



## Monitor DZ220 and DZ220/RL

Frequency

SSI absolute value

Start-Stop

Pulse counter



Analog (current / voltage)

Serial (RS232)

### 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-C interface and 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 5 control inputs, 4 control outputs and optionally 4 further relay channels
- 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
<b>Power supply (DC):</b>	Input voltage: Protection circuit: Consumption: Fuse protection:	18 ... 30 VDC reverse polarity protection approx. 60 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. 200 mA
<b>Incremental inputs:</b>	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
<b>SSI interface:</b>	SSI input / output: Number (channels): Configuration: Format: Frequency: Resolution: Load:	TTL differential (RS422) Clock out, /Clock out, Data, /Data, Clock in, /Clock in Master or Slave Binary or Gray code 100 kHz - 2 MHz (adjustable) 10 ... 32 Bit Ri = approx. 13 kOhm
<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 (Init In, /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. 0,059 mm / step at v = 2850 m/s)
<b>Control inputs:</b>	Number of inputs: Format: Frequency: Reaction time: Load:	5 HTL, PNP (Low 0 ... 3 V, High 9 ... 30 V) max. 1 kHz approx. 1ms max. 2 mA at 24VDC
<b>Analog output:</b>	Configuration: Voltage output: Current output: Resolution: Accuracy:  Reaction time:	Current or voltage output -10...+10 V (max. 2 mA) 0/4 ... 20 mA (burden: max. 270 Ohm) 16 Bit ± 0,1 % 0°C ... +45°C / ± 0,1 % +32°F ... +113°C ± 0,15 % -20°C ... 0°C and +45°C ... +60°C / ± 0,15 % -4°F ... +32°F and +113°F ... +140°F < 1 ms
<b>Control outputs:</b>	Number of outputs: Format / level: Output current: Reaction time:	4 5 ... 30 V (depending on the Com+ voltage), PNP max. 100 mA min. 1 ms (depending on "Sampling Time (s)" and "Average Filter" setting etc.)
<b>Relay outputs:</b> (option RL)	Number of outputs: Configuration: AC-switching capacity: DC-switching capacity: Reaction time:	4 COM, NO, NC (potential free) 115VAC / 0,6A or 230VAC / 0,3A 30VDC / 2A approx. 4 ms
<b>Serial interface:</b>	Format: Baud rate: Data format:	RS232 9600, 19200, 38400 or 115200 Baud 8-even-1, 8-odd-1, 8-none-1, 8-none-2

Technical Specifications:		
<b>USB interface:</b>	Connection: Data format: Baud rate:	USB-C 8-none-1 115200 Baud
<b>Display:</b>	LED:	Green LED (ready for operation) Yellow LED (Error)
<b>Housing:</b>	Material: Mounting:  Dimensions (w x h x d): (without connection)  Dimensions (w x h x d): (inclusive connections)  Weight: Protection:	Plastic housing 35 mm DIN rail (EN 60715)  34 x 100 x 131 mm / 1.34 x 3.94 x 5.16 inches  34 x 118 x 140 mm / 1.34 x 4.65 x 5.51 inches  approx. 160 g IP20
<b>Ambient temperature:</b>	Operation: Storage:	-20°C ... +60°C resp. -4 °F ... +140 °F (not condensing) -25°C ... +75°C resp. -13°F ... +167 °F (not condensing)
<b>Ambient conditions:</b>	Altitude: Humidity: Pollution Degree:	max. 2000 m (6560 ft) above sea level max. 80% relative humidity up to 30°C / 86°F 2
<b>Failure rate:</b>	MTBF in years:	DZ220: 58,7 a DZ220/RL: 55,8 a
<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: 2016 + A1: 2017 + A11: 2020 Class A  EN IEC 63000: 2018