



touchMATRIX[®] Indicator MX350 / MX355

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

Product features:

- Multifunction unit with operating modes for incremental encoders (tachometer, pulse counter, position indicator)
 - Operating modes as frequency display and / or position display (pulse counter)
 - Universal incremental inputs (HTL / TTL / RS422) for NPN / PNP / NAMUR encoders and sensors
 - Functions such as links (eg A+B, A-B, ...), scaling, filters, start-up delay, ...
 - Bright and high-contrast display with event controlled 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 interpolation points
- 96 x 48 mm (3.78 x 1.89 inch) norm panel housing and IP65

Available options:

MX350: Basic unit with HTL inputs (A, B), 3 control inputs
MX355: 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:		
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. 100 mA (unloaded) extern: T 0.5 A
Power supply (AC): (Option AC)	Input voltage: Power consumption: Fuse protection:	115 ... 230 VAC (50 ... 60 Hz) approx. 3 VA (unloaded) extern: T 0.1 A
Encoder supply:	DC version: AC version:	24 VDC (approx. 1 V lower than the power supply voltage), max. 250 mA 24 VDC (± 15%), (max. 150 mA until 45°C / 80 mA by more than 45°C)
Encoder supply: (MX355)	DC version: AC version	24 VDC (approx. 1 V lower than the power supply voltage), max. 250 mA or 5 VDC (± 15%), max. 250 mA 24 VDC (± 15%) (max. 150 mA until 45°C / 80 mA by more than 45°C) or 5 VDC (± 15%), max. 250 mA)
Incremental inputs:	Number of inputs: Configuration: Format: Frequency: Load:	2 (A, B) PNP, NPN, Namur or Tri-State HTL (Low 0 ... 3 V, High 9 ... 30 V) max. 250 kHz max. 6 mA / Ri > 5 kOhm / 470 pF
Incremental inputs: (MX355)	Number of inputs: Configuration: RS422: HTL differential HTL PNP / NPN: Load:	2 with inverted signal (A, /A, B, /B) RS422, 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 (Low 0 ... 3 V, High 9 ... 30 V) max. 3 mA / Ri > 10 kOhm / 47 pF
Accuracy:	Measurement:	+/- 50 ppm, +/- 1 digit
Control inputs:	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
Analog output: (Option AO/AR)	Configuration: Voltage output: Current output: Resolution: Accuracy: Reaction time:	current or voltage operation -10 ... +10 V (max. 2 mA) 0/4 ... 20 mA (burden: max. 270 Ohm) 16 Bit ± 0,1 % 0°C ... +45°C ± 0,15 % -20°C ... 0°C and +45°C ... +60°C < 150 ms
Control outputs: (Option AO/AR/CO/CR)	Number of outputs: Format / level: Output current: Reaction time:	4 5 ... 30 V (depend on COM+ voltage), PNPc max. 200 mA < 1 ms
Relay outputs: (Option RL)	Number of outputs: Configuration: AC-Switching capacity: DC-Switching capacity Reaction time:	2 potential free changeovers max. 250 VAC / 3 A / 750 VA max. 150 VDC / 2 A / 50 W < 20 ms
Serial interface: (Option AO/AR/CO/CR)	Format (Option AO/CO): Format (Option AR/CR) Baudrate:	RS232 RS485 9600, 19200 or 38400 Baud
Display:	Type: Display range: Digit height Color: Operation:	Graphic LCD with backlight 8 digits plus sign (-99999999 ... 99999999) 13 mm height red / green / yellow (selectable) resistive touchscreen
Housing:	Material: Mounting: Dimensions (w x h x d): Cut out (w x h): Protection class: Weight:	ABS, UL 94 V-0 panel 96 x 48 x 116 mm / 3.78 x 1.89 x 4.56 inch 91 x 43 mm / 3.58 x 1.69 inch IP65 (front), IP20 (rear) approx. 200 g
Ambient temperature:	Operation: Storage:	-20°C ... +60°C / -4 ... 140°F -25°C ... +70°C / -13 ... 158°F
Conformity and standards:	EMC 2014/30/EU: LV 2014/35/EU: (Only for option AC and RL) 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 61010-1:2010 + A1:2019 + AC:2019-04 EN IEC 61010-2:2018 EN IEC 63000:2018