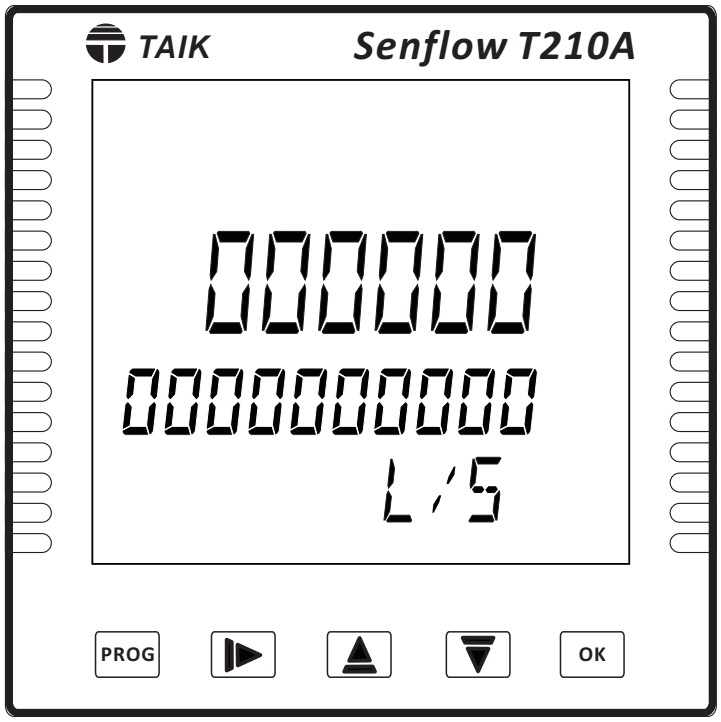
T210A

Instruction Manual

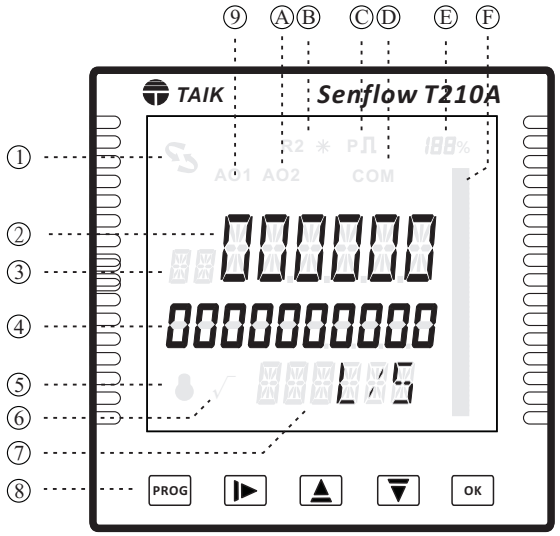


TAIK ELECTRIC

07/2020

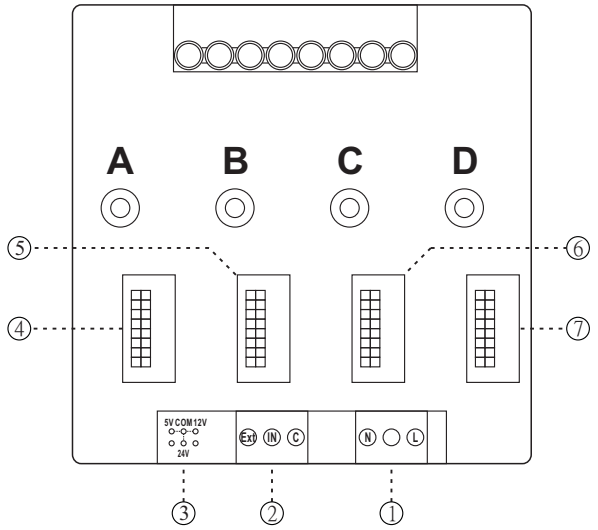
1. Hardware Structure：

1.1Push Buttons On Front Panel:



① Flow input indication flashes interactive
② 6 digits value display
③ Parameters display symbol
④ Tens digit accumulative value display
⑤ Password setting
⑥ Square root calculation
⑦ Unit display
⑧ 5 push buttons
⑨ If setting first analog output will display
Ⓐ If setting second analog output will display
Ⓑ If setting second relay contact will display ✳:Relay contact activated
Ⓒ If setting pulse output will display
Ⓓ RS-485 activation
Ⓔ Analog output value percentage
Ⓕ Analog output value display in bar

1.2 Terminals Configuration：

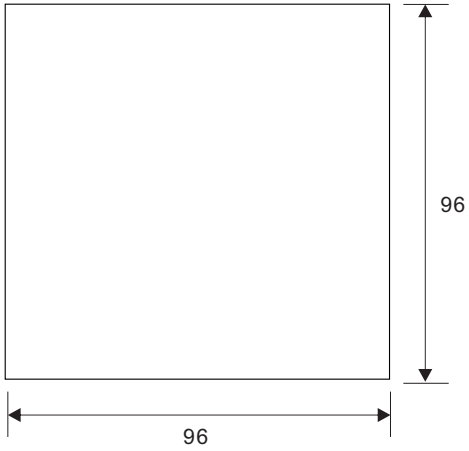


① Power supply
② Signal input
③ Aux. power option
④ RS-485 module
⑤ AOP1 Analog output module
⑥ AOP2 Analog output module
⑦ Pulse and relay contact output module

