



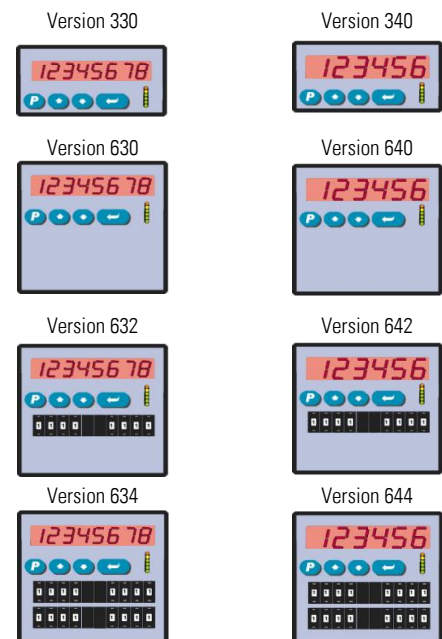
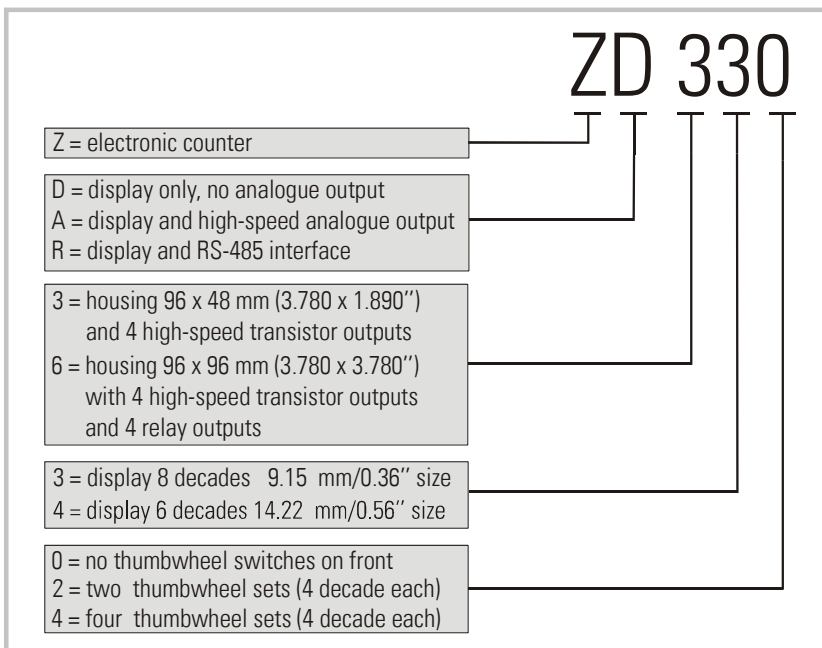
## Universal counter series ZA / ZD / ZR 330 - 644

### High speed position indicators and differential counters with two incremental inputs

#### Product Features:

- Digital counter and indicator series for high-end applications
- Two independent encoder inputs, each with channels A, /A, B, /B
- 1 MHz of counting capability and individual impulse scaling facility
- Selectable operating modes for fast position or event counter, summing counter, differential counter, cutting length indicator, diameter calculator and more
- 4 preset levels with high-speed power transistor outputs
- RS232 interface and high-speed analogue output available, RS485 (only ZR)
- Choice of 6-decade display (15 mm, 0.56") or 8-decade display (10 mm, 0.36")

