

## Sensors

### Sensor requirements:

The temperature resistance of the sensors has to be guaranteed up to the maximum stagnation temperature of 320 ... 392 °F.

The sensors at working temperatures (68 ... 176 °F) have to measure as accurately as possible in order to ensure that any measurement error of sensors and controller does not exceed 3.6 or 5.4 °Ra. The sensors contain a material that changes its electrical resistance in proportion to the temperature change. The controller measures the resistance and calculates the temperature of the sensor element.

Example: Pt1000 is a platinum (Pt) sensor with a resistance of 1000 Ω at 32 °F.

For wide application requirements, 3 different sensor types are available: immersion sensors, flatscrew and pipe sensors.

The sensor types FK and FR have the same electrical features and are available in the same specification, they only differ in the connecting cable.

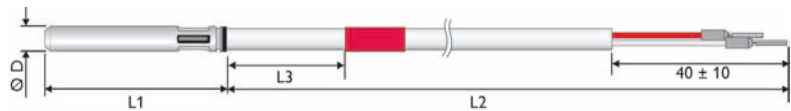
The identification of the cable is indicated by the 2nd letter: type FK... = 1.5 m weather- and temperature resistant silicone cable for a temperature range between -58 ... +356 °F.

Type FR... = 2.5 m PVC-cable for a temperature range between 23 ... +176 °F.

The measuring precision of our standard "Pt1000"-sensors is +/- 0.54 °F (at 32 °F), the sensor heads are temperature resistant between -58 ... +392 °F; the type is indicated by the 3rd letter "P".

### Temperature sensors

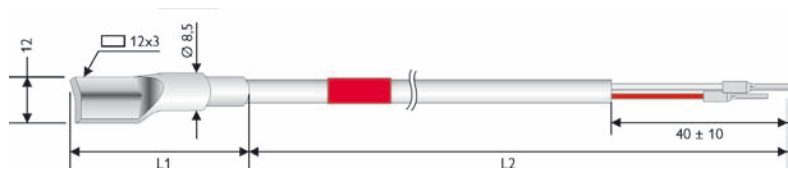
(for installation into sensor wells)



	D [in]	L1 [in]	L2 [in]	Material of cable	Temperature range	Article-no.
FKP6	0.24	1.77	57.28	Silicone	-58 ... +356 °F	155 000 20
FKP6	0.24	1.77	96.65	Silicone	-58 ... +356 °F	155 004 40
FKP6	0.24	1.77	195.08	Silicone	-58 ... +356 °F	155 004 50
FKP6	0.24	1.77	391.93	Silicone	-58 ... +356 °F	155 004 60
FRP6	0.24	1.77	96.65	PUR	-14 ... +176 °F	155 000 80

### Cylindrical clip-on sensors

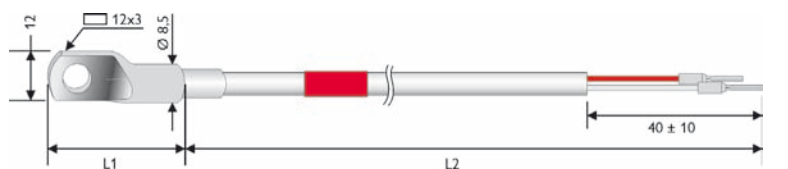
(for surface mounting on tubes, incl. pipe clamp)  
Pt1000 version



	L1 [in]	L2 [in]	Material of cable	Temperature range	Article-no.
FKP21	1.53	59.05	Silicone	-58 ... +356 °F	155 003 30
FRP21	1.53	98.42	PVC	-14 ... +176 °F	155 005 40

### Bolt-on sensors

(for installation on planar surfaces)  
Pt1000 version



	L1 [in]	L2 [in]	Material of cable	Temperature range	Article-no.
FKP9	1.26	59.05	Silicone	-58 ... +356 °F	155 003 60
FRP9	1.26	98.42	PVC	-14 ... +176 °F	155 003 70