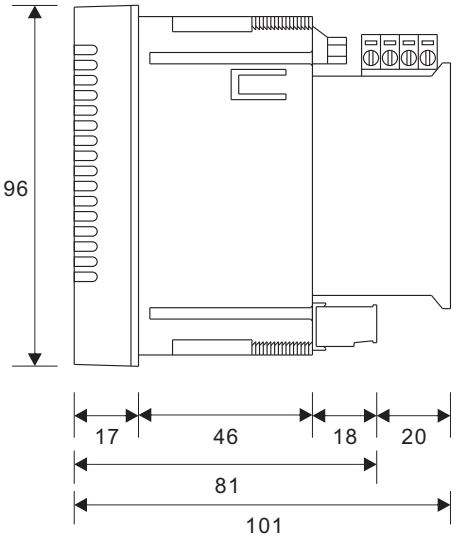
2. Installation/ Wiring：

2.1 Case Dimension and Panel Cut-out：Unit：mm

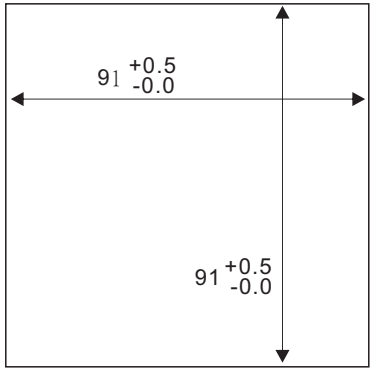
- Rear view



- Side view

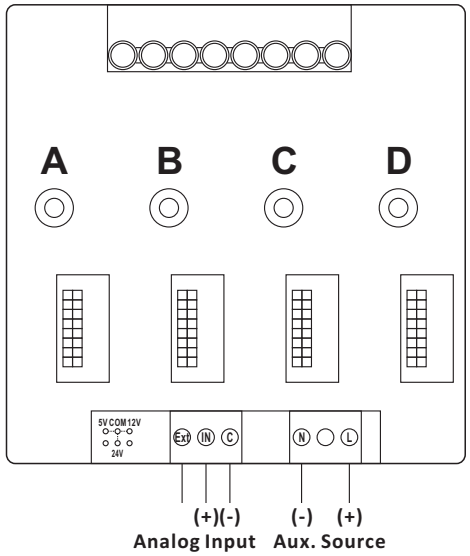


- Cut-out size

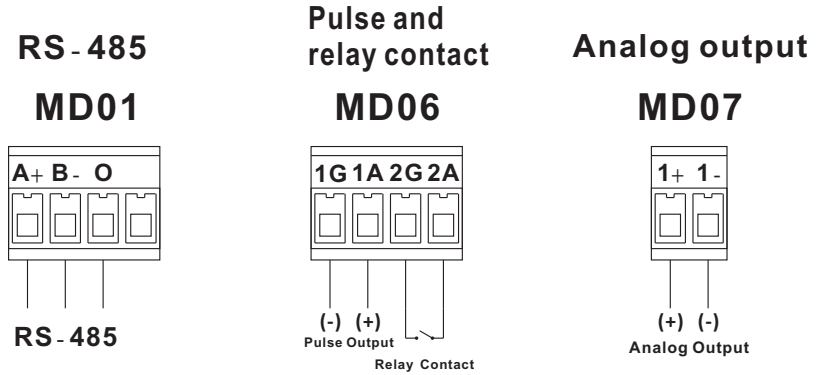


2.2 Connection Diagrams

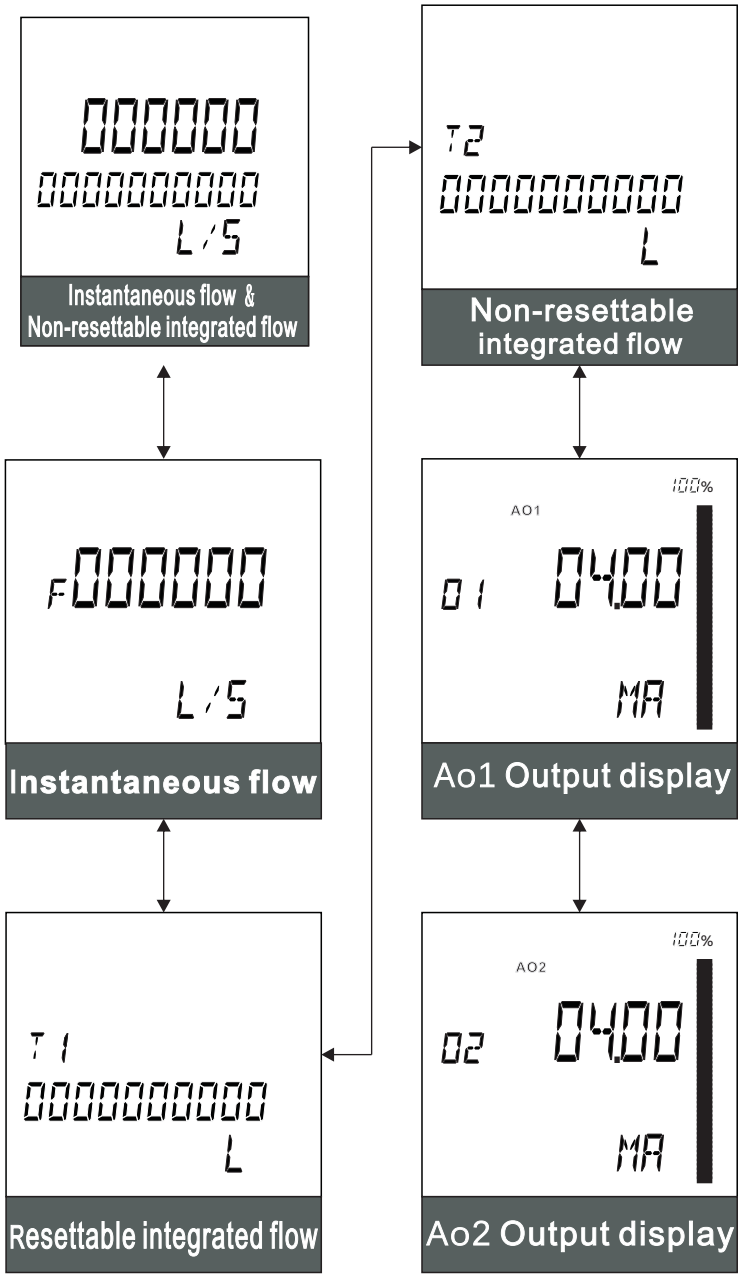
- Meter connection



- Module



T210A Display Mode：



● Keys Operation：

▲ Advanced to the previous display

▼ Advanced to the next display

PROG + ▶

Access to the set-up page and enter password

▶ + ▲

Clear integrated values at T1

OK Hold down to relieve error code

3.2 Formula Calculation

Mass flow rate calculation： W = Q * DS

W：Mass flow rate（kg/s）

Q：Volume flow rate（m^3/s）

DS：Density of fluid （kg / m^3）

3.3 Unit Conversion

1L = 1000mL = 0.001m^3 = 0.2642GAL

1kg = 2.205Lb = 0.001TON

1day = 24hour = 1440min = 86400s

3.4 Error Code

ERR1 OVERFD ：Instantaneous flow exceed set value

