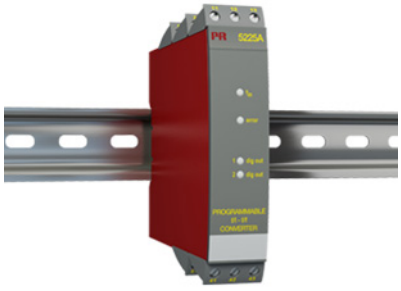
PERFORMANCE MADE SMARTER



Programmable f/I-f/f converter

5225A

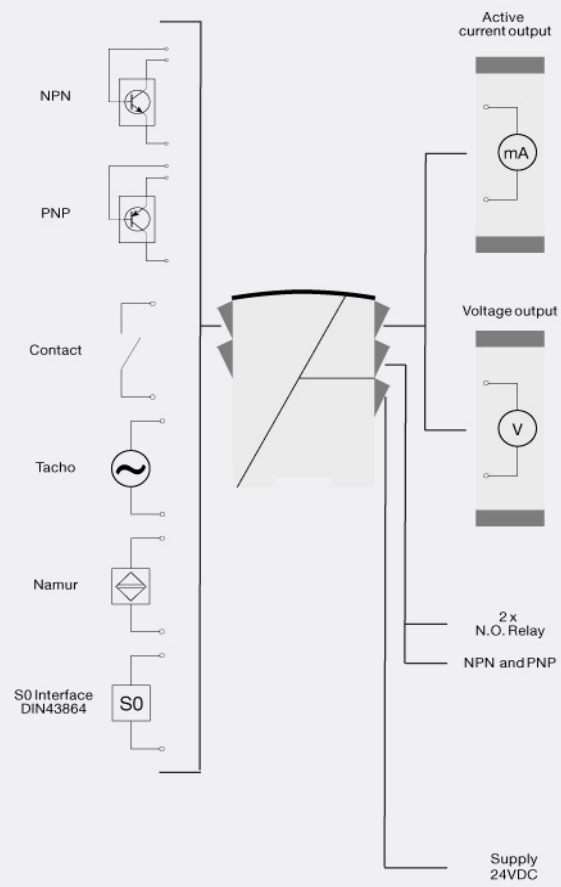
- Pulse conditioning
- Frequency generator
- Concurrent f/I and f/f function
- Analog current and voltage output
- PNP / NPN output, optional relays
- Programmable by PC and Loop Link

Advanced features
- The 5225 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.
- The concurrent f/I and f/f functions enable a scaled digital output signal in conjunction with the analog output.
- The frequency generator function is used as e.g. a time base or clock generator.
- Input and supply polarity reversal protection.
- Programmable digital outputs including NPN, PNP or relay options.

Technical characteristics
- 4 front LEDs, indicating f in active inputs (not NPN), Dig.out.1 (NPN or relay 1) and Dig.out 2 (relay 2) outputs, and a NAMUR input 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



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Order:

Type	Output	
5225A	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..... 190 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..... 19.2...28.8 VDC
Max. required power..... 3.5 W
Internal power dissipation..... 1.7 W

Isolation voltage

PELV/SELV..... IEC 61140

Warm-up time..... 30 s
Power-up delay..... 0...999 s
Programming..... Loop Link
Signal / noise ratio..... Min. 60 dB
Response time, analog..... < 60 ms + period
Response time, digital output..... < 50 ms + period
Response time, concurrent f/I and f/f..... < 80 ms + period
Signal dynamics, output..... 16 bit
Effect of supply voltage change..... < ±0.002% of span / %V
Auxiliary voltage: NAMUR supply..... 8.3 VDC ±0.5 VDC / 8 mA
S0 supply..... 17 VDC / 20 mA
NPN / PNP supply..... 17 VDC / 20 mA
Special supply (programmable)..... 5...17 VDC / 20 mA
Temperature coefficient..... < ±0.01% of span / °C
Linearity error..... < 0.1% of span
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
Low cut-off frequency..... 0.001 Hz
Max. frequency, with input filter ON..... 50 Hz
Min. period time with input filter ON..... 20 ms
Input types..... NAMUR acc. to DIN 19234
Input types..... Tacho
Input types..... NPN / PNP
Input types..... TTL
Input types..... S0 acc. to DIN 43864

Output specifications

Common output specifications

Updating time..... 40 ms for concurrent f/I and f/f
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
Isolation, test / working..... 3.75 kVAC / 250 VAC
Max. voltage..... 250 VRMS
Max. current..... 2 AAC
Max. AC power..... 500 VA
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
RoHS..... 2011/65/EU
EAC..... TR-CU 020/2011