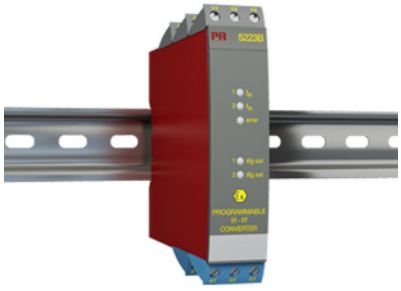
PERFORMANCE MADE SMARTER



Programmable f/I-f/f converter

5223B

– Pulse calculator / frequency generator
– Galvanic isolation
– ATEX I.S. version
– Analog current and voltage output
– PNP / NPN output, optional relays
– Universal supply

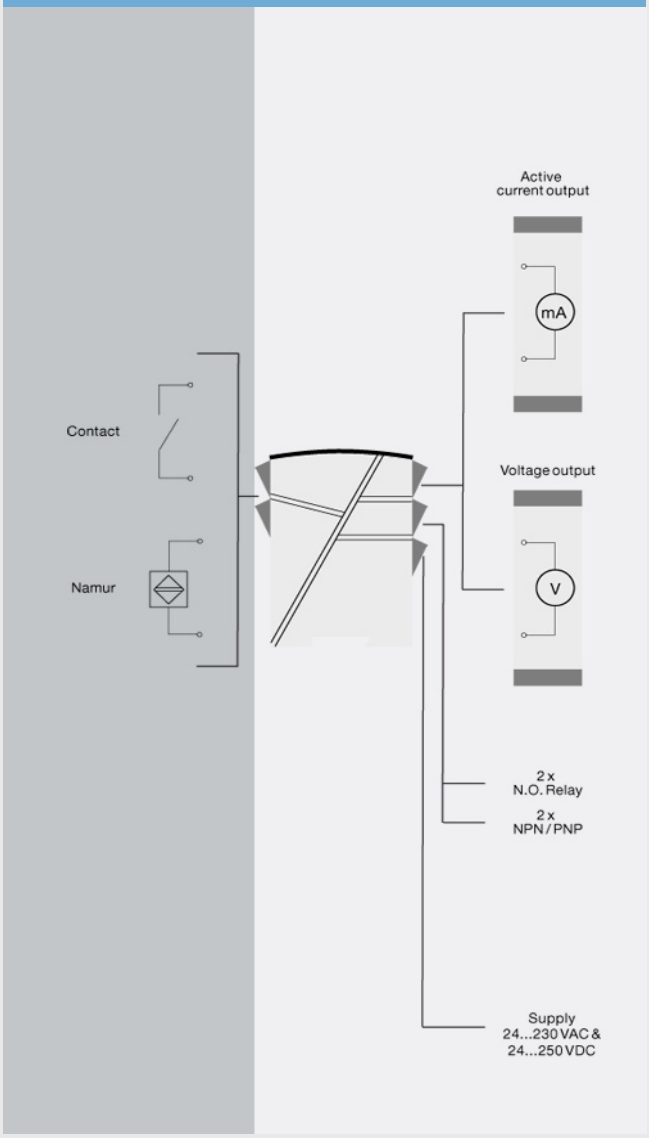
ATEX

Advanced features
- The 5223 transmitter can be configured with a standard PC and the Loop Link communications unit, or delivered fully configured.

Application
- The f/I function performs frequency to current and voltage conversion.
- The f/f function can be used for pulse division or multiplication and as a buffer collecting fast pulse trains.
- A scale factor may be entered in all functions. Using both digital inputs, pulse addition or subtraction are possible.
- The frequency generator function is used as e.g. a time base or clock generator.
- Input and supply polarity reversal protection.
- Current and voltage output signals galvanically separated from the supply and the inputs.
- Programmable digital outputs including NPN, PNP or relay options.
- ATEX units have input for mechanical contact and NAMUR inductive proximity sensor.

Technical characteristics
- 5 front LEDs, indicating f1 and f2 active inputs (not NPN), Dig.out.1 and 2 active outputs, and a programmable error signal.
- Analog current output can be configured to any current within 0...20 mA range.
- Voltage output range is selectable between 0...10 VDC and 0...1 VDC by use of internal jumpers.
- Input range:
  Frequency: 0...20,000 Hz
  Sensor types: NAMUR, tacho, NPN, PNP, TTL, S0
- Output range:
  Current and voltage output: 0...20 mA / 0...10 V
  Relay outputs: 0...20 Hz
  NPN and PNP output as f/f: 0...1000 Hz
  NPN and PNP output as generator: 0...20,000 Hz

Applications



Order:

Type	Output	
5223B	Analog + NPN / PNP	: 1
	Analog + relay output	: 2

Environmental Conditions

Operating temperature..... -20°C to +60°C
Calibration temperature..... 20...28°C
Relative humidity..... < 95% RH (non-cond.)
Protection degree..... IP20

Mechanical specifications

Dimensions (HxWxD)..... 109 x 23.5 x 130 mm
Weight approx..... 240 g
DIN rail type..... DIN 46277
Wire size..... 1 x 2.5 mm^2 stranded wire
Screw terminal torque..... 0.5 Nm

Common specifications

Supply

Supply voltage, universal..... 21.6...253 VAC, 50...60 Hz or 19.2...300 VDC
Fuse..... 400 mA SB / 250 VAC
Max. required power..... 3.5 W
Internal power dissipation..... 3 W

Isolation voltage

Isolation voltage, test / working..... 3.75 kVAC / 250 VAC
PELV/SELV..... IEC 61140

Power-up delay..... 0...999 s
Warm-up time..... 1 min.
Programming..... Loop Link
Signal / noise ratio..... Min. 60 dB
Response time, analog..... < 60 ms + period
Response time, digital output..... < 50 ms + period
Effect of supply voltage change..... < 0.005% of span / VDC
Temperature coefficient..... < ±0.01% of span / °C
Linearity error..... < 0.1% of span
NAMUR supply I.S. / Ex..... 8.9 VDC ±0.5 VDC / 8 mA
EMC immunity influence..... < ±0.5%

Input specifications

Common input specifications

Max. offset..... 90% of selected max. frequency

Measurement range..... 0...20 kHz
Min. measurement range..... 0.001 Hz
Min. pulse length..... 25 µs
Input types..... NAMUR acc. to DIN 19234

Output specifications

Common output specifications

Updating time..... 20 ms

Current output

Signal range..... 0...20 mA
Min. signal range..... 5 mA
Load (@ current output)..... ≤ 600 Ω
Load stability..... ≤ 0.01% of span / 100 Ω
Current limit..... < 23 mA

Voltage output

Signal range..... 0...10 VDC
Min. signal range..... 250 mV
Load (@ voltage output)..... ≥ 500 kΩ

Relay output

Max. switching frequency..... 20 Hz
Max. voltage..... 250 VRMS
Max. current..... 2 AAC
Max. AC power..... 100 VA (I.S. version 5223B)
Max. load at 24 VDC..... 1 A

Other output types..... Active outputs (NPN / PNP)
Other output types..... f/f converter output
Other output types..... Frequency generator
of span..... = of the presently selected range

Observed authority requirements

EMC..... 2014/30/EU
LVD..... 2014/35/EU
EAC..... TR-CU 020/2011

Approvals

ATEX 2014/34/EU..... KEMA 04ATEX1001
EAC Ex TR-CU 012/2011..... RU C-DK.GB08.V.00410