ERR2 OVER P ：Pulse output exceed available output range

ERR3 AIERR ：Input exceed 21mA

ERR4 AO1ERR ：AOP1 output exceed 20mA

ERR5 AO2ERR ：AOP2 output exceed 20mA

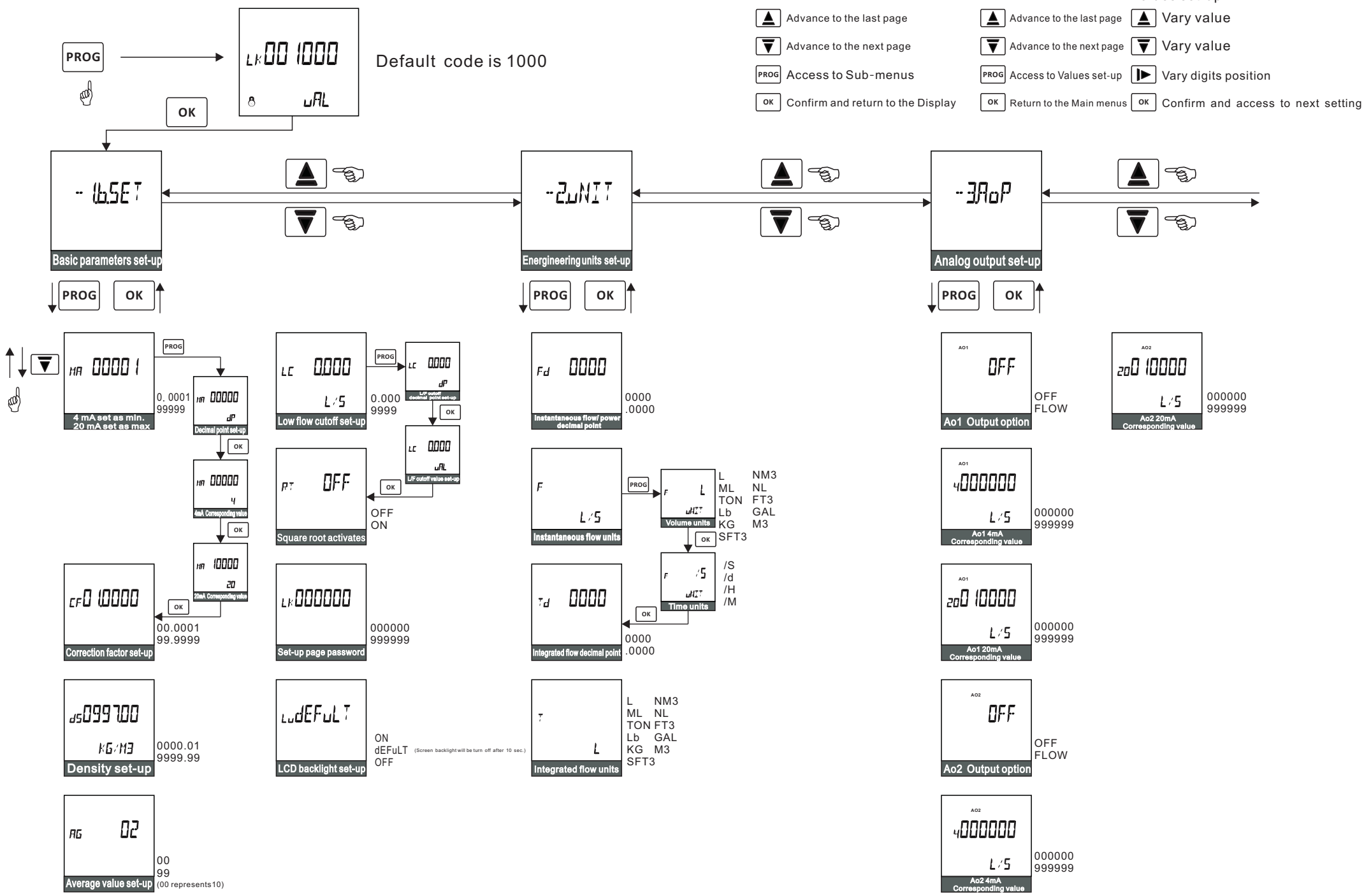
ERR7 ROMERR：EEPROM malfunction

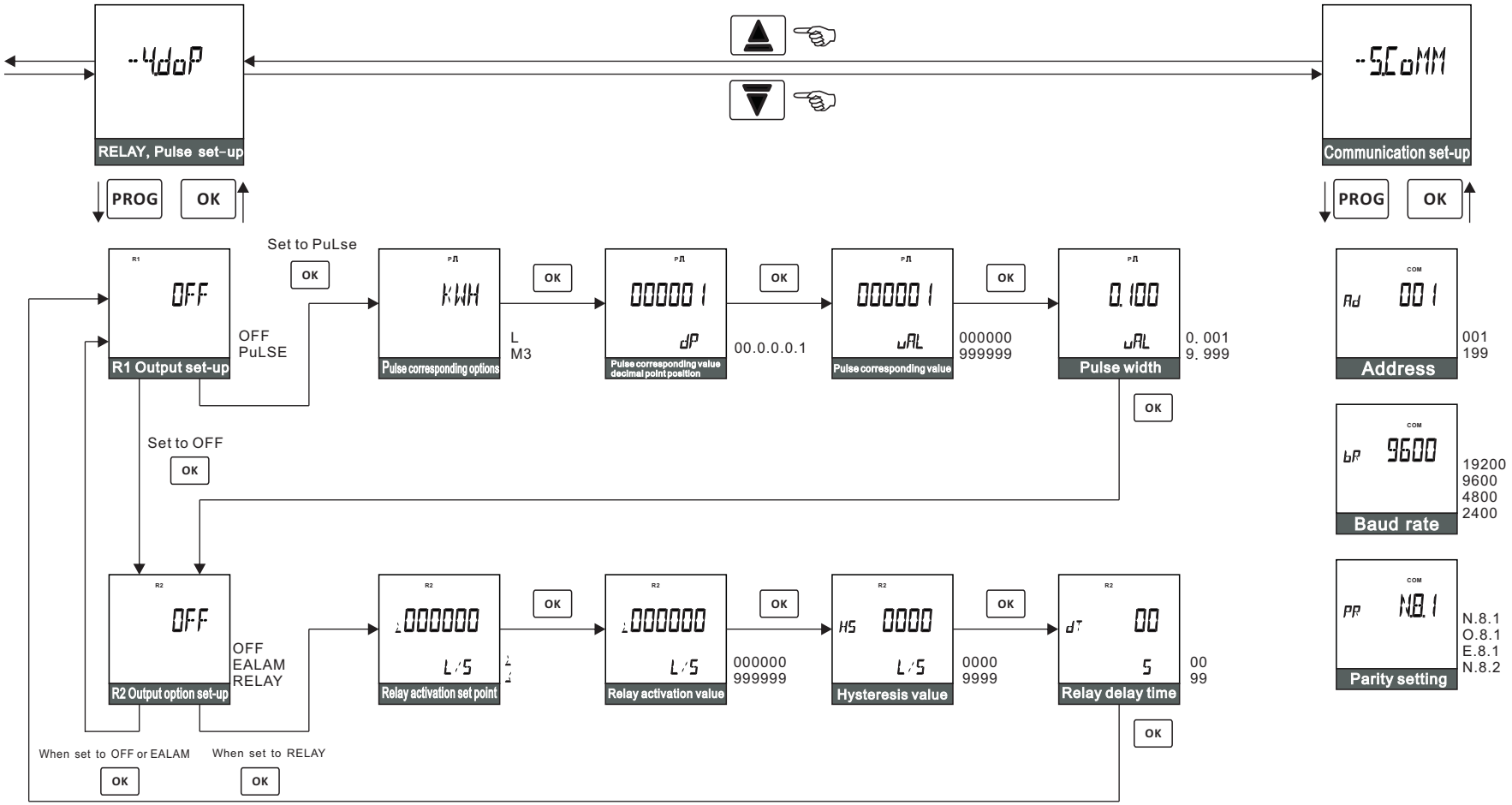
ERR10 NOINIT ：Ex-factory without calibration

**After error exclusion, hold down [OK] can back to display

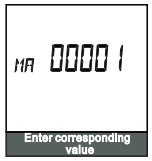
4. Set-up Page Flowchart :

4.1 Menus Flowchart

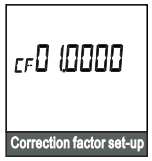



-4doP
RELAY, Pulse set-up
-SCoMM
Communication set-up
PROG
OK
PROG
OK
Set to PuLse
OK
R1
OFF
R1 Output set-up
OFF
PuLSE
PЛ
KWH
Pulse corresponding options
L
M3
OK
PЛ
000001
dP
Pulse corresponding value decimal point position
00.0.0.0.1
OK
PЛ
000001
uRL
Pulse corresponding value
000000
999999
OK
PЛ
0.100
uRL
Pulse width
0. 001
9. 999
OK
Set to OFF
OK
R2
OFF
R2 Output option set-up
OFF
EALAM
RELAY
R2
