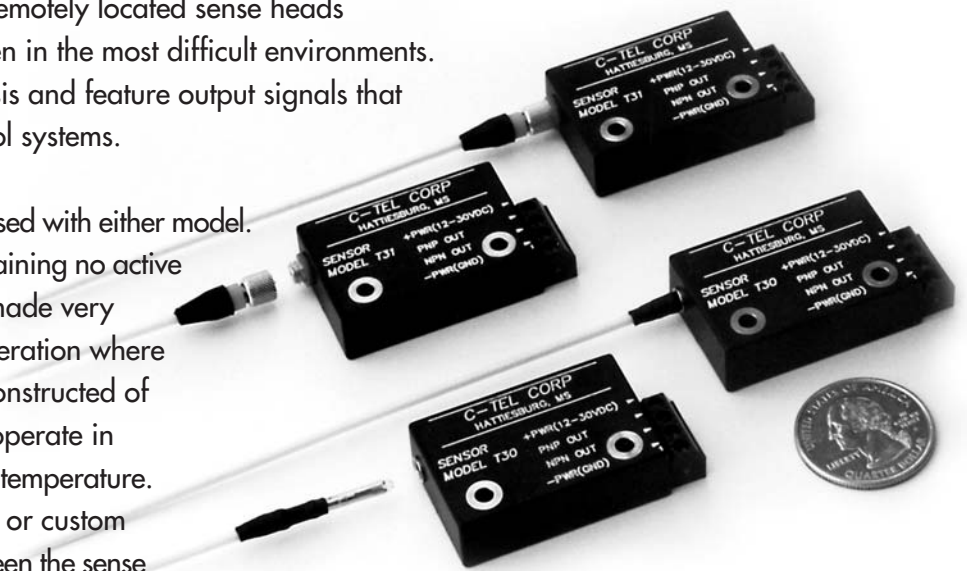# VERSATILE SENSING:

BIG PERFORMERS IN SMALL PACKAGES,
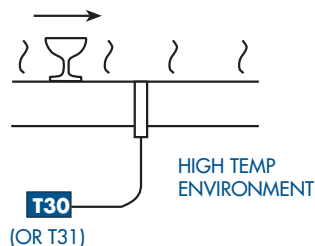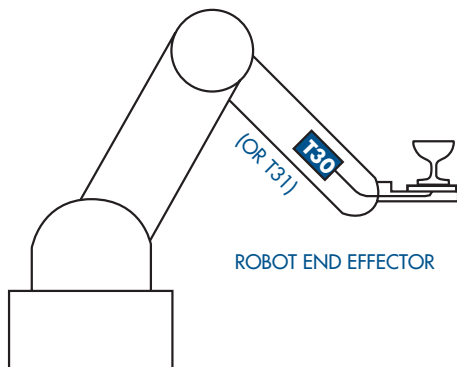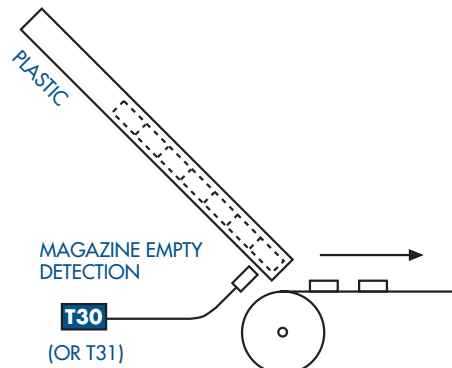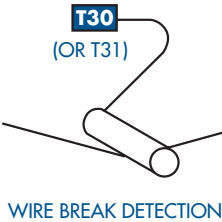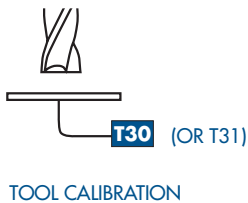
the T30 and T31 sensors utilize remotely located sense heads to detect any type of material even in the most difficult environments. The units have almost no hysteresis and feature output signals that interface directly with most control systems.

A variety of sense heads may be used with either model. The sense heads are passive, containing no active electronic parts, so they can be made very small or in unusual shapes for operation where other sensors won't go. When constructed of appropriate materials, they can operate in hostile environments such as high temperature. Sense heads may be off-the-shelf or custom designed. The coaxial cable between the sense head and the sensor is conveniently small in diameter – about .070 inch – and may be up to several feet in length.

TYPICAL APPLICATIONS:

T30 (OR T31)

TOOL CALIBRATION

T30 (OR T31)

WIRE BREAK DETECTION

PLASTIC

MAGAZINE EMPTY DETECTION

T30 (OR T31)

(OR T31) **T30**

ROBOT END EFFECTOR

T30 (OR T31)

HIGH TEMP ENVIRONMENT

TECHNICAL INFORMATION:

OUTPUT SIGNALS

Both NPN (current sinking) and PNP (current sourcing) outputs are provided. The outputs are normally open and switch up to 100 mA.

