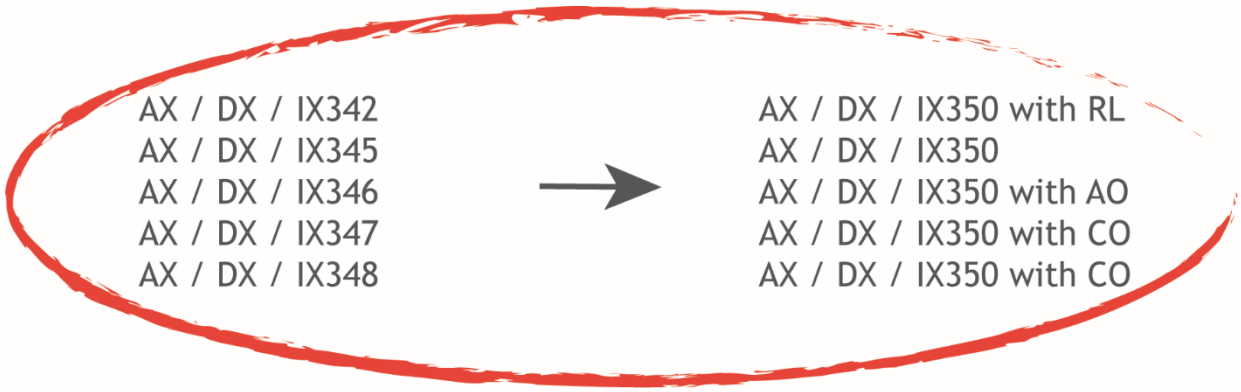
touchMATRIX … the perfect replacement



Better Usability - by a wide Range of Models

- Process Indicator
  - for two analog sensors or potentiometer input
  - applicable as flow meter, level meter, pressure meter etc.
- Digital Indicator
  - for incremental encoder or sensor signals
  - applicable as counter, position meter, tacho meter, frequency meter , speed meter etc.
  - additional functions e.g. timer, calculation of process time, reciprocal calculation
- SSI Indicator
  - absolute position
  - applicable as master or slave

Better Visibility - by a strong Contrast & high Resolution

- Dot Matrix Display with 186 x 64 pixel
  - full text explanations and commands are providing an intuitive menu structure
  - a wide range of units as well as any kind of symbols can be displayed
- Three color LED-Backlight (green, yellow, red)
  - color can be adjusted easily by just one parameter
  - event depending color change, e. g. below limit, close limit, over limit

Better Flexibility - by Touch & optional Modules

- Resistive Touch Panel with IP65 protection and enhanced temperature range (-20°C … 60°C)
  - Suitable for rough environmental conditions
  - Can be operated with any kind of working gloves, no limits on the used material
- Maximum flexibility by modular design

touchMATRIX – Variation & Function

The new touchMATRIX series - different models with various functions for diverse applications:

AX350 series

- 2 analog inputs (16 bit), 3 control inputs
- ±10 V / 0 … 20 mA / 4 … 20 mA
- accurate 10 V reference output for potentiometers
- mode for single , dual or cross calculated inputs
- totalization, tara, average filter, etc. for each input
- totalization of sum / difference of both inputs
- linearization with 24 set points for each input

DX350 series

- 2 incremental inputs (HTL), 3 control inputs
- for PNP, NPN or NAMUR sensors
- up to 250 kHz
- for speed, process time, timer, counter or velocity application
- linearization with 24 set points
- scaling, average filter, start up suppression

DX355 series

- 2 incremental inputs HTL / RS422
  3 control inputs
- up to 1 MHz
- all other functions equal to DX350

IX350 series

- SSI up to 1 MHz, 3 control inputs
- operational mode as master or slave
- single- and multiturn encoder (13 … 32 Bit)
- linearization with 24 set points
- bit blanking, scaling, etc.

