PROGRAMMABLE SIGNAL CONDITIONERS

series µCv

µCv 3012/3011/305 1 analog output

µCv 3212/3211 2 isolated analog outputs

Features

- **Universal power supply:** 20 to 250 Vac and 20 to 250 Vdc
- **Process input: (µCv 3012/3212)** ±100mV, ±1V, ±10V, ±270V, ±20mA
- **Universal input: (µCv 3011/3211)** ±100mV, ±1V, ±10V, ±270V, ±20mA, Pt100, Ni 100 (2, 3 or 4 wire), ΔPt100 thermocouple, resistance and potentiom.
- **Average response time** 150ms (15ms version F)
- **Supply for 2-wire sensor**
- **Isolated analog outputs** (A) 0-4-20mA current (active/passive) or 0-10V voltage.

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

Digital communications (N) isolated RS485 Modbus/Jbus

Sensor break detection and self-diagnosis.

Isolation input / outputs / supply.

Mode simulation allowing to validate the configuration or the installation.

Programming either with micro-console or by the PC software SlimSET via a standard USB/ µUSB cable.

µconsole

IP20

CE

CONVERTERS

Configuration

Easy programming on front face with a micro-console or with the PC software SlimSET (via a standard USB/µUSB cable).

Programming with the Micro-console

The graphical rear-lit LCD with tactile keyboard allows to visualise the following information:

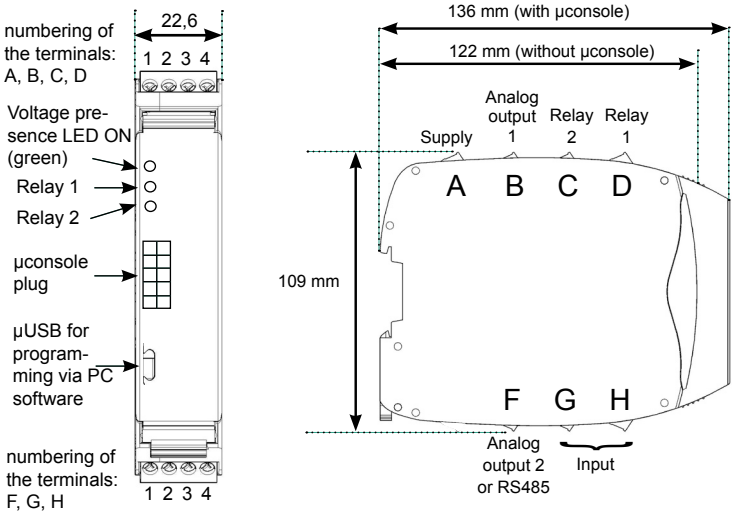
- the measured value with its unit,
- the value(s) of the analog output(s),
- the product tag name,
- the status of the relay outputs and the RS485 communications.

- Scrolling message for programming help in various languages
- Passcode protected programming
- Programmable keys for direct access

Programming by PC: SlimSET

Programming software (Windows environment) allowing:
The storage of the 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 signal conditioner connected.

Dimensions



Marking:

CE

Ex II 3 G Ex nA IIC T4 Gc

c UL us LISTED

Process Control Equipment
E482453

Features

Supply: *20 to 250 Vac and 20 to 250Vdc*
Power draw: 2.8 W max. 8 VA max.
Dielectric withstanding: 3.0 kV-50Hz-1min.
Operating temperature: -20 to +60°C
Storage temperature: -20 to +70°C
Installation: Pollution degree 2 / voltage surge II

Protection: case / terminals: IP 20
Removable terminal blocks for screwed connections (2.5 mm², flexible or rigid)
Weight: 290g (with packaging)
Self-extinguishing case of black UL 94VO PA66.
Mounting in switchbox: latching on symmetrical DIN rail.

Compliance with standards:

Directive LV 2014/35/UE ..... EN 61010-1
Standard for UL electrical safety ..... UL 61010-1
..... CSA C22.2 NO.61010-1-12
Directive ATEX 2014/34/UE area 2..... EN 60079-0
..... EN 60079-15
Directive EMC 2014/30/UE ..... EN 61326-1

Coding

Type	**µCv 30x ARN**	**Outputs:**	
or		**A**	analog I/U isolated
Type	**µCv 32x FR**	**R**	2 change-over relays
		N	RS 485 comms
		F	fast version

Available versions:

µCv 3011/3012	A	AR	ARN
µCv 3211/3212	-	R	-
µCv 305	A	-	-

(consult with us for different configurations)

Order example: For s signal conditioner with universal input + *1 analog output + 2 relays: reference* ***µCv 3011 AR***

- *Standard programming cable USB type A male to µUSB type B male: reference* **C1-µUSB**
- *CJC terminal (option): reference* **B1CSF-4**

CA
CO/142

Features

Inputs

µCv 3012 3212	µCv 3011 3211	Types of **INPUTS**	Measure range adjustable from:		Permanent overload	Intrinsic error	Input impedance
•	•	mA(1)	-2 to +22mA (U)		±100mA	< ±0.1% of the MR for inputs of the type (U) < ±0.05% of the MR for inputs of the type (B) (4)	Max. drop 0.9V
•	•		-22 to +22mA (B)				
•	•	mV(1)	-10 to +110mV (U)		±1V		≥ 1MΩ
•	•		-110 to +110mV (B)				
•	•	V	-0,1 to +1,1V (U)		±50V		
•	•		-1.1 to +1.1 V (B)				
•	•		-1 to +11V (U)				
•	•		-11 to +11V B)				
•	•		-30 to +300V (U)		±300V		
•	•		-300 to +300V (B)				
	•	Thermocouples(1) 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	-	(3) <±0.1% of the MR or 30µV typical (60µV max.)	≥ 1 MΩ
	•	Pt100Ω sensor(1)(2) Standard IEC 751 (DIN 43760)	°C	°F	-	<±0.1% of the MR	Current 250µA
	•		-200/850	-328/1562	-		
	•	Ni 100 sensor (1)(2)	-60/260	-76/500	-		
	•	Resistive sensors	Calibers 0-440 Ω(1)(2) and 0-10 kΩ		-	<±0.1% of the MR	Max. current 250µA
	•	Potentiometer	from 100Ω to 10 kΩ		-		Max. voltage 100mV
•	•	2-wire sensor supply	24 VDC ±15% with protection from short-circuits. 25 mA max.				
•	•	Special linearisation programming up to 20 points	On input: mV, V, mA. resistive sensor and potentiometer				
•	•	Extraction of the square root	On input mV, V or mA				

