



Signal converter FU210 / IV210 / PV210 / ZU210

Frequency (FU210)

SSI absolute value (IV210)

Start-Stop (PV210)

Pulse counter (ZU210)



Analog (current / voltage)

Serial (RS232 / RS485)

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, start-up bridging, ...
 - 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
- 16 bit analog output, configurable for voltage or current operation
- USB interface and RS232/RS485-interface for configuration and serial readout
- RS232/RS485-interface for configuration and serial readout
- Extremely short conversion times
- Linearization with 24 control points
- Auxiliary voltage output 5 and 24VDC for encoder supply
- Numerous connection options via 6 control inputs and 6 control outputs
- Compact rail housing to EN60715
- Easy parameterization via user interface OS (Freeware)

Technical Specifications		
Connections:	Connector type:	screw terminal, 1.5 mm ² / AWG 16
Power supply (DC)::	Input voltage: Protection circuit: Consumption: Fuse protection:	18 ... 30 VDC reverse polarity protection approx. 50 mA (unloaded) extern: T 0.5 A
Encoder supply:	Output voltage: Output current:	5 VDC and 24 VDC (approx. 1 V lower than the power supply) max. 250 mA
Incremental inputs:	Number (channels): Configuration: RS422: HTL differential: HTL Single Ended: TTL: Frequency measurement accuracy:	A, B (HTL Single Ended, TTL Single Ended) A, /A, B, /B (RS422, HTL Differential) RS422, HTL differential, HTL Single Ended, TTL max. 1 MHz (RS422 differential signal > 0,5 V) max. 1 MHz (HTL differential signal > 1 V) max. 350 kHz, (Low: 0 ... 5V, High: 9 ... 30 V) max. 350kHz, (Low: 0 ... 0.6V, High: 2.2 ... 5V +/- 50 ppm
SSI interface:	Number (channels): Configuration: Format: Frequency: Resolution: Load:	Clock, /Clock, Data, /Data Master or Slave Binary or Gray code max. 1 MHz 10 ... 32 Bit Max. 3 mA / Ri > 10 kOhm / 10 pF
Start/Stop-interface:	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. (z.B. 0,059mm / Schritt bei v = 2850 m/s)
Control inputs:	Number of inputs: Format: Frequency: Load:	6 HTL, PNP (10 ... 30 V) max. 10 kHz max. 2 mA / Ri > 15 kOhm / 470 pF
Analog-output:	Configuration: Voltage output: Current output: Resolution: Accuracy: Reaction time:	current or voltage operation -10...+10 V (max. 2mA) 0/4 ... 20 mA (burden: max. 270 Ohm) 16 Bit ± 0,1 % 0 °C ... +45 °C ± 0,15 % -20 °C ... 0 °C und +45 °C ... +60 °C < 1 ms
Control-Outputs:	Number of outputs: Format / level: Output current: Reaction time:	6 5 ... 30 V (depends on the Com+ voltage), PNP max. 200 mA < 1 ms
Serial interface:	Format: Baudrate:	RS232 oder RS485 9600, 19200 oder 38400 baud
USB interface:	Mini-USB:	115200 Baud, Data Format 8 none 1
Display:	LED:	green status LED
Housing:	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
Ambient temperature:	Operation: Storage:	-20 °C ... +60 °C (not condensing) -25 °C ... +75 °C (not condensing)
Failure rate:	MTBF in years:	59,1 a (Continuous operation at 60 °C)
Conformity and standards:	EMC 2014/30/EU: RoHS (II) 2011/65/EU RoHS (III) 2015/863:	EN 61326-1: 2013 for industrial location EN 55011: 2016 + A1: 2017 + A11: 2020 Class A EN IEC 63000: 2018