

SPECIFICATION SHEET



PANEL TYPE ELECTROMAGNETIC INDUCTION CONCENTRATION CONTROLLER

MBM-102A

This is a compact and lightweight electromagnetic induction measurement type panel-mounted concentration controller (hydrochloric acid, sulfuric acid, caustic soda, etc.). Equipped with 4 to 20mA DC transmission output (linear output for concentration) and two-point control (upper/lower limit alarm) output, and AC free power supply.

The detector is made of heat-resistant PVC (C-PVC) or PFA, so it has excellent corrosion resistance and heat resistance to most chemical solutions. For details, refer to the separate detector spec sheet.



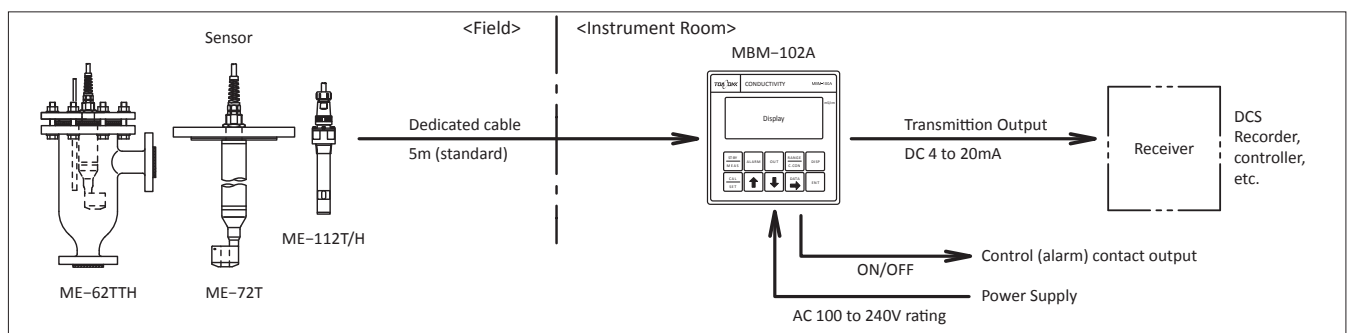
Features

- Compact DIN96 size
96 × 96 (DIN standard), depth: 90mm, mass: about 0.5kg, small and lightweight.
- Measurement of strong corrosive solution concentration
The concentration (%) of strong acid / alkaline solutions such as hydrochloric acid / sulfuric acid and caustic soda can be accurately measured over a wide range. The measurement range and temperature compensation range are adjusted according to individual requirements, and the concentration measurement value is output linearly (4 to 20mA DC).
- Displays sample water temperature
Measures and displays the temperature of the sample water.
- Measurement correction
The measured value can be corrected to the concentration value for operation management.
- Automatic return to measurement mode
After 2 hours in maintenance mode, switches back to measurement mode automatically.
- RS-232C output (option)
Data can be transferred to a computer via RS-232C communication.

Standard Specifications

- Product Name : Panel Type Electromagnetic Induction Concentration Controller
- Model : MBM-102A
- Measurement Object : Sodium chloride (NaCl)
Hydrochloric acid (HCl)
Nitric acid (HNO₃)
Sodium hydroxide (NaOH)
Sulfuric acid (H₂SO₄), etc.
Temperature display...-5.0 to 120.0°C (display only)
- Measurement Range : Please refer to the product code table for the measurement range of each item.
- Display : Digital LCD
- Temp. : Standard 20°C width (depending on compensation range measurement concentration type)
- Transmission Output : Linear output corresponding to solution concentration (linear)
4 to 20mA DC, load resistance 650Ω or less
- Control (alarm) output : Number of circuits...2 circuits (H/L)
Contact output...Non-voltage contact
Contact capacity...
AC 250V 3A (resistive load) or
DC 30V 3A (resistive load)
Alarm display...Displayed when an alarm occurs