000000
L/S
Relay activation set point
OK
R2
000000
L/S
Relay activation value
000000
999999
OK
R2
HS 0000
L/S
Hysteresis value
0000
9999
OK
R2
dT 00
S
Relay delay time
00
99
OK
When set to OFF or EALAM
OK
When set to RELAY
OK
COM
Ad 001
Address
001
199
COM
bP 9600
Baud rate
19200
9600
4800
2400
COM
PP N8.1
Parity setting
N.8.1
O.8.1
E.8.1
N.8.2

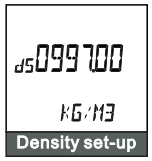
4.2 Menu Legends:



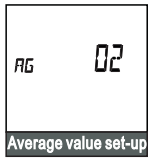
4mA and 20mA corresponding value
Range: 0. 0001~99999



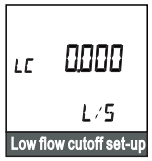
Correction factor set-up : A coefficient can correct deviation
Range: 00. 001~99. 999



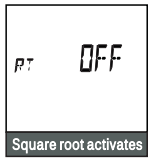
When calculating fluid weight need to set-up liquid density
Range:0000. 01~9999. 99



Set-up for average sampling times
Range: 00~99
（00 means 10 times）



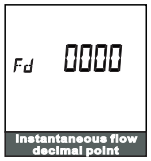
If input is lower than set value will be 0
Range: 0. 000~9999