IX355 series

- wire break monitoring
- selectable encoder supply of 5 / 24 VDC
- all other functions equal to IX350

Technical Data - Hardware

Power supply:	Input voltage (DC supply):	18 … 30 VDC
	Input voltage (AC supply):	115 … 230 VAC, 50 … 60 Hz (Option AC)
	Consumption:	100 mA (without auxiliary power)
	Protective circuit:	Reverse polarity protection
Encoder supply:	Output voltage (DC supply):	1 V less than input voltage (or 5 VDC, only DX355)
	Output current (DC):	250 mA
	Output voltage (AC supply):	24 VDC (±15 %) (or 5 VDC, only DX355)
	Output current (AC):	150 mA up to 45°C / 80 mA from 45°C
Display:	Type:	Graphic LCD
	Display range:	8 digits plus sign with 13 mm height
	Characteristics:	186 x 64 pixel, emulation 7-segment, three-colored
	Operation:	Touch screen, resistive
Enclosure:	Material:	ABS, UL 94 V-0
	Dimensions:	96 x 48 x 116 mm (3.87 x 1.89 x 4.57 inch)
	Mounting:	Front panel mounting
	Protection class:	Front: IP65 / rear side: IP20
Connection:	Connection type:	Screw terminals
	Cable cross section:	1.5 mm^2 / AWG16
Ambient temperature:	Operation:	-20°C … +60°C (-4°F … +140°F)
	Storage:	-25°C … +70°C (-13°F … +158°F)
Conformity and standards:	EMV 2004/108/EG:	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	NS 2006/95/EG:	EN 61010-1
	RoHS 2011/65/EU:	EN 50581
Options:	AC:	Power supply 115 … 230 VAC
(all options can be combined)	AO:	16 bit analog output, 4 control outputs, RS232 interface, Modbus RTU interface
	CO:	4 control outputs, RS232 interface, Modbus RTU interface
	RL:	2 relay outputs
	IO:	IO Link slave (on request)

Technical Data - Inputs

AX / DX / IX	Control inputs:	Number of inputs:	3
		Signal level:	HTL, PNP (Low 0 … 3 V, High 9 … 30 V)
AX350	Analog inputs:	Number of inputs:	2
		Current inputs:	0/4 … 20 mA, Ri ≈ 150 Ohm
		Voltage inputs:	±10 V, Ri ≈ 50 kOhm
		Ref. output:	10 V (load max. 10 mA)
		Resolution:	16 Bit
		Accuracy	0.1 %
DX350	Incremental inputs:	Number of inputs:	2 (A, B)
		Signal level:	HTL (NPN / PNP), Low 0 … 3 V, High 9 … 30 V
		Bandwidth:	up to 250 KHz
DX355	Incremental inputs:	Number of inputs:	2 (A, /A, B, /B)
		Signal level:	RS422, HTL differential, HTL PNP, HTL NPN
		Bandwidth:	up to 1 MHz (RS422)
IX350 / 355	SSI interface:	Operation mode:	Master / Slave
		Frequency range:	100 Hz … 1 MHz
		Resolution:	13 … 32 Bit

Technical Data - Outputs

	Control outputs:	Number of outputs:	4
	(Option AO / CO)	Format / level:	5 … 30 VDC (external voltage COM+), PNP
		Output current:	max. 200 mA
		Reaction time:	< 1 ms
	Analog output:	Output voltage:	±10 V (max. 2 mA)
	(Option AO)	Output current:	0/4 … 20 mA (max. 270 Ohm)
		Resolution:	Scalable with 16 bit resolution resp. ±15 bit
		Accuracy:	0.1 %
	Relay outputs:	Number of outputs:	2 (potential-free change over)
	(Option RL)	Switching capacity (AC):	max. 250 VAC, 3 A, 750 W
		Switching capacity (DC):	max. 150 VDC, 2 A, 50 W
		Reaction time:	< 20 ms
	RS232 interface	Number of interfaces:	1
	(Option AO / CO)	Data transmission:	asynchronous
		Baudrate:	2400, 19200 or 38400 Baud
		Protocol:	Lecom or Modbus RTU