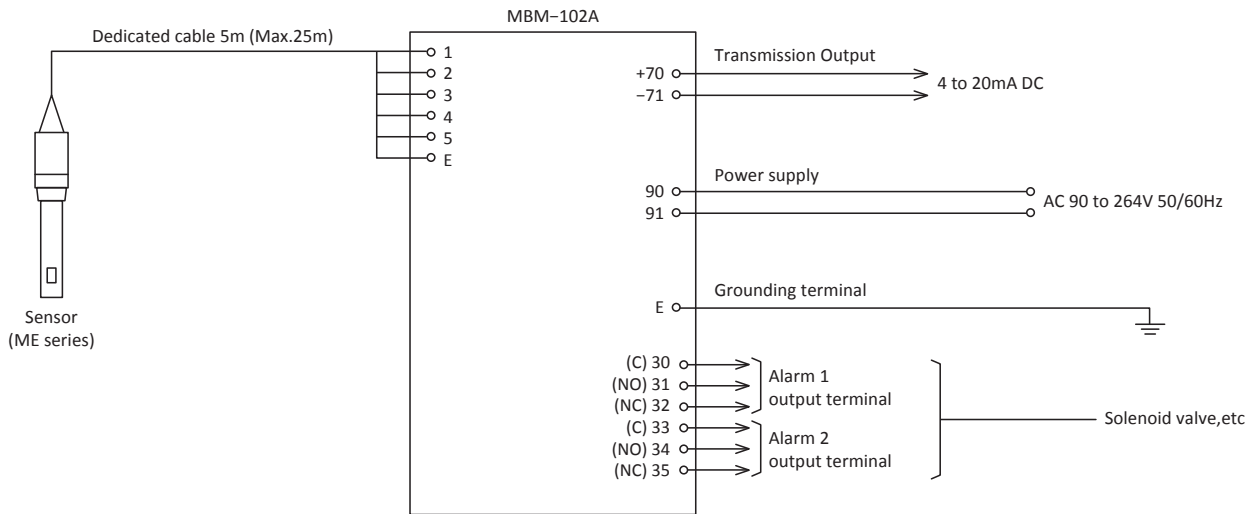
System Configuration



Other Functions : Scale over display...LCD display blinks
 Power Source : AC 90 to 264V, 50/60Hz
 Power consumption : About 10VA
 Ambient temp/humidity : -10 to 50°C, 90% RH or less (no condensation)
 Structure : Panel mounting, indoor installation
 Material : Main unit...Aluminum
 Display and operation part...polyester film

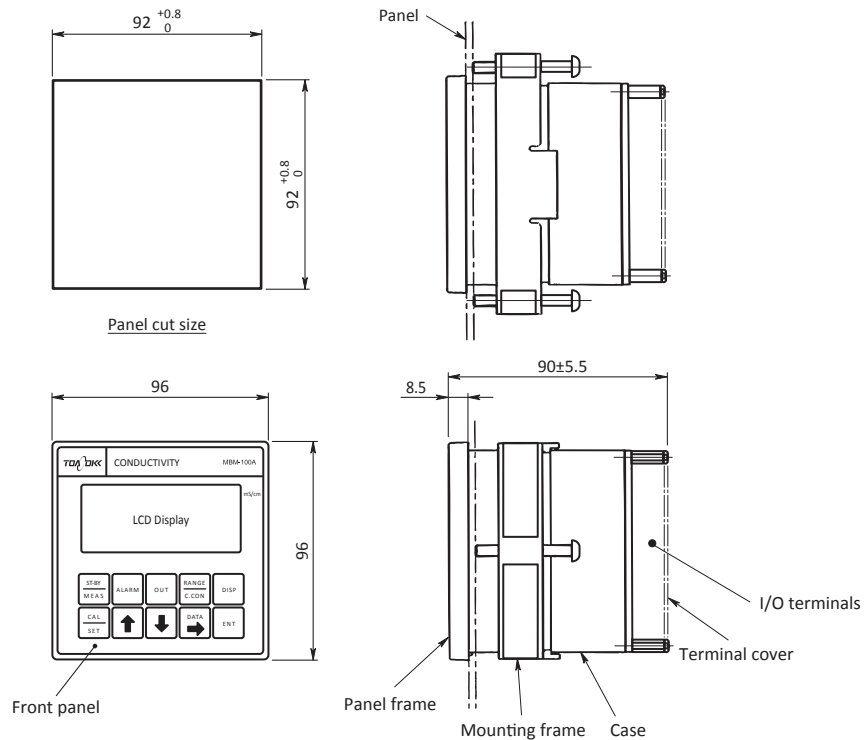
Mounting method : Panel mounting
 Dimensions : 96 (W) × 96 (H) × 90 (D) mm
 Panel cut...92 (W) × 92 (H) mm
 Weight : 0.5kg
 Combined detectors : ME100 series, ME-6/7series.
 The cable length : 5m (standard)
 Up to 20m possible depending on production specifications

