



## touchMATRIX® Indicator DX350 / DX355

Pulse counter, tachometer and speed indicator with touchscreen and graphic display

### Product Features:

- Multifunctional unit with several operating modes, e. g. speed or position indicator, counter, flow time indicator, timer, stopwatch or process indicator
- Universal inputs (HTL/RS422) for encoders / sensors with NPN / PNP / NAMUR characteristic
- Bright and high-contrast display with event-dependent color variations
- Emulation of a 7-segment display inclusively icons and units
- Intuitive and easy parameterization by plain text and touchscreen
- 5 /24 V auxiliary output for encoder supply
- Input frequencies up to 1 MHz
- Linearization with 24 control points
- Numerous features, e. g. scaling, filtering, start-up suppression
- 3.78 x 1.89 inch (96 x 48 mm) norm panel housing and IP65 protection

### Available Options:

**DX350:** Basic unit with HTL inputs (A, B), 3 control inputs  
**DX355:** Basic unit with HTL / RS422 inputs (A, /A, B, /B), 3 control inputs

- Option **AC:** Power supply 115 ... 230 VAC
- Option **AO:** 16 bit analog output, 4 control outputs, serial RS232 interface
- Option **AR:** 16 bit analog output, 4 control outputs, serial RS485 interface
- Option **CO:** 4 control outputs, serial RS232 interface
- Option **CR:** 4 control outputs, serial RS485 interface
- Option **RL:** 2 relay outputs

### Options can be combined

| Technical Specifications:                        |  |   |
|--|--|---|
| <b>Connections:</b>                              | Connector type:  | screw terminal, 1.5 mm <sup>2</sup> / AWG 16  |
| <b>Power supply DC:</b>                          | Input voltage:<br>Protection circuit:<br>Consumption:<br>Fuse protection:  | 18 ... 30 VDC<br>reverse polarity protection<br>approx. 100 mA (unloaded)<br>extern: T 0.5 A  |
| <b>Power supply AC:</b><br>(Option AC)           | Input voltage:<br>Power consumption:<br>Fuse protection:   | 115 ... 230 VAC ± 10%, 50 ... 60 Hz<br>approx. 3 VA (unloaded)<br>extern: T 1.0 A   |
| <b>Encoder supply:</b>                           | DC version:<br>AC version:   | 24 VDC (approx. 1 V lower than the power supply voltage), max 250 mA<br>24 VDC (± 15%) (max 150 mA until 45°C / 80 mA by more than 45°C)  |
| <b>Encoder supply:</b><br>(DX355)                | DC version:<br>AC version:   | 24 VDC (approx. 1 V lower than the power supply voltage), max 250 mA<br>or 5 VDC (± 15%), max. 250 mA<br>24 VDC (± 15%) (max 150 mA until 45°C / 80 mA by more than 45°C)<br>or 5 VDC (± 15%), max. 250 mA)                           |
| <b>Incremental inputs:</b>                       | Number of inputs (channels):<br>Configuration:<br>Format:<br>Frequency:  | 2 (A, B)<br>PNP, NPN, Namur or Tri-State<br>HTL (Low 0 ... 3 V, High 9 ... 30 V)<br>max. 250 kHz  |
| <b>Incremental inputs:</b><br>(DX355)            | Number of inputs (channels):<br>Configuration:<br>RS422:<br>HTL differential<br>HTL PNP / NPN:                               | 2 with inverted signal (A, /A, B, /B)<br>RS422, HTL differential, HTL PNP or HTL NPN<br>max. 1 MHz (RS422 differential signal > 0,5 V)<br>max. 1 MHz (HTL differential signal > 2 V)<br>max. 350 kHz (Low 0 ... 5 V, High 9 ... 30 V) |
| <b>Control inputs:</b>                           | Number of inputs:<br>Format:<br>Frequency:<br>Reaction time:<br>Load:  | 3<br>HTL, PNP (Low 0 ... 3 V, High 9 ... 30 V)<br>max. 1 kHz<br>1 ms<br>max. 2 mA at 24 VDC   |
| <b>Accuracy:</b>                                 | Measurement:   | +/- 50 ppm, +/- 1 digit   |
| <b>Analog output:</b><br>(Option AO/AR)          | Configuration:<br>Voltage output:<br>Current output:<br>Resolution:<br>Accuracy:<br>Reaction time:                           | current or voltage operation<br>-10 ... +10 V (max. 2 mA)<br>0/4 ... 20 mA (burden: max. 270 Ohm)<br>16 Bit<br>± 0,1 % 0°C ... +45°C<br>± 0,15 % -20°C ... 0°C und +45°C ... +60°C<br>< 10 ms (as of software version DX35006G)       |
| <b>Control outputs:</b><br>(Option AO/AR/CO/CR)  | Number of outputs:<br>Format / level:<br>Output current:<br>Reaction time:   | 4<br>5 ... 30 V (depend on the COM+ voltage), PNP<br>max. 200 mA<br>< 1 ms  |
| <b>Relay outputs:</b><br>(Option RL)             | Number of outputs:<br>Configuration:<br>AC-Switching capacity:<br>DC-Switching capacity<br>Reaction time:                    | 2<br>potential free changeovers<br>max. 250 VAC / 3 A / 750 VA<br>max. 150 VDC / 2 A / 50 W<br>< 20 ms  |
| <b>Serial interface:</b><br>(Option AO/AR/CO/CR) | Format (Option AO/CO):<br>Format (Option AR/CR)<br>Baud rate:  | RS232<br>RS485<br>9600, 19200 or 38400 baud   |
| <b>Display:</b>                                  | Type:<br>Display range:<br>Digit height (single + dual):<br>Digit height (large display):<br>Color:<br>Operation:            | Graphic LCD with backlight<br>8 digits plus sign (-99999999 ... 99999999)<br>13 mm (0,51 inch)<br>26 mm (1,02 inch)<br>red / green / yellow (selectable)<br>resistive touchscreen   |
| <b>Housing:</b>                                  | Material:<br>Mounting:<br>Dimensions (w x h x d):<br>Cut out (w x h):<br>Protection class:<br>Weight:                        | ABS, UL 94 V-0<br>panel<br>96 x 48 x 116 mm / 3.78 x 1.89 x 4.56 inch<br>91 x 43 mm / 3.58 x 1.69 inch<br>IP65 (front), IP20 (rear)<br>approx. 200 g  |
| <b>Ambient temperature:</b>                      | Operation<br>Storage:  | -20°C ... +60°C / -4 ... 140°F, non-condensing<br>-25°C ... +70°C / -13 ... 158°F   |
| <b>Ambient conditions:</b>                       | Altitude:<br>Humidity:<br>Pollution Degree:  | max. 2000 m (6560 ft) above sea level<br>max. 80% relative humidity up to 30°C<br>2   |
| <b>Conformity and standards:</b>                 | EMC 2014/30/EU:<br><br>LV 2014/35/EU:<br>(Only for option AC and RL)<br><br>RoHS ( II ) 2011/65/EU<br>RoHS ( III ) 2015/863: | EN 61326-1: 2013 for industrial location<br>EN 55011: 2016 + A1: 2017 + A11: 2020 Class A<br>EN 61010-1: 2010 + A1:2019 + AC: 2019-04<br>EN IEC 61010-2-201: 2018<br><br>EN IEC 63000: 2018   |