



# SMART CONVERTER

# BPX

## FUNCTION

Smart converter for measurement signals with easy programming by ProgressXmanager software (RS 232 connection).

## ELECTRICAL DATA

- **Number of channels** : 1
- **Power supply** (to specify when ordering):  
98 to 255 VAC (48 to 62 Hz)  
21 to 53 VDC  
Front face green LED ON when energized.
- **Consumption** : ≤ 4 VA
- **Input signal** (from hazardous area) see table here after
- **Output signal** (to safe area)  
Depending on options, 1 or 2 analogue outputs and / or 2 or 4 alarm relays.  
Input faults may be viewed on relays and on output signal (adjustable between 3.5 and 23 mA)  
On front face a RS 232 connector allows communication with P.C.
- **Galvanic isolation between** :  
IS inputs / power supply – NIS outputs : 2500 V  
Power supply / NIS outputs : 1000 V

## MECHANICAL DATA

- **Installation** : In safe area
- **Presentation** : ABS housing
- **Weight** : 200 g
- **Storage temperature** : - 20 to 70 °C
- **Working temperature** : 0 to 60 °C
- **Relative humidity** : 5 to 95% without condensing
- **Connection** : by cage clamps terminals
- **Mounting** : on rail EN 50022

## INPUT TYPES

Input type	Scale	Accuracy (% of full scale)	Input impedance	Characteristics
Current mA	-2.5 to + 23 mA	0.1	4 Ω	
Voltage mV	-10 to + 105 mV	0.1	> 1000 MΩ	
Voltage V	-1 to +10.5 V	0.1	1 MΩ	
Thermocouple J	-210 to + 1200 °C	0.1 with junction reference to 0°C  Cold junction compensation adds ± 1°C max. extra error	>1000 MΩ	Possibility to detect thermocouple's wire cut-off
" K	-250 to + 1372 °C			
" B	+ 400 to + 1820 °C			
" R	-50 to + 1768 °C			
" S	-50 to + 1768 °C			
" T	-250 to + 400 °C			
" E	-250 to + 1000 °C			
" N	-240 to + 1300 °C			
" W5	-20 to + 2320 °C			
Resistance Pt 100 2-wire	-220 to + 850 °C	0.1	Measurement current : 0.5 mA	Line influence : 2.5 °C / Ω 2.5 °C / Ω between 2 wires None
" 3-wire				
" 4-wire				
2/3-wire transmitter	+ 3.5 to + 23 mA	0.1	4 Ω	Short circuit protection supply, Transmitter voltage > 16 V to 20 mA Root extraction
Potentiometer	0 to 100%	0.1	n/a	Potentiometer between 1 KΩ & 20 KΩ

## CERTIFICATIONS

**EMC** : Immunity EN 50082-2 1995 Emission EN 50081-2 1993  
**Low Voltage Directive** : IEC 1010-1 overvoltage category II  
**Intrinsic Safety** : EN 50014 / EN 50020 [EEx ia] IIC  
 LCIE 03 ATEX 6469 X

**ATEX Classification** : CE 0081 II (1) G/D

## SAFETY PARAMETERS

	Inputs		
	Transmitter (Z - X)	Current (X - T)	mV-V-TC-Pt100-Pot (W-U-S-R-P-T)
Voltage U <sub>o</sub> (V)	27.9	0.057	7
Current I <sub>o</sub> (mA)	78.2	2.82	5.64
Power P <sub>o</sub> (mW)	545.47	0.04	9.87
External capacity group IIC (nF)	0.084	1000	15.7
External inductance group IIC (mH)	0.654	1000	300
External capacity group IIB (nF)	2.8	100	100
External inductance group IIB (mH)	4.2	150	150

## ANALOGUE OUTPUTS

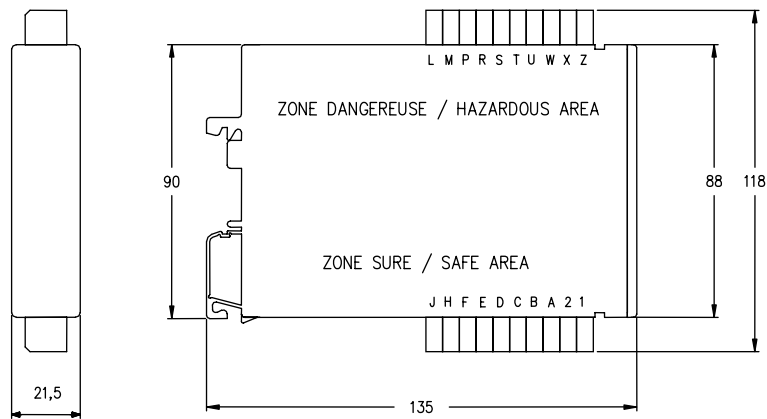
- **Output current** : from 3.5 to 23 mA according to option
- **Wiring** : identical in generator or receiver mode.
- **Max. load resistance** : 750 Ω (models with HART communication need at least 250 Ω minimum load).