Wiring Diagram

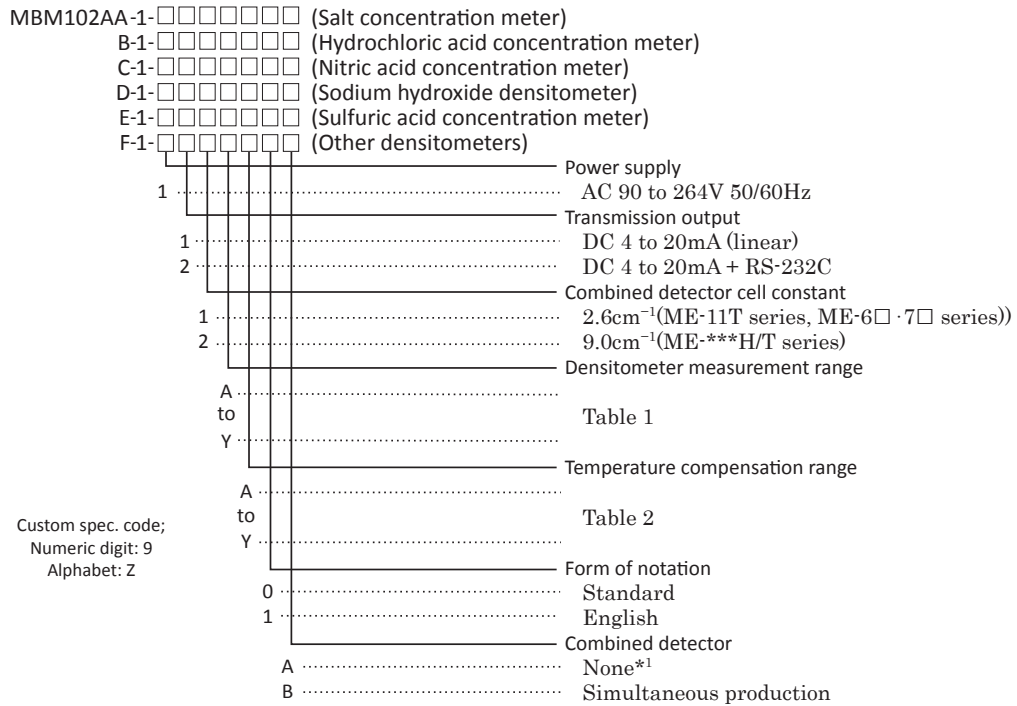


Dimensions

Unit : mm



Product code



Note: The transmission output (4 to 20mA DC) is a linear output (linear) that corresponds to the concentration of the solution, so when upgrading from the MB-32 type (non-linear), it is necessary to change the scale of the receiver.


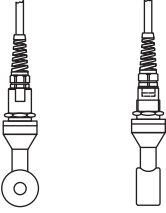
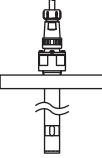
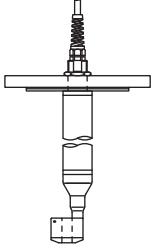
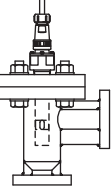
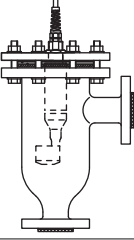


*1. If the sensor is not manufactured at the same time, please inform us of the combined sensor data (model, serial number, etc.).

