

CONV-UI : MEASURE TRANSMITTER FOR DC VOLTAGE AND CURRENT

User instructions

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1. INTRODUCTION

The CONV-UI is an analogue measure converter for DC magnitudes; it will convert any IDC or UDC signal into a normalised 0-20 mA, 4-20 mA (active or passive) or 0-10 V signal.

The input and output calibres can be modified by straps, accessible behind the front face according to your applications.

Any modification of the input or output straps leads to a down scale and full scale adjustment.

The device also offers :

- Galvanic partition Input / Output / Power supply : 2 KV
- A broad supply span
- A response time between 10 ms and 30s. (optional)

1.1. General features

- Reduced case volume
- Plug-off connectors for screwed connections
- Operating temperature : -10°C to +60°C
- Storage temperature : -30°C to +80°C
- CE marking
- Disturbance immunity according to standards EN 50082-2
(801-4: level 4, 801-3: level 3, 801-6: level 3)

1.2. The device is dedicated to the industrial environment. They can be found in various applications

- PLC input interface
- Data centralising on API
- Acquisition, regulation, registering, watching of signals
- Retransmission of voltages and intensities on panels and low voltage switchboxes
- Watching of engine intensities and voltages.

2. TECHNICAL FEATURES

2.1. Input

2.1.1. Internal selection of the range

By removable straps and fine settings by multi-turn potentiometers. (see configuration of inputs)

2.1.2. Voltage

± 10 mV / ± 100 mV
±1 V / ±10 V / ±100 V / ±1000 V DC

2.1.3. Current

±5 mA / ±50 mA DC
Integrated supply for 2-wire sensors 22V ±20%
(I max.: 25 mA) Possibility to achieve shifted scales.

2.2. Outputs

2.2.1. Current

0-20mA, 4/20mA, Rc* < 750Ω
±20mA Rc* < 320Ω

2.2.2. Voltage bidirectional

0-10 V, Rc* > 1KΩ
± 10 V, Rc* > 1KΩ

2.3. Power supply

2.3.1. 2 Versions

High Voltage or Low Voltage (specify on order)

2.3.2. High voltage

90...270 VAC 50/60/400 Hz
 And 88 ...350 VDC

2.3.3. Low voltage

20...40 VAC 50/60/400 Hz
 And 20...64 VDC

2.3.4. Power draw

On load < 4 VA (2W)
 Empty < 2 VA (1W)

2.4. Transfer

2.4.1. Accuracy rating

≤ 0,2

2.4.2. Undulation

≤ 0,5%

2.4.3. Galvanic partition

Input / Output / Power supply
 2 kV eff. 50Hz 1 min.

2.4.4. Response time

≤ 250ms [Tr]

2.4.5. Pass-band

1,5 Hz (-3 decibel) [Bp = 0,35/Tr]

2.4.6. Temperature coeff.

≤ 0,015%/°C

2.4.7. Test voltage

5 kV eff. 50Hz 1 min.

2.5. Options

2.5.1. Shifted or inverted scales

> 10 ms

2.5.2. Passive current output

0/20mA, 4/20mA U : 30V max.

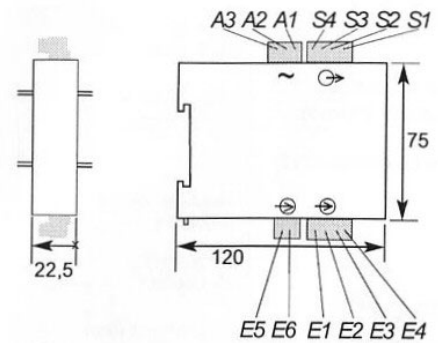
2.5.3. Short response time

2.5.4. Long response time

< 30 s

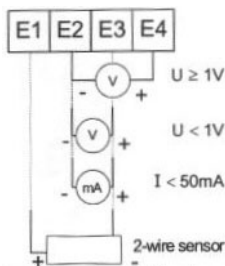
3. EXTERNAL FEATURES

Dimensions (H x L x P) 75 x 22,5 x 120 mm
 (H=108, with terminals)
 Weight 130g
 Protection Case/terminals: IP 20
 Case Self-extinguishing in black ABS UL94VO
 Latching on symmetrical DIN rail.
 Plug-in connectors for screwed connections
 (2,5mm², flexible or rigid)

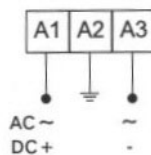


4. CONNECTIONS

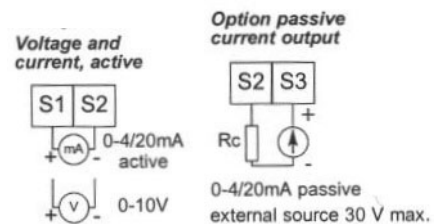
4.1. Inputs



4.2. Supply



4.3. Outputs



5. INPUT/OUTPUT CONFIGURATION

5.1. Switch off device

- Take the front face off
- Select input and output calibres using the Straps as indicated on the right
- Connect the instrument to a < 0,2 accuracy rating multimeter