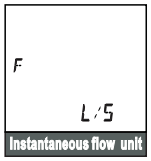
Square root of input value
OFF、ON

Change password
Range: 000000~999999

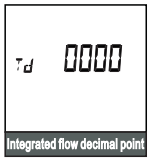
LCD backlight set-up
ON：LCD backlight stays on
dEFuLT：LCD backlight shut down after 10 secs.when not in use
OFF：Close LCD backlight



Intantaneous flow decimal point
Range: . 0000~0000

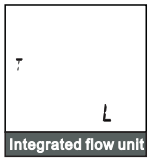


Intantaneous flow unit
Volume or weight units: L,ML,TON,Lb
KG、SFT3,NM3
NL,FT3,GAL,M3



Time units：S：sec., d：day, H：hour, M：month

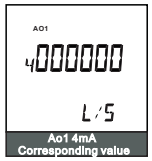
Integrated flow decimal point
Range: . 0000~0000



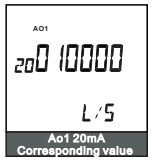
Integrated flow unit set-up
L,ML,TON,Lb
KG,SFT3,NM3
NL,FT3,GAL,M3

Ao1 output corresponding value

OFF：No output, FLOW：flow



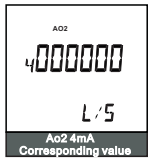
AO1 4mA corresponding value
Range: 000000~999999



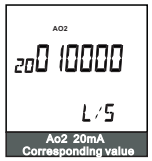
Ao1 20mA corresponding value
Range: 000000~999999

Ao2 output corresponding value

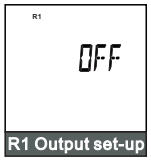
OFF：No output, FLOW：flow



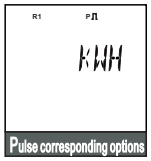
Ao2 4mA corresponding value
Range: 000000~999999



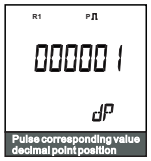
Ao2 20mA corresponding value
Range: 000000~999999



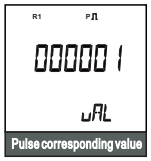
R1 output option
OFF：output disable, PuLSE：pulse output



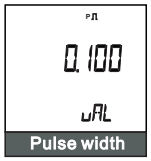
Pulse corresponding options
KWH：power, L：flow



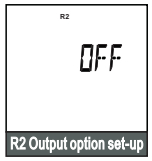
Pulse corresponding value decimal point position
Range: 000001~00. 0001



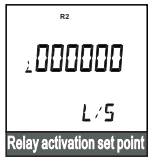
Setting the accumulative value that corresponding to pulse
Range: 000000~999999



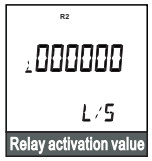
Width of pulse output signal
0. 001~9. 999



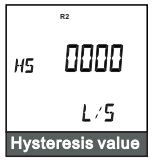
R2 output option
OFF：output disable, EALAM：Will activate when error happens
RELAY：Set point activation



R2 activation set-up point
≧ ：more than or equal to set value
≦ ：less than or equal to set value



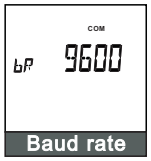
R2 activation set-up point value
Range: 000000~999999



Activation set-up point hysteresis setting
Range:0000~9999

R2 delay time set-up
Range:00~99(sec.)

RS-485 communication address set-up
Range:001~199



RS-485 baud rate set-up
2400,4800,9600,19200

RS-485 parity setting
N. 8. 1, O. 8. 1, E. 8. 1,N. 8. 2

5. Specifications:

5.1 Specifications

- **Display screen**：
  - Format ..... LCD white backlit
  - Instantaneous flow digits ..... 5 digits
  - Integrated flow digits ..... 10 digits
  - Status symbol ..... Relay contact status, RS-485 communication status
    Pulse output,Analog output percentage
    Input signal status, Unit display, Error message

- **Power supply**：
  - Auxiliary power supply AC/DC85-265V
  - Frequency Range 45-70Hz
  - Power consumption ..... ≦15VA(All modules)

- **Analog input:**
  - Input range ..... DC 4-20mA
  - Deviation range ..... ±0.05% F.S. ±2 digit

- **Communication**：
  - Interface RS485
  - Protocol ..... MODBUS , RTU format
  - Baud rate ..... 2400～19200 programmable
  - Address ..... 1～199 programmable
  - Data formal ..... N,8,1/N,8,2/O,8,1/E,8,1 programmable
  - Parallel connection ..... 32 meters

- **Analog output:**
  - Output range ..... DC4-20mA isolated
  - Corresponding value ..... Instantaneous flow
  - Maximum load ..... ≦350Ω
  - Deviation range ..... ±0.1%R.O.

- **Pulse output**:
  - Output genre ..... Open Collector (O.C.)
  - Corresponding value ..... Integrated flow
  - Setting range 0.001-999999
  - Pulse width ..... 0.001-9.999 sec.
  - Maximum load DC30V 30mA

- **Relay contacts output:**
  - Output genre ..... A contact (N.O.)
  - Corresponding value ..... Instantaneous flow high/low alarm or error alarm
  - Setting range 0-999999
  - Contact load AC240V 5A
    DC24V 5A

- **Auxiliary power supply**
  - Output voltage ..... DC5V, DC12V, DC24V(option)
  - Max. current 30mA

- **Permissible module quantity：At most 4 sets**
  - Rs485 module quantity ..... 1 set(A)
  - DC analog output module ..... 2 sets(B、C)
  - Pulse and relay contacts module ..... 1 set(D)

- Application environment：

Operating temperature	0-60°C
Operating humidity	5-95%RH,non condensing
Storage temperature	-10-70°C

- Characteristic and terms:

