

■ Specification

General Specification	Product name		Automatic COD monitor
	Model name		CODA-500
	Objects		COD concentration in water
	Dimensions (*1)		600(W)×510(D)×1600(H) mm
	Mass		Approx. 150 kg
	Power source		100-240V AC±10% (50/60 Hz)
	Power consumption		100-120 AC : Approx. 250VA 120-240 AC : Approx. 350VA
	Installation conditions		Indoor installation type Transient overvoltage of main power source: Overvoltage category II (IEC60364-44), pollution level 2
Performance	Measurement range (Upper limit of measurement is 50% of F.S.)		0-20 mg/L 0-30,40,50,100,200,500,1000,2000 mg/L(1-dilution type)
	Repeatability (with standard solution for glucose)	20 mg/L range	Within ±1% F.S. (*2)
		30-500 mg/L range	Within ±2% F.S. (*2)
		1000-2000 mg/L range	Within ±5% F.S.
	Stability	Zero drift (for 24 h)	20 mg/L range: within ± 3% F.S. (*2) 30-500 mg/L range: within ± 4% F.S. (*2) 1000-2000 mg/L range: within ± 5% F.S.
		Zero drift (for 24 h) (with standard solution for glucose)	20 mg/L: within ± 3% F.S. (*2) 30-500 mg/L: within ± 4% F.S. (*2) 1000-2000 mg/L: within ± 5% F.S.
	Measuring principle	CODA-500-A (Acidic method)	Acid potassium permanganate method at 100°C (based on JIS K 0806)
		CODA-500-B (Alkaline method)	Alkaline potassium permanganate method at 100°C
		CODA-500-C (Acidic method)	Acid potassium permanganate method at 100°C (based on JIS K 0806). With cleaning function using reagent
	Number of measurement points		Standard: 1 point (optional: 2 points)
	Measuring range		Standard: 1 range (optional: 2 ranges)
	Heating method		Direct heating
	End point detection		Potentiometric titration at constant current
Titration method		Micro syringe titration	
Measurement interval		60 minutes	
Silver nitrate solution free method		Available (in case of low chloride ion concentration)	
Measuring conditions	Ambient temperature		2-40 °C
	Ambient humidity		Relative humidity: 85% max. (without condensation)
	Power supply voltage fluctuations		100-240V AC ± 10%
Sample water conditions	Temperature		2-40 °C (without freezing)
	Flow rate (when overflow tank is used)		2-20 L/min (when OF-5 is used), 5-20 L/min (when OF-50 is used)
	Chloride ion concentration (for acidic method)		CODA-500A: up to 1 times of F.S. CODA-500C: up to 100 times of F.S. (max) (for more than 100 times of F.S., select the alkaline method)
	Sampling point		Piping length from main unit: within 3 m
Blank water conditions	Supply method		Standard: tap water (optional: pure water tank)
	Water quality (*3)		Tap water without COD (hardness: 100 mg/L max.)
	Water supply pressure		100-500 kPa
	Consumption		20-420 mL (depends on measurement ranges and the setup of cleaning function)
Installation conditions	Well ventilated indoor location without exposure to direct sunlight. Flat and stable location with minimized vibrations and shocks. Atmosphere free from dust, mist, corrosive gas, etc.		
Input/output specification	Display		LCD color touch panel display
	Analog output	Number of points	Standard: 3 points (optional: 6 points)
		Type	Standard: 4-20mA DC, 0-16mA DC (optional: 0-1V DC, 1-5V DC) (Default setting is 4-20mA DC. On-screen switching to 0-16mA DC is available)
		Description	COD concentration, time COD load, time flow rate
		Output impedance	900 Ω max.
	Contact output	Number of points	Standard: 14 points (optional: 21 points)
		Format	Non voltage contact output
		Type	Insulated output
		Output capacity	250V AC, 3A / 30V DC, 3A (only 30V DC, 3A are available for "maintenance" contact.
	Status output	Meas., Cal., Standby, Cleaning, Blank Meas., Synchro. Idle 1, Synchro. Idle 2, Maintenance, Power, etc.	
	Warning output	Limit warnings (COD Hi limit, Flow limit, and COD Hi Load), COD H.Hi limit, Sample Lack, Total Alarm 1-6, various gauge errors, etc. (optional: Lack Reagent)	
	Analog input	Number of points	Standard: 1 point (optional: 2 points)
		Type	Standard: 4-20mA DC (optional: 1-5V DC)
		Description	Flow signal (full scale setting is available optionally)
	Contact input	Number of points	Standard: 9 points (optional: 17 points)
		Format	Non voltage a contact input (open collector is available)
		Type	Insulated type input: common to (-) side
ON resistance		100 Ω max.	
Open voltage		26V DC max.	
Short-circuit current		13 mA DC max.	
Functions	Meas. Start, Cal. Start, Cleaning Start, Blank meas. Start, Modify Date, Samp. Lack, Line Select, Flow Mainte, Flow Err., Flow Power OFF, and Flow No Drain		
Load calculation	COD load calculation		
Memory	1 year (in measurement values), external USB memory.		
Communication	Standard: RS -485 (Optional: RS-232C)		
Communication protocol	Modbus®		
Printer	Standard (58 mm); with automatic take-up device.		

*1 Channel-based compatibility with the former CODA-200 series products is available (standard).

*2 Within ±5% F.S. in case options (2 points measurements, 2 ranges, line cleaning by reagent etc) are added, and when using cleaning function of CODA-500C.

*3 If tap water is used, first perform flushing for about 30 minutes and then send tap water to the CODA-500. For the version using a tank, use pure water of 10 mS/m (=1.0 · S/cm) maximum.