

PROGRAMMABLE CONVERTERS

Series μ C 3011

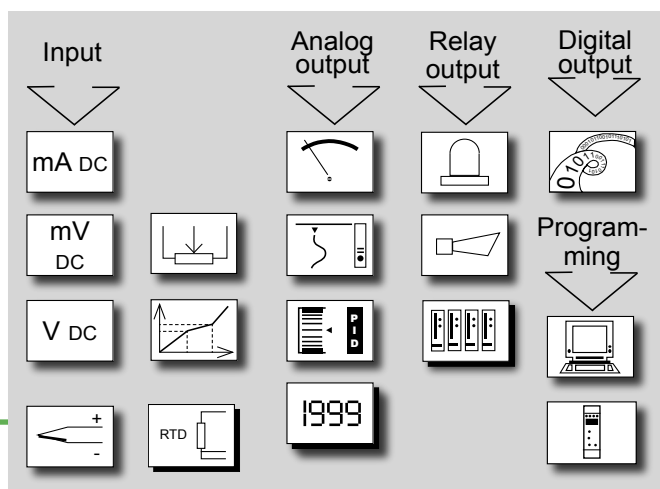


μ C 3012/3011

1 analog output

μ C 3212/3211

2 insulated analog outputs



Easy programming via the micro-console, or with the PC software MCVision.

Programming with the Micro-console

This miniaturised micro-console connected on the front face of the instruments allows:

- the visualisation of the measure and the status of the analog and relay outputs,
- the visualisation and modification of the programming,
- the teleloading of programming files for duplication to other converters.

Programming by PC: software 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.

Digital data link RS485 (Modbus/Jbus)

Allows the communication with processing and exploitation systems (PLC's), as well as a complete configuration of the input, the output and the safeties.

Universal power supply:

20 to 270 Vac and 20 to 300 Vdc

Process input: (μ C3012/3212)

± 100 mV, ± 1 V, ± 10 V, ± 300 V, ± 20 mA,

Universal input: (μ C3011/3211)

± 100 mV, ± 1 V, ± 10 V, ± 300 V, ± 20 mA, Pt100 3 wire, Ni 100, Δ Pt100, thermocouple, resistance and potentiometer.

- Average response time 150ms

- Supply for 2-wire sensor

- **Insulated analog outputs (A)** current 0-4-20mA (active/passive) or voltage 0-10V.

Relay outputs (R) : 2 inverting relays (8A/250 VAC on resistive load).

Digital data link (N) insulated RS485 Modbus/Jbus

Detection of the sensor rupture.

Insulation between input / outputs / supply.

Self-zero and self-diagnosis

Mode driver : the analog output is piloted by the digital data link, or locally by the micro-console.

Function simulation of the input measure

Programming soit par la micro-console soit par PC via le logiciel MCVision.

Protection: Case/terminals = IP20

Plug-off connectors for screwed connectings

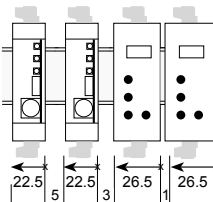
(2.5mm², flexible or rigid)

Weight: 240 g (with packaging)

Self-extinguishing case of black UL 94VO ABS.

Mounting in switchbox: latching on symmetrical DIN rail.

Rack version: consult



Dimensions : 22.5x75x120 mm

with μ console : 26.5x80x130 mm

To allow the inserting of the μ console: mount the instruments vertically (horizontal DIN rail), leaving a 5 mm space between each.

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 $\leq \pm 1\%$ of the measure range for all the μ C 3012/3011 and the μ C 3212/3211 (A)(R)

Sensitiveness $\leq \pm 3\%$ for the μ C 3211 N

Coding

Type

μ C 3x1x ARN

Outputs:

A analog I/U insulated
R 2 inverting relays
N data link RS 485

Power supply: 20 to 270 Vac 50/60/400 Hz and 20 to 300Vdc

Power draw: 3,5 W max. 6 VA max.

Dielectric withstanding: 2 kV-50Hz-1min.

Order example: For a converter with universal input + 1 analog output + 2 relays, powered in 230 V: request reference μ C 3011 AR

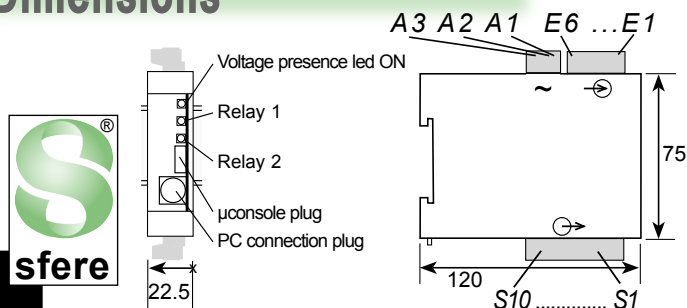
Available versions:

μ C 3011/3012	A	AR	ARN	-
μ C 3211/3212	-	R	-	N

(consult for different configurations)

