

## EXPLOSION-PROOF THERMOCOUPLE SERIES

### Application

The assembly series normally cooperates with display instrument, recording instrument and computer, etc. to directly measure temperature of liquid, gas, steam and solid which contains explosives like hydrocarbon among 0°C~1300°C during production process.

### Features

1. Various explosion-proof type, reliable explosion-proof performance.
2. Wide measuring range.
3. High mechanical strength and pressure-resistance ability.

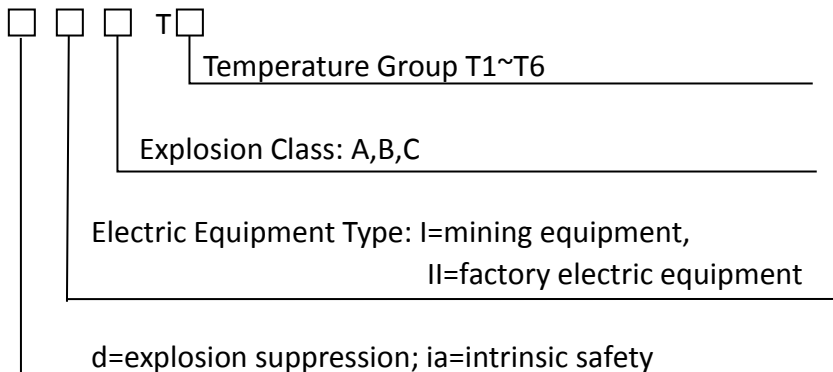
### Operation Theory

Explosion-proof thermocouple is designed based on gap explosion-proof principle. It has components such as junction box with enough strength to seal all parts which might cause spark, electric arc and dangerous temperature inside. When inside explosion occurs, extinct and cool by junction clearance to avoid releasing of flame and high temperature to realize explosion suppression.

### Insulation Resistance at Normal Temperature

Insulation resistance between electrode and protection tube is no less than 500MΩ.m when environment temperature is  $20 \pm 15^\circ\text{C}$ , relative humidity is 80% no more than 80% and testing voltage is  $500 \pm 50\text{V}$ .

### Indication of Explosion-proof



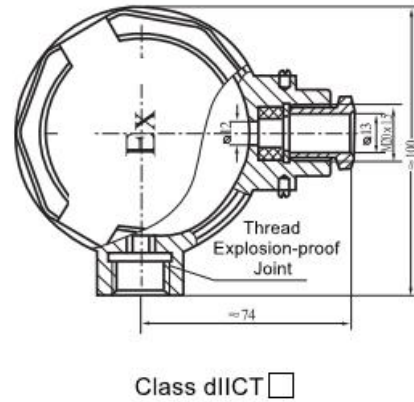
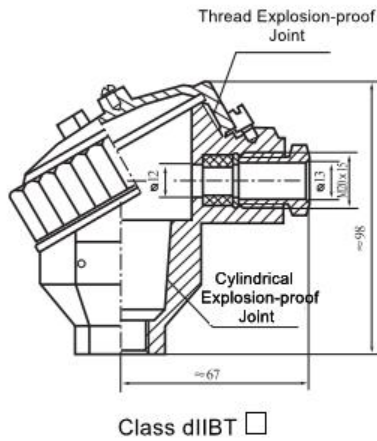
### Explosion-proof Class

Class	Max. Test Safety Gap (MESG)
A	$0.9 \leq \text{MESG}$
B	$0.5 < \text{MESG} < 0.9$
C	$\text{MESG} \leq 0.5$

