

NTC THERMISTORS: TYPE JW

WATERPROOF CLIP-ON PIPE SENSOR

DESCRIPTION:

NTC or PTC chip thermistor on a ceramic/metal shoe assembly sealed in a polymer housing and provided with flexible twin cable connections. The housing is fitted with a spring metal clip for pipe attachment.

FEATURES:

- Suitable for use in conditions of high condensation and occasional immersion in water
- Fast time response (3s typical)
- Low temperature gradient ($<1^{\circ}\text{C}$ at 60°C)
- Sensing element electrically isolated from shoe (isolation $>20\text{M}\Omega$ at 500V)
- Meets IP48 standard
- Range of clips for pipe diameters 13 to 30mm
- Self-adjusts to irregular pipes
- Offers cost benefits over traditional immersion probes
- Typical applications include gas boiler control, domestic water systems, air conditioners, radiator inlet-outlet, electric showers, vending machines

GENERAL DATA:

Minimum operating temperature 0°C

Maximum temperature 100°C (sensor)
..... 85°C (housing)

Dissipation factor $\geq 2\text{mW/K}$
..... (mounted on copper pipe at 25°C)

Isolation voltage 500V d.c.

Clip force:

..... $<50\text{N}$ for mounting / de-mounting on pipe
..... 5N will not cause rotation on pipe

Shoe material Plated brass

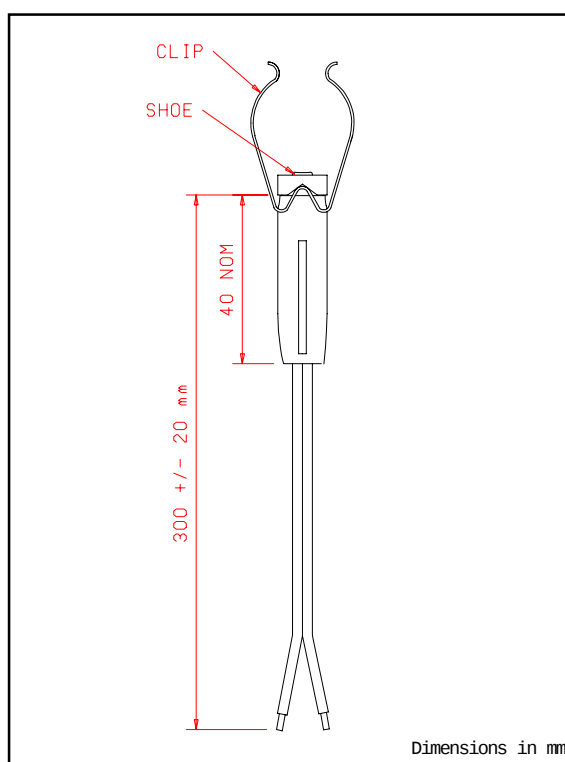
Body material Nylon

Pack quantity & MOQ 200 pcs

	Response time (seconds)
NTC	≤ 4 (to 90% voltage change)
PTC	≤ 4 to $T_{\text{NF}} + 5^{\circ}\text{C}$ (sensor applied to pipe at $T_{\text{NF}} + 23^{\circ}\text{C}$)



DIMENSIONS:



OPTIONS:

- Other resistance - temperature characteristics
- Other wire lengths
- Special pipe sizes

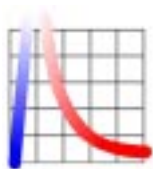
Data sheet D-JW-3

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NTC DATA:

For codes see below.

Code	Nominal resistance			Tolerances						B 25/85 K
	25°C	60°C	85°C	25°C		60°C		85°C		
	Ω	Ω	Ω	±%	±°C	±%	±°C	±%	±°C	
JW103C3R5/X	9983	2500	1079	6.46	1.48	5.00	1.40	5.90	1.87	3960±1%

PTC DATA:

Maximum applied voltage 30V

Maximum applied voltage for temperature sensing 2.5V

For codes see below.

	T _{NF}	-20 to T _{NF} - 20°C		25°C		T _{NF} - 5°C		T _{NF} + 5°C		T _{NF} + 23°C	
		Ω	V d.c.	Ω	V d.c.	Ω	V d.c.	Ω	V d.c.	Ω	V d.c.
JW 060/X	60°C	<=250	2.5	<=100	0.2	<=570	2.5	>=570	2.5	>=10000	2.5
JW 070/X	70°C	<=250	2.5	<=100	0.2	<=570	2.5	>=570	2.5	>=10000	2.5
JW 080/X	80°C	<=250	2.5	<=100	0.2	<=570	2.5	>=570	2.5	>=10000	2.5

CODING FOR PIPE SIZE:

Clip size is specified by replacing X in the code above as shown in the table on the right.

e.g. JW103C3R5/17

X	Pipe diameter range mm
13	13 - 15
17	17 - 18.5
20	20 - 22
28	28-30

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