



DATE 7/Jul/2015
No. V-8439

Messrs. _____

SPECIFICATION

Model: FCX-UL

Project: _____

Distributor: _____

Reference: _____

Osamu Kitamura

Fujikura Ltd.

Specifications of Oxygen Sensor Unit

V-8439

General:

This document describes the specifications of a ceramic oxygen sensor unit, FUJIKURA FCX-UL.

Table shown below is revision records of this specification

V				
IV				
III				
II				
I				
Est.	7/Jul/2015	O. Kitamura		
	Date	Name	Comments	Remark

<u>Model</u>	<u>FCX-UL (RoHS compliance model, Ceramic base)</u>
1. Measuring Gas	Oxygen
2. Measurement Method	Limiting current method using Zirconia Solid-Electrolyte
3. Dimension and weight	Please see the drawing 9-760-001-B, Approx. 5.5 g
4. Measurement Range	0 to 5% O ₂
5. Output current (IL)	Theoretical output is given by following equation. $I_L = - ([A]/0.2357) \times \ln(1-[O_2\%]/100)$ [A] = Output current in 21.0% O ₂ (uA) = 600 ~ 900 uA [O ₂ %] = Oxygen concentration (vol.%)
6. Accuracy	within +/-0.5% O ₂
7. Response Time	within 30 sec. (90% value)
8. Life time	1 years in free air, continuous Vs
9. Heater	Power consumption: 2WDC +/- 5% Voltage(VH) for 2W: 1.7~3.0 VDC (individual for each sensor) Warm up rate: Maximum 40mV/sec
10. Warm-up time	about 3 min before the measurement

10. Operating temperature	-10 ~ 50 deg. C
12. Storage temperature	-40 ~ 120 deg. C
13. Humidity	0 ~ 85 RH ... Without condensation
14. Warranty	Within one year after shipment

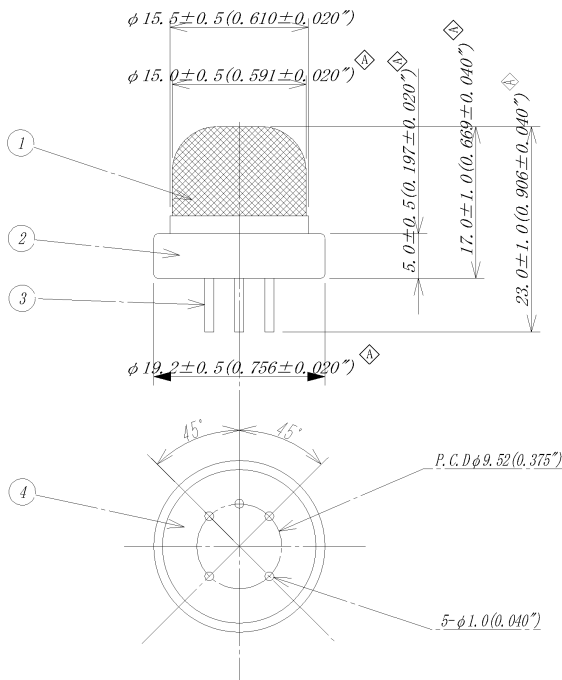
Output current of FCX-UL

	0.1	0.2	0.4	0.6	0.8	1	2	3	4	5	% O2
min	2.5	5.1	10.2	15.3	20.4	25.6	51.4	77.5	103.9	130.6	uA
max	3.8	7.6	15.3	23.0	30.7	38.4	77.1	116.3	155.9	195.9	uA

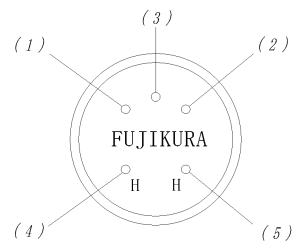
$$I_L = - ([A]/0.2357) \times \ln(1-[O_2\%]/100) \quad (\mu A)$$

[A] = Output current in 21% O₂ atmosphere (uA)

[O₂ppm] = Oxygen concentration (vol.%)



■接続図 : Connection Diagram



- (1) Vs(+) : センサ出力端子(+) : Sensing terminal(+)
- (2) Vs(-) : センサ出力端子(-) : Sensing terminal(-)
- (3) NC : 未使用端子 : Non-connected terminal
- (4) VH(+) : ヒータ電圧端子(+) : Heater terminal(+)
- (5) VH(-) : ヒータ電圧端子(-) : Heater terminal(-)

④	ステム STEM	Ceramics	1	
③	リードピン POST PIN	Cover	5	金メッキ Gold plating
②	リング RING	Brass	1	ニッケルメッキ Nickel plating
①	メッシュカバー MESH COVER	SUS316	1	100メッシュ 100mesh

PART NO.	部品名 NAME OF PART	材質 MAT'L	個数 QTY	摘要 REMARKS
PROJECT NAME :				
第3角法 第三角法 第三角法 第三角法		名称TITLE OXIGEN SENSOR UNIT OUTLINE DIMENSIONS (Type' FCX-UC, UWC, ULC, ULLC, UL-03)		
単位UNITS mm (inch)		尺目SCALE FREE		
DATE OF ISSUE 1997.11.04		図面番号DRAWING NO. 9-760-001		REV. MARK C
DATE OF REVISION 1996.11.25				

◇	Sensor stem material: Plastic → Ceramics	Sep 7, 2008	HN
◇	誤記訂正 (ピン配置) Correct of Mistakes (Pin arrangement)	97/11/04	R. Nagano
◇	寸法見直し (インチ表示追記)	96/11/25	R. Nagano
MARK	変更 REVISIONS	年月日 DATE	変更者 BY

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