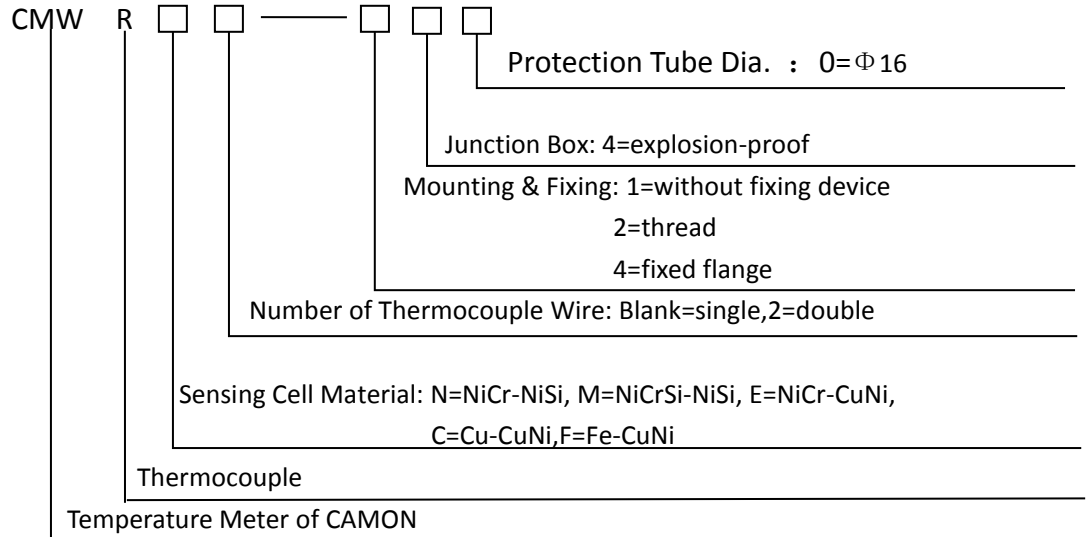
### Temperature Group

Group	Max. Allowed Surface Temperature °C
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

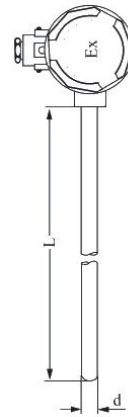
## Junction Box



### Ordering Code

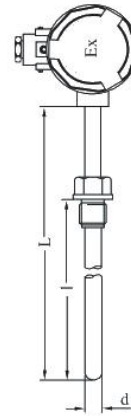


## Models Without Fixing Device



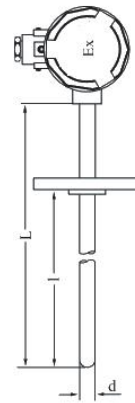
Model	Graduation	Measuring Range °C	Thermal Response Time	Protective Tube Material	Dimension	
					d	L
CMWRM-140	N	0~800 0~1000	<90s	1Cr18Ni9Ti	Φ 16	150 200 250 300 350 400 500 750 1000 1500 2000
CMWRM <sub>2</sub> -140				0Cr25Ni20		
CMWRN-140	K	1Cr18Ni9Ti				
CMWRN <sub>2</sub> -140		0Cr25Ni20				
CMWRE-140	E	0~600		1Cr18Ni9Ti		
CMWRC-140	T	0~350				
CMWRF-140	J	0~500				

## Models with Thread Connector



Model	Graduation	Measuring Range °C	Thermal Response Time	Protective Tube Material	Dimension	
					d	L×1
CMWRM-240	N	0~800 0~1000	<90s	1Cr18Ni9Ti	Φ 16	300×150 350×200 400×250 450×300 500×350 550×400 650×500 900×750 1150×1000 1650×1500 2150×2000
CMWRM <sub>2</sub> -240				0Cr25Ni20		
CMWRN-240	K	1Cr18Ni9Ti				
CMWRN <sub>2</sub> -240		0Cr25Ni20				
CMWRE-240	E	0~700		1Cr18Ni9Ti		
CMWRC-240	T	0~350				
CMWRF-240	J	0~600				

## Models with Fixed Flange



Model	Graduation	Measuring Range °C	Thermal Response Time	Protective Tube Material	Dimension	
					d	L×1
CMWRM-440	N	0~800 0~1000	<90s	1Cr18Ni9Ti	Φ 16	300×150 350×200 400×250 450×300 500×350 550×400 650×500 900×750 1150×1000 1650×1500 2150×2000
CMWRM <sub>2</sub> -240				0Cr25Ni20		
CMWRN-440	K	1Cr18Ni9Ti				
CMWRN <sub>2</sub> -440		0Cr25Ni20				
CMWRE-440	E	0~700		1Cr18Ni9Ti		
CMWRC-440	T	0~350				
CMWRF-440	J	0~600				