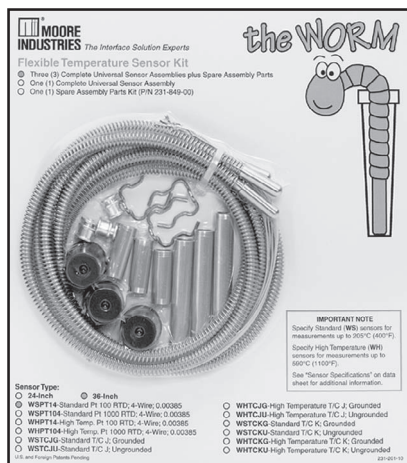
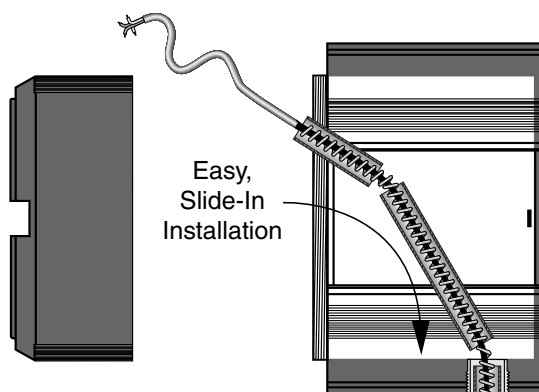


In both new and retrofit applications, the WORM Flexible Sensors for Thermowell Temperature Assemblies replace restrictive straight sensor probes with a universal sensor strategy that will save you time and money.

Unique Flexible Design Installs in Minutes

With straight sensors, you have to remove the connection head, and sometimes thermowell assembly components, to get the sensor into the thermowell. The WORM bends right through the top or face of the enclosure. It slides through the enclosure's conduit port, and into (or out of) the thermowell without having to remove the enclosure or any assembly components (Figure 1).

Figure 1. The WORM lets you replace a sensor without removing the enclosure or disassembling the thermowell.



U.S. and Foreign Patents Pending



Features

- **Universal, trims to thermowell length.** There's no need to stock an expensive array of different sensor lengths. With a quick measurement and a simple trim-to-length, the WORM handles nearly every thermowell assembly.

- **Ideal for hockey-puck, connection head and dual-sided enclosures.** The innovative WORM provides cost and time advantages for all types of temperature transmitter enclosures.

- **Popular RTD and thermocouples.** Available sensor types include 100 and 1000 ohm, platinum RTDs; plus J- and K-type thermocouples.

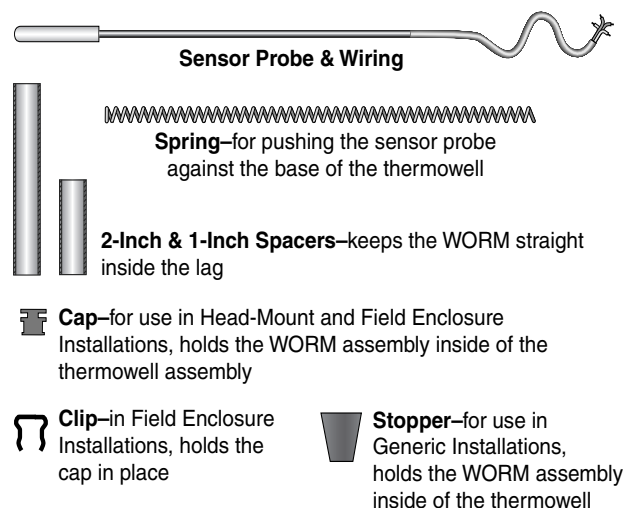
- **Faster response time.** The WORM delivers step response times 13% faster than standard sensors.

Flexible Sensors for Thermowell Temperature Assemblies

Installs in Minutes

Each of the three installation options uses different parts from the installation kit; expect to have parts left over after installation. Read through all steps for the enclosure type prior to beginning installation.

