

Ordering Information

Type	Part Number
2DS radar sensor, narrow beam lens	2DS1501-0001

Product Description

The Catron 2DS radar sensor is an advance FMCW mm-wave sensor that can measure the distance to a target or it can be used to detect the presence of a target within a specified distance. Unlike optical sensors or ultrasonic sensors, the 2DS is not affected by wind, dirt, rain or target color. The sensor can be used out the box as a detection or measurement device, or it can be custom-configured using the provided PC interface via USB. The output of the 2DS is MODBUS/RS485 and a pnp discrete output.



WARNING: Not To Be Used for Personnel Protection

DO NOT use this device for personnel safety. Doing so could lead to serious injury or death. This device is not approved for use in personnel safety applications. A sensor failure or malfunction could cause either an energized or de-energized sensor output condition.

Technical Data

Performance Data

Range	15 m
Sensing width	5 degrees off center axis of beam for 5 cm corner cube target
Resolution	1 mm
Linearity	5 mm
Temperature effect	Less than 1 mm per deg K
Frequency	60 GHz, ISM V band
Data out	Distance, angle, presence, signal strength
Time response	100 ms

Mechanical/environmental Data

Dimensions	120 x 130 x 75 mm
Housing	Aluminum, die-cast with molded plastic lens
Protection	IP67
Connection	Euro 8 pin connector

Storage temperature	-40 to 65 deg C
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General Data

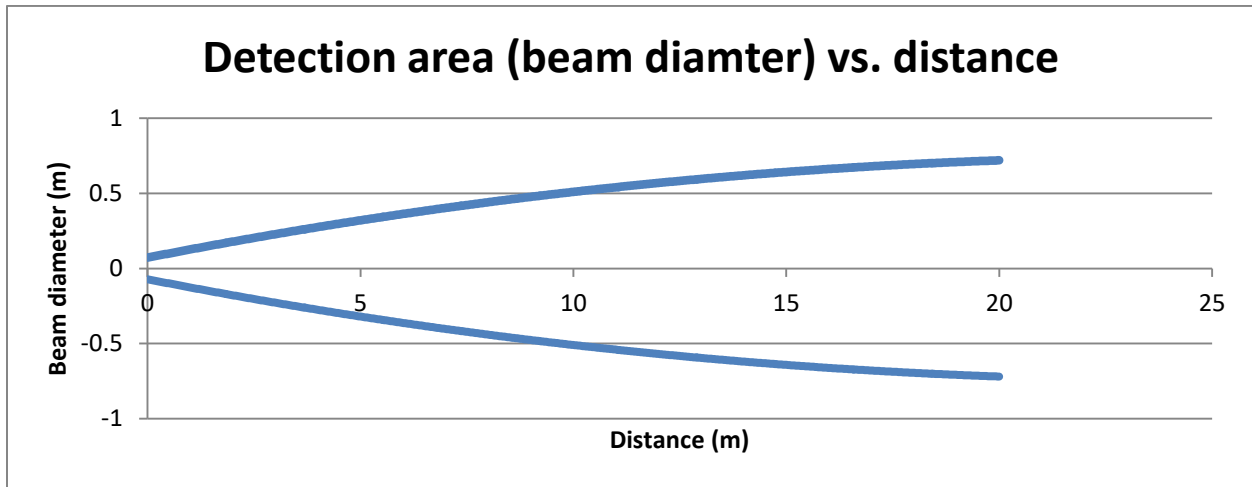
Power requirement	10 – 30 Vdc, 500 mA																											
Output	RS485, discrete PNP																											
Indication	Green/red/blue LED ring																											
Connections	12 mm 8 pin Euro <table border="1"> <thead> <tr> <th>Pin</th> <th>cable color</th> <th>function</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>brown</td> <td>V +</td> </tr> <tr> <td>2</td> <td>black</td> <td>PNP</td> </tr> <tr> <td>3</td> <td>yellow</td> <td>RS485+</td> </tr> <tr> <td>4</td> <td>light blue</td> <td>RS485-</td> </tr> <tr> <td>5</td> <td>green</td> <td>USB+</td> </tr> <tr> <td>6</td> <td>white</td> <td>USB-</td> </tr> <tr> <td>7</td> <td>red</td> <td>NPN</td> </tr> <tr> <td>8</td> <td>blue</td> <td>0 V dc (ground)</td> </tr> </tbody> </table>	Pin	cable color	function	1	brown	V +	2	black	PNP	3	yellow	RS485+	4	light blue	RS485-	5	green	USB+	6	white	USB-	7	red	NPN	8	blue	0 V dc (ground)
Pin	cable color	function																										
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Certifications	CE, CCC, pending Consult factory for status of regional telecom certifications																											
Patents	Several patents pending																											

RS485 Output Data

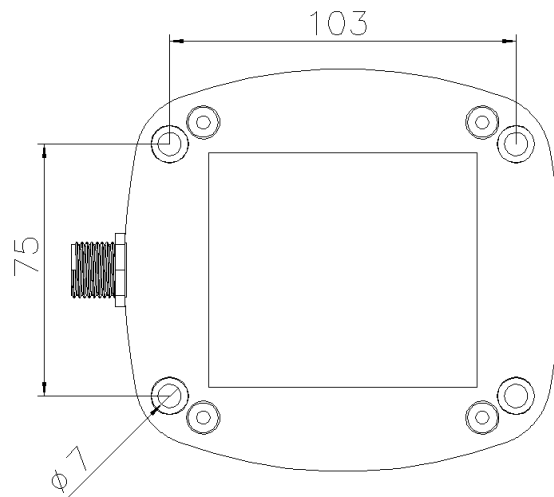
Register	Value Name	Type
40001	Water level	Read
40002	Distance (From 2DS to target)	Read
40003	Target amplitude 1	Read
40004	Target amplitude 2	Read
40005	Target SNR 1	Read
40006	Target SNR 2	Read
40010	Water level calibrate value	Read/Write
40011	Distance calibrate value	Read/Write
All data: 2 bytes, (H<<8 L) / 100 = real value		
Using 4x Address		

Sensor Operation

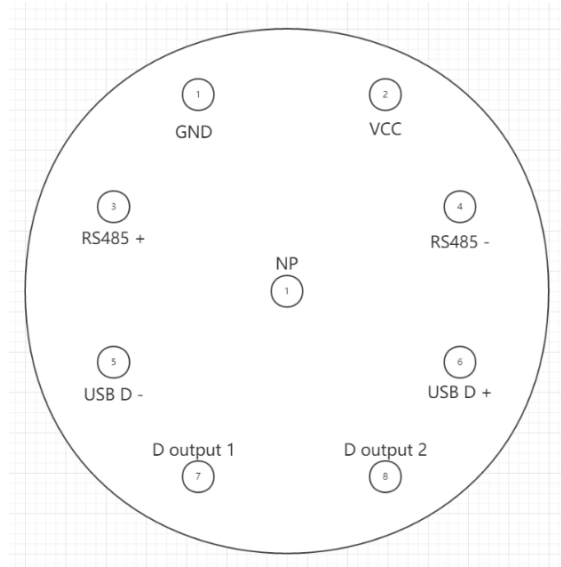
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Mounting Dimensions



Connector Pin Diagram



Accessory Information

Description	Part Number
2m, 8 conductor cable with Euro 16 mm connector, single-ended cordset (female thread)	CS16F-8-2