SENSING RANGE

The distance from the sense head to the object being sensed is adjustable from near zero to some maximum value depending upon the size and location of the sense head and the size and material of the object being sensed. If the sense head is mounted in a grounded metal plate with the sensing surface flush with the surface of the metal plate, the maximum sensing distance is about one third the diameter of the sense electrode. However, if the sense head is mounted above the ground plane the maximum sensing distance increases to typically much more than the diameter of the sense electrode. In general, the sensed object needs to be large with respect to the sense electrode. Objects of semiconducting material are sensed equally as well as metallic targets while nonconductors such as plastics are sensed at a lesser distance from the sense head.
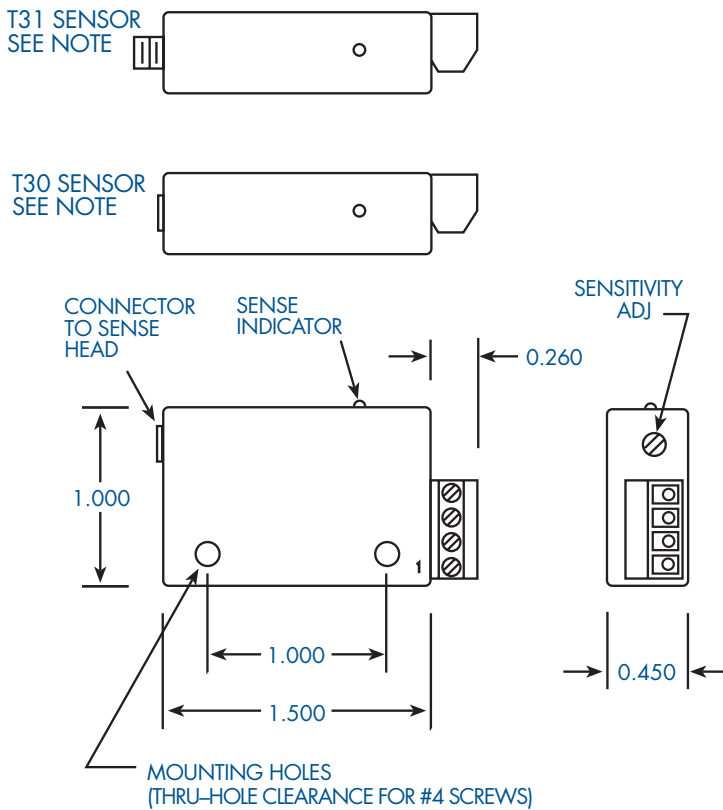
RESPONSE TIME

10 ms turn on, 10 ms turn off.

## POWER REQUIREMENT

12 to 30 VDC.

POWER PROTECTION

Reverse voltage protection and output overload protection are provided.

MECHANICAL DATA:

T31 SENSOR
SEE NOTE

T30 SENSOR
SEE NOTE

CONNECTOR TO SENSE HEAD

SENSE INDICATOR

SENSITIVITY ADJ

0.260

1.000

1.000

1.500

0.450

MOUNTING HOLES
(THRU–HOLE CLEARANCE FOR #4 SCREWS)

NOTE: MODEL T30 HAS PLUG–IN STYLE CONNECTOR.
MODEL T31 HAS 10–32 THREAD MICRODOT STYLE CONNECTOR.

WIRING DIAGRAM:

T30/T31 SENSOR

+PWR
4

LOAD

PNP OUT
3

+

12–30 VDC

NPN OUT
2

−

LOAD

– PWR
1
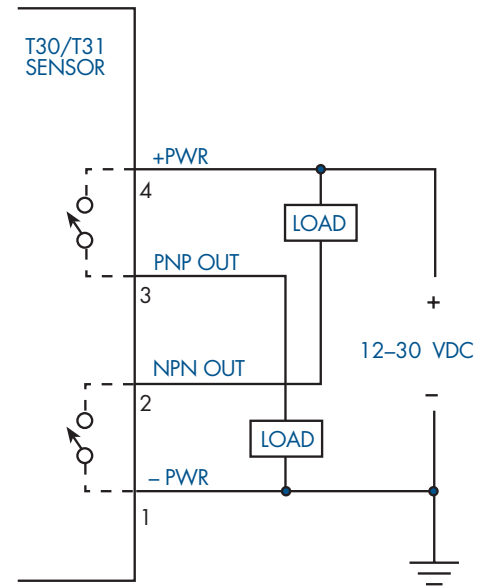
C-Tel Corporation
7546 U.S. Highway 49 • Hattiesburg, MS 39402
Phone 601-268-2565 • Fax 601-268-2518