

User's Manual

Supmea

Membrane Dissolved Oxygen Controller

DM2800

Preface

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Note

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Version

STK-K-60-20-01

U-DO2.1-MYEN1

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SPD



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1.

1.1

가 , , , , ,

	33x 200mm(DxL)
	Polarographic
	body : Stainless steel (fresh water)
	Cover : PVC
	Cable : PVC
	: 0.00~20.00mg/L(DO), 0~200%(SAT), 0~400hPa : 0 ~ 45
	: ± 3% FS : ± 0.5
	≤2.5m/s, 8.2ft/s
	0 ~ 80
	T90 : 3 (20)
	/
	10m (가)

1.2

	2.8
	: 100 x 100 x 150mm : 92.5 x 92.5mm
	0.65 kg
IP	IP 54
	(DO) / (SAT), (hPa),
	: 0.00~20.00mg/L(DO). 0~200%(SAT), 0~400hPa : -10 ~ 60
	: ± 1.5% FS : ± 0.5
	4~20mA (750 , ± 0.2%FS)
	MODBUS-RTU RS485
/	/ , 250Vac/3A
	220Vac ± 10%, 50Hz/60Hz
	: 0~50 / : 10~85%RH()
	: -15~65 : 5~95%RH : < 2000m

2.

2.1

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가가

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가 60

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가 85%RH

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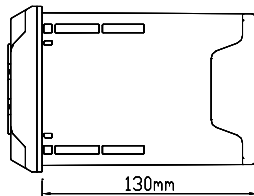
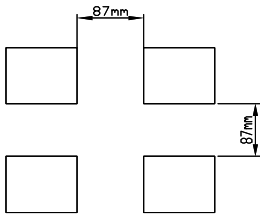
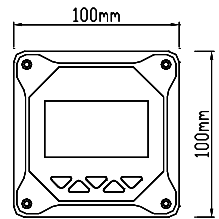
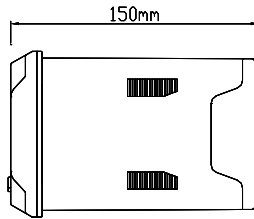
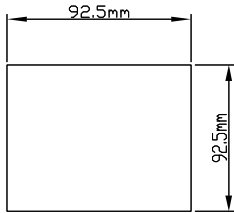
가

●

, , , , 가 가

92,5 x 92,5mm

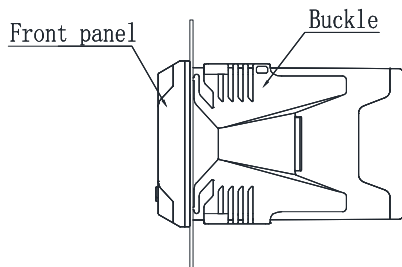
: 1.5mm ~13mm



(1)

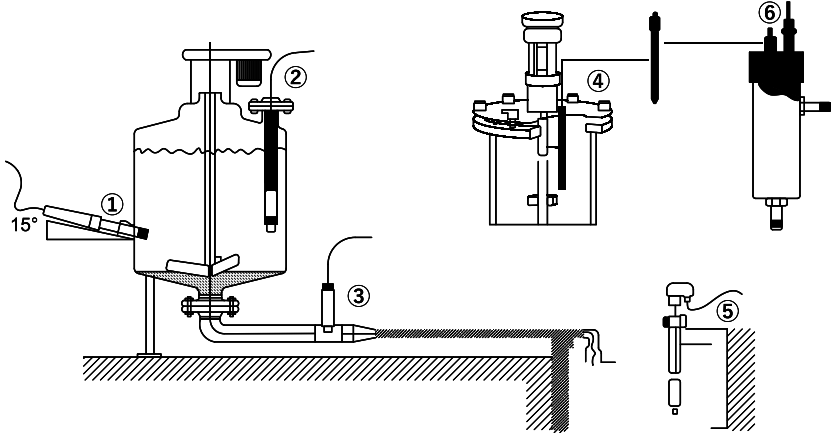
(2)

3



(3)

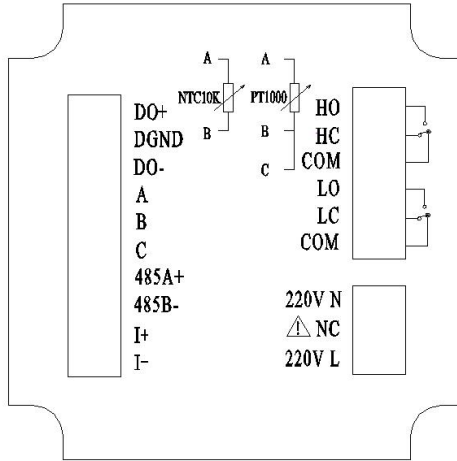
2.2



(4)

(15 °)

2.3



(5)