Sampling time	0.3 secs.
Ingress protection	Ip54 front,IP20 rear
Dielectric strength	Input/Output/Power AC2KV,1min
	Terminals/Case AC3KV,1min
Surge immunity	Input/Output/Power/Case
	DC500V ≧100MΩ

EMC Testing

Conducted emission	EN 55011
Radiated emmission	EN 55011
Harmonic current emissions	EN 61000-3-2
Voltage changes, voltage fluctuations,and flicker	En 61000-3-3
Electrostatic discharge	IEC61000-4-2
Electromagnrtic field immunity	IEC61000-4-3
Electrical fast transient/burst immunity	IEC61000-4-4
Surge immunity	IEC61000-4-5
immunity to conducted disturbances	IEC61000-4-6
Power frequency magnetic field immunity	IEC61000-4-8
Short interruptions and voltage variations immunity	IEC61000-4-11

CE certification

6. Communications:

6.1 Communication protocol：

Adopting MODBUS communication shall use a repeater as the meters are in parallel connection more than 30 pcs.

6.2 Transmission mode：

RTU MODE

6.3 Communication method：

Rs485 (Half-Duplex)

6.4 MODBUS Frame：

6.4.1 Basic Comm and Framing: Hexadecimal Code

Start of frame	Address Field	Function Code	Data Field	Error Check	End of Frame

Start of frame ：The data is not transmitted by a silent period of at least 4 characters

Address field ：The valid MODBUS addresses are in the range of 1-255, the address 0 for broadcast command is only valid for Function Code ⇨ 06H

Function code ：03H⇨Read data
06H⇨Write data

Data field ：The start address of a register. Reading N WORDS and Writing N values

Error check ：16bit CRC。

End of frame ：The date is not transmitted by a silent period of at least 4 characters

6.4.2 **Bit Per Byte**: Access to sub-menus 485→FrAE to set-up

Start Bit	Data Bit	Parity	Stop	Frame
1	8	None	2	N，8，2
1	8	Odd	1	O，8，1
1	8	Even	1	E，8，1
1	8	None	1	N，8，1

6.5 **Reading Register Command**：

Query：

Start of Frame	Address Field	Function Code	Start Address Hi	Start Address Lo	Number of Word Hi	Number of Word Lo	Error Check		End of Frame
	01H~FFH	03H	0~nnH	0 ~ nnH	0H	1~nnH	CRC Lo	CRC Hi	
	1 Byte	1 Byte	2Byte		2 Byte		2 Byte		

Response：(Command is correct)

Start of Frame	Address Field	Function Code	Number of Data Byte Count	D0 、D1.. Dn (Hi,Lo,Hi,Lo....)	Error Check		End of Frame
	01H~FFH	03H			CRC Lo	CRC Hi	
	1 Byte	1 Byte	1Byte		2 Byte		

6.6 **Writing Register Command: A single writing WORD command**

Query：

Start of Frame	Address Field	Function Code	Start Address Hi	Start Address Lo	Value Hi..	Value ..Lo	Error Check		End of Frame
	01H~FFH	06H	0~nnH	0 ~ nnH	Setting Value		CRC Lo	CRC Hi	
	1 Byte	1 Byte	2Byte		2 or 4 Byte		2 Byte		

Response：(Response to the writing data if the command is correct)

Start of Frame	Address Field	Function Code	Start Address Hi	Start Address Lo	Value Hi..	Value .. Lo	Error Check		End of Frame
	01H~FFH	06H	0~nnH	0 ~ nnH	Setting Value		CRC Lo	CRC Hi	
	1 Byte	1 Byte	2Byte		2 or 4 Byte		2 Byte		

6.7 **Message Error：(A command is error)**

Start of Frame	Address Field	Function Code	Error Code	Error Check		End of Frame
	01H~FFH	83H or 86H		CRC Lo	CRC Hi	
	1 Byte	1 Byte	1 Byte	2 Byte		

- Function Code：Response to the received Function Code but MSB is set to 1, it functions like 03H ⇨ 83H
- Error Code：
  - 01：Error Function。
  - 02：Error Data Address。
  - 03：Error Data Value。

6.8 The CRC Calculation：

The CRC is calculated on all byte of a message from the Address Filed to the last data byte ended (Data Field); Furthermore, it means that the data received is in error if the CRC calculation performed on host does not match the received data.

The CRC Calculation Performed:

1. Load a CRC register with 0 x FFFF
2 Exclusive- OR the first 8 bits of the message with the low-order byte of the CRC register. Put the result in the CRC register.
3.Shift the CRC register one bit to the right then fill the message in high-order of the CRC register with a zero, and compare the bit shifted out (SLSB).
4. Repeat step 3 if the SLSB=0; Exclusive- OR the CRC register with the value A001(Hex), then put the result in the CRC register if the SLSB=1.
5. Repeat steps 3 and 4 uutil the 8 bits have been performed and tested.
6. Repeat steps 2 to 5 until all bytes have been performed.
7. Swap a message with low and high order bytes of the CRC register.

