

Temperature Limits

SENSOR TIPS

Most sensor tips are constructed with glass fibers, epoxy and stainless steel housings. These standard materials allow operation down to cryogenic temperatures. The upper temperature limits are:

200°C continuous 350°C intermittent 1-2 hrs	Standard, most models
260°C	Models RC12, RC140, RC190
350°C continuous	High Temperature Cure, specify Option T8
482°C continuous	High Temperature Construction, Specify Option T9

FIBEROPTIC CABLES

The sensor cables are comprised of glass fiber optics with a protective sheathing. The sheathing materials limit the temperature range of the cables as given in the table below. In the most extreme conditions, the glass fibers can be exposed to cryogenic temperatures and elevated temperatures above 340°C (up to 482°C). However, once being exposed to these extreme temperatures, the fibers may become very brittle, and therefore, they should not be flexed during or after such exposure.

The temperature limits of the various protective sheathing layers are as follows:

Standard	PVC over steel monocoil. Good general purpose sheathing.	+10 to +107°C
C1	Stainless Steel Interlocking Hose. Provides Maximum Strength	-150° to +340°C
C2	Silicone Rubber. Maximum flexibility, no crush resistance	-62 to +260°C
C3	Silicone over PTFE Spiral Wrap. Non-metallic light crush resistance, for short lengths only, 2 meters maximum.	-62 to +260°C
C4	Silicone Over Steel Monocoil. Moderate crush resistance	-62 to +260°C
C5	PTFE Over SS Interlok. Provides vapor barrier protection, maximum strength, wide temperature range. Has poor flexibility.	-150 to +260°C
C6	PVC Low Temperature Shrinkwrap over Polyethylene Wrap. Non-metallic with light crush resistance, good for long lengths.	+10 to +107°C
C7	Translucent PTFE. For high vacuum applications. Does not outgas. Wide temperature range, poor flexibility, susceptible to light interference.	-270 to +260°C
C8	PVC Only. Good flexibility, no crush resistance	+10 to +107°C
C9	Annealed Stainless Steel Tubing (semi-rigid) Provides vapor barrier protection, maximum strength, widest temperature range. Has very poor flexibility.	-150° to +340°C
C10	Silicone over SS Interlok. Good flexibility and crush resistance	-62 to +260°C
C11	Polyolefin Heat Shrink Tubing. Thin wall flexible vapor barrier	-55 to +150°C

ELECTRONICS

Analog Output Amplifiers - 0°C to 70°C
DMS Amplifiers with LCD - 0 °C to 50°C
DMS Electronics without LCD - 0°C to 70°C