- DO+ : + ● HO :
- DGND :
- DO- : - ● HC :
- A : A ● COM : COM
- B : B ● LO :
- C : C ● LC :
- RS485A+ : RS485 A+ ● COM : COM
- RS485B - : RS485 B-
- 220V L : 220Vac Live
- I + : 4~20mA + ● NC :
- I - : 4~20mA - ● 220V N : 220Vac Neutral

-
-
-
- +12VDC AGND

가

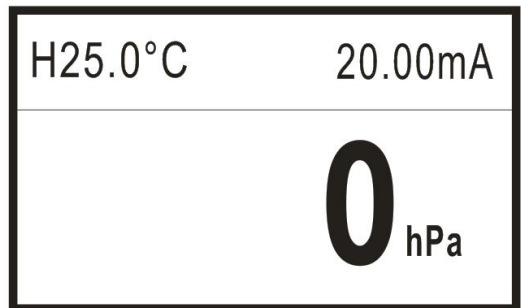
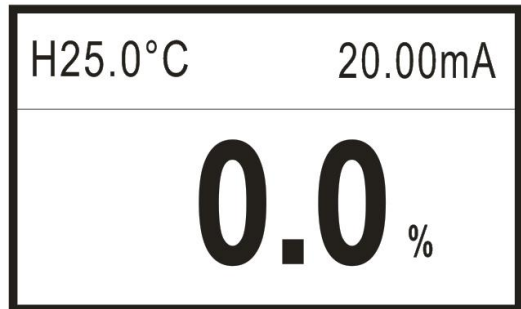
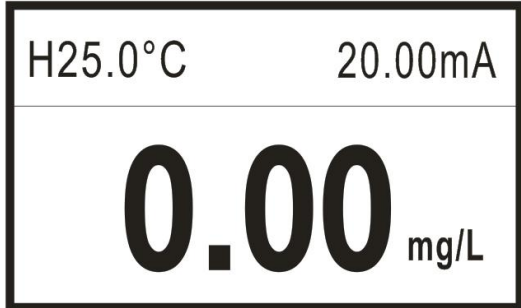
3.



(6)

Sign	Name of the key	Function description
	MENU	- MENU
	EXIT	-
	RIGHT	-
	DOWN	-
	ENTER	-

4.



(8)



"ESC"

가



-----User Password-----

Password: 0000

(9)

"0000"

----- Main Menu -----

- ➡ 1.System Setting
- 2.Signal Setting
- 3.Online Calibrtion
- 4.Remote Setting
- 5.Alarm Setting
- 6.Version Query

(10)

- System Setting : , ,
- Signal Setting : /MLSS
- Online Calibration : MLSS/
- Remote Setting : 4~20mA RS485
- Alarm Setting : /
- Version Query :

System Setting

- System Setting -----
- ➡ 1. Language (11)
 - 2. Buzzer
 - 3. Backlight Setting
 - 4. Change Password
 - 5. Factory Setting

- Language : (/)
- Buzzer : (On/Off)
- Backlight setting : (On/Off)
- Change Password :
- Factory setting :

Signal Setting

- Signal Setting -----
- ➡ 1. Unit Switch (12)
 - 2. Salt Content Setting
 - 3. Air Pressure Setting
 - 4. Temp Switch

- Unit Switch : , ,
- Salt Content Setting : (0.00g/kg)
- Air Pressure Setting : (1013hPa)
- Temp Switch : /

Online Calibration

----- Online Calibrtion -----

- ➡ 1.Temp Modification
- 2.Zero Oxygen Calibration
- 3. Full Scale Calibration

(13)

- Temp Modification : (± 20.0)
- Zero Oxygen Calibration : ()
(가 ,)
- Air Calibration :
 - : 30
 - "Enter" 가
 -

Remote Setting

----- Remote Setting -----

- ➡ 1.RS485 Setting
- 2.Current Transmission

(14)

- RS485 Setting : RS485
- Current Transmission : 4~20mA (4mA) / (20mA)

Alarm Setting

----- Alarm Setting -----

- ➡ 1.DO High Alarm
- 2.DO Low Alarm
- 3.SAT High Alarm
- 4.SAT Low Alarm
- 5.OPP Low Alarm
- 6.OPP Low Alarm

(15)

- DO High Alarm : 가
가 .
- DO Low Alarm : 가
가 .
- SAT High Alarm : 가
가 .
- SAT Low Alarm : 가
가 .
- OPP High Alarm : 가
가 .
- OPP Low Alarm : 가
가 .

Version Query

----- Version Query -----

(16)

- Version Query :

5.

