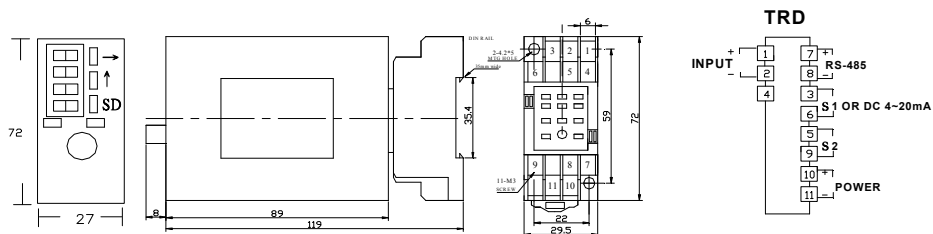


# TRD DC Communication Control Transmitter

## □ Operation panel /Dimension /Terminal layout /Connection diagram



## □ Keys

Name	Function	Instruction
S	Setting key	Enter function setting mode
↑	Change number	Change the numbers
→	Change position	Change the position of numbers

## □ Parameters setting

Press S to enter setting mode 01, 02, 03, 04.....09.

Press ↑ to change number. Press → to change position

	Function	Instruction	Note
01	XXXXXXXXXX	No need setting Press "S" to enter 02	
02	Lowest Display value setting	Press "↑" and "→" to set Press "S" to enter 03	Range: ± 0-1999
03	Span	Press "↑" and "→" to set SPAN Press "D" to enter 04.	I/P: 4-20mA DISP: 0-1000 Set 03 as 1000
04	Decimal Point Setting	Press "→" to set Press "D" to enter 05	1888.8
05	Output select	Press "↑" to select 0-10mA / 0-20mA / 4-20mA or 0-5V / 0-10V / 1-5V Press "S" to enter 06.	(V / mA can't exchange)
06	Baud Rate	Press ↑ to select baudrate 1200-2400-4800-9600-19200 Press "S" to enter 07	(preset as 9600)
07	Address	Press ↑ and → to set address Press "S" to enter 08	1-99
08	Output corresponding value setting 2-Stage setting (SPAN / ZERO)	Press ↑ to change number. Press → to change position Change the SPAN corresponding value (0-9999) Press S to Change the SPAN corresponding value (0~9999) Press "S" to enter 09.	DS 0-161.0 KV OP 4-20mA Set Span as 1610 Set Zero as 0
09	Save	Press S to enter 89. Press "↑" to set the number as 99 Press "S" to save.	09

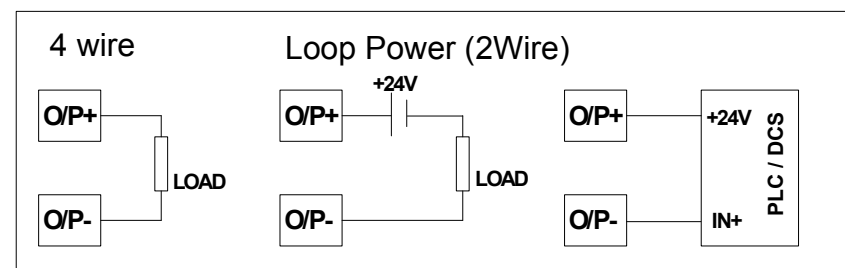
## □ ALARM Hi Lo Function Setting

Press "S" to enter "00". Press "→" screen shows "51".

Option	Function	Operation Instruction
51	S1 value setting -1000~1000℃	Press S to use ↑ and → keys to change the number as 1000 Press S to enter 52.
52	S1 deadband setting 0~1000℃	Press ↑ and → keys to change the number as 1000 Press S to enter 53
53	S1 delay time setting 0~99 sec	Press ↑ and → keys to change the number as 99 Press S to enter 54
54	S2 value setting -1000~1000℃	Press ↑ and → keys to change the number as 1000 Press S to enter 55
55	S2 deadband setting 0~1000℃	Press ↑ and → keys to change the number as 1000 Press S to enter 56
56	S2 delay time setting 0~99 sec	Press ↑ and → keys to change the number as 99 Press S to enter 57
57	S1 : S2 HI-LO setting Screen shows 00 Tens digit 0 for S1 Units digit 0 for S2	Press ↑ and → keys to match the numbers with the HI-LO function (1=Hi, 0=Lo) Hi-Hi, Hi-Lo, Lo-Hi, Lo-Lo (selectable) Press S to enter 58
58	Start Delay Time 0~99 sec	Press "↑" and "→" keys to set the number as 99. Set the time from 0 to 99, no alarm function within the time. Press "S" to enter 59
59	Save	Press S to enter 89. Press "↑" to set the number as 99 Press "S" to save.

## □ Analog Output

Output Load : Current Output : <750Ω at 20mA , Voltage Output : 10mA Maximum  
Output Signal : 0-10ma / 0-20ma / 4-20ma 或 0-5V / 1-5V / 0-10 V  
(V / mA can't exchange)



Output Setting

O/P : 4-20mA( corresponding value 50.0 - 100.0℃)

Please refer to 08 for the setting:

Set SPAN as: 1000

Set ZERO as: 0500

# TRD DC Communication Control Transmitter

## □ Communication

RS 485 MODBUS RTU (Half-Duplex)  
 Baud rate : (2400-4800-9600-19200)  
 (Parity) : No Parity Check  
 Address : 1-99  
 Start Bit: 1  
 Data Bit: 8

### Data Format (HEX)

(ID Number) 1Byte	(Function Code) 1Byte	(Data) N Byte	CRC 2 Byte
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### Function Code

03 (03H)	Read parameters of the meter
06 (06H)	Set parameter.

