



## Signal converter FP210 / IP210 / PP210 / ZP210

Frequency (FP210)  
SSI absolute value (IP210)  
Start-Stop (PP210)  
Pulse counter (ZP210)      →      Parallel (25 Bit)

### Product features:

- Multifunctional unit with several operating modes for incremental encoders or SSI absolute encoders
- For incremental encoders:
  - Operating modes as frequency converter or position transducer (pulse counter)
  - Universal incremental inputs (HTL/TTL/RS422) for NPN/PNP/NAMUR encoders and sensors
  - Functions such as linkages (eg. A+B), scaling, filters, ...
  - Input frequencies up to 1 MHz
- For SSI absolute encoders:
  - Master or Slave operation with clock frequencies up to 1 MHz
  - For single turn and multi turn encoders with SSI formats from 10 ... 32 Bit
  - Functions such as bit suppression, round-loop function, scaling, ...
- For absolute and magnetostrictive position encoder with Start-Stop-Interface:
  - Operating modes for master or slave, for position, angle and speed measurement
- USB interface for configuration
- Extremely short conversion times
- Linearization with 24 control points
- Auxiliary voltage output 5 and 24VDC for encoder supply
- Compact rail housing to EN60715
- Easy parameterization via user interface OS (Freeware)

Technical Specifications		
<b>Connections:</b>	Connector type:	screw terminal, 1.5 mm <sup>2</sup> / AWG 16 25 pin SUB-D socket for parallel output
<b>Power supply (DC)::</b>	Input voltage: Protection circuit: Consumption: Fuse protection:	10 ... 30 VDC reverse polarity protection approx. 30 mA (unloaded) extern: T 0.5 A
<b>Encoder supply:</b>	Output voltage: Output current:	5 VDC and 24 VDC (approx. 1 V lower than the power supply) max. 250 mA
<b>Incremental-inputs:</b>	Number of inputs: Configuration: RS422: HTL differential TTL/ HTL PNP / NPN: Load: Accuracy frequency measurement:	A, /A, B, /B RS422, TTL, HTL differential, HTL PNP or HTL NPN max. 1 MHz (RS422 differential signal > 0,5 V) max. 500 kHz (HTL differential signal > 2 V) max. 250 kHz max. 6 mA / Ri > 5 kOhm / 10 pF +/- 50 ppm, +/-1 Digit
<b>SSI interface:</b>	Input format Number (channels): Configuration: Format: Frequency: Resolution: Load:	TTL differentiell, RS422-Standard Clock, /Clock, Data, /Data Master or Slave (adjustable) Binary or Gray code max. 1 MHz 10 ... 32 Bit Max. 3 mA / Ri > 10 kOhm / 10 pF
<b>Start/Stop-interface:</b>	RS422 input: RS422 output: Pulse width Init-pulse: Frequency Init-pulse: Clock frequency time measurement: Resolution:	1 x (Start_Stop, /Start_Stop); 1x (ext. Init_In, ext. /Init_In) 1 x (Init_Out, /Init_Out) 1...9 µs (adjustable) 62,5 Hz - 5000 Hz (adjustable) 48 MHz Depending on the waveguide velocity of the encoder. (e.g. 0,059mm / step at v = 2850 m/s)
<b>Control inputs:</b>	Number of inputs: Format: Frequency: Load:	3 HTL, PNP (Low 0 ... 3 V, High 9 ... 30 V) max. 10 kHz max. 2 mA / Ri > 15 kOhm / 470 pF
<b>Parallel output:</b>	Output format: Resolution: Signal level:  Output current: Internal resistance: Protection circuit: Sampling time:	Binary Gray oder BCD 25 Bit Push-Pull, 0 ... 35 V* (can be supplied to terminal COM+)  max. 20 mA (at 24 V) Ri ≈ 600 Ohm *) short-circuit proof up to max. 27 V 0,001s ... 9,999s (adjustable)
<b>USB interface:</b>	Connector type: Baud rate: Format:	Mini USB 115200 Baud 8none1
<b>Display:</b>	LED:	green status LED
<b>Housing:</b>	Material: Mounting: Dimensions (w x h x d): Protection class: Weight:	Plastic housing 35 mm DIN rail (EN 60715) 23 x 102 x 102 mm IP20 approx. 100 g
<b>Ambient temperature:</b>	Operation: Storage:	-20°C ... +60°C (not condensing) -25°C ... +75°C (not condensing)
<b>Failure rate:</b>	MTBF in years:	56,4 a (Continuous operation at 60 ° C)
<b>Conformity and standards:</b>	EMC 2014/30/EU:  RoHS (II) 2011/65/EU RoHS (III) 2015/863:	EN 61326-1: 2013 for industrial location EN 55011: 2017 / CISPR11: 2017 Class A  EN IEC 63000: 2018