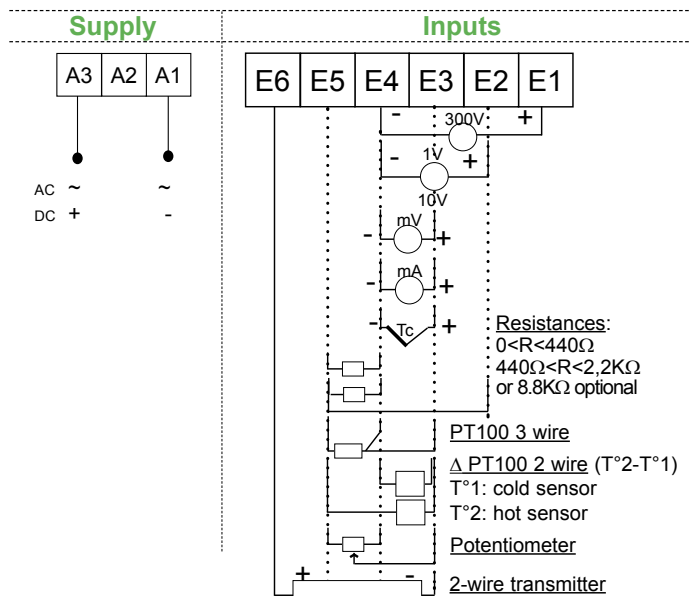
Route de Brindas - Parc d'Activité d'Arbora - N°2
69510 SOUCIEU EN JARREST - FRANCE

Tél. : 04 78 16 04 04 Fax. : 04 78 16 04 05
Tel. Intern. : 33 4 78 16 04 04 Fax Intern. : 33 4 78 16 04 05

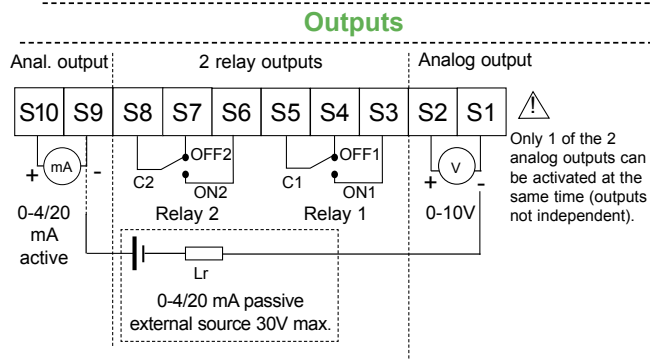
e-mail : info@sphere-net.com . http : //www.sphere-net.com

Wiring

Upper connectors



Lower connector



SFERE - CA CO/81 K 02/13 - Any data in this documentation may be modified without prior notice.

Your representative