### EXAMPLE:

EX 1. Read Temperature Value Master calls meter ID No.1 to read address 0001.Data number 0001

<b>Master sends message to meter</b> TX : 01 03 00 01 00 01 D5 CA				
ID Number 1Byte (01H)	Function 1Byte (03H)	Address 2Byte (00 01H)	Data Number 2Byte (00 01H)	CRC 2Byte (D5 CA)

If meter Displays 1000

<b>Meter responds to Master</b> RX : 01 03 00 02 03 E8 B8 FA				
ID Number (01H)	Function (03H)	Byte (02H)	Data (03E8H)	CRC (B8FAH)

### Parameter/Address cross-reference

Address		Name	Length (Byte)	Range	Function Code	Note
DEC	HEX					
00	0000H	RY/Polarity/Decimal Point	2Byte	Unsigned Int		Note 1
01	0001H	Display value	2Byte	Unsigned Int	0-9999	Note 2
02	0002H	No function	2Byte	Unsigned Int	0-9999	03H
03	0003H	Display value adjustment	2Byte	Unsigned Int	0-9999	03H
04	0004H	S1 relay setting value	2Byte	Unsigned Int	0-9999	03H
05	0005H	S2 relay setting value	2Byte	Unsigned Int	0-9999	03H

## NOTE

Note 1 : Relay state/Polarity/Decimal Point Read address: 0000H  
 bit0~bit3 1 digit after decimal point. Reading: 0001 (PS : RTD is always with 1 digit after decimal point)  
 bit8~bit9 Relay state bit8=S1 · bit9=S2 ; 1=ON · 0=OFF  
 bit15 Polarity 0=positive · 1=negative

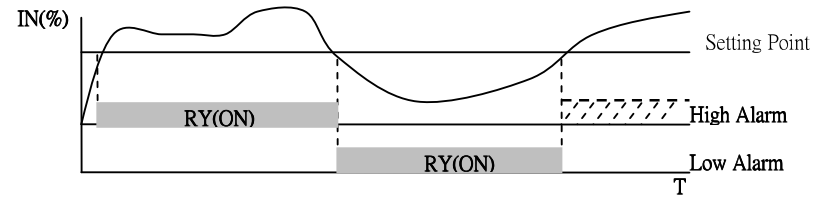
Note 2 : Display value  
 If displays 200.0 , 485 reading =2000. Decimal point read address0000H  
 (PS : RTD is always with 1 digit after decimal point)  
 If display -50.0 , 485 reading= 500. Decimal point / Polarity read address 0000H ;

Note 3 : Display value adjustment , no polarity. If it is ±0005,reading is 5

## □ Alarm Function Explanation

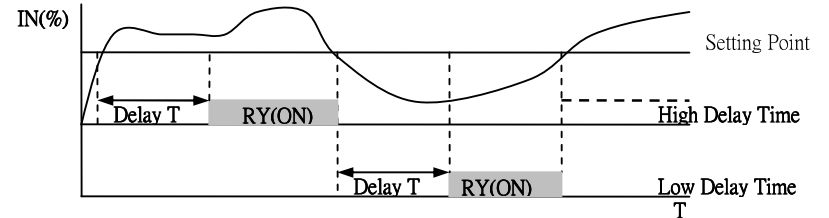
### 1.High Alarm & Low Alarm

When input signal is higher or lower than setting point, relay is activated.



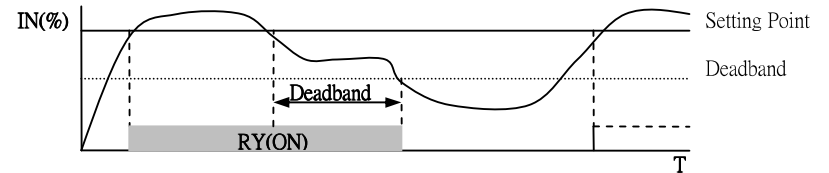
### 2.High Delay Time & Low Delay Time

When signal is higher or lower than setting point, relay is activated after delay time.



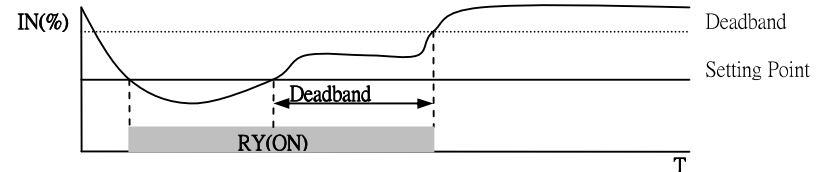
### 3.High Alarm with Deadband setting

Signal higher than setting point,relay activated. When signal is lower Deadband,relay deactivated.



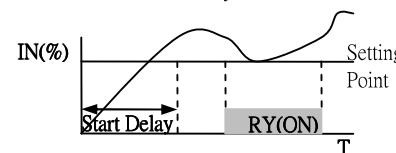
### 4.Low Alarm with Deadband setting

Signal lower than setting point,relay activated. When signal is higher Deadband,relay deactivated.



### 5.Start Delay Time

Suitable for low alarm function.  
 Input signal starts from 0. No alarm function within Start delay time.



### 6.Zero no Alarm

Suitable for low alarm function.  
 When input signal is under 0.3%,no Low Alarm  
 Start Delay =0, function is on.  
 Start Delay >0 , function is off.