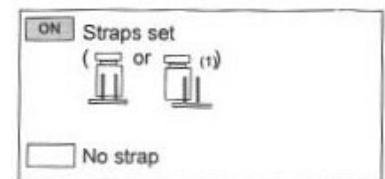
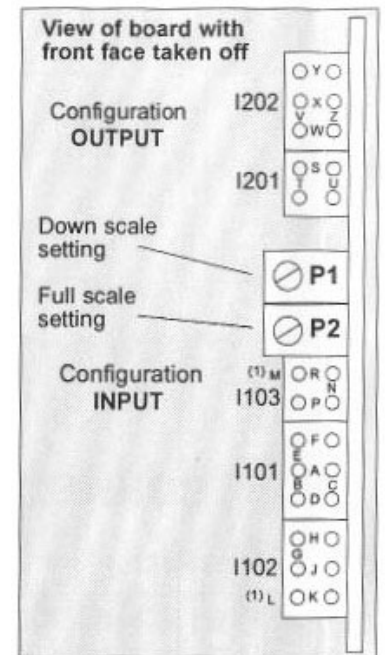
5.2. Switch on device

Input xV / xA

- Generate 0 V / A
- Set output down scale, using potentiometer P1
- Generate full scale on the input
- Set output full scale using potentiometer P2
- Adjust down and full scale settings if necessary

5.3. Symmetrical input: \pm xmV / \pm xmA

- Apply 0 mV / mA
- Adjust the half scale of the output thanks to the potentiometer P1 (ex : 5V if 0-10V, 0 mA if \pm 20mA)
- Apply the full scale at the input
- Adjust the full scale of the output thanks to the potentiometer P2
- Readjust the half and full scales if needed
- Check the down scale in applying the down scale of the input



Note : For any configurations not mentioned above, please consult with us for a feasibility study.

5.4. DC current input configuration

		DC current input - Straps															
Terminals	Calibre	I101						I102						I103			
		A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	
E2 (-) E3 (+)	+/- 5 mA			ON			ON			ON		ON			ON		
	0-5 mA			ON			ON			ON	ON		ON				
	+/- 10 mA			ON			ON		ON			ON			ON		
	0-10 mA			ON			ON			ON		ON	ON				
	+/- 15 mA			ON			ON	ON			ON				ON		
	0-15 mA			ON			ON		ON		ON		ON				
	+/- 20 mA			ON			ON	ON				ON			ON		
	0-20 mA			ON			ON		ON			ON	ON				
	0-40 mA			ON			ON	ON				ON	ON				
	4-20 mA			ON			ON		ON			ON				ON	
E3 (-) E1 (+)	4-20 mA (2-wires sensor)			ON			ON		ON			ON				ON	

5.5. DC voltage input configuration

		DC voltage input - Straps															
Terminals	Calibre	I101						I102						I103			
		A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	
E2 (-) E3 (+)	+/- 100 mV	ON					ON			ON		ON			ON		
	0-100 mV	ON					ON			ON	ON		ON				
E2 (-) E4 (+)	+/- 1 V	ON					ON			ON		ON			ON		
	0-1 V	ON					ON			ON	ON		ON				
	+/- 5 V			ON			ON			ON	ON				ON		
	0-5 V	ON					ON	ON			ON		ON				
	+/- 10 V			ON			ON			ON		ON			ON		
	0-10 V			ON			ON			ON	ON		ON				
	+/- 15 V			ON			ON		ON		ON				ON		
	0-15 V			ON			ON			ON		ON	ON				
	+/- 20 V			ON			ON		ON			ON			ON		
	0-20 V			ON			ON			ON		ON	ON				
	+/- 50 V		ON				ON			ON	ON				ON		
	0-50 V			ON			ON	ON			ON		ON				
	+/- 100 V		ON				ON			ON		ON			ON		
	0-100 V		ON				ON			ON	ON		ON				
	+/- 150 V		ON				ON		ON		ON				ON		
	0-150 V		ON				ON			ON		ON	ON				
	+/- 500 V		ON				ON	ON				ON			ON		
	0-500 V		ON				ON	ON				ON	ON				
0-1000 V		ON				ON	ON				ON	ON					

5.6. Output configuration

		Output- Straps									
Terminals	Calibre	I201			I202						
		S	T	U	V	W	X	Y	Z		
S2 / S1	0-20mA	ON			ON					ON	
	4-20mA		ON		ON					ON	
	+/- 20 mA			ON	ON					ON	
	0-10V	ON				ON		ON			
	+/- 10 V			ON		ON		ON			

Your instrument is now ready to work