RS485

MODBUS-RTU

. (No.03)

MODBUS standard format (read and hold command from Register 03)**Command format:**

(6) Command format

Definition	Address	Function code	Register address	Data number	CRC check
Data	ADDR	0x03	M	N	CRC 16
Number of bytes	1	1	2	2	2

Return format:

(7) Return format

Definition	Address	Function code	Data size	Data	CRC check
Data	ADDR	0x03	2*N	Data	CRC 16
Number of bytes	1	1	1	2*N	2

Descriptions of register address:

Address	Data type	Data size	Function code	Description	Access authority
0x0000	short	2 bytes	0x03	DO value (unit:mg/L, to be divided by 100)	Read only
0x0001	short	2 bytes	0x03	Temperature value (unit: °C, to be divided by 10)	Read only
0x0002	short	2 bytes	0x03	Saturation value (unit: %, to be divided by 10)	Read only
0x0003	short	2 bytes	0x03	Oxygen partial pressure value(unit: hPa)	Read only

(DO))

- "00 03 00 00 00 01 85 DB" .

- "00 03 02 00 00 85 84" .

- 00 : Slave address
- 03 : function code, reading and holding register
- 02 : (2)
- 00 00 : (0.00mg/L)
(100 , 0.00~20.00mg/L)
- 85 84 : CRC 16

)

- "00 03 00 01 00 01 D4 1B" .

- "00 03 02 00 FA 05 C7" .

- 00 : Slave address
- 03 : function code, reading and holding register
- 02 : (2)
- 00 FA : (25)
(10 , -10.0~60.0)
- 05 C7 : CRC 16

Temperature / °C	(101.325kPa) (mg/L)	가 DO (mg/L / g/kg)	Temperature / °C	(101.325kPa) (mg/L)	가 DO (mg/L / g/kg)
0	14.62	0.0875	21	8.91	0.0464
1	14.22	0.0843	22	8.74	0.0453
2	13.83	0.0818	23	8.58	0.0443
3	13.46	0.0789	24	8.42	0.0432
4	13.11	0.0760	25	8.26	0.0421
5	12.77	0.0739	26	8.11	0.0407
6	12.45	0.0714	27	7.97	0.0400
7	12.14	0.0693	28	7.83	0.0389
8	11.84	0.0671	29	7.69	0.0382
9	11.56	0.0650	30	7.56	0.0371
10	11.29	0.0632	31	7.43	0.0364
11	11.03	0.0614	32	7.30	0.0354
12	10.78	0.0593	33	7.18	0.0348
13	10.54	0.0582	34	7.07	0.0338
14	10.31	0.0561	35	6.95	0.0332
15	10.08	0.0545	36	6.84	0.0322
16	9.87	0.0532	37	6.73	0.0316
17	9.66	0.0514	38	6.63	0.0306
18	9.47	0.0500	39	6.53	0.0300
19	9.28	0.0489	40	6.43	0.0291
20	9.09	0.0475			

(mS/cm)	(g/Kg)	(mS/cm)	(g/Kg)	(mS/cm)	(g/Kg)
5	3	20	13	35	25
6	4	21	14	36	25
7	4	22	15	37	26
8	5	23	15	38	27
9	6	24	16	39	28
10	6	25	17	40	29
11	7	26	18	42	30
12	8	27	18	44	32
13	8	28	19	46	33
14	9	29	20	48	35
15	10	30	21	50	37
16	10	31	22	52	38
17	11	32	22	54	40
18	12	33	23		
19	13	34	24		

Temperature/ °C	Pressure of saturated water steam/ hPa	Temperature/ °C	Pressure of saturated water steam/ hPa	Temperature/ °C	Pressure of saturated water steam/ hPa
0	6.1	15	17.1	30	50.2
1	6.6	16	18.1	31	53.2
2	7.1	17	19.3	32	56.2
3	7.6	18	20.7	33	59.4
4	8.1	19	22.0	34	62.8
5	8.7	20	28.1	35	66.2
6	9.3	21	29.9	36	69.8
7	10.0	22	31.7	37	73.4
8	10.7	23	33.6	38	77.2
9	11.5	24	35.6	39	81.0
10	12.3	25	37.7	40	85.0
11	13.1	26	40.0		
12	14.0	27	42.4		
13	14.9	28	44.9		
14	16.0	29	47.6		

Altitude h / m	Average atmospheric pressure p/ hPa	Altitude h / m	Average atmospheric pressure p/ hPa	Altitude h / m	Average atmospheric pressure p/ hPa
0	1013	1900	799	3800	630
100	1001	2000	789	3900	622
200	988	2100	779	4000	614
300	976	2200	769	4100	607
400	964	2300	760	4200	599
500	952	2400	750	4300	592
600	940	2500	741	4400	584
700	928	2600	732	4500	577
800	917	2700	723	4600	570
900	905	2800	714	4700	563
1000	894	2900	705	4800	556
1100	883	3000	696	4900	549
1200	872	3100	687	5000	542
1300	861	3200	679	5100	535
1400	850	3300	670	5200	529
1500	840	3400	662	5300	522
1600	829	3500	654	5400	516
1700	819	3600	646	5500	509
1800	809	3700	638		

Supmea

Supmea Automation Co.,Ltd.