Object	Salt concentration meter	Hydrochloric acid concentration meter	Nitric acid concentration meter	Sodium hydroxide densitometer	Sulfuric acid concentration meter	Other concentration meters
Product code Digit	MBM102AA-1-	MBM102AB-1-	MBM102AC-1-	MBM102AD-1-	MBM102AE-1-	MBM102AF-1-
Densitometer measurement range 04 digits	A	0 to 5 % NaCl	0 to 5 % HCl	0 to 5 % HNO ₃	0 to 5 % NaOH	0 to 5 % H ₂ SO ₄
	B	0 to 10 % NaCl	0 to 10 % HCl	0 to 10 % HNO ₃	0 to 10 % NaOH	0 to 10 % H ₂ SO ₄
	C	0 to 20 % NaCl	0 to 15 % HCl	0 to 20 % HNO ₃	0 to 15 % NaOH *2	0 to 20 % H ₂ SO ₄
	D	0 to 25 % NaCl	25 to 35 % HCl	0 to 25 % HNO ₃	20 to 40 % NaOH *2	0 to 30 % H ₂ SO ₄ *2
	E		25 to 40 % HCl	40 to 80 % HNO ₃		40 to 80 % H ₂ SO ₄
	F		30 to 40 % HCl	60 to 70 % HNO ₃		60 to 80 % H ₂ SO ₄
	G			60 to 80 % HNO ₃		93 to 99.5 % H ₂ SO ₄ *2
	H					94 to 99.5 % H ₂ SO ₄ *2
	Y	Other NaCl	Other HCl	Other HNO ₃	Other NaOH	Other H ₂ SO ₄
Temperature compensation range 05 digits	A	0 to 20°C	0 to 20°C	0 to 20°C	0 to 20°C *4	0 to 20°C *6
	B	10 to 30°C	10 to 30°C	10 to 30°C	10 to 30°C	10 to 30°C *6
	C	20 to 40°C	20 to 40°C	20 to 40°C	20 to 40°C	20 to 40°C
	D	30 to 50°C	30 to 50°C	30 to 50°C	30 to 50°C	30 to 50°C
	E	40 to 60°C	40 to 60°C	40 to 60°C	40 to 60°C *5	40 to 60°C
	F	50 to 70°C	50 to 70°C	50 to 70°C	50 to 70°C	50 to 70°C
	G	60 to 80°C	60 to 80°C	60 to 80°C	60 to 80°C	60 to 80°C
	H	70 to 90°C	70 to 90°C	70 to 90°C	70 to 90°C	70 to 90°C
	J	80 to 100°C	80 to 100°C	80 to 100°C	80 to 100°C	80 to 100°C
	Y	Specified	Specified *7	Specified *7	Specified	Specified

*2. Please note that the temperature compensation range is limited.
 *3. Specify the measurement target, measurement range, and unit.
 *4. The measuring range 0 to 15% cannot be manufactured.
 *5. The measurement range of 20 to 40% cannot be manufactured.
 *6. The measuring range 0 to 30% cannot be manufactured.
 *7. If the intermediate temperature exceeds 70°C, please contact us in advance.

All sensors to be combined

2 types of sensors below are usable for MBM-102A type. ME-100 series (compact and lightweight type, cell constant: 9.0/cm) and ME-6/7 series (high sensitivity type, cell constant: 2.6/cm) Please refer to separate electrode part specification for more detailed information.

	Compact ME-100 series (cable : EC-11 water proof connection)		High sensitivity type ME-6/7series (cable integrated type)	
type	Shape	Specifications	Shape	Specifications
In-line type (screw-in type)		Model : ME-112□ Wetted part material : One of the followings C-PVC, PVDF and PFA Connection screw : R3/4 Insertion length : 123mm		Model : ME-11T Wetted part material : PFA Connection screw : G3/4 Insertion length : 103mm Cable length : 5m
Piping / tank flange insertion type		Model : ME-122□ Wetted part material : One of the followings C-PVC, PVDF and PFA Connection flange standard : 50A JIS10K FF Flange lower length : 96 to 2000mm		Model : ME-72T Wetted part material : PFA Connection flange standard : 100A JIS10K RF Flange lower length : 500 to 2000mm Cable length : 5m
piping-connected flow liquid type (with case)		Model : ME-142H Wetted part material : C-PVC Case flange standard : 15A JIS10K AA		Model : ME-62T Wetted part material : PFA Case flange standard : 25A JIS10K RF Cable length : 5m
Throw-in type		Model : ME-111H (cable is directly connected) Wetted part material : C-PVC Diameter : Φ30 Cable length : 5 to 10m		Model : ME-11T Wetted part material : PFA/PVC Weight : approx. 1kg Diameter : Φ60 Cable length : 5 to 20m



DKK-TOA CORPORATION



Please read the operation manual carefully before using products.

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Information and specifications are subject to change without notice.