



Micro Detectors

Italian Sensors Technology



Application:
Presence and Height Detection
of plants in agricultural machines

UT1 - M30 Ultrasonic Sensors



Ultrasonic Sensors

Application note

CAT3EUT1261201

Application note - UT1 - English - Ed.01/2012

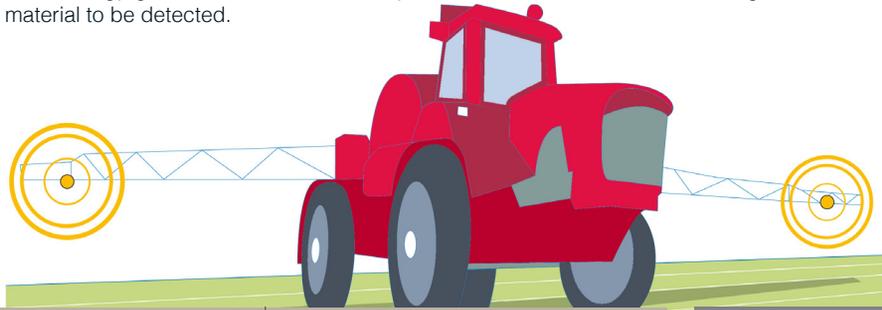


Agricultural machines spraying chemical products must check the height of the plants for a more efficacious spraying action and they must avoid damages due to obstacle bumps.

UT1 Ultrasonic Sensor is the perfect solution to detect the presence and measure the height of the plants to be sprayed.

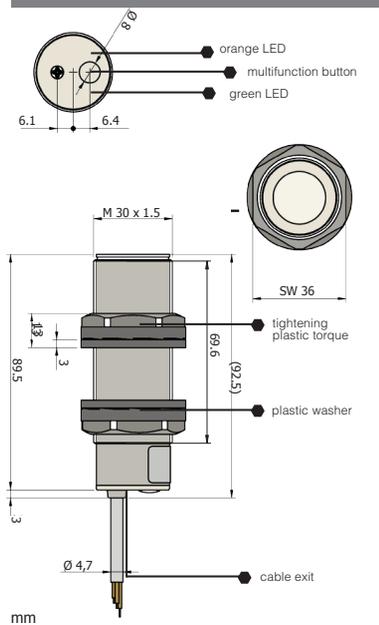
The UT1 sensor is mounted on the boom between spray nozzles and **it allows a safe positioning of the sprayer in automatic way, both in case of reversing or uneven ground** and it reduces therefore risks and possible maintenance costs.

The ultrasonic technology grants an excellent reliability in terms of detection as it works regardless the color and the shape of the material to be detected.

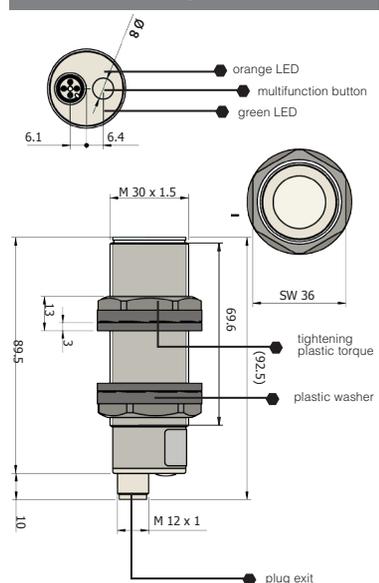


models	UT1B/E*-0*UL
Nominal sensing distance Sn	3,500 mm ⁽¹⁾
minimum operating distance (blind zone)	250 mm
beam angle	12° ± 2°
switching frequency (digital output)	2 Hz
response time (digital output)	250 ms
differential travel H	0,5%
repeat accuracy	0,2%
linearity error	0,5%
operating temperature	-20° ...+70°C
temperature compensation	yes
thermal drift of Sr	5%
rated operational voltage Ue	12 - 30 Vcc; 15 - 30 Vdc: voltage supply for voltage analogue output (0-10 V)
maximum ripple content	5%
leakage current	≤ 10 µA (Vdc max)
output voltage drop Ud	2.2 V max (IL=100mA)
No-Load supply current	50 mA max
maximum load current (digital output)	100 mA
minimum load resistance	3 k Ω (analogue voltage drop)
sensitivity adjustment	Teach-in button
supply electrical protections	polarity reversal, overvoltage pulses
digital output electrical protections	short circuit, overvoltage pulses
EMC	Conforming to the EC Directive 2004/108/EC requirements according to EN 60947-5-2
electrical protections (analogue output)	overvoltage pulses
protection degree	IP67 (EN 60529) NEMA 4X ⁽²⁾
housing material	PBT
active head material	epoxy-glass resin
weight	90 g (plug exit) - 160 g (cable exit)
storage temperature	-35°...+70°C (without freeze)

UT1B/**-** (cable)



UT1B/**-** (plug)



⁽¹⁾ Metallic target 200 x 200 mm
⁽²⁾ Protection granted only by plug mounted in a correct way

Copyright:

M.D. Micro Detectors S.p.A.
 con Unico Socio

Strada S. Caterina 235
 41122 Modena - Italy

tel. + 39 059 420411
 fax + 39 059 253973
 info@microdetectors.com
 www.microdetectors.com