## RELAY OUTPUTS

- **Max current rating** :  
Codes OC or OF : 250V - 3 A - 100 VA.  
Other codes : 250V - 5 A - 100 VA

SOUCEUX D'AMELIORER NOS PRODUITS NOUS RESERVONS LE DROIT DE REVISER SANS PREAVIS LES CARACTERISTIQUES DE NOS PRODUITS. CONTINUOUS DEVELOPMENTS MAY RESULT IN SPECIFICATION CHANGES WITHOUT NOTICE

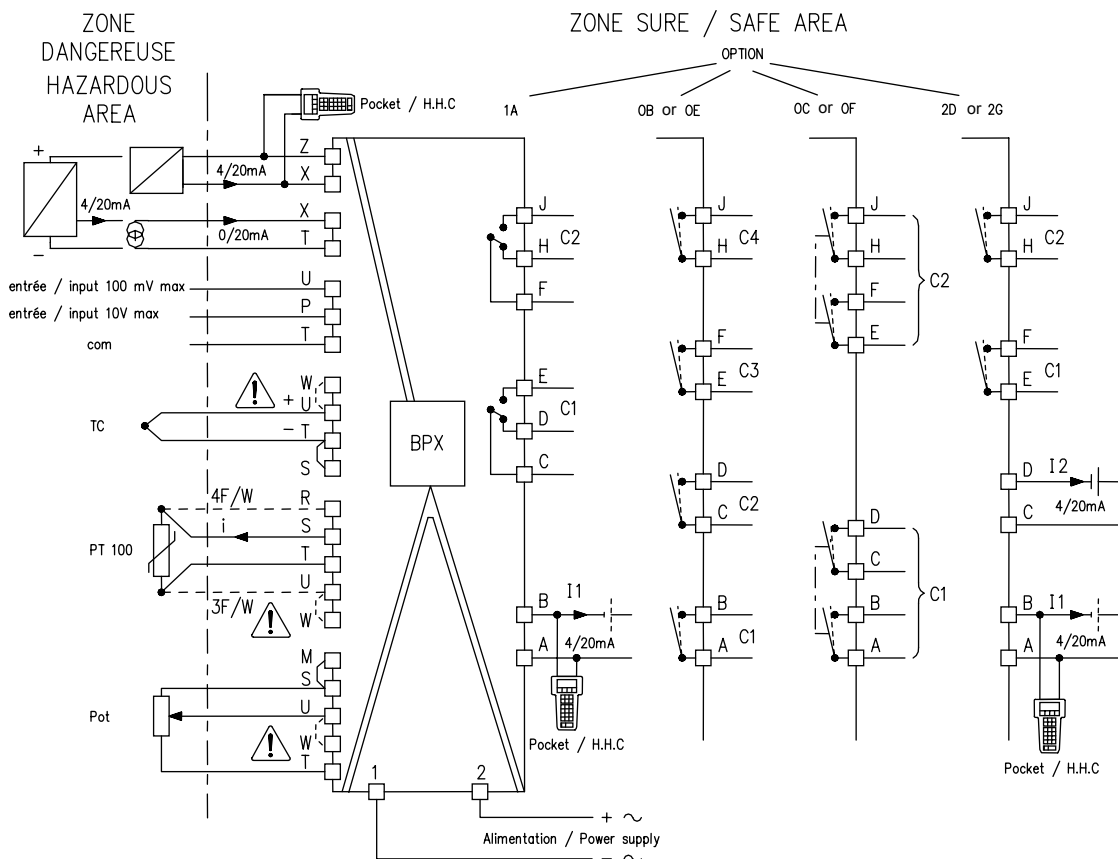
## ENCOMBREMENT / DIMENSIONS (mm)



## CODIFICATION

Type	Model	Terminal option	Power supply	Input	Output
BPX					
	0 : NIS 1 : IS	00 : Cage clamp B0 : Screws	E : 98 to 255 VAC 2 : 21 to 53 VDC	10 : 1 input 11 : 1 input + hart	1A : 1x 4/20 mA output and 2 relays (SPDT) 2D* : 2x 4/20 mA outputs and 2 relays (NO) 2G* : 2x 4/20 mA outputs and 2 relays (NC) 0C : No 4/20 mA output and 2 relays (2x NO) 0F : No 4/20 mA output and 2 relays (2x NC) 0B : No 4/20 mA output and 4 relays (NO) 0E : No 4/20 mA output and 4 relays (NC) * 1 generator or receiver output & 1 receiver output

## WIRING



TC : W-U link allows to detect sensor's breakdown. T-S link is mandatory in case of internal cold junction compensation use.  
 Pt100 : W-U link allows to detect any connection's rupture on U. Other breakdowns are automatically detected.  
 Pot : W-U allows to detect potentiometer's cursor connection's rupture. Other breakdowns are automatically detected.

