

Stratos® Eco 2405 Oxy

Dissolved-Oxygen Measurement

Simultaneous display of measured value and temperature; unit symbols shown in plain text. Icons supply operating messages

and signal unusual operating states. Mode indicators show the current operating mode.



Suitable sensors

- customary amperometric sensors with (e.g. -675 mV) or without polarization voltage
- temperature sensors NTC 22 kohms, NTC 30 kohms

Recommended Installation Sets

• Flow

SE 703 ARF 201
ZU 0323



• Inline

SE 703 ARF 101



• Immersion

SE 703 ARD 230



Product Line

Order No.

Stratos® Eco 2405 Oxy process analyzer for measuring dissolved oxygen

2405 Oxy

Mounting Accessories (see page 542)

Order No.

Pipe-mount kit

ZU 0274

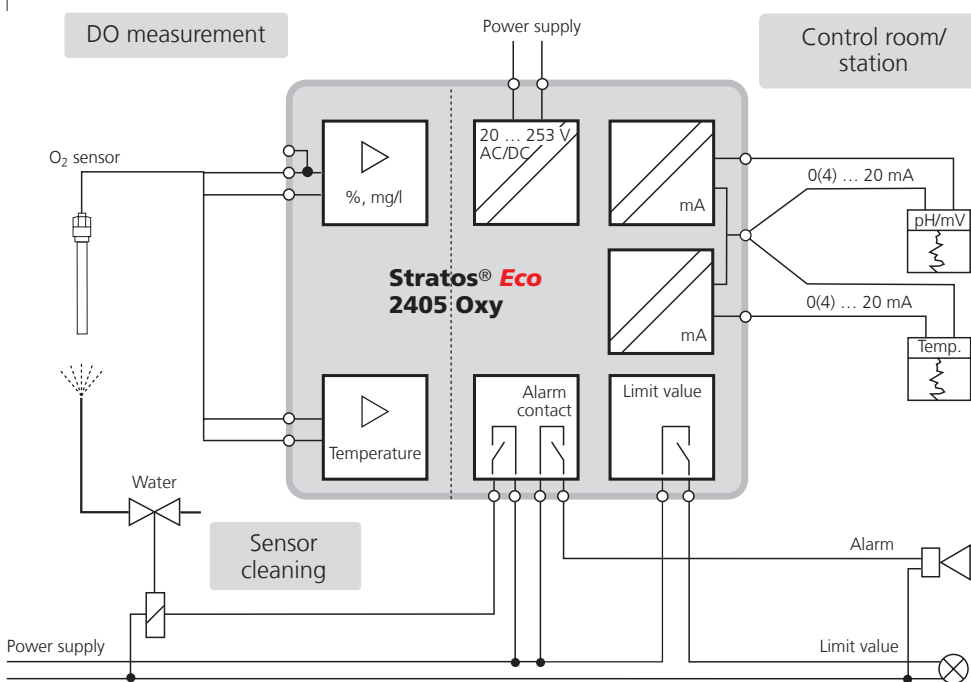
Panel-mount kit

ZU 0275

Protective hood

ZU 0276

Connection



Terminal Assignments

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1			
24 to 230 V ac/dc	clean	alarm	do not connect	rel.1	+	out 2	-	out 1	+	do not connect	RTD anode	RTD ref. el.	shield guard	cathode	do not connect	Made in Germany						
power											contacts				output				do not connect			

MAX. RELAY CONTACT RATING: AC < 250 V / < 3 A / < 750 VA, DC < 30 V / < 3 A / < 90 W, RESISTIVE

WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.
 WARNING - BONDING BETWEEN CONDUIT IS NOT AUTOMATIC AND MUST BE PROVIDED AS PART OF THE INSTALLATION. SEE INSTALLATION INSTRUCTIONS.
 WARNING - SUBSTITUTION OF COMPONENTS MAY IMPAIR SAFETY.
 WARNING - CLEAN ONLY WITH ANTISTATIC MOISTENED CLOTH.
 CAUTION - USE SUPPLY WIRES SUITABLE FOR 30°C ABOVE SURROUNDING AMBIENT AND RATED AT LEAST 250 V. USE SIGNAL WIRES SUITABLE FOR AT LEAST 250 V.
 AVERTISSEMENT - RISQUE D'EXPLOSION - AVANT DE DECONNECTER L'EQUIPEMENT, COUPER LE COURANT OU S'ASSURER QUE L'EMPLACEMENT EST DESIGNÉ NON DANGEREUX.

NI, CLI, DIV2, GPA, B, C, D, T4
 NI, CLI, ZN2, GP1IC, T4
 CLI DIV2 GPA, B, C, D, T4
 Ex nA IIC T4 CSA 1342049
 Control Dwg. 194.130-330
 ENCLOSURE TYPE 2
 Tamb - 20 to + 55 °C

75433/000000 F-2405OXY

Process Analysis Systems

Stratos® Eco 2405 Oxy

Specifications

O₂ input

Measuring current	-2 ... +1800 nA
Resolution (at $V_{pol} \leq 800$ mV and $V_{ref} \leq 200$ mV)	0.05 nA
Saturation (-10 ... +80 °C)	0 ... 200%
Measurement error ^{1, 2, 3)}	0.5 % meas.val. + 0.5 %
Concentration (-10 ... +80 °C)	0.00 ... 20.00 mg/l 0.00 ... 20.00 ppm
Measurement error ^{1, 2, 3)}	0.5 % meas.val. + 0.05 mg/l (0.05 ppm)
Permissible guard current	≤ 20 µA
Polarization voltage*)	0 ... 1000 mV -1000 ... 0 mV
Process pressure*)	0.000 ... 9.999 bars (... 999.9 kPa / ... 145.0 PSI)
Salinity correction*)	00.00 ... 45.00 g/kg