(1) Sensor break detection:
mA input (if down scale ≥ 3,5mA)
Other inputs: a 12µA pulsed current allows the detection of line or sensor break.

(2) Wiring possible in 2, 3 and 4 wire
Influence of the line resistance (0<Rl<<25Ω) included in the announced intrinsic error.

(3) CJC efficiency (-20 to +60°C):
Internal CJC: ±2°C ±0.03°C/°C
CJC (option terminal): ±1°C

MR Measure range

Thermal drift <150ppm /°C

(4) <±0.1% of the MR (B) for the version F if acquisition time <100ms

Outputs

µCv 3011	µCv 3211	µCv 3212	Code	Types of OUTPUTS		Features
•			**A**	1 analog	Current active/passive Voltage	Current: Direct or reversed 0-20mA Load impedance ≤ Lr 600Ω Voltage: Direct or reversed 0-10V Load impedance ≥ Lr 5KΩ Accuracy: 0.1% in relation to the display Ripple: 0.2% Response time in relation to the display: 40ms
	•	•		2 analog isolated	Current active/passive Voltage	
•	•	•	**R**	2 change-over relays		2 setpoints per relay configurable over the whole MR. Hysteresis programmable from 0 to 100%. Time delay programm. from 0 to 999,9 sec. (8A/250 VAC on resistive load)
•			**N**	RS485 digital communications Protocole MODBUS/JBUS (EIA RS485)		

Response time of the outputs:

(for a variation from 10 to 90% of the input signal)

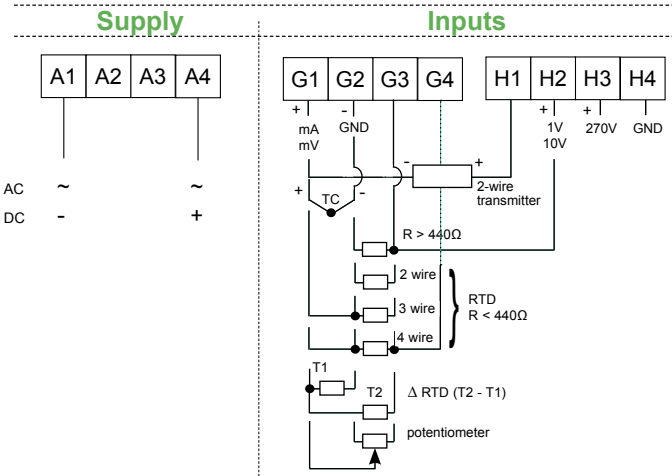
Average response time: 150 ms (15ms for the version F)

Add 40 ms for the response time on the analog output, or 10ms for the response time on the relay outputs.

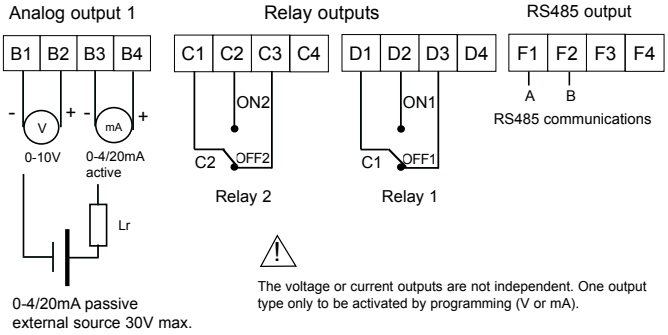
Galvanic isolation:

3.0kV-50Hz-1min. between Supply, Input, Analog output(s), Relay output and RS485.

Connectings



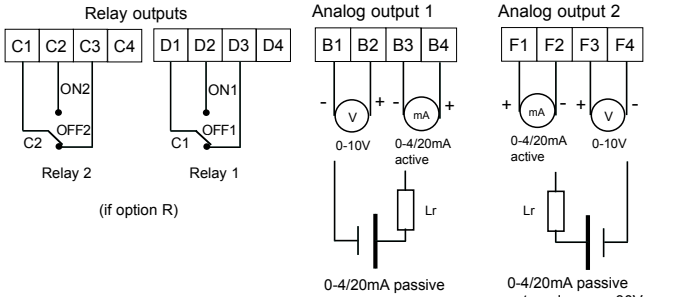
Outputs of the µCv 3011 - µCv 3012



The voltage or current outputs are not independent. One output type only to be activated by programming (V or mA).

Outputs µCv 3211/3212 (R)

µCv 3211/3212 Version with 2 independent isolated analog outputs.
µCv 3211/3212 R Version with 2 independent isolated analog outputs and 2 relays.



The voltage or current outputs are not independent. One output type only per output to be activated by programming (V or mA).

SFERE . Société Française d'Etudes et de Réalisations Electroniques
RCS Lyon 423-502-608 - Printed in France

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@sfere-net.com . http : //www.sfere-net.com

Your representative