CA
CO/82

Dimensions



Features

Inputs

μ C 3012/3212	μ C 3011/3211	Types of INPUTS	Measure range adjustable from:		Permanent overload	Intrinsic error	Console resolution	Input impedance
•	•	mA	-22 to +22mA with $\sqrt{\text{ }}$ ♣		±100mA	< ±0.05% of the MR	10 μ A	0.9V max. drop
•	•	mV♣	-110 to +110mV with $\sqrt{\text{ }}$ ♣		±1V		10 μ V	≥ 1M Ω
•	•	V	- 1.1 to +1.1V with $\sqrt{\text{ }}$ ♣	±50V	1 mV			
			-11 to +11V with $\sqrt{\text{ }}$ ♣		1 mV			
			-330 to +330V with $\sqrt{\text{ }}$ ♣	±600V	10mV			
	•	Thermocouples ♣ Standard IEC 581 J K B R S T E N L W W3 WRE5	°C -160/1200 -270/1370 200/1820 -50/1770 -50/1770 -270/410 -120/1000 0/1300 -150/910 1000/2300 0/2480 0/2300	°F -256/2192 -454/2498 392/3308 -58/3218 -58/3218 -454/770 -184/1832 -32/2372 -238/1670 1832/4172 32/4496 32/4172	-	♦(2) of the MR	0.1°C / 0.1°F	≥ 1 M Ω
	•	Sensor Pt100 Ω (1)♣ 3 wire, Standard IEC 751 (DIN 43760)	°C -200/850	°F -328/1562	-	<±0.1% of the MR	0.1°C / 0.1°F	Current 250 μ A
	•	Sensor Ni 100 3 wire (1)♣	-60/260	-76/500	-			
	•	Differential measures from 2 sensors Pt100 Ω 2 wire Standard IEC 751 ♣***	-200/270	-328/518	-			
	•	Resistive sensors	Calibers 0-440 Ω and 0-2.2 k Ω ♣ (0-8.8 k Ω optional)		-	<±0.1% of the MR (0.5% for 0-2K Ω)		-
	•	Potentiometer	from 100 Ω to 10 k Ω ♣		-			
•	•	Supply for 2-wire sensor	24 Vdc ±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 μ V typical (60 μ V Max.)
 $\blacktriangle$ 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
 $\sqrt{\text{ }}$ Extraction of the square root

- $\blacktriangle$ A 12 μ A pulsed current allows the detection of line or sensor rupture
 $\blacktriangle$ Cut off: the display of the console and the output of the μ C remain at down scale for an input signal $<$ than the cut off value, programmable from 0% to 100% of the input scale.
Thermic drift $< 150\text{ppm}/^\circ\text{C}$

Outputs

μ C 3011/3012	μ C 3211/3212	Code	Types of OUTPUTS	Features
•	•	A	1 analog	Current: direct or reversed 0-20mA Load impedance $\leq \text{Lr}$ 600 Ω Voltage: direct or reversed 0-10V Load impedance $\geq \text{Lr}$ 5K Ω (μ C3011/3012) μ C3211/3212N) $\geq \text{Lr}$ 500K Ω (μ C3211/3212R)
•	•	R	2 analog (insulated from each other)	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)
•	•	N	Digital data link RS485 Protocole Modbus/Jbus (EIA RS485) insulated. (with or without parity, even or odd; 1 or 2 stop bits)	

- (4) The relay outputs R and the digital data link N are not available simultaneously.
(5) The digital data link N and the voltage output A are not available simultaneously.

Response time of the outputs:

(for a variation from 0 to 90% of the input signal)
Average response time: 150 ms
Add 40 ms for the response time on the analog output.

Galvanic partition:

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

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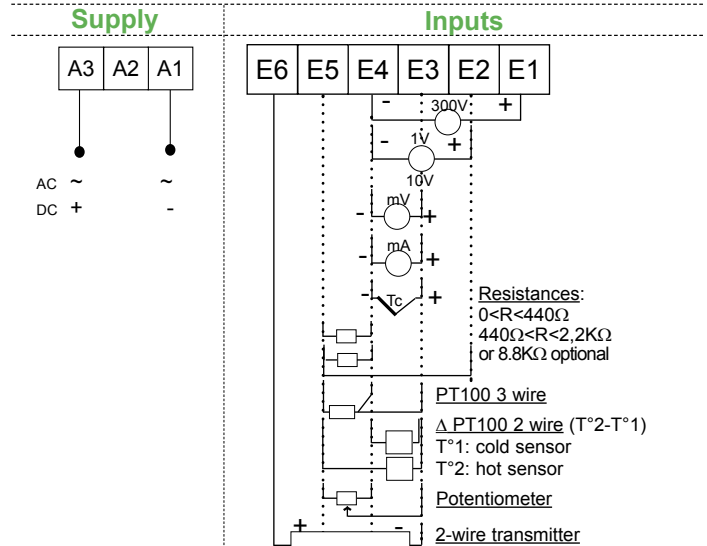
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Wiring

Upper connectors



Lower connector

Outputs of the μ C 3011/3012