Sensor standardization

Operating modes	O ₂ saturation (automatic) O ₂ concentration (automatic) product calibration, zero calibration
Calibration range	zero ±2 nA slope 25 ... 130 nA (at 25 °C, 1013 mbars)
Calibration timer*)	0000 ... 9.999 h
Pressure correction*)	0.000 ... 9.999 bars/999.9 kPa/145.0 PSI

Sensocheck®

monitoring for short circuits/open circuits (can be disabled)

Sensoface®

provides information on the sensor condition (evaluation of zero/slope, response time, calibration interval, Sensocheck®)

Temperature input*)

NTC 22 kohms/NTC 30 kohms, 2-wire connection, adjustable

Measuring range	-20.0 ... +150.0 °C / -4 ... +302 °F
Adjustment range	10 K
Resolution	0.1 °C / 1 °F
Measurement error ^{1, 2, 3)}	< 0.5 K (< 1 K at > 100 °C)

Specifications – continued

Output 1	0/4 ... 20 mA, max. 10 V, floating (galvanically connected to output 2)
Measured variable*)	O ₂ saturation/O ₂ concentration
Overrange*)	22 mA in the case of error messages
Output filter*)	low-pass, filter time constant 0 ... 120 s
Measurement error ¹⁾	< 0.3 % current value + 0.05 mA
Start/end of scale	as desired within range
Span allowed	5 ... 200 %/0.5 ... 50 mg/l (ppm)
Output 2	0/4 ... 20 mA, max. 10 V, floating (galvanically connected to output 1)
Measured variable	temperature
Overrange*)	22 mA in case of temp error messages
Output filter*)	low-pass, filter time constant 0 ... 120 s
Measurement error ¹⁾	< 0.3 % current value + 0.05 mA
Start/end of scale	-20 ... +150 °C / -4 ... +302 °F
Span allowed	20 ... 170 K/36 ... 306 °F
Alarm contact	relay contact, floating
Contact ratings	AC < 250 V / < 3 A / < 750 VA DC < 30 V / < 3 A / < 90 W
Contact response	N/C (fail-safe type)
Response delay	10 s
Limit contact	relay contact, floating
	AC < 250 V / < 3 A / < 750 VA DC < 30 V / < 3 A / < 90 W
Contact response*)	N/C or N/O
Delay*)	0000 ... 9999 s
Setpoints*)	within selected range
Hysteresis*)	0.00 ... 5.00 pH / 0 ... 500 mV
Cleaning contact	"clean" relay contact
	AC < 250 V / < 3 A / < 750 VA DC < 30 V / < 3 A / < 90 W
Contact response*)	N/C or N/O
Rinsing interval*)	000.0 ... 999.9 h (000.0 h = cleaning function switched off)
Rinse duration*)	0000 ... 1999 s

Process Analysis Systems

Stratos® Eco 2405 Oxy

Specifications – continued

Display	LC display, 7-segment with icons
Main display	character height 17 mm, unit symbols 10 mm
Secondary display	character height 10 mm, unit symbols 7 mm
Sensoface®	3 status indicators (friendly, neutral, sad face)
Mode indication	4 mode indicators "meas", "cal", "alarm", "config" further icons for configuration and messages
Alarm indication	red LED in case of alarm
Keypad	5 keys: [cal] [conf] [▶] [▲] [enter]
Service functions	
Current source	current specifiable for output 1 and 2 (00.00 ... 22.00 mA)
Device self-test	automatic memory test (RAM, FLASH, EEPROM)
Display test	display of all segments
Last error	display of last error occurred
Sensor monitor	display of direct, uncorrected sensor signal (electrode)
Data retention	parameters and calibration data > 10 years (EEPROM)
Protection against electric shock	protective separation of all low-voltage circuits against mains by double insulation to EN 61010-1
Power supply	24 (-15 %) ... 230 (+10 %) V AC/DC approx. 5 VA/2.5 W AC: 45 ... 65 Hz overvoltage category II, Class II
Nominal operating conditions	
Ambient temperature	-20 ... +55 °C
Transport/Storage temp	-20 ... +70 °C
Relative humidity	10 ... 95 %, not condensing
EMC	EN 61326-1, EN 61326-2-3 emitted interference: Class B (residential area) Class A: for mains > 60 V DC immunity to interference: Industry
Explosion protection	FM NI, Class I Div 2, Groups A, B, C & D T4, T _a = 55 °C; Type 2 NI, Class I Zone 2, Group IIC T4, T _a = 55 °C; Type 2 CSA Class I Div 2, Groups A, B, C and D, T4 Ex nA IIC T4

Specifications – continued

Enclosure	molded enclosure made from PBT (polybutylene terephthalate)
Color	bluish gray, RAL 7031
Assembly	– wall mounting – pipe mounting ZU 0274, Ø 40 ... 60 mm, □ 30 ... 45 mm – panel mounting ZU 0275 cutout to DIN 43 700, sealed against panel
Dimensions (mm)	H x W x D: 144 x 144 x 105
Ingress protection	IP 65/NEMA 4X
Cable glands	3 knockouts for cable glands M20 x 1.5 2 knockouts for 1/2" NPT or rigid metallic conduit
Weight	approx. 1 kg

*¹ user-defined

¹ to IEC 746 Part 1, at nominal operating conditions

² ±1 count

³ plus sensor error

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