PR electronics

SUNSTAR

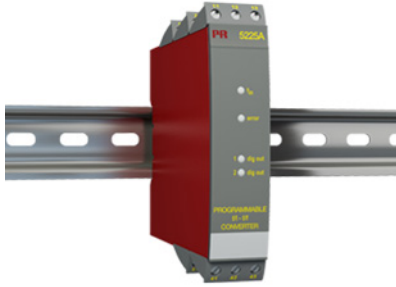**PERFORMANCE MADE SMARTER**

Programmable f/I-f/f converter

5225

– 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.
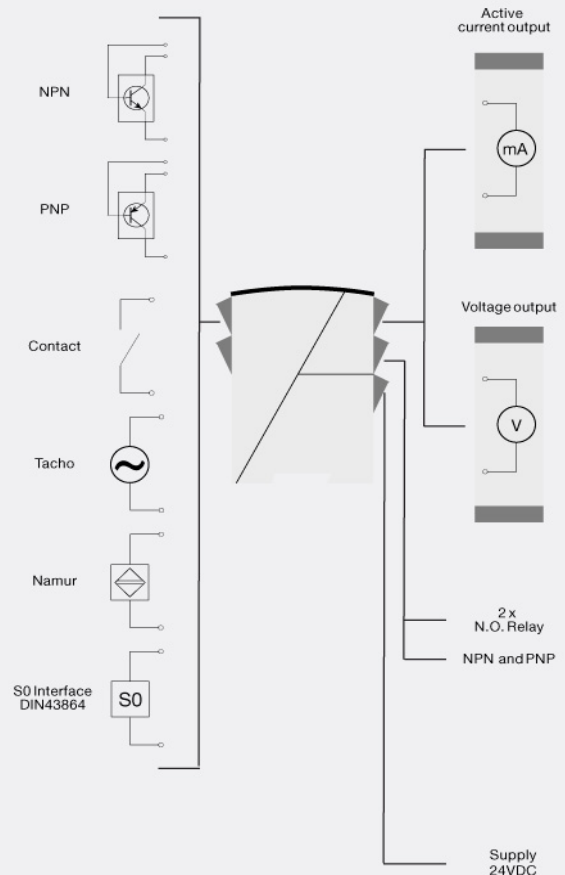
Application

• 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.
• Current and voltage output signals galvanically separated from the supply and the inputs.
• 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.
• Programming can be performed with or without a power supply.

Connections

Order:

Type	Output	
5225	Analog + NPN / PNP	: 1
	Analog + relay output	: 2

Environmental Conditions

Specifications range.. -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 voltage... 19.2...28.8 VDC
Max. power consumption............................... 3.5 W
Internal consumption..................................... 1.7 W
Warm-up time.. 30 s
Power-up delay.. 0...999 s
Communications interface............................. 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

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

Max. offset.. 50% of selected max. value
Current output: Signal range........................ 0...20 mA
Min. signal range... 5 mA
Updating time.. 20 ms
Updating time.. 40 ms for concurrent f/I and f/f
Load (max.)... 20 mA/600 Ω/12 VDC
Load stability, current output......................... ≤0.01% of span/100 Ω
Current limit.. < 23 mA
Voltage output through internal
shunt... See manual for details
Other output types.. Active outputs (NPN / PNP)
Other output types.. f/f converter output
Other output types.. Frequency generator
Relay output: Max. switching
frequency.. 20 Hz
Relay output: 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
*of span.. = of the presently selected
                                                                       range

Approvals

EMC.. EN 61326-1
LVD... EN 61010-1
PELV/SELV.. IEC 364-4-41 and EN 60742
GOST R.. Yes

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