CRC Checkup Routine：

The CRC register returned is as unsigned short int.
The starting address and the field of the data are transmitted, and the high and low order bytes of the returned CRC register have been swapped.

```
/*CRC Generation Function with 'C' language*/
/* Msg:*message to calculate CRC upon*/
/* usDatalen: number of bytes in message*/
unsigned int CRC16(char *Msg,unsigned char usDatalen)
{
   unsigned char uchCRCHi=0xFF；/*CRC high byte*/
   unsigned char uchCRCLo=0xFF；  /*CRC low byte*/
   unsigned char uIndex；
   while(usDatalen--)/*pass through message buffer*/
   {
      uIndex=uchCRCHi^*Msg++；/*calculate the CRC*/
      uchCRCHi=uchCRCLO^auchCRCHi[uIndex]；
      uchCRCLo=auchCRClo[uIndex]；
   }
}
return (uchCRCHi<<8|uchCRCLo)；
```

```
static unsigned char auchCRCHi[]={
0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,0x01,0xc0,
0x80,0x41,0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,
0x00,0xc1,0x81,0x40,0x00,0xc1,0x81,0x40,0x01,0xc0,
0x80,0x41,0x01,0xc0,0x80,0x41,0x00,0xc1,0x81,0x40,
0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,0x00,0xc1,
0x81,0x40,0x01,0xc0,0x80,0x41,0x01,0xc0,0x80,0x41,
0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,0x00,0xc1,
0x81,0x40,0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,
0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,0x01,0xc0,
0x80,0x41,0x00,0xc1,0x81,0x40,0x00,0xc1,0x81,0x40,
0x01,0xc0,0x80,0x41,0x01,0xc0,0x80,0x41,0x00,0xc1,
0x81,0x40,0x01,0xc0,0x80,0x41,0x00,0xc1,0x81,0x40,
0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,0x01,0xc0,
0x80,0x41,0x00,0xc1,0x81,0x40,0x00,0xc1,0x81,0x40,
0x01,0xc0,0x80,0x41,0x00,0xc1,0x81,0x40,0x01,0xc0,
0x80,0x41,0x01,0xc0,0x80,0x41,0x00,0xc1,0x81,0x40,
0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,0x01,0xc0,
0x80,0x41,0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,
0x00,0xc1,0x81,0x40,0x00,0xc1,0x81,0x40,0x01,0xc0,
0x80,0x41,0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,
0x01,0xc0,0x80,0x41,0x00,0xc1,0x81,0x40,0x01,0xc0,
0x80,0x41,0x00,0xc1,0x81,0x40,0x00,0xc1,0x81,0x40,
0x01,0xc0,0x80,0x41,0x01,0xc0,0x80,0x41,0x00,0xc1,
0x81,0x40,0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,
0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,0x01,0xc0,
0x80,0x41,0x00,0xc1,0x81,0x40};

static unsigned char auchCRCLo[]={
0x00,0xc0,0xc1,0x01,0xc3,0x03,0x02,0xc2,0xc6,0x06,
0x07,0xc7,0x05,0xc5,0xc4,0x04,0xcc,0x0c,0x0d,0xcd,
0x0f,0xcf,0xce,0x0e,0x0a,0xca,0xcb,0x0b,0xc9,0x09,
0x08,0xc8,0xd8,0x18,0x19,0xd9,0x1b,0xdb,0xda,0x1a,
0x1e,0xde,0xdf,0x1f,0xdd,0x1d,0x1c,0xdc,0x14,0xd4,
0xd5,0x15,0xd7,0x17,0x16,0xd6,0xd2,0x12,0x13,0xd3,
0x11,0xd1,0xd0,0x10,0xf0,0x30,0x31,0xf1,0x33,0xf3,
0xf2,0x32,0x36,0xf6,0xf7,0x37,0xf5,0x35,0x34,0xf4,
0x3c,0xfc,0xfd,0x3d,0xff,0x3f,0x3e,0xfe,0xfa,0x3a,
0x3b,0xfb,0x39,0xf9,0xf8,0x38,0x28,0xe8,0xe9,0x29,
0xeb,0x2b,0x2a,0xea,0xee,0x2e,0x2f,0xef,0x2d,0xed,
0xec,0x2c,0xe4,0x24,0x25,0xe5,0x27,0xe7,0xe6,0x26,
0x22,0xe2,0xe3,0x23,0xe1,0x21,0x20,0xe0,0xa0,0x60,
0x61,0xa1,0x63,0xa3,0xa2,0x62,0x66,0xa6,0xa7,0x67,
0xa5,0x65,0x64,0xa4,0x6c,0xac,0xad,0x6d,0xaf,0x6f,
0x6e,0xae,0xaa,0x6a,0x6b,0xab,0x69,0xa9,0xa8,0x68,
0x78,0xb8,0xb9,0x79,0xbb,0x7b,0x7a,0xba,0xbe,0x7e,
0x7f,0xbf,0x7d,0xbd,0xbc,0x7c,0xb4,0x74,0x75,0xb5,
0x77,0xb7,0xb6,0x76,0x72,0xb2,0xb3,0x73,0xb1,0x71,
0x70,0xb0,0x50,0x90,0x91,0x51,0x93,0x53,0x52,0x92,
0x96,0x56,0x57,0x97,0x55,0x95,0x94,0x54,0x9c,0x5c,
0x5d,0x9d,0x5f,0x9f,0x9e,0x5e,0x5a,0x9a,0x9b,0x5b,
0x99,0x59,0x58,0x98,0x88,0x48,0x49,0x89,0x4b,0x8b,
0x8a,0x4a,0x4e,0x8e,0x8f,0x4f,0x8d,0x4d,0x4c,0x8c,
0x44,0x84,0x85,0x45,0x87,0x47,0x46,0x86,0x82,0x42,
0x43,0x83,0x41,0x81,0x80,0x40};
```