#### Available Devices:



Technical Specifications:		
<b>Power supply:</b>	Input voltage (AC): Power consumption (AC): Input voltage (DC): Protection circuit (DC): Ripple (DC): Consumption: Connections:	24 VAC (+/- 10 %) 15 VA 24 VDC (17 ... 40 VDC) reverse polarity protection ≤ 10 % at 24 VDC approx. 100 mA (without encoder load) AC: screw terminals, 2.5 mm <sup>2</sup> / AWG 14 resp. DC: screw terminals, 1.5 mm <sup>2</sup> / AWG16
<b>Encoder supply:</b>	Number of outputs: Output voltage 1: Output current 1: Output voltage 2: Output current 2: Connections:	je 2 x 24 V und 2 x 5.2 V 24 VDC max. 120 mA per output 5.2 VDC max. 150 mA per output screw terminals, 1.5 mm <sup>2</sup> / AWG16
<b>Incremental inputs:</b>	Number of inputs: Input logic: Signal levels:  Channels: Frequency: Internal resistance: Connections:	2 PNP/NPN/Namur HTL: LOW 0 ... 3.5 V, HIGH 10 ... 30 V / TTL: LOW 0 ... 0.8 V, HIGH 2.4 ... 5 V RS422: differential voltage > 1V A, /A, B, /B max. 1 MHz with RS422 / TTL symmetrical / max. 20 kHz with HTL / TTL asymmetrical Ri = 8.5 kOhm / channel (pull-down) screw terminals, 1.5 mm <sup>2</sup> / AWG16
<b>Control inputs:</b>	Number of inputs: Input logic: Signal levels: Functions: Minimum pulse time: Internal resistance: Connections:	4 PNP/NPN/Namur HTL (standard): LOW 0 ... 2.5 V, HIGH 10 ... 30 V Reset/Set, Latch oder Nullimpulsauswertung 50 µs Ri = 3.3 kOhm screw terminals, 1.5 mm <sup>2</sup> / AWG16
<b>Analog output:</b> (only ZA)	Voltage output: mA output: Resolution: Accuracy Reaction time: Connections:	+/- 10 V, max. 2 mA 0 / 4 ... 20 mA (burden: max. 270 Ohm) 14 bit (±13 bit) 0.1 % < 1 ms screw terminals, 1.5 mm <sup>2</sup> / AWG16
<b>Control outputs:</b>	Number of outputs: Signal levels: Output current: Reaction time: Protection circuit: Connections:	4 fast transistor outputs 5 ... 30 V / PNP max. 350 mA / channel < 1ms short circuit proof screw terminals, 1.5 mm <sup>2</sup> / AWG16
<b>Serial interface:</b>	Format: Baud rates (selectable): Operational modes: Connections:	ZD / ZA series: only RS232 / ZR series: RS232, switchable to RS485 (2-wire) 600, 1200, 2400, 4800, 9600, 19200, 38400 Baud PC or printer mode screw terminals, 1.5 mm <sup>2</sup> / AWG16
<b>Relay outputs:</b> (only ZA/ZD/ZR6xx)	Number of outputs: Switching capacity: Connections:	4 potential free changeovers 250 VAC / 1 A / 250 VA oder 100 VDC / 1 A / 100 W screw terminals, 2.5 mm <sup>2</sup> / AWG14
<b>Display:</b>	Type: Characteristic: Digit height:	6 resp. 8 digit LED display high-efficiency orange 15 mm resp. 10 mm / 0.59055 inch resp. 0.3937 inch
<b>Housing:</b>	Type/Material: Mounting: Dimension 3xx series: Dimension 6xx series:  Protection class:  Weight:	Norly UL94-V-0 / plastic panel cut out: 91 x 44 mm / 3.59 x 1.73 inch (w x h) outer dimensions: 110 x 48 x 141 mm / 4.33 x 1.89 x 5.55 inch (w x h x d) cut out: 89 x 91 mm / 3.50 x 3.59 inch (w x h) outer dimensions: 110 x 96 x 141 mm / 4.33 x 3.78 x 5.55 inch (w x h x d) units without BCD switches: front: IP 65 / rear: IP20 units with BCD switches: front: IP 20* / rear: IP20 * (by using the plexiglass cover part # 64026 also IP65) 3xx series: approx. 250 g / 6xx series: approx. 480 g
<b>Ambient temperature:</b>	Operation: Storage:	0 °C ... +45 °C / +32 ... +113 °F (not condensing) -25 °C ... +70 °C / -13 ... +158 °F (not condensing)
<b>Failure rate:</b>	MTBF in years:	ZA330: 54,8 a / ZD330: 39,3 a / ZD340: 44,2 a (long-term usage at 60 °C / 140 °F)
<b>Conformity and standards:</b>	EMC 2004/108/EC: LV 2006/95/EC: Guideline 2011/65/EU:	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4 EN 61010-1 RoHS-conform