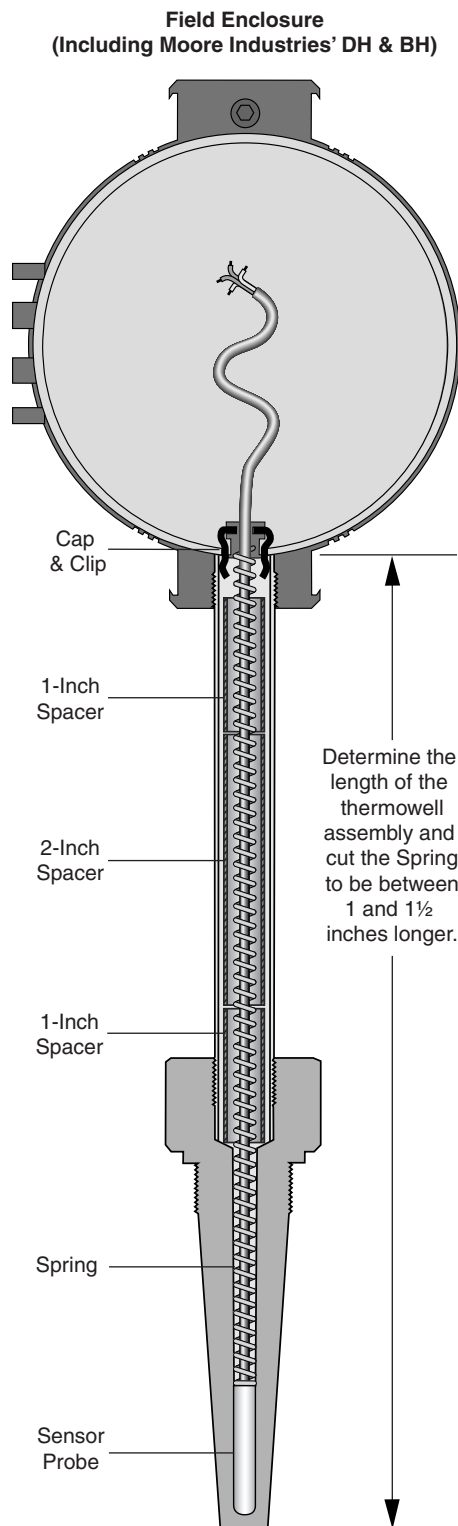
Figure 2. The WORM Kit Components



Field Enclosure Installation (Including Moore Industries' DH & BH enclosures)

Installation Components Required: Sensor Probe, Spring, Cap, Clip, and Spacer(s).

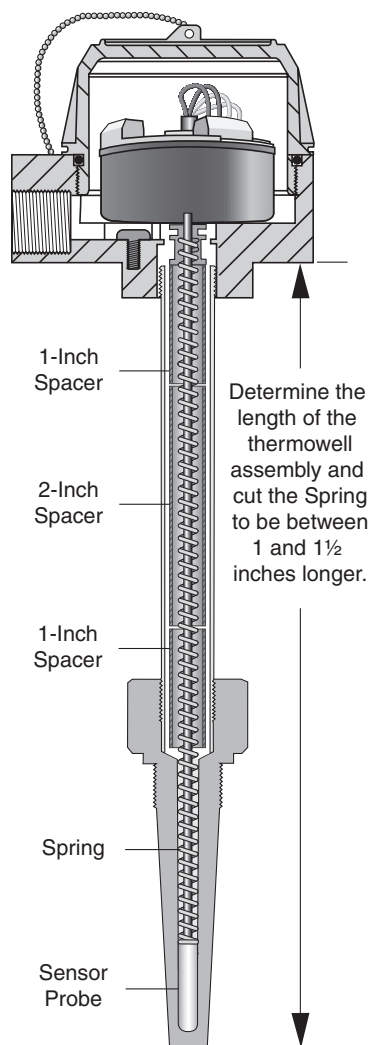
1. Determine the length of the thermowell assembly (see the illustration to the right). Cut the WORM Spring to be between 1 and 1½ inches **longer** than the length of the assembly (this is necessary so that the Spring's compression securely holds the sensor probe to the bottom of the thermowell).
2. Ensuring that the uncut portion of the Spring faces down towards the Sensor Probe, slide the Spring over the sensor wires and onto the end of the Sensor Probe.
3. Snap the Clip onto the Cap. Then slide the Cap/Clip combination over the sensor wires onto the top of the Spring.
4. Remove the instrument from the enclosure (if necessary). Insert the WORM sensor into the thermowell. Slide the appropriate length(s) and number of Spacers to keep the WORM Spring straight inside the thermowell assembly lag (Spacers may not be required).
5. Using pliers, grasp the Cap/Clip combination by the niche at the top of the Cap, and insert it into the enclosure's sensor entry port to compress the WORM Spring into the thermowell. Reinstall the instrument into the enclosure. Connect the sensor wires.