6.9 Setting Data Address

6.9.1 Communication address

Address	(Hex)	Contents	Format	Codename	Access	Range & Unit
0000	0000H	Non-resettable integrated flow	(Note 1)	T2.A	R	0~9999999999
0001	0001H	Non-resettable integrated flow	(Note 1)	T2.B	R	0~9999999999
0002	0002H	Non-resettable integrated flow	(Note 1)	T2.C	R	0~9999999999
0003	0003H	Non-resettable integrated flow	(Note 1)	T2.D	R	0~9999999999
0004	0004H	Resettable integrated flow	(Note 1)	T1.A	R	0~9999999999
0005	0005H	Resettable integrated flow	(Note 1)	T1.B	R	0~9999999999
0006	0006H	Resettable integrated flow	(Note 1)	T1.C	R	0~9999999999
0007	0007H	Resettable integrated flow	(Note 1)	T1.D	R	0~9999999999
0008	0008H	Instantaneous flow/Low byte	Long	FW.L	R	0~99999
0009	0009H	Instantaneous flow/High byte	Long	FW.H	R	0~99999
0010	000AH					
0011	000BH					
0012	000CH					
0013	000DH					
0014	000EH					
0015	000FH					
0016	0010H					
0017	0011H	4mA corresponding flow/Low byte	Long	04.L	R/W	0~99999
0018	0012H	4mA corresponding flow/High byte	Long	04.H	R/W	0~99999
0019	0013H	20mA corresponding flow/Low byte	Long	20.L	R/W	0~99999
0020	0014H	20mA corresponding flow/High byte	Long	20.H	R/W	0~99999
0021	0015H	Correction factor / Low byte	Long	CF.L	R/W	1~999999
0022	0016H	Correction factor / High byte	Long	CF.H	R/W	1~999999
0023	0017H	Density / Low byte	Long	DS.L	R/W	1~999999
0024	0018H	Density / High byte	Long	DS.H	R/W	1~999999
0025	0019H	Average value set-up	Integer	AG	R/W	0~99
0026	001AH	Low flow cutoff	Integer	LC	R/W	0~9999
0027	001BH	Input square root	Integer	RT	R/W	0~1(Note 2)
0028	001CH					
0029	001DH	Corresponding flow decimal point	Integer	MAK	R/W	0~4(Note 3)
0030	001EH	Low flow cutoff decimal point	Integer	LCD	R/W	0~3(Note 3)
0031	001FH	Pulse decimal point	Integer	PDP	R/W	0~3(Note 3)

Address	(Hex)	Contents	Format	Codename	Access	Range & Unit
0032	0020H	Instantaneous flow decimal point	Integer	DPF	R/W	0~3(Note 3)
0033	0021H	Instantaneous flow units	Integer	UTF	R/W	0~6(Note 4)
0034	0022H	Instantaneous flow time	Integer	TMF	R/W	0~3(Note 5)
0035	0023H	Integrated flow decimal point	Integer	DPT	R/W	0~3(Note 3)
0036	0024H	integrated flow units	Integer	UTT	R/W	0~6(Note 4)
0037	0025H					
0038	0026H					
0039	0027H	Ao1 4mA corresponding /Low byte	Long	A1.40.L	R/W	0~999999
0040	0028H	Ao1 4mA corresponding /High byte	Long	A1.40.H	R/W	0~999999
0041	0029H	Ao1 20mA corresponding /Low byte	Long	A1.20.L	R/W	0~999999
0042	002AH	Ao1 20mA corresponding /High byte	Long	A1.20.H	R/W	0~999999
0043	002BH	Ao2 4mA corresponding /Low byte	Long	A2.40.L	R/W	0~999999
0044	002CH	Ao2 4mA corresponding /High byte	Long	A2.40.H	R/W	0~999999
0045	002DH	Ao2 20mA corresponding /Low byte	Long	A2.20.L	R/W	0~999999
0046	002EH	Ao2 20mA corresponding /High byte	Long	A2.20.H	R/W	0~999999
0047	002FH					
0048	0030H					
0049	0031H	Relay1 status set-up	Integer	R1V	R/W	0~1(Note 6)
0050	0032H	Relay2 status set-up	Integer	R2V	R/W	0~2(Note 7)
0051	0033H	Pulse corresponding value /Low byte	Long	R1_P. L	R/W	0~999999
0052	0034H	Pulse corresponding value /High byte	Long	R1_P. H	R/W	0~999999
0053	0035H	Pulse units	Integer	R1_P. U	R/W	0~1(Note 8)
0054	0036H	Relay2 alarm value/Low byte	Long	R2_FW. L	R/W	0~999999
0055	0037H	Relay2 alarm value/High byte	Long	R2_FW. H	R/W	0~999999
0056	0038H	Relay2 alarm hysteresis value	Integer	R2_HS	R/W	0~9999
0057	0039H	Relay2 alarm delay	Integer	R2T	R/W	0~99
0058	003AH					
0059	003BH					
0060	003CH					
0061	003DH					
0062	003EH					
0063	003FH					

Address	(Hex)	Contents	Format	Codename	Access	Range & Unit
0064	0040H					
0065	0041H					
0066	0042H					
0067	0043H	Zero resettable integrated energy	Integer	RST.E	R/W	1: Reset
0068	0044H	Zero resettable integrated flow	Integer	RST.E	R/W	1: Reset
0069	0045H					
0070	0046H	RS-485 address	Integer	ADD	R/W	1~199
0071	0047H	RS-485 baud rate	Integer	BRD	R/W	0~3(Note 9)
0072	0048H	RS-485 parity	Integer	PAR	R/W	0~6(Note 10)

6.9.2 Notes

Note	Description
1	Integrated value byte order from high to low is DCBA, if using tens digit calculation, the integrated value: D * 2^48 + C * 2^32 + B * 2^16 + A
2	Input square root： 0：Off, 1：On
3	Decimal position： 0：No decimals , 1：First decimal place, 2：Second decimal place 3：Third decimal places, 4：Fourth decimal place
4	Flow units： 0：ml, 1：L, 2：m³, 3：Gallon 4：in³, 5：ml、6：m³, 7：in³ 8：kg, 9：lb, 10：ton
5	Time units： 0：Sec., 1：Mins, 2：Hours, 3：Days
6	Relay1 status： 0：Off, 1：Pulse
7	Relay2 status： 0：Off, 1：Alarm set value, 2：Alarm error
8	Pulse units: 0：L, 1：m³
9	RS-485 Baud rate： 0：2400、1：4800、2：9600、3：19200
10	RS-485 Parity： 0：n.8.1, 1：n.8.2, 2：e.8.1, 3：o.8.1