

# Coil End Temperature Detector and Bearing Temperature Sensor

## Model : R840 series

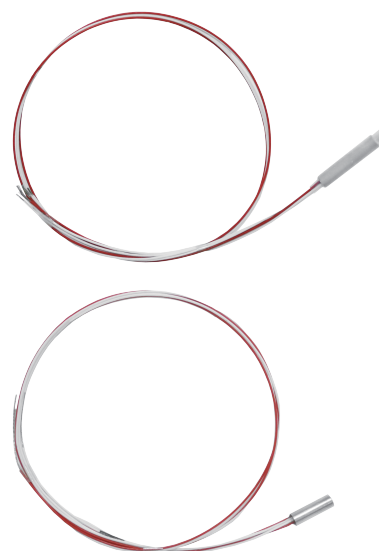
Spec. sheet no. RD08-04

### Service intended

Coil End Temperature Detector has its element covered in heat-resistance contraction tube and liquid silicone inside, which is engineered for fast response time and strong resistance to vibration. It is usually installed on motors or end part of generator stator.

Bearing temperature sensor feature a sensing tip constructed of stainless steel.

The bearing temperature sensor design also focuses the temperature sensitive portion of the sensor near the tip of the probe, providing improved accuracy in thermowells, bearings and other installations.



### Standard features

#### Element

RTD : Pt 100  $\Omega$  at 0 °C(DIN) Film type

#### Body material

Coil End Temperature Detector : Teflon Bearing  
Temperature Sensor : 304SS, 316SS, 316L SS

#### Body outer diameter and length

Coil End Temperature Detector : Min. 4 x Min. 25 mm  
Bearing Temperature Sensor : Min. 3.2 x Min. 6.35 mm

#### Molding

Coil End Temperature Detector : Silicone filled  
Bearing Temperature Sensor : Epoxy filled, Silicon filled

#### Standard

Explosive atmospheres.  
Equipment - General requirements  
IEC 60079-0 / EN 60079-0  
Electrical apparatus for explosive gas atmospheres.  
Increased safety " e "  
IEC 60079-7 / EN 60079-7  
Intrinsic safety " i "  
IEC 60079-11 / EN 60079-11

#### Certificates

ATEX II 2G Ex eb IIC Gb  
IECEX Ex eb IIC Gb  
ATEX II 1G Ex ia IIC T6...T3 Ga  
IECEX Ex ia IIC T6...T3 Ga  
KCs Ex eb IIC Gb  
KCs Ex ia IIC T6...T3 Ga

#### Tolerances on temperature reading

R.T.D.

Class A :  $\pm (0.15 + 0.002 |t|)$

Class B :  $\pm (0.3 + 0.005 |t|)$

#### Service Temperature (Ex e)

$-40\text{ }^{\circ}\text{C} \leq T_{\text{service}} \leq 180\text{ }^{\circ}\text{C}$

#### Ambient Temperature

- Temperature class T6 :  $-40\text{ }^{\circ}\text{C} < T_{\text{amb}} < 75\text{ }^{\circ}\text{C}$ 
  - (1) One Pt100  
 $U_i = 30\text{ V}$ ,  $I_i = 25\text{ mA}$ ,  $P_i = 70\text{ mW}$
  - (2) Two Pt100  
 $U_i = 30\text{ V}$ ,  $I_i = 15\text{ mA}$  (each Pt100),  
 $P_i = 50\text{ mW}$  (together)
- Temperature class T5 :  $-40\text{ }^{\circ}\text{C} < T_{\text{amb}} < 95\text{ }^{\circ}\text{C}$ 
  - (1) One Pt100  
 $U_i = 30\text{ V}$ ,  $I_i = 55\text{ mA}$ ,  $P_i = 630\text{ mW}$
  - (2) Two Pt100  
 $U_i = 30\text{ V}$ ,  $I_i = 45\text{ mA}$  (each Pt100),  
 $P_i = 760\text{ mW}$  (together)
- Temperature class T4 :  $-40\text{ }^{\circ}\text{C} < T_{\text{amb}} < 130\text{ }^{\circ}\text{C}$ 
  - (1) One Pt100  
 $U_i = 30\text{ V}$ ,  $I_i = 55\text{ mA}$ ,  $P_i = 630\text{ mW}$
  - (2) Two Pt100  
 $U_i = 30\text{ V}$ ,  $I_i = 50\text{ mA}$  (each Pt100),  
 $P_i = 1\text{ W}$  (together)
- Temperature class T3 :  $-40\text{ }^{\circ}\text{C} < T_{\text{amb}} < 180\text{ }^{\circ}\text{C}$ 
  - (1) One Pt100  
 $U_i = 30\text{ V}$ ,  $I_i = 40\text{ mA}$ ,  $P_i = 255\text{ mW}$
  - (2) Two Pt100  
 $U_i = 30\text{ V}$ ,  $I_i = 30\text{ mA}$  (each Pt100),  
 $P_i = 260\text{ mW}$  (together)

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**1. Base model**

- R841** RTD single element
- R842** RTD double element
- R843** RTD single element with shield wire
- R844** RTD double element with shield wire

**2. Certificates**

- A** ATEX II 2G Ex eb IIC Gb
- B** IECEx Ex eb IIC Gb
- E** KCs Ex eb IIC Gb
- Z** None

**3. Element**

- Q** Pt 100 Ω (B), 3-wire
- 9** Pt 100 Ω (A), 3-wire
- A** Pt 100 Ω (B), 4-wire
- C** Pt 100 Ω (A), 4-wire
- Z** Other

**4. Body material**

- 0** Teflon (Coil End Temperature Detector)

**5. Body outer diameter and length (mm)**

- D0** 4(D) x 40(L) - Single element
- F0** 6(D) x 40(L) - Double element
- Z0** Other  
Min. 4(D) x Min. 25(L) - Single element  
(Coil end temperature detector)

**6. Lead wire length (m)**

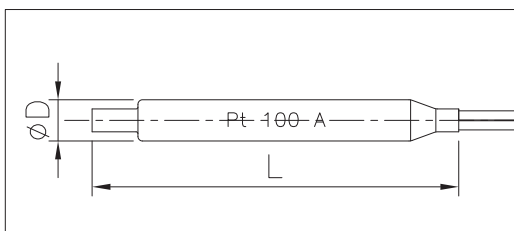
- L1** 1
- L2** 2
- L3** 3
- L4** 4
- L5** 5
- L0** Other (Min. 300 mm)

**7. Outer material of lead wire**

- A** PVC
- B** Teflon (Standard)
- Z** Other

**8. Option**

- 0** None



**Sample ordering code**

1	2	3	4	5	6	7	8
R841	A	9	0	D0	L2	B	0

**1. Base model**

- R845** RTD single element
- R846** RTD double element
- R847** RTD single element with shield wire
- R848** RTD double element with shield wire

**2. Certificates**

- A** ATEX II 2G Ex eb IIC Gb
- B** IECEx Ex eb IIC Gb
- C** ATEX II 1G Ex ia IIC T6...T3 Ga (Only Tip style A~D)
- D** IECEx Ex ia IIC T6...T3 Ga (Only Tip style A~D)
- E** KCs Ex eb IIC Gb
- F** KCs Ex ia IIC T6...T3 Ga (Only Tip style A~D)
- Z** None

**3. Element**

- Q** Pt 100 Ω (B), 3-wire
- 9** Pt 100 Ω (A), 3-wire
- A** Pt 100 Ω (B), 4-wire (Only Tip style E)
- C** Pt 100 Ω (A), 4-wire (Only Tip style E)
- Z** Other

**4. Body material**

- 0** 304SS
- 1** 316SS
- 2** 316L SS

**5. Product type**

- D8** Tip style A
- E8** Tip style B
- F8** Tip style C
- G8** Tip style D
- H8** Tip style E (Only Ex eb)

**6. Body out diameter & Length (mm)**

- A0** None
- D0** 3.2(D) X 7(L) (Only Tip style E)
- F0** 4.8(D) X 7(L) (Only Tip style E)
- Z0** Other (Only Tip style E)  
Min. 3.2(D) X Min. 7(L) - Single element  
(Bearing temperature sensor)

**7. Lead wire length (m)**

- L1** 1
- L2** 2
- L3** 3
- L4** 4
- L5** 5
- L0** Other (Min. 300 mm)

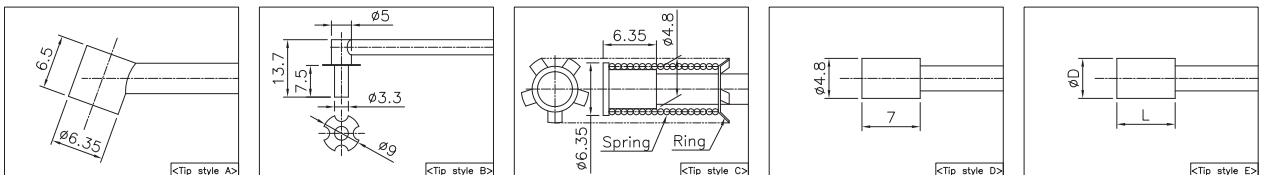
**8. Outer material of lead wire**

- A** PVC (Only Tip style E)
- B** Teflon (Standard) (Only Tip style E)
- C** FEP

**9. Option**

- 0** None

**Tip style**



**Sample ordering code**

1	2	3	4	5	6	7	8	9
R845	A	9	0	D8	A0	L1	A	0

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