Head-Mount Enclosure Installation (Including Moore Industries' LH enclosure)

Installation Components Required: Sensor Probe, Spring, Cap and Spacer(s).

1. Determine the length of the thermowell assembly (see the illustration to the left). Cut the WORM Spring to be between 1 and 1½ inches **longer** than the length of the assembly (this is necessary so that the Spring's compression securely holds the Sensor Probe to the bottom of the thermowell).



2. Ensuring that the uncut portion of the Spring faces down towards the Sensor Probe, slide the Spring over the sensor wires and onto the end of the Sensor Probe.

3. Slide the Cap over the sensor wires onto the top of the Spring.

4. Remove the instrument from the enclosure. Insert the WORM sensor into the thermowell. Slide the appropriate length(s) and number of Spacers to keep the WORM Spring straight inside the thermowell assembly lag (Spacers may not be required).

5. Reinstall the instrument into the enclosure, compressing the WORM Spring into the thermowell with the bottom of the instrument. Connect the sensor wires.

Generic Enclosure Installation

Installation Components Required: Sensor Probe, Spring, Stopper and Spacer(s).

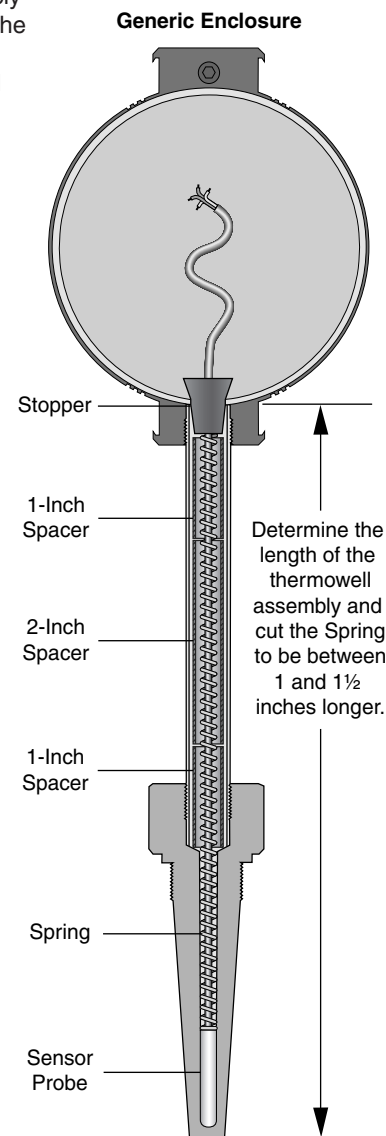
1. Determine the length of the thermowell assembly (see the illustration to the right). Cut the WORM Spring to be between 1 and 1½ inches **longer** than the length of the assembly (this is necessary so that the Spring's compression securely holds the Sensor Probe to the bottom of the thermowell).

2. Ensuring that the uncut portion of the Spring faces down towards the Sensor Probe, slide the Spring over the sensor wires and onto the end of the Sensor Probe.

3. Remove the instrument from the enclosure (if necessary). Insert the WORM sensor into the thermowell. Slide the appropriate length(s) and number of Spacers to keep the WORM Spring straight inside the thermowell assembly lag (Spacers may not be required).

4. Slide the Stopper over the sensor wires onto the top of the Spring. Push the Stopper firmly into the thermowell entry port to compress the WORM Spring into the thermowell.

5. Reinstall the instrument into the enclosure. Connect the sensor wires.





Flexible Sensors for Thermowell Temperature Assemblies

Select one from each category to order a Sensor Kit:

The WORM Sensor Kit

SEN3 Recommended Sensor Kit includes Three Complete "the WORM" Sensor Assemblies plus Spare Assembly Parts

SEN1 Sensor Kit includes One Complete "the WORM" Sensor Assembly

Sensor Length (See Page 2 to Determine Total Sensor Insertion Length)

CL24 24-Inch Length (specify for total sensor insertion lengths of 22-inches and under)

CL36 36-Inch Length (specify for total sensor insertion lengths of 22-inches to 34-inches)

Sensor Sheath Diameter

D25 Appropriate for 0.25-inch and 6mm diameter applications

Sensor Sheath Material

S316 Stainless Steel 316

Sensor Type (see IMPORTANT NOTE)

RTD SENSORS:

WSPT14 Standard Platinum RTD; 4-Wire; 100 ohm; alpha = 0.00385

WSPT104 Standard Platinum RTD; 4-Wire; 1000 ohm; alpha = 0.00385

WHPT14 High Temperature Platinum RTD; 4-Wire; 100 ohm; alpha = 0.00385

WHPT104 High Temperature Platinum RTD; 4-Wire; 1000 ohm; alpha = 0.00385

THERMOCOUPLE SENSORS:

WSTCJG Standard J-Type Thermocouple; Grounded

WSTCJU Standard J-Type Thermocouple; Ungrounded

WHTCJG High Temperature J-Type Thermocouple; Grounded

WHTCJU High Temperature J-Type Thermocouple; Ungrounded

WSTCKG Standard K-Type Thermocouple; Grounded

WSTCKU Standard K-Type Thermocouple; Ungrounded

WHTCKG High Temperature K-Type Thermocouple; Grounded

WHTCKU High Temperature K-Type Thermocouple; Ungrounded

IMPORTANT NOTE

Specify Standard (**WS**) sensors for measurements up to 205°C (400°F).

Specify High Temperature (**WH**) sensors for measurements up to 590°C (1100°F).

See "Sensor Specifications" for additional information.

T/C IDENTIFICATION

Type	Wire Color	
	+	-
J	White	Red
K	Yellow	Red

SEN3 / CL36 / D25 / S316 / WSPT104 [SEN]

Model Number Example:

SEN3 / CL36 / D25 / S316 / WSPT104 [SEN]

Accessories

Part Number	Description
231-849-00	Spare Parts Kit includes: Three (3) Spare Springs; Three (3) Clips; Three (3) Caps; Three (3) 1" Spacers; and Three (3) 2" Spacers
802-179-24	Combination Pliers/Wire Stripper facilitates installation of the WORM components and sensor connection

Sensor Specifications

Lead Wire Materials: Standard (WS) Sensors: Teflon insulated, hermetically sealed; High Temperature (WH) Sensors: Braided fiberglass

Sensor Sheath Material: Stainless Steel 316

Accuracy: RTD: $\pm 0.12\%$ at 0°C. Consult the factory for thermocouple tolerances

Stability: RTD: 0.2°C after 10,000 hrs. at maximum temperature (1 year, 51 days, 16 hrs. continuous)

Response Time: RTD: <5 seconds to 63.2% temperature change; Thermocouple, 4.5 sec. for ungrounded, typical; 2.0 sec. for grounded to 63.2% temperature change

Humidity: Standard (WS) sensors: Excellent moisture resistance for condensing environments; High Temperature (WH) sensors: Specify for non-condensing atmospheres

Pull Force: Wires will withstand at least 20 lbs. of pull